Dedalus

User Manual

DeepUnity PACSonWEB

3.4.100

SSN: DOC-3947337

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In this product, user settings and functionalities are determined by configuration options and security settings.

This product can be modified to support the workflows and methods that are used in your hospital.

As a result, the functionalities and screen settings that are described in this document might differ from what you can do and from what you see on your screen. The settings can also differ from department to department.

Statement on gender-neutral terminology

For reasons of legibility and clarity, gender-neutral terminology is used, e.g. User. Corresponding terms apply equally to all sexes.

Document history

Latest update of this document: 13.12.2024

https://my.dedalusportal.com/

CE 2862

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Notification Types

The following examples show how warning signals, safety instructions, other instructions and notes will be represented in this document. The text will explain their intended use.

Warning:

Indicates a dangerous situation likely to entail a potential serious violation of a user, an engineer, a patient, or any other person.

Caution:

Indicates danger with a low level of risk, which may lead to minor or moderate injury if not prevented.

Instruction:

Indicates important information that has to be read, understood, maintained and/or obeyed by the user in order to ensure a safe operation of the software.

Note:

Notes give advice and highlight unusual matters. Those notes are not instructions.

Important!

Highlights information that is required by the user in order to ensure proper effect of the software, for instance enabling permissions or the availability of licenses.

Restriction:

Indicates a limitation of the software or a condition that needs to be fulfilled for proper effect of the software.

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Tip:

Provides the user with hints enabling different ways of performing tasks, for instance by using a shortcut key.

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About help resources

Type	Content
User Manual	**This describes the functionality of the system for daily use and how to operate the system in a safe and effective way .**
Release Notes	This gives an overview of new features, feature enhancements as well as bug fixes included in a product update.

In case these documents do not contain the information that you are looking for, please reach out to your Service & Support Representative.

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Introduction

1

Thank you for using DeepUnity PACSonWEB. The goal of this user manual is to help you familiarize yourself with the way the system works and with its operating instructions in the most efficient manner possible. Please first read the general conditions of use (Page 25) before using DeepUnity PACSonWEB.

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Intended Use

2

Intended Use

Web based PACS software tool including image enhancement features (window levelling, presets, inversion, MIP and MPR), spatial locator and measuring functions for the area of diagnostic radiology.

Medical Purpose

DeepUnity PACSonWEB aids diagnosis driving clinical management by assisting (nuclear) radiologists in the diagnostic process through visualization and processing (including image manipulation) of DICOM images, providing relevant information and tools for measurement, analysis and calculation of image characteristics (e.g. geometrical, annotation, Window Level, ROI Analysis, linking of either radiological images) which are potentially related to diagnostic findings.

DeepUnity PACSonWEB is intended to investigate any anatomy of the human body which is visible in medical imaging for the purpose of visualization, detection, or measurement of abnormalities/ diseases/ medical conditions.

DeepUnity PACSonWEB is also intended to be used for injury diagnosis - it can be used for any injury that can be diagnosed using medical imaging.

Non-medical Purpose

DeepUnity PACSonWEB enables healthcare professionals to view patient images, medical documents and reports from multiple departments and perform image manipulations and measurements.

The device is used by medical professionals whenever they require access to medical images and patient demographic information.

The device is used by patients to access their medical images (primarily) and to read the associated report (if available).

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Indications for Use

As a distribution medium, DeepUnity PACSonWEB is used to make medical images and reports, made at a hospital or imaging institution, available to the requesting physician and/or patient over the internet.

As a diagnostic tool, DeepUnity PACSonWEB can be used by a (nuclear) radiologist to visualize and enhance available images and perform measurements in order to make a diagnosis.

Contra-indications

- Accounts are not indicated to be created for healthcare providers that are not authorized (eligible) to request a radiology study. Non-eligible healthcare providers: physical therapists, osteopaths, nursing staff, patients.
- The device is not indicated to be used with a medical (i.e. diagnostic) purpose by users who are not qualified imaging diagnosticians.
- All tools using volume-based images like MPR, 3D rendering, reformations and similar are not intended for primary diagnostic use. These tools provide additional information but should not be relied upon as the primary means of diagnosis.
- The device is suitable for use on mobile devices, such as tablets, for image review purposes. However, mobile devices must not be used for primary image interpretation.

Intended users

DeepUnity PACSonWEB is intended to be used by following types of users:

Intended User	Non-medical purpose Yes/No	Medical purpose Yes/No	Skills/Training Needed/ Comments
Medical professionals, e.g. physicians or nurses	Yes	No	Used via integration in a patient or referring physician portal for non-diagnostic purposes. No specific training necessary. User manual is integrated in the product.
Radiologist	Yes	Yes	User training

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Intended User	Non-medical purpose Yes/No	Medical purpose Yes/No	Skills/Training Needed/ Comments
Technologist	Yes	No	-
IT Admin	Yes	No	Ability to configure the solution, administrator training
Patient	Yes	No	Used via integration in a patient or referring physician portal for non-diagnostic purposes. No specific training necessary. User manual is integrated in the product.
DH Healthcare personnel: production, R&D, service	Yes	No	-

Intended use environment

DeepUnity PACSonWEB is used in a clinical environment where image data, medical documents and reports need to be viewed. Moreover, it can also be accessed outside the clinical environment by patients and physicians, enabling convenient and efficient retrieval of information.

Since DeepUnity PACSonWEB is a cloud-native solution, there is no restriction to the use environment on the condition that the monitor quality and ambient light is adequate to the intended clinical usage if used for medical (i.e. diagnostic) purposes.

Here an indicative list of intended use environments:

Intended Use Environment	Yes/No	Comment
In X-ray, MRI, etc. rooms	Yes	-
Outside X-ray, MRI, etc. rooms	Yes	-
Private radiologist sites	Yes	-

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Intended Use Environment	Yes/No	Comment
Clinic	Yes	-
Imaging centre	Yes	-
Specialty departments	Yes	-
Home environment	Yes	Used by patients outside the healthcare environment.
Emergency room	Yes	-
Intensive Care Unit	Yes	-
Military environment	Yes	-
Doctor's office	Yes	-
Telemedicine workplace	Yes	To be used with an adequate monitor and ambient light conditions for the intended clinical usage when performing a diagnosis.

Intended Patient Population and Medical Conditions

DeepUnity PACSonWEB use is not limited to a specific patient population or medical condition.

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Important safety notes

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Category	Description
MPR as supplement	**Instruction:** All diagnosis and medical decisions based on MPR generated images (MPR, MIP, MinIP, MPVR) should always be double checked with the original series. **Internal company reference:** SN0001

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Category	Description
Measuring functions	**Instruction:** The DeepUnity PACSonWEB measuring functions contain length measurements, angle measurements and density measurements based on the information that is provided by the original modality. Length measurements are expressed in millimeters (mm). Angle measurements are expressed in degrees (°). Density measurements are expressed in the unit, as provided by the modality: Hounsfield Unit (HU), Optical Density (OD) or UnSpecified (US). For measurement precision within the DeepUnity PACSonWEB environment, DeepUnity PACSonWEB relies on the precision of the information that is provided by this modality. In case a measurements displays "N/A" as the resulting value, it implies that the original DICOM images do not contain the required information to perform a quantitative measurement. **Internal company reference:** SN0002
Limitations for diagnostic purposes	**Instruction:** It is **NOT** allowed to use DeepUnity PACSonWEB for diagnostic purposes in case you are connected with a reference number. **Internal company reference:** SN0003

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Category	Description
AI results	**Instruction:** AI results should be used as a supportive tool, and diagnoses and medical decisions should always be double-checked with the original images. **Internal company reference:** SN0004

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Disclosure of residual risk

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Category	Description
MIP, MinIP and MPVR calculations	**Warning:** While using MIP, MinIP and MPVR calculations, only one pixel is shown for the whole thickness of the slice. The user should know that only selective data is shown based on these calculations, and that it is his responsibility to double check the data with the original series. **Internal company reference:** DRR001

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Category	Description
MPR accuracy and resolution	**Warning:** The accuracy of MPR generated images depends on the quality of the original series (pixel spacing, slice thickness ...). The images are calculated, based on the data available in the original series. Gaps of pixel-data will be calculated to show a smooth image. It will remain the user's responsibility to keep in mind the slice thickness and pixel spacing from the original series. In case the slice thickness is larger than the pixel spacing, overlap between slices is not taken into account. The used pixel spacing is calculated based on the image location of the original images. The user should be aware of lossy data visualization while judging and diagnosing a patient. The user should also be aware that series that lost pixel- data while compressing or have an inappropriate slice thickness are not suitable for proper MPR generation. **Internal company reference:** DRR002
Volume Registration	**Warning:** The Volume Registration will not be 100% correct in every scenario. It is still the users' responsibility to verify the outcome of the tool and make corrections if needed. **Internal company reference:** DRR003

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Category	Description
Recognized Text	**Warning:** The recognized text is not always 100% correct. It is the responsibility of the radiologist to verify the correctness of the report before validation. **Internal company reference:** DRR004
Study information	**Warning:** Changing study information on DeepUnity PACSonWEB is in most cases merely a temporary solution. The information must be changed in the PACS and RIS system. If not, it may occur that the initial information is synchronized and hereby restored. **Internal company reference:** DRR005
AI Results	**Warning:** AI results might not always be 100% correct. When basing diagnoses or medical decisions on AI results, it is the responsibility for the radiologist to verify the outcome with the original series. **Internal company reference:** DRR006

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Serious incidents

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Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

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System Requirements

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Important!

It is the responsibility of the user to ensure the following:

- **Monitor Quality:** The monitor quality, ambient light and used image compression corresponds to the intended clinical usage.
- **Browser Compatibility:** DeepUnity PACSonWEB must be used on a supported browser. Users must also verify browser compatibility in case of an upgrade of the browser or the operating system of the device that is used for running DeepUnity PACSonWEB
- **Internet Connection:** A sufficiently performing internet connection
  - Viewing: 3G or higher, 0.5 Mb /sec or higher.
  - Downloading: 4G or higher, 15 Mb/sec or higher.
- **Network Connection:** A sufficiently performing network connection of 100 Mb LAN or higher, or for Wi-Fi 802.11 g or higher.

Supported Browsers

Browsers	Supported	Validated for Diagnostic Use
Google Chrome (version 71.0 - 131.0) **Restriction:** Performance issue in version 104	✓	✓
Microsoft Edge (version 79.0 - 131.0)	✓	✓

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Browsers	Supported	Validated for Diagnostic Use
Restriction: Performance issue in version 104		
Firefox (version 93.0 - 133.0)	✓	✗
Safari macOS (version 15.0 - 18.0)	✓	✗
Safari iOS (version 15.0- 18.1)	✓	✗
Please be aware that the following browsers are not recommended for use. If you choose to use one of the browsers listed below, some features may be disabled or perform slowly.		
Google Chrome (version 71.0 - 76.0)	✓	✗
Safari macOS (version 12.1 - 15.x)	✓	✗
Safari iOS (version 12.1- 15.x)	✓	✗
Firefox (version 65.0 - 93.0)	✓	✗
Opera (version < 58)	✓	✗

WARNING!

Internet Explorer is no longer supported

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General

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For how to change the language for the DeepUnity PACSonWEB interface, see:

- The interface language (Page 37)

If you want to use DeepUnity PACSonWEB, you need to agree with the applicable general conditions:

- General Conditions - Registered user (Page 30)
- General Conditions - Patient (Page 25)

7.1 General Conditions - Patient

These General Terms and Conditions for Use (hereinafter called the “Terms”) govern the contractual relationship between (1) DH Healthcare GmbH, with its registered office at Konrad-Zuse-Platz 1-3, Germany, company registration number 0745.461.727 (hereinafter called “DH Healthcare GmbH”) and (2) the person who uses DeepUnity PACSonWEB via a reference number (hereinafter called the “User”).

The User has read and taken cognisance of the Terms’ contents and in using DeepUnity PACSonWEB, explicitly accepts their application. If the User does not agree to these Terms, please do not use DeepUnity PACSonWEB.

Where appropriate, DH Healthcare GmbH may make changes to the Terms at its sole discretion. If DH Healthcare GmbH makes any substantive changes to the Terms, the User will be provided with clear notification in advance, as appropriate to the circumstances. Continued use of DeepUnity PACSonWEB by the User after he/she has received such notification will be regarded as explicit acceptance of the changes. Accordingly, the User should read such notification carefully. If the User does not agree to the changes, please do not continue to use DeepUnity PACSonWEB.

1. Responsibilities and limited guarantee

1.1. DH Healthcare GmbH will use its reasonable endeavours to ensure that the User can make regular use of DeepUnity PACSonWEB to consult medical images and/or reports for reference purposes. Reports will only be accessible if, and insofar as, the

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transmitting radiology department has decided that the User may have access to same.

1.2. The User is aware that DeepUnity PACSonWEB is a system for providing medical data to external parties and exchanging such data in a safe environment, and that DH Healthcare GmbH is solely responsible for the good technical execution of this in accordance with the highest standards. This means that, among other things, DH Healthcare GmbH is not responsible for the medical data that are processed by the healthcare facility or organisation and/or the Users on DeepUnity PACSonWEB.

1.3. DH Healthcare GmbH cannot guarantee that DeepUnity PACSonWEB (including access thereto, its use and/or the services provided) are completely free of bugs, errors and technical faults or that its use is at all times guaranteed. For instance, DeepUnity PACSonWEB's availability and services may be disrupted at any time in full or in part for maintenance and other purposes. DH Healthcare GmbH reserves the right to temporarily or permanently change or discontinue DeepUnity PACSonWEB's functions and/or features at periodic intervals and at any time, with or without notice, without any liability towards the User, in the event of any interruption, change or discontinuation of DeepUnity PACSonWEB or any function or feature of DeepUnity PACSonWEB.

1.4. Furthermore, certain technical difficulties may result in temporary interruptions from time to time. Under no circumstances shall DH Healthcare GmbH be held liable where the regular service is disrupted due to technical faults or malfunctions in the network which are beyond the control of DH Healthcare GmbH or which ensue as a consequence of the evolution of systems, technologies, etc.

1.5. The User is solely responsible for the selection, costs and maintenance of the IT infrastructure on which DeepUnity PACSonWEB is used, and hereby acknowledges that how many details and what information can be obtained from the available images, among other things, depends on the quality of the monitor and the reproduction equipment.

2. Security, identification and access to data

2.1. DH Healthcare GmbH will make the required effort to provide adjusted security and identification methods for access to and use of DeepUnity PACSonWEB in a secure environment.

2.2. The User will receive access to DeepUnity PACSonWEB through a reference number and his date of birth, which the User will receive from DH Healthcare GmbH or the responsible healthcare facility or organisation. The person who grants the User access to DeepUnity PACSonWEB will bear the risks associated with transmitting data to the User.

2.3. Login details (i.e. reference number combined with the date of birth) are strictly personal and non-transferable, and the User must keep this information strictly confidential. Once received, the User is obliged to treat the data with care. The User is solely responsible for authorised or unauthorised use of the information, including

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each instance of use by third parties. In the event of a breach or suspected breach of this paragraph, DH Healthcare GmbH shall be at liberty to take all necessary measures to block or to delete data, to block the User's access and/or to suspend or terminate the licence without the User having any right to compensation.

2.4. If the User obtains knowledge of the loss or unauthorised use of his/her reference number by third parties or suspects such loss or unauthorised use, then he/she must immediately report this to DH Healthcare GmbH through the help desk. DH Healthcare GmbH will take all necessary and reasonable measures as quickly as possible, and will block the User's account, if necessary.

2.5. The responsible healthcare facility or organisation and/or the User are solely responsible for granting access rights to the medical data to the correct Users, in accordance with the methods that DeepUnity PACSonWEB foresees for this.

3. Use of DeepUnity PACSonWEB

3.1. DeepUnity PACSonWEB is a web-based solution for the distribution and display of medical images and, where appropriate, reports via the Internet for requesting doctors, patients and between hospitals.

As a distribution medium, DeepUnity PACSonWEB's purpose is to make medical images and reports from the associated hospitals and radiology departments available to the requesting doctors via the Internet.

The images are also made available to patients for reference purposes. The transmitting radiology department decides whether the patient has access to the report or not

Within the scope of the use of DeepUnity PACSonWEB, the User is obligated:

- being logged in with a reference number combined with the date of birth;
- not to use DeepUnity PACSonWEB for diagnostic or illegal purposes or conduct that is objectionable in any other way, either in an illegal or threatening manner or in a manner that is dangerous for DeepUnity PACSonWEB, DH Healthcare GmbH or third parties;
- not to use DeepUnity PACSonWEB to process content that (i) is illegal, fraudulent, threatening or harmful or that is objectionable in any other way, (ii) he/she is not authorised to process according to applicable regulations or stemming from contractual relationships, or (iii) violates the rights of a third party, including but not limited to the right to protect one's privacy;
- not to use or disclose any resources, software or routines that could harm or place an excessive burden on the accessibility, security or proper functioning of DeepUnity PACSonWEB.
- Copying, redistributing, leasing, selling, transferring, assigning, reverse-engineering or decompiling DeepUnity PACSonWEB, or any part of DeepUnity PACSonWEB, in any way including all other uses of DeepUnity PACSonWEB or its

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content by any other means are expressly prohibited under the Terms or pursuant to the applicable legislation, as are any other breaches of the intellectual property rights associated with DeepUnity PACSonWEB or any part thereof.

- No attempt may be made to access restricted or screened-off parts of DeepUnity PACSonWEB to which the User has not been explicitly granted access.

3.2. In the event of a violation or suspected violation of section 3.1, DH Healthcare GmbH will be entitled to take all necessary measures, block or delete data, block the User's access and/or suspend or cancel the User's licence, without the User being entitled to any compensation for damages.

3.3. Demographic or other details may be incorrect or incomplete if incorrectly entered by the responsible healthcare facility or organisation, resulting in incorrect reproduction and/or mismatching. This is beyond the control of DH Healthcare GmbH and under no circumstances can it be held liable as a result of such errors.

3.4. The DeepUnity PACSonWEB user manual is provided in electronic format and can be consulted on https://secure.pacsonweb.com/.

4. Liabilities

4.1. Insofar and to the extent that is permitted under the applicable legislation, DH Healthcare GmbH' liability for any direct damage arising from the User's use of DeepUnity PACSonWEB will not exceed EUR 1,000 per incident, regardless of whether DH Healthcare GmbH' liability arises from contractual provisions, an unlawful act (including negligence or failure to observe a statutory duty) or any other cause. Under no circumstances (save in the case of deception or deliberate error), shall DH Healthcare GmbH be liable in respect of any indirect, unforeseen or immaterial damage, including loss of profit, damage to [public] image, loss of data, loss of information, loss of turnover, loss of customers, damage suffered by third parties and/or interruption of the User's operations.

4.2. The User accepts that if one of the User's actions, performed deliberately or due to negligence and in breach of these Terms, disrupts the operation of DeepUnity PACSonWEB or damages DeepUnity PACSonWEB, the User fully shall reimburse DH Healthcare GmbH for all costs incurred in repairing the affected systems and for all losses, both directly and indirectly (including, but not limited to, loss of profit, loss of turnover, loss of customers and loss of goodwill) that DH Healthcare GmbH may incur as a consequence of such actions; the User should at least indemnify DH Healthcare GmbH for and against all losses, costs and any compensation claims of any kind ensuing from such actions.

4.3. DH Healthcare GmbH cannot be held liable for any failure or delay in the fulfilment of its obligations to the User where such failure can be attributed directly or indirectly to circumstances beyond DH Healthcare GmbH' control and over which DH Healthcare GmbH cannot reasonably be expected to have any control ("Force Majeure"), including but not limited to strikes, power cuts, power failures or

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downtime caused by the energy supplier, the energy grid or the external infrastructure, attacks by hackers, viruses, riots, uprisings, terrorist attacks, war, fires, flooding, storm, explosions, earthquakes, natural disasters, government measures, employment circumstances or any other cause which may reasonably be beyond the control of DH Healthcare GmbH.

5. Intellectual property rights

5.1. The User acknowledges and accepts that DeepUnity PACSonWEB, including its software, is protected by intellectual and industrial property rights (including but not limited to copyright, trademarks, etc.), of which DH Healthcare GmbH or its suppliers are the proprietor(s). The User recognises these property rights of DH Healthcare GmbH and/or DH Healthcare GmbH' licensors and acknowledges that the User does not acquire any intellectual or industrial property rights pertaining to the trademark, the software and/or DeepUnity PACSonWEB.

5.2. The User only acquires a personal, revocable, non-transferable and non-exclusive right to use DeepUnity PACSonWEB in accordance with the purposes set forth in the Terms and on www.pacsonweb.com.

5.3. Nothing in these Terms prohibits DH Healthcare GmbH and/or DH Healthcare GmbH' licensors from using, further developing, marketing, sublicensing or otherwise licensing DeepUnity PACSonWEB or making any part thereof available, including its content, anywhere in the world, in any way. Neither shall these Terms be interpreted as the granting of certain rights to the User, either to DeepUnity PACSonWEB or to any other existing or future platform of DH Healthcare GmbH or its licensors, whether or not comparable to DeepUnity PACSonWEB.

6. Term and termination

This agreement between DH Healthcare GmbH and the User is concluded for the period during which the User makes use of DeepUnity PACSonWEB. DH Healthcare GmbH may suspend the User's access to DeepUnity PACSonWEB at any time, including in the event of actual or suspected unauthorised use by the User of DeepUnity PACSonWEB and/or its content, or non-compliance with the Terms. If the User or DH Healthcare GmbH terminates the agreement, or if DH Healthcare GmbH suspends the User's access to DeepUnity PACSonWEB, the User agrees that DH Healthcare GmbH will have no liability or responsibility towards the User and that DH Healthcare GmbH will not be required to pay any compensation.

7. Applicable law and the competent court

These Terms are governed by Belgian law. In the event of a dispute regarding the Terms, only the courts in the division of Antwerp in Belgium have exclusive jurisdiction, or if the User is a consumer, the court in the User's domicile.

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8. Concluding provisions

8.1. DH Healthcare GmbH shall implement appropriate technical and organisational measures to protect the personal data of Users against unauthorised or unlawful processing and against (accidental) loss or damage. DH Healthcare GmbH complies with the legislation and regulations governing the protection of personal data, including Regulation (EU) 2016/679 of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

8.2. The voidness or invalidity of any provision of these Terms, or any part thereof, will not result in the voidness or invalidity of the entire Terms. Should any provision in these Terms be deemed void or invalid, the provision in question shall be replaced ipso jure by a valid provision, or a valid part, that is as close as possible to the original intention of DH Healthcare GmbH. The inability to effect such a desired replacement will in no way affect the validity of the remaining provisions. Should any provision in these Terms be declared invalid or non-enforceable, the remaining provisions of these Terms will continue to apply and be enforceable.

"By using DeepUnity PACSonWEB, I acknowledge that I have taken note of the DeepUnity PACSonWEB Conditions of use, which set forth obligations for the user and limit the liability of the DeepUnity PACSonWEB supplier, and I declare that I agree to these Conditions."

7.2 General Conditions - Registered user

DISCLAIMER

DH Healthcare GmbH is not liable for malfunctions and damage stemming from installation, configuration, relocation, remodeling, maintenance and repair performed by parties other than DH Healthcare GmbH or authorised personnel of DH Healthcare GmbH.

DH Healthcare GmbH is not liable for malfunctions and damage to DH Healthcare GmbH products that are/is attributable to products of other manufacturers that were not supplied by DH Healthcare GmbH.

DH Healthcare GmbH is not liable for malfunctions and damage due to non-compliance with the precautionary measures and operational methods specified in this user manual.

DH Healthcare GmbH is not liable for malfunctions and damage stemming from use of the product under ambient conditions which are outside the scope of the terms of use specified in this user manual, such as power supply, installation environment, etc.

These General Terms and Conditions for Use (hereinafter called the “Terms”) govern the contractual relationship between (1) DH Healthcare GmbH, with its registered

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office at Konrad-Zuse-Platz 1-3, Germany, company registration number 0745.461.727 (hereinafter called “DH Healthcare GmbH”) and (2) the person who uses DeepUnity PACSonWEB via a registered account (hereinafter called the “User”).

The User has read and taken cognisance of the Terms’ contents and in using DeepUnity PACSonWEB, explicitly accepts their application. If the User does not agree to these Terms, please do not use DeepUnity PACSonWEB.

Where appropriate, DH Healthcare GmbH may make changes to the Terms at its sole discretion. If DH Healthcare GmbH makes any substantive changes to the Terms, the User will be provided with clear notification in advance, as appropriate to the circumstances. Continued use of DeepUnity PACSonWEB by the User after he/she has received such notification will be regarded as explicit acceptance of the changes. Accordingly, the User should read such notification carefully. If the User does not agree to the changes, please do not continue to use DeepUnity PACSonWEB.

1. Responsibilities and limited guarantee

1.1. DH Healthcare GmbH shall make every effort, within reason, to ensure that the User of DeepUnity PACSonWEB can make regular use of the services and/or functionalities outlined on www.pacsonweb.com.

1.2. DeepUnity PACSonWEB is an aid for the presentation of images and reports for patients and doctors, exchanging studies, etc. The User is and remains responsible for the results derived from or achieved with this resource. Insofar as permissible by law, any guarantee covering the suitability for a certain use or purpose is expressly excluded.

1.3. The User is aware that DeepUnity PACSonWEB is a system for providing medical data to external parties and exchanging such data in a safe environment, and that DH Healthcare GmbH is solely responsible for the good technical execution of this in accordance with the highest standards. This means that, among other things, DH Healthcare GmbH is not responsible for the medical data that are processed by the healthcare facility or organisation and/or the Users on DeepUnity PACSonWEB.

1.4. DH Healthcare GmbH cannot guarantee that DeepUnity PACSonWEB (including access thereto, its use and/or the services provided) are completely free of bugs, errors and technical faults or that its use is at all times guaranteed. For instance, DeepUnity PACSonWEB’s availability and services may be disrupted at any time in full or in part for maintenance and other purposes. DH Healthcare GmbH reserves the right to temporarily or permanently change or discontinue DeepUnity PACSonWEB’s functions and/or features at periodic intervals and at any time, with or without notice, without any liability towards the User, in the event of any interruption, change or discontinuation of DeepUnity PACSonWEB or any function or feature of DeepUnity PACSonWEB.

1.5. Furthermore, certain technical difficulties may result in temporary interruptions from time to time. Under no circumstances shall DH Healthcare GmbH be held

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liable where the regular service is disrupted due to technical faults or malfunctions in the network which are beyond the control of DH Healthcare GmbH or which ensue as a consequence of the evolution of systems, technologies, etc.

1.6. The User is solely responsible for the selection, costs and maintenance of the IT infrastructure on which DeepUnity PACSonWEB is used, and hereby acknowledges that how many details and what information can be obtained from the available images, among other things, depends on the quality of the monitor and the reproduction equipment.

2. Security, identification and access to data

2.1. DH Healthcare GmbH will make the required effort to provide adjusted security and identification methods for access to and use of DeepUnity PACSonWEB in a secure environment.

2.2. The User will receive access to DeepUnity PACSonWEB through an account which the User will receive from DH Healthcare GmbH or the responsible healthcare facility or organisation. The person who grants the User access to DeepUnity PACSonWEB will bear the risks associated with transmitting data to the User.

2.3. The account information is strictly personal and non-transferable, and the User must keep this information strictly confidential. Once received, the User is obliged to treat the data with care. The User is solely responsible for authorised or unauthorised use of the information, including each instance of use by third parties. In the event of a breach or suspected breach of this paragraph, DH Healthcare GmbH shall be at liberty to take all necessary measures to block or to delete data, to block the User's access and/or to suspend or terminate the licence without the User having any right to compensation.

2.4. If the User obtains knowledge of the loss or unauthorised use of his/her account by third parties or suspects such loss or unauthorised use, then he/she must immediately report this to DH Healthcare GmbH through the help desk. DH Healthcare GmbH will take all necessary and reasonable measures as quickly as possible, and will block the User's account, if necessary.

2.5. The responsible healthcare facility or organisation and/or the User are solely responsible for granting access rights to the medical data to the correct Users, in accordance with the methods that DeepUnity PACSonWEB foresees for this.

3. Use of DeepUnity PACSonWEB

3.1. DeepUnity PACSonWEB is a web based solution intended for the distribution and visualization of medical images and reports over the internet to requesting physicians and patients and among hospitals.

The embedded viewer contains optimisation tools for reproducing images (window levelling, inversion, spatial locator, reference lines, …) and measuring functionality (linear measurement, angle gauge, vertical height gauge, …) that makes DeepUnity

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PACSonWEB suitable for use as an aid for diagnoses or as a tool for drawing up diagnoses.

As a distribution medium, DeepUnity PACSonWEB is used to make medical images and reports, made at a hospital or private radiologist, available to the requesting physician over the internet. The images are also available for reference to the patient. It is the decision of the radiology department of the hospital or the private radiologist if the report is also available to the patient or not. Using the related reference codes, owned by the patient, the exam and report can easily be consulted by any physician that has a DeepUnity PACSonWEB account. The images are available online for a period between 1 and 5 years, as determined by the sending radiology department.

As a diagnostic tool, DeepUnity PACSonWEB can be used by a radiologist to visualize and enhance available images and perform measurements in order to make a diagnosis.

The report can be recorded within DeepUnity PACSonWEB. Within the scope of the use of DeepUnity PACSonWEB, the User is obligated:

- to be logged on to DeepUnity PACSonWEB as a registered user when using DeepUnity PACSonWEB for diagnostic purposes;
- not to use DeepUnity PACSonWEB as an archive. the User or the responsible healthcare facility or organisation must archive the data on another system;
- not to use DeepUnity PACSonWEB for illegal purposes or conduct that is objectionable in any other way, either in an illegal or threatening manner or in a manner that is dangerous for DeepUnity PACSonWEB, DH Healthcare GmbH or third parties;
- not to use DeepUnity PACSonWEB to process content that (i) is illegal, fraudulent, threatening or harmful or that is objectionable in any other way, (ii) he/she is not authorised to process according to applicable regulations or stemming from contractual relationships, or (iii) violates the rights of a third party, including but not limited to the right to protect one's privacy;
- not to use or disclose any resources, software or routines that could harm or place an excessive burden on the accessibility, security or proper functioning of DeepUnity PACSonWEB.
- Copying, redistributing, leasing, selling, transferring, assigning, reverse-engineering or decompiling DeepUnity PACSonWEB, or any part of DeepUnity PACSonWEB, in any way including all other uses of DeepUnity PACSonWEB or its content by any other means are expressly prohibited under the Terms or pursuant to the applicable legislation, as are any other breaches of the intellectual property rights associated with DeepUnity PACSonWEB or any part thereof.
- No attempt may be made to access restricted or screened-off parts of DeepUnity PACSonWEB to which the User has not been explicitly granted access.

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3.2. In the event of a violation or suspected violation of section 3.1, DH Healthcare GmbH will be entitled to take all necessary measures, block or delete data, block the User's access and/or suspend or cancel the User's licence, without the User being entitled to any compensation for damages.

3.3. Special care must be taken when decisions about patients are made based on the demographic data and other patient information available in DeepUnity PACSonWEB. Demographic or other details may be incorrect or incomplete if incorrectly entered by the responsible healthcare facility or organisation, resulting in incorrect reproduction and/or mismatching. This is beyond the control of DH Healthcare GmbH and under no circumstances can it be held liable as a result of such errors.

3.4. The DeepUnity PACSonWEB user manual is provided in electronic format and can be consulted on https://secure.pacsonweb.com/Manuals.A registered user can request a paper copy of the manual with the service desk of DH Healthcare GmbH. The company will use its reasonable endeavours to deliver this within 7 days.

3.5. The use of DeepUnity PACSonWEB is subject to the health care and patient act and its rules of confidentiality. All patient images are considered as health data and should be used solely for diagnostic and/or treatment purposes within the framework of health legislation. Misuse of the images may be linked to civil and criminal liability. If you choose to download images from DeepUnity PACSonWEB locally, make sure that your treatment of the image complies with current applicable health legislation, as well as the "norm for information security, health and care services" from the Directorate of Health or other competent local regulations. You are responsible for the image being further processed and used in accordance with applicable health and privacy legislation. Be aware that the images are copyrighted and belong to the institution where such images were taken (e.g. the hospital or private radiologist or their licensors).

4. Liabilities

4.1. Insofar and to the extent that is permitted under the applicable legislation, DH Healthcare GmbH' liability for any direct damage arising from the User's use of DeepUnity PACSonWEB will not exceed EUR 1,000 per incident, regardless of whether DH Healthcare GmbH liability arises from contractual provisions, an unlawful act (including negligence or failure to observe a statutory duty) or any other cause. Under no circumstances (save in the case of deception or deliberate error), shall DH Healthcare GmbH be liable in respect of any indirect, unforeseen or immaterial damage, including loss of profit, damage to [public] image, loss of data, loss of information, loss of turnover, loss of customers, damage suffered by third parties and/or interruption of the User's operations.

4.2. The User accepts that if one of the User's actions, performed deliberately or due to negligence and in breach of these Terms, disrupts the operation of DeepUnity PACSonWEB or damages DeepUnity PACSonWEB, the User fully shall reimburse DH Healthcare GmbH for all costs incurred in repairing the affected systems and for all

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losses, both directly and indirectly (including, but not limited to, loss of profit, loss of turnover, loss of customers and loss of goodwill) that DH Healthcare GmbH may incur as a consequence of such actions; the User should at least indemnify DH Healthcare GmbH for and against all losses, costs and any compensation claims of any kind ensuing from such actions.

4.3. DH Healthcare GmbH cannot be held liable for any failure or delay in the fulfilment of its obligations to the User where such failure can be attributed directly or indirectly to circumstances beyond DH Healthcare GmbH' control and over which DH Healthcare GmbH cannot reasonably be expected to have any control ("Force Majeure"), including but not limited to strikes, power cuts, power failures or downtime caused by the energy supplier, the energy grid or the external infrastructure, attacks by hackers, viruses, riots, uprisings, terrorist attacks, war, fires, flooding, storm, explosions, earthquakes, natural disasters, government measures, employment circumstances or any other cause which may reasonably be beyond the control of DH Healthcare GmbH.

5. Intellectual property rights

5.1. The User acknowledges and accepts that DeepUnity PACSonWEB, including its software, is protected by intellectual and industrial property rights (including but not limited to copyright, trademarks, etc.), of which DH Healthcare GmbH or its suppliers are the proprietor(s). The User recognises these property rights of DH Healthcare GmbH and/or DH Healthcare GmbH' licensors and acknowledges that the User does not acquire any intellectual or industrial property rights pertaining to the trademark, the software and/or DeepUnity PACSonWEB.

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5.3. Nothing in these Terms prohibits DH Healthcare GmbH and/or DH Healthcare GmbH' licensors from using, further developing, marketing, sublicensing or otherwise licensing DeepUnity PACSonWEB or making any part thereof available, including its content, anywhere in the world, in any way. Neither shall these Terms be interpreted as the granting of certain rights to the User, either to DeepUnity PACSonWEB or to any other existing or future platform of DH Healthcare GmbH or its licensors, whether or not comparable to DeepUnity PACSonWEB.

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suspends the User's access to DeepUnity PACSonWEB, the User agrees that DH Healthcare GmbH will have no liability or responsibility towards the User and that DH Healthcare GmbH will not be required to pay any compensation.

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8.2. The voidness or invalidity of any provision of these Terms, or any part thereof, will not result in the voidness or invalidity of the entire Terms. Should any provision in these Terms be deemed void or invalid, the provision in question shall be replaced ipso jure by a valid provision, or a valid part, that is as close as possible to the original intention of DH Healthcare GmbH. The inability to effect such a desired replacement will in no way affect the validity of the remaining provisions. Should any provision in these Terms be declared invalid or non-enforceable, the remaining provisions of these Terms will continue to apply and be enforceable.

"By using DeepUnity PACSonWEB, I acknowledge that I have taken note of the DeepUnity PACSonWEB Conditions of use, which set forth obligations for the user and limit the liability of the DeepUnity PACSonWEB supplier, and I declare that I agree to these Conditions."

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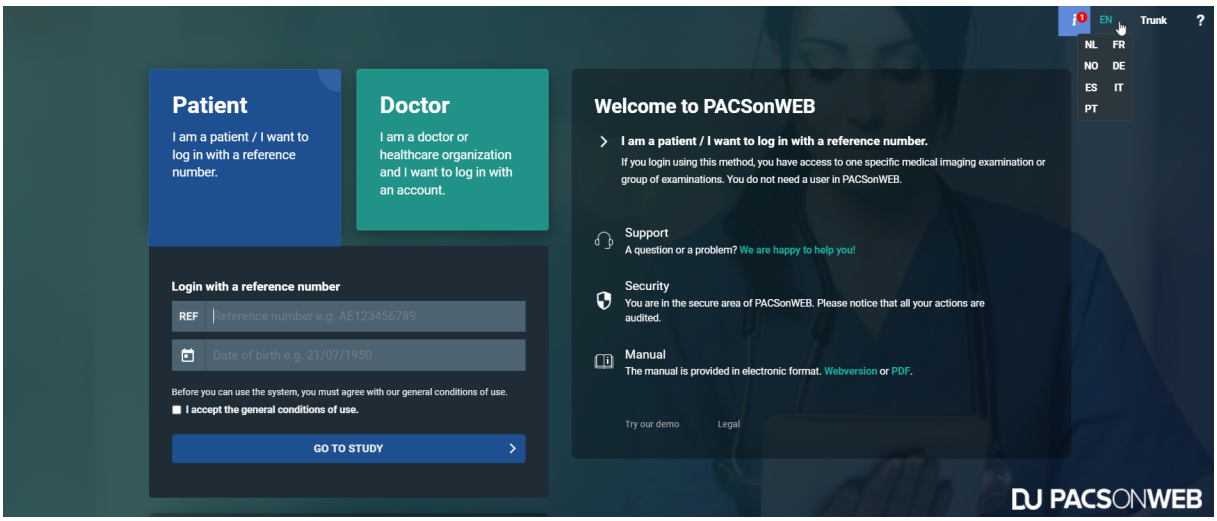
7.3 The interface language



Default Language: On the first use, the DU POW interface displays in your browser's default language.

Language Picker: You can change the language at any time using the language picker, located at the top right of the menu toolbar.

From the language picker you can switch to any of the supported languages:

- English
- Dutch
- French
- German
- Italian
- Norwegian
- Portuguese
- Spanish

Remembering Preferences: The selected language is stored in a cookie so that your preference is remembered the next time you login to DeepUnity PACSonWEB from the same device.

Clearing Cookies: If cookies are cleared from your device, the selected language will revert to the browser's default language.

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7.4 Dates and Times in DeepUnity PACSonWEB

About Dates and Times in DeepUnity PACSonWEB

DeepUnity PACSonWEB is an application in which dates and times are frequently used (study dates, logging dates, etc.). With a global user and customer base, all potentially in different time zones, we need to handle these dates and times carefully.

As a user you will see all dates and times in your own time zone. You will also need to provide all dates and times in your own time zone. Examples of these instances are:

- Displayed study dates and times in the viewer,
- study list,
- using filters in the study or worklist,
- entering dates and times in the study administration.

The advantage is that as a user you do not have to take into account time zone differences of studies or calculate the potential time differences yourself.

- All dates and times received by DeepUnity PACSonWEB from customers will be interpreted in that customer's time zone.
- All date and time data that we export back to any user or system will be interpreted that customer's time zone.

This means that if you have a study list containing studies from different time zones, studies from 1 minute ago in any of the time zones will all appear as the most recent.

Two studies created at exactly the same time, in two different time zones will appear in DeepUnity PACSonWEB as shown in the table below.

Study created	Date and time in DeepUnity PACSonWEB
Study created in Sao Paulo on the 15th of January at 22:00 Local Sao Paulo time (UTC -3 hours)	Jan 15th 22:00 in Sao Paulo
Study created in Brussels on the16th of January at 02:00 local Brussels time (UTC + 1 hour),	Jan. 16th 02:00 in Brussels

This principle applies to any date or time that is used in DeepUnity PACSonWEB, with a few exceptions:

- **Date of birth** will never be converted from and to any time zone.

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- **Raw DICOM tags shown in the DICOM tags dialog** will be shown as raw information and not converted (e.g. study date = "20240115" and study time ="2200"), but the UTC offset will be added in the DICOM tags.

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Register for an account

8

Important!

Belgian users can create an account by registration through e-ID or by requesting an account as described below.

Other countries have to contact the radiology service whose studies they wish to view.

Important!

DH Healthcare GmbH may only provide accounts to health care providers who are authorised to request a radiology study.

Specifically:

Eligible: GPs, specialists, dentists

Not eligible: physical therapists, osteopaths, nursing staff, patients (logging in is only possible by clicking on “I am a patient or health care provider who wants to log in with the reference number”).

Tip:

If you are working in a group practice, DeepUnity PACSonWEB offers the possibility to grant access automatically to all members of the group to all exams that have been requested by any of the members.

This is, however, only possible if all members of the group practice, have a personal DeepUnity PACSonWEB account.

The request to link different accounts into a group practice can be submitted to the service desk.

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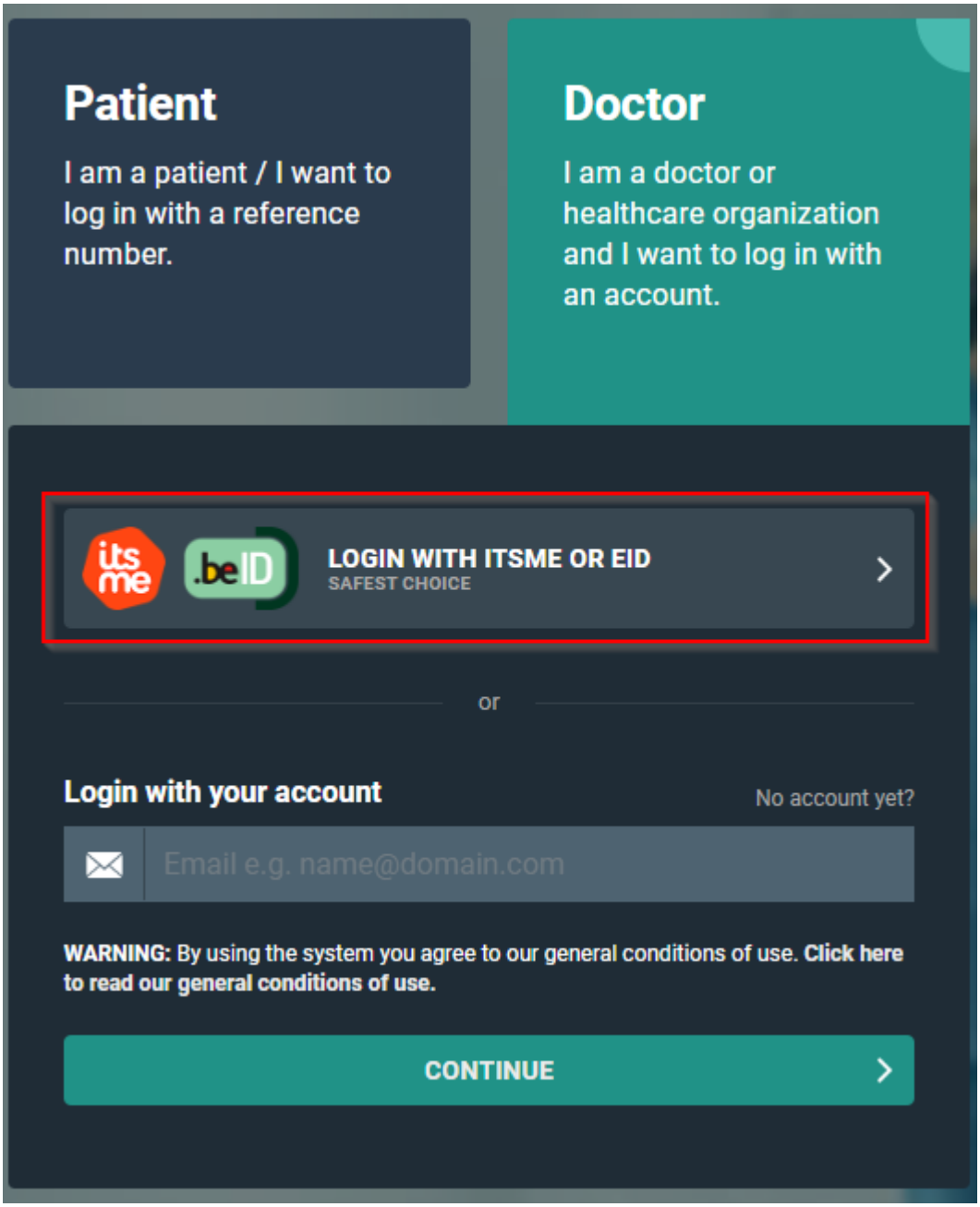
8.1 Register through e-ID (BE only)

To create your account through e-ID, please visit the page https://secure.pacsonweb.com and follow the steps below.

To create your account

1. Click **I am a doctor or healthcare organization and I want to log in with an account.** Then click **Login with Itsme of eID**.



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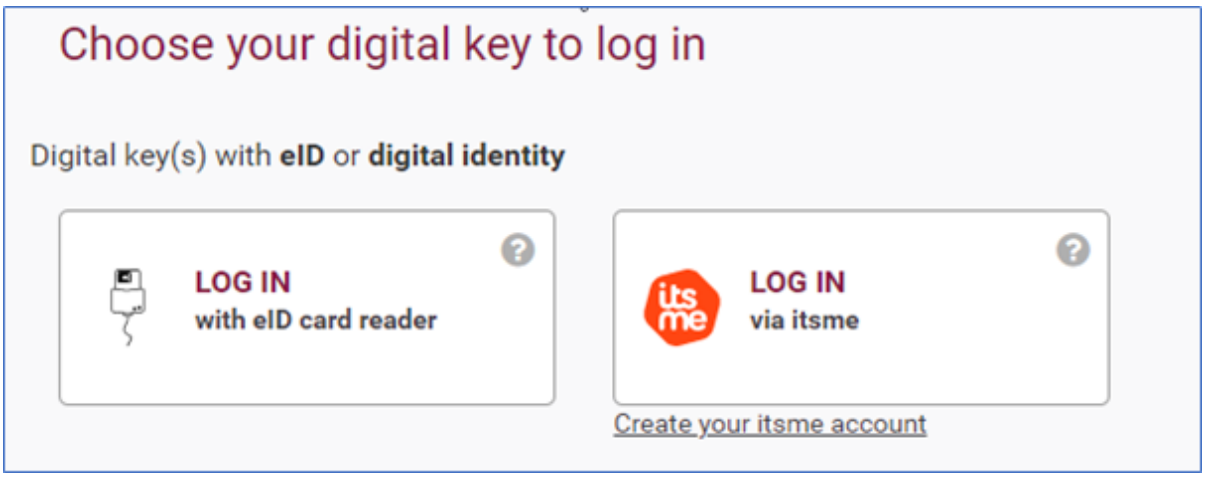
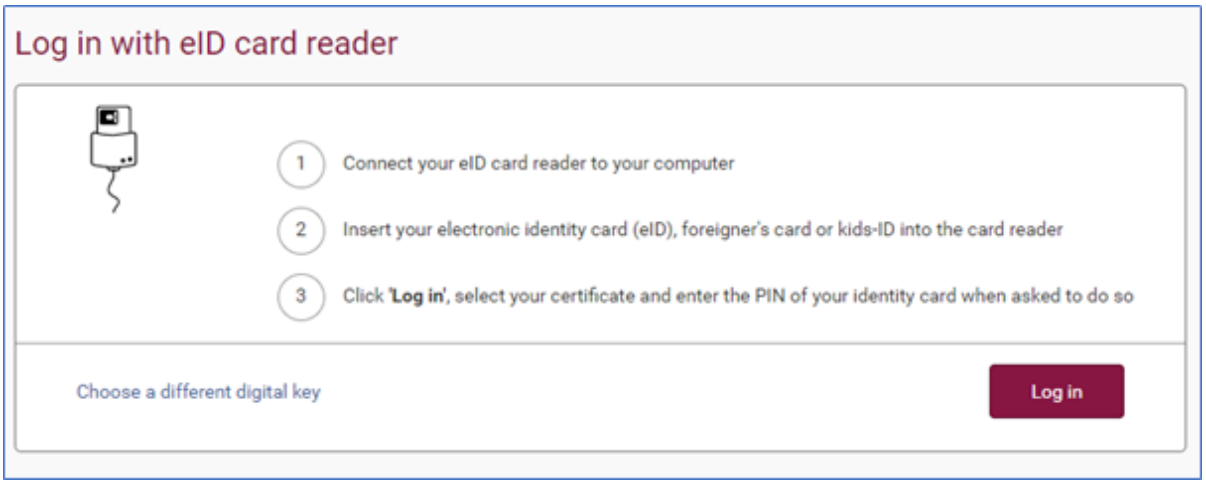
2. On the next screen click **Log in with eID card reader**.



3. Follow the steps on the screen and click **Log in**.



4. Select the certificate you want to log in with and click **OK**.

   Make sure that your electronic identity card is in your e-ID reader.

   Depending on the internet browser (Internet Explorer, Firefox, Chrome, etc.) you are using, the screenshot below may look slightly different.

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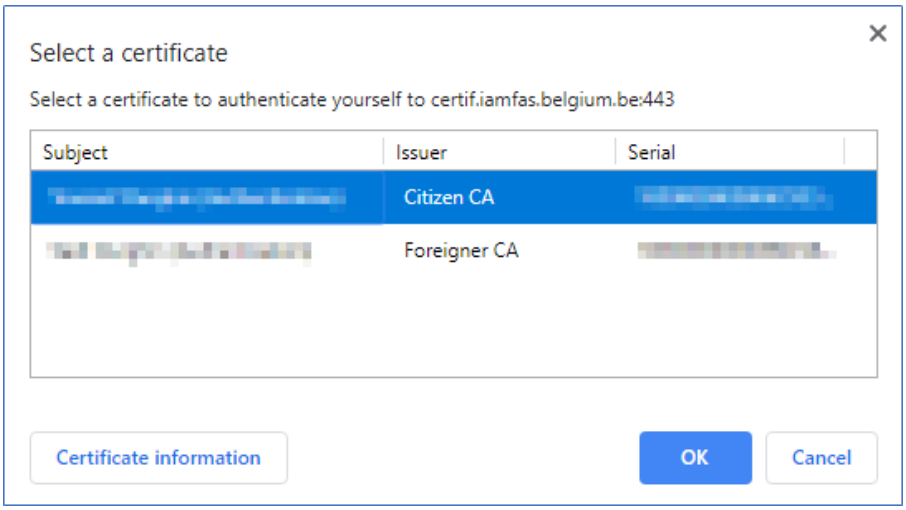
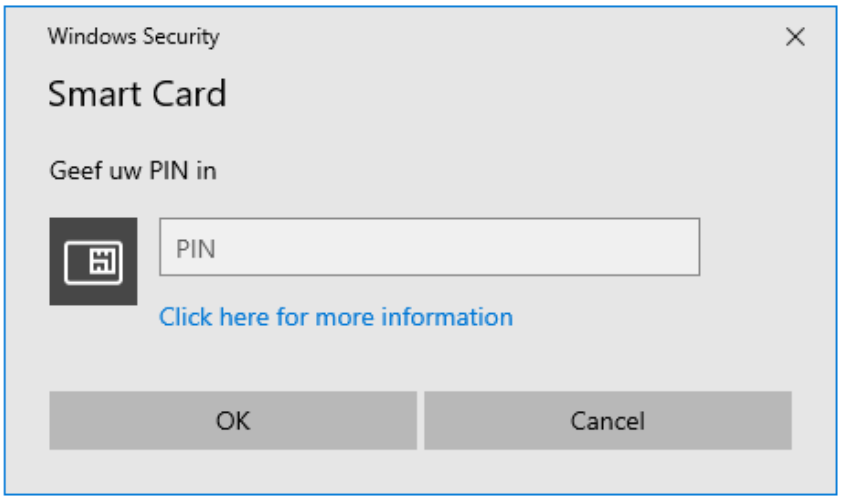


5. Enter the PIN for your certificate and click **OK**.



6. Verify your name, select the option to log in as a civilian ('burger') and click **Log in** ('Profiel bevestigen').

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7. After authentication, a screen is displayed to complete the account details for your user.
   a. Complete the form and click Create and log in ('Aanmaken en inloggen').
      All fields within this form are mandatory.

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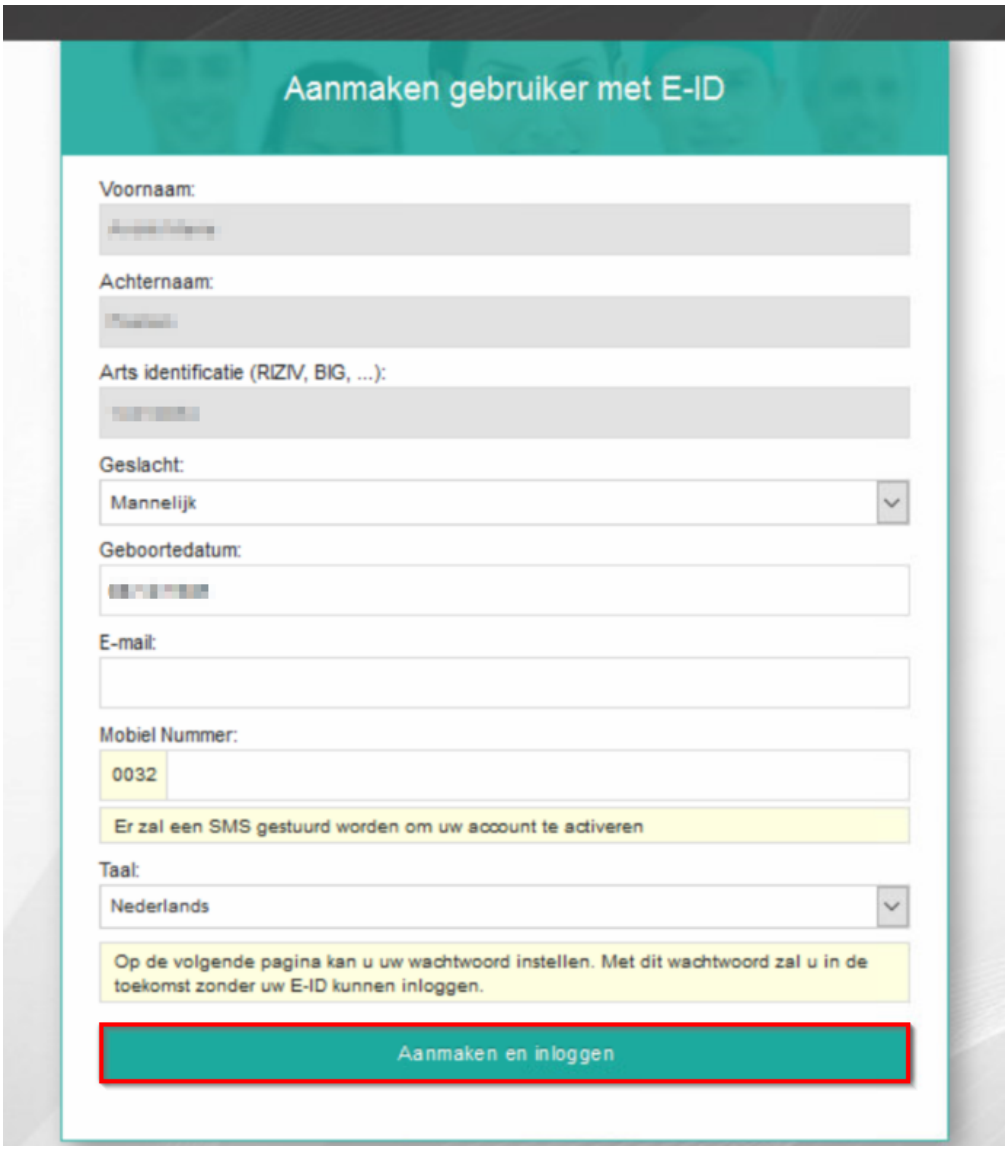

The creation of the account can take several minutes.

To activate your account

After creating your account, the following screen will appear.

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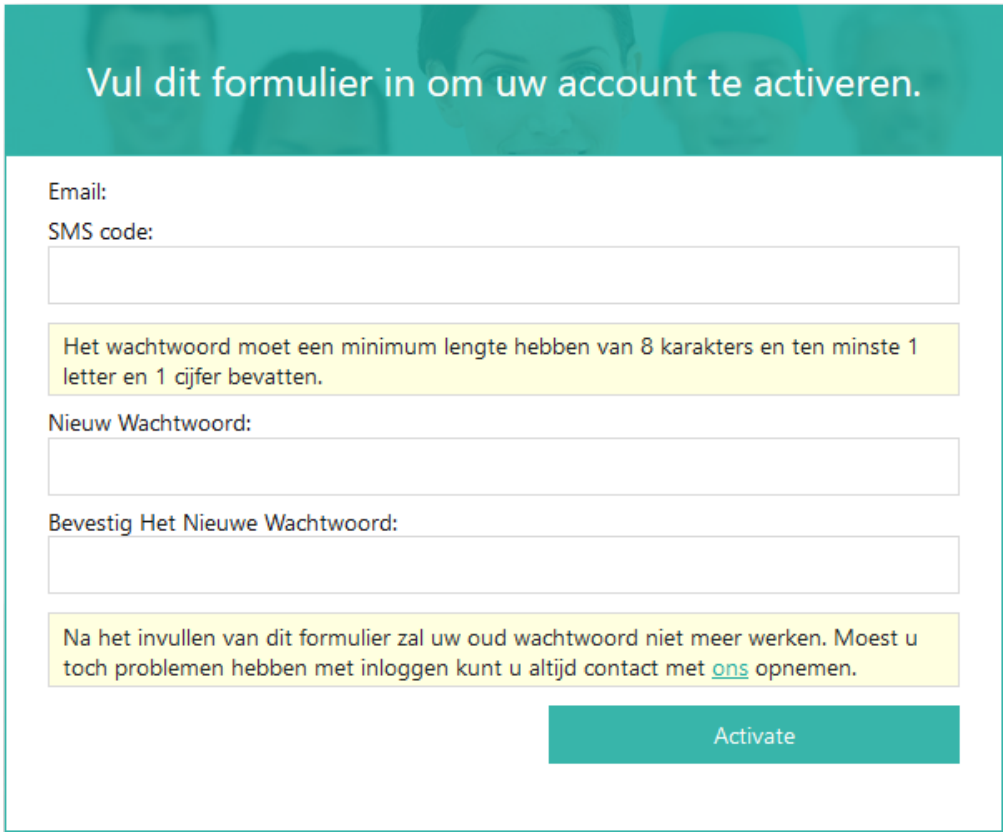

You will receive a text message on the mobile number that was registered in the previous step.

1. Enter the code from the text message and choose and confirm a password of your choice.

   If an incorrect SMS code is entered, the password will not be changed. If an incorrect SMS code is entered five times, the account will be locked.

2. Click **Activate** to complete the creation and activation of your account.

Important!

The chosen password must be at least 8 characters long, containing at least 1 numeric and 1 alphabetic character.

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Tip:

Log in with username and password

After registering with eID you can also log in with your username and password.

- You username is the e-mail address that was used when creating the account (step 7)
- Your password is the password chosen when activating the account.

Once activated, the account is ready to use. You will be redirected to the login screen where you can log in using e-ID or your username and password.

For more information, see Logging in using your username and password (Page 56) & Logging in using an e-ID (BE only) (Page 62)

8.2 Request an account through the service desk

If you choose not to register for a DeepUnity PACSonWEB account through e-ID (cf. Register through e-ID (BE only) (Page 41)), you can request an account request through our service desk.

To request an account

1. Click **I am a doctor or healthcare organization and I want to log in with an account**
2. Click **No account yet?**

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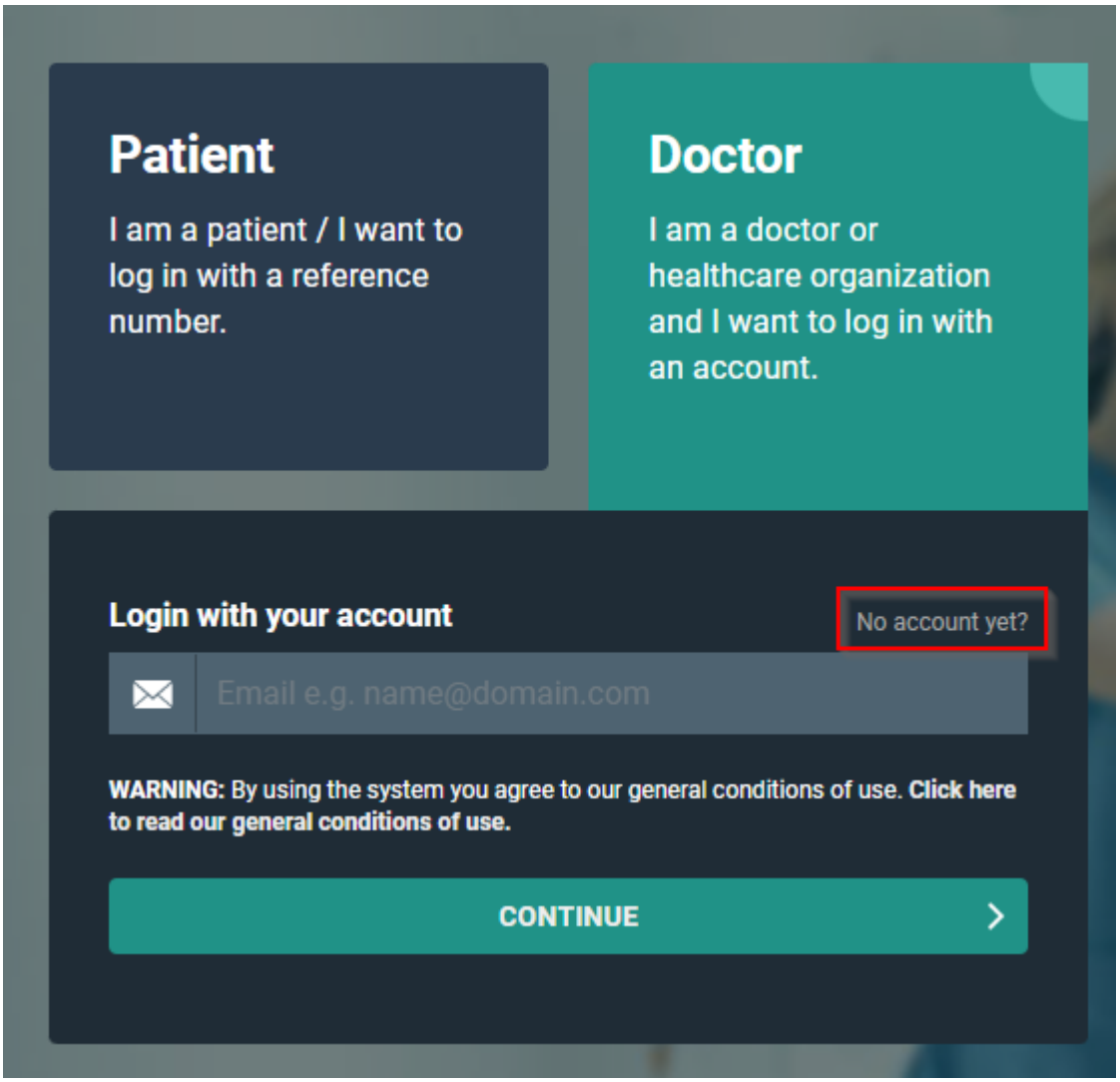

3. Fill out the fields listed in the dialog and click **SEND**.
   Fields marked with an asterisk * are mandatory.

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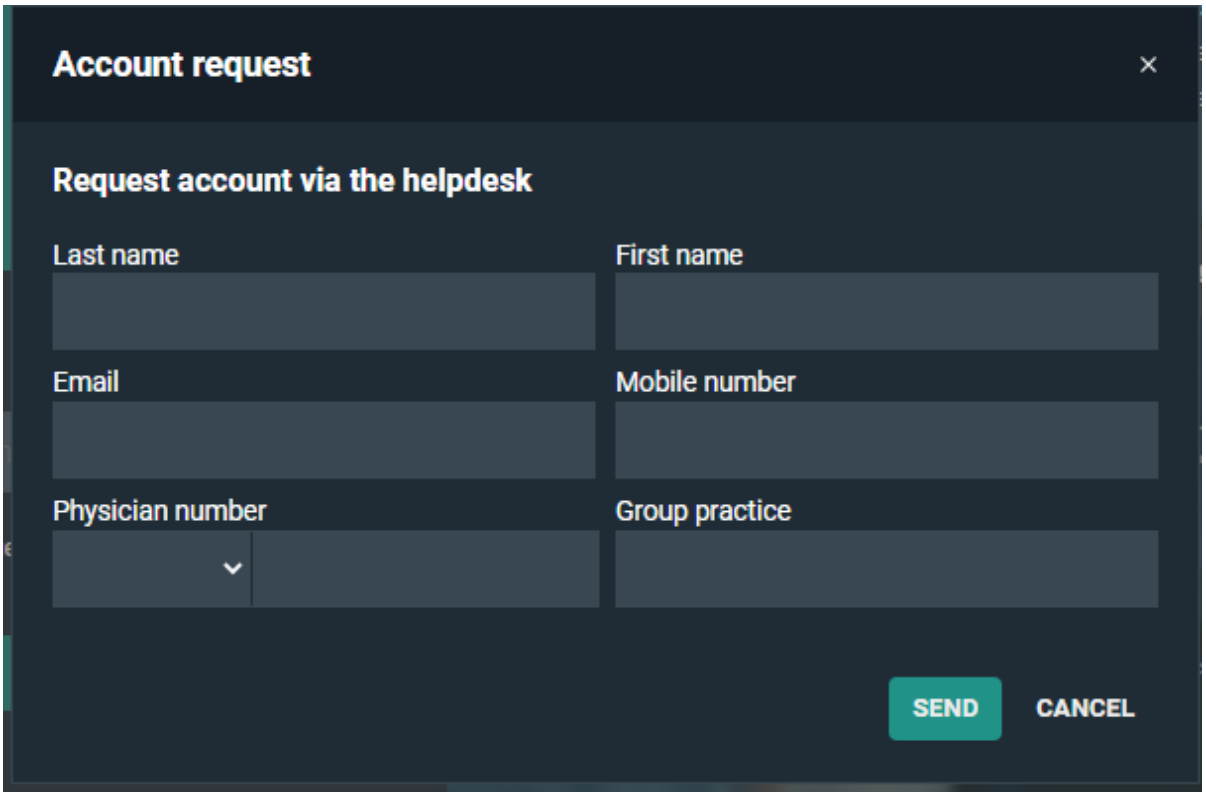

This will submit an account request to our service desk and you will be contacted as soon as possible by an employee of DH Healthcare GmbH to verify your account request.

Note:

As DeepUnity PACSonWEB provides access to sensitive information, the account cannot be granted until the request has been verified.

An account can also be requested by sending an e-mail to the service desk with the following information:

- First and last name
- E-mail address
- Physician number (RIZIV / INSEE / HIN / UCGN / PNB)
- Mobile number
- The group practice to which you belong (optional)

Such requests will be handled in a similar manner to those submitted via the web form detailed in the steps above.

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Logging in

9

Logging in

There are several ways to log in to DeepUnity PACSonWEB. You can log in:

- with a reference number (Page 54)
- with a username and password (Page 56)
- with e-ID (Page 62) (Belgium only)
- as a delegate (Page 65)
- through an active directory (Page 66)
- using EMR (Page 67)

Patients

Patients can log in using a code, their date of birth and optionally an OTP (One Time Password) or an SMS token after payment if required.

Patients will have access to the images of the request and the report, if the medical institution (hospital or radiologist) has given permission for this.

Registered users

Physicians, dentists and specialists can register for an account (Page 40) with DH Healthcare GmbH, after which they can log in with a username and password or through e-ID (Belgium only).

Logging in with your own account

- After logging in with your own account, you will be taken to an overview page with all the studies which you are authorised to view.
- Click on a study in the list to obtain access to all images and the report, if this is permitted by the medical institution (hospital or radiologist).

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Group practices

DeepUnity PACSonWEB supports group practices, allowing you to view your colleagues' studies.

If you are a member of one or more group practices, you will be prompted to confirm your group membership every 3 months.

- A pop-up dialog will appear, listing all the groups you are a member or administrator of.
- For each group, the current composition is displayed, with the primary contact at the top and all administrators in bold.
- If the group composition displayed no longer reflects the actual situation, you must report this to a group administrator or the DeepUnity PACSonWEB service desk for correction.
- To modify the composition of a group, see detailed explanation in My Groups (Page 111).

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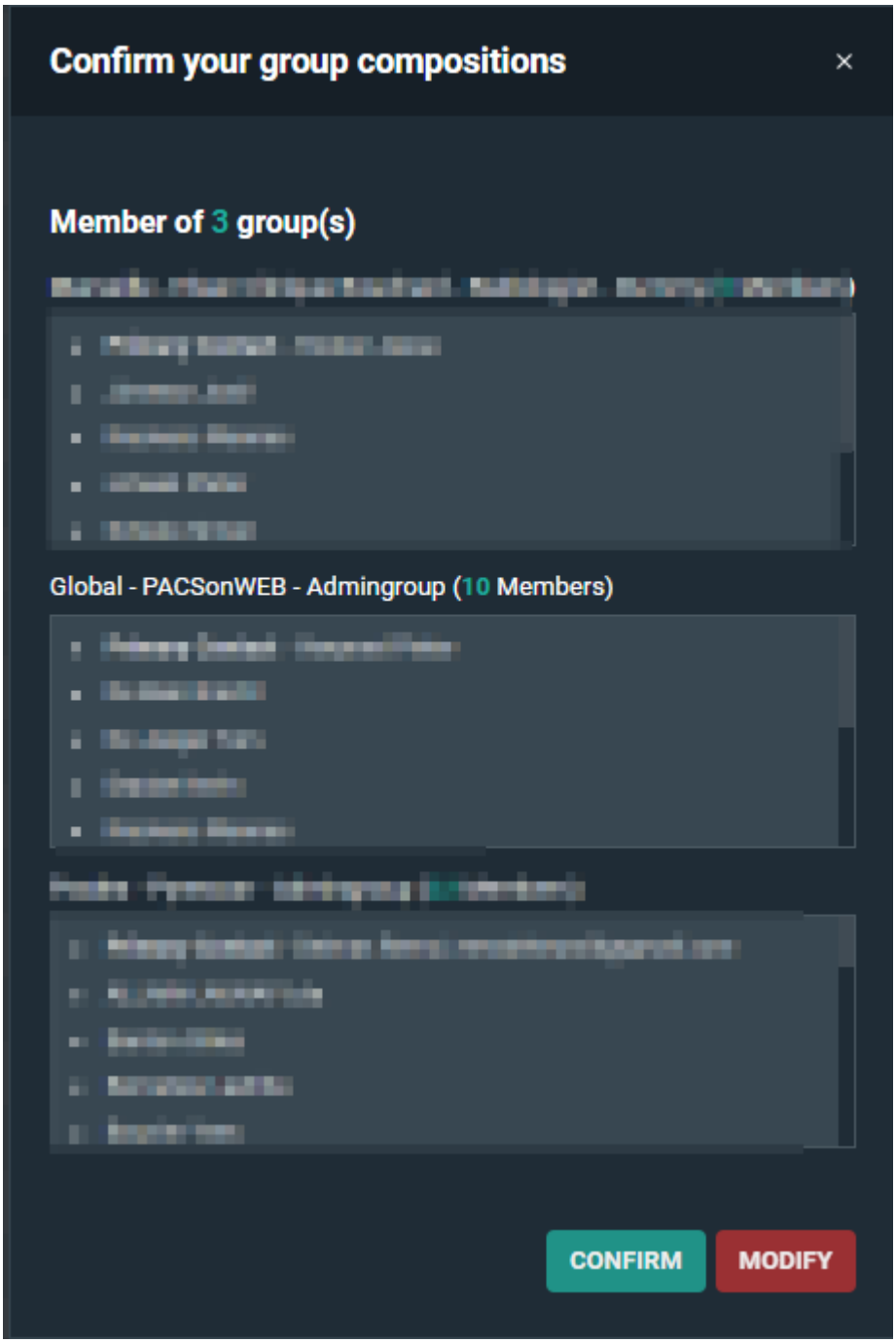

Your DU POW environment

As DeepUnity PACSonWEB is used in several countries, you may end up on the portal of another country's environment.

Your username or security code will not be known in that environment.

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- If you open a portal (e.g. http://secure.pacsonweb.com) but you are situated in another country, a pop-up dialog will ask you to choose your environment.
  - You can choose to be redirected to your country's portal or stay on the current portal.

    Note:

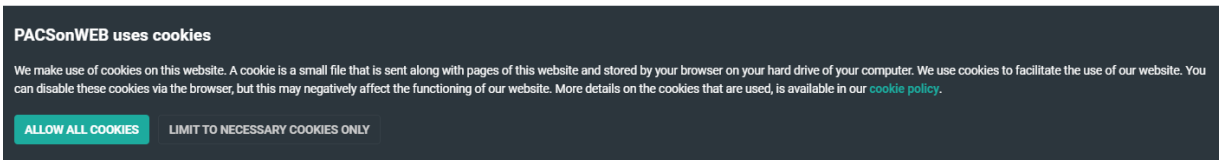
    Studies are only available on the country specific environment.

  - You can remember your choice by ticking the checkbox **Remember my chosen environment**.
- You can go back to the original environment via a menu in the upper left corner. You will have the following options:
  - Go back once
  - Go back and clear preferences

Cookies

DeepUnity PACSonWEB uses cookies for tracking sessions.

We are legally obligated to display the warning below on a monthly basis.



Web browser

Attention:

Internet Explorer 10 is no longer being supported.

As of today, Internet Explorer 10 and earlier versions are no longer being supported.

Via DeepUnity PACSonWEB you will be taken to the appropriate websites to install a more recent browser.

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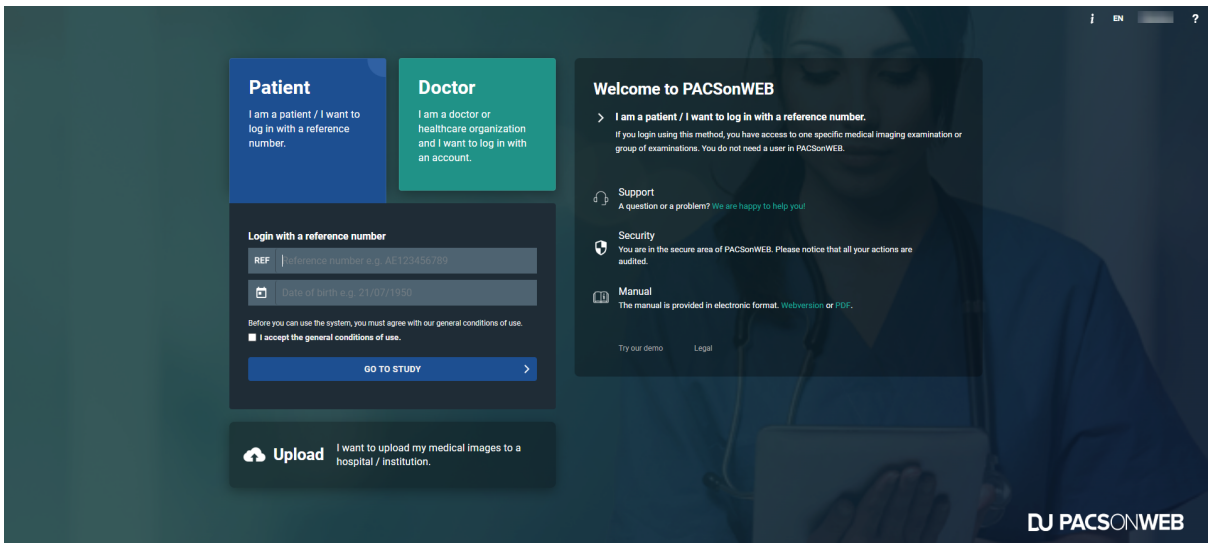
9.1 Logging in with a reference number

Important!

DeepUnity PACSonWEB is **NOT** allowed to be used for diagnostic purposes when you are connected with a reference number!



Log in as a patient

To view your images as a patient,

1. go to the radiology website mentioned in the letter/e-mail containing your reference number.
2. Click the **Patient** box.
3. Enter your reference code and date of birth in the respective fields.
   a. You will find your reference code in the radiology letter/e-mail.
4. Click the **Go to the study** button.
   a. If your reference code gives access to an order with several exams, the first exam will be opened and the other exams are accessible through the Series picker (Page 203) and the History bar (Page 198).

Important!

You will only have access to the report if this is permitted by the radiology service.

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If the combination of reference number and date of birth is registered in DeepUnity PACSonWEB but no report or images have been received yet, the message “Your results are not available yet, please try again later.” will be displayed.

Unsuccessful login attempts

If you enter incorrect login data, an error message will appear alerting you that your login attempt was unsuccessful.

Important!

If you enter an incorrect combination several times, you will be blocked from further login attempts.

Authentication

Depending on the authentication method chosen by the radiology service, your study will either be displayed for viewing or you will be redirected to one of the following two pages:

1. **One-Time-Password required**

   If the **Extra security: Enter One-Time-Password** page is displayed, enter the OTP (One Time Password) that you received either through e-mail or SMS.

   Once you’ve entered the OTP and clicked Continue, you will obtain access to your images as well as the report.

2. **Payment required**

   If the radiology service requires payment for the study before allowing access, you will need to validate your mobile number first.

   The pop-up displays the study date, the hospital where the study was carried out, and the (partially masked) mobile number that was registered at the hospital for the related patient.

   - If the mobile phone number is incorrect, click No.
     - A pop-up will appear with the details of the radiology department you can contact to have your mobile phone number corrected.
   - If the mobile phone number is correct, click Yes.
     - A pop-up will appear where you can choose your preferred payment method.

After the payment has been processed successfully, you will receive an SMS Token which you need to access your exam.

Once a study has been paid for, you have access to the exam at any time by entering the same reference number, date of birth and PIN code.

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Tip:

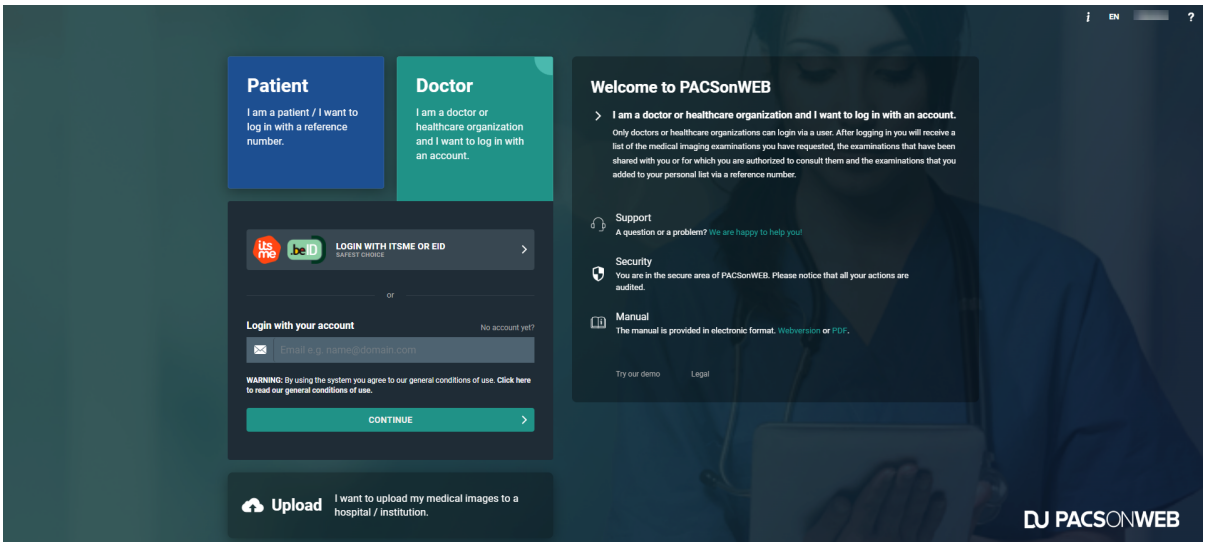
If you experience problems logging in, please don't hesitate to contact our Service Desk

9.2 Logging in using your username and password

From the login page, there are two options for logging in:

- As a patient (see Logging in with a reference number (Page 54))
- As a doctor

Log in as a doctor



To log in as a doctor with your username and password:

1. Click the **Doctor** box.
2. Enter your username and click **Continue**.
   - Your username is the e-mail address you used when you registered.
3. Enter your password and click **Login**.

Logging in with an active directory account

If you attempt to log in to DeepUnity PACSonWEB with an active directory account that uses federated services for authentication, you will be redirected to the webpage of your hospital to enter your password

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Password Complexity pop-up

If your password does not meet the required password complexity rules, a pop-up will notify you and direct you to the User Settings (Page 95) page to change your current password.

Important!

If an active directory integration has been set up for your institution, you will need to change your domain password to meet the applicable password complexity rules to be able to log in to DeepUnity PACSonWEB after the mentioned date.

If your account requires strong authentication to log in, you will receive a temporary code (One-Time-Password) by SMS or e-mail or you will need to confirm your login through the Authenticator app (Page 59).

For more information, refer to Two-factor authentication (Page 58).

First time login

The first time you log in, a pop-up window will be displayed to activate your account.

1. Enter the code you received by SMS.
   - If the incorrect SMS code is entered, the password will not be changed.
   - If an SMS code is entered incorrectly five times, the account will be locked.
2. Enter a password.
3. Confirm your password by re-entering it in the **Confirm new password** field.
4. Click **Activate Account.**

This is a one-time process. For each subsequent login attempt, you will be able to log in with your username and the password that you created.

Tip:

If you've forgotten your password, you can reset it yourself by clicking on **Forgot your password?** on the login page. For a more detailed explanation of how to reset your password, see Change or reset your password (Page 68).

Please note that resetting your password is only possible if your mobile number is registered with DH Healthcare GmbH.)

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9.2.1 Two-factor authentication

After logging in, your account may require two-factor authentication. You can use the DeepUnity PACSonWEB authenticator app or enter an additional code (One-Time-Password or OTP) to confirm your login. We advise you to use the DeepUnity PACSonWEB Authenticator app (Page 59) for two-factor authentication, as it is the most secure option.

Once you have received your code,

1. type the 6-digit code into the **One-Time-Password** field in the OTP dialog.

   Your OTP is sent to your mobile phone or e-mail address, depending on your user settings (Page 95).

   Tip:

   If you check the **Remember this browser for 30 days** box, you will not be required to enter a one-time password for 30 days when you log in from the same machine using the same browser.

2. Click **Continue**.

You now have access to all studies you have requested and that have been shared with you.

Important!

The OTP code is only valid for 20 minutes.

You can have a new code sent from this screen, by clicking **Resend One Time Password**. Only the last received code can be used.

If the One-Time-Password code is entered incorrectly, you will not be logged in.

If an incorrect OTP is entered 5 consecutive times, the account will be locked.

Configuring your two-factor authentication method

If you have not yet configured your two-factor authentication method, when logging in, a pop-up dialog will require you select your choice of 2FA. You can choose from the following options:

- **Time-based One-Time-Password from app:** Authenticate using the DeepUnity PACSonWEB Authenticator app (Two-factor authentication through Authenticator app (Page 59)).
- **One-Time-Password by SMS:** The code will be sent to your mobile phone if your mobile phone number is registered with your account.

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- If your mobile phone number has not been registered with your account, you will receive the code to your e-mail once. After logging in, you will have the possibility to register your mobile phone number.

- **One-Time-Password by e-mail:** The code will be sent to your e-mail.

You can change your two-factor authentication method from your User settings (Page 95) (**User settings** > **My Account** > **Security**).

9.2.1.1 Two-factor authentication through Authenticator app

The DeepUnity PACSonWEB Authenticator app offers a secure and user-friendly way to secure your account.

- The app replaces the use of One-Time-Passwords, sent by mail or text message, by a notification on the app and allows to confirm your logon attempt by a single tap in the app.
- You can link up to 5 different devices to your account from which you can confirm your login attempt.

You can also use third party authenticator apps such as Lastpass Authenticator, Google Authenticator, Duo ...

Download the DeepUnity PACSonWEB Authenticator app

Important!

If your mobile device does not meet the technical requirement, it will not be possible to install the app.

iOS

To download the app from the Apple App Store,

1. search for "DeepUnity PACSonWEB" and select the correct app.
2. Click **Install**.

The DeepUnity PACSonWEB Authenticator app requires iOS 10 or higher.

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Note:

For iOS, the authenticator app has been merged with the Home Reading app. The Home Reading app is still available separately.

Android

To download the app from the Google Play Store:

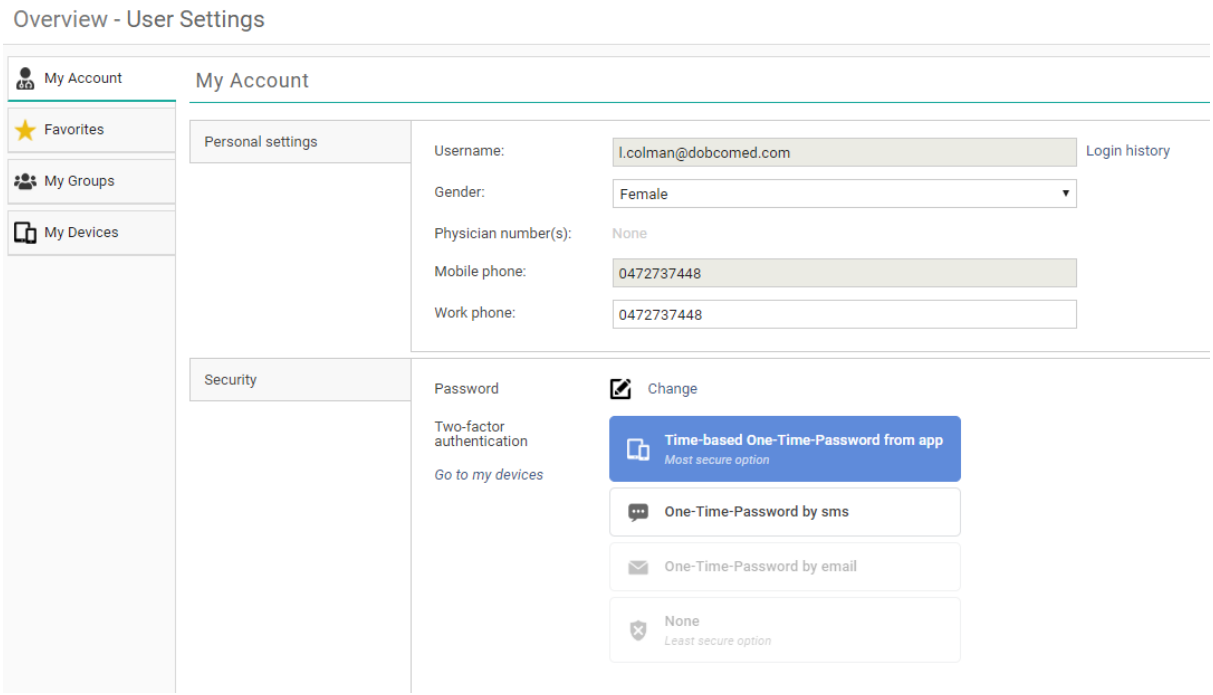
1. Search for "DeepUnity PACSonWEB Authenticator" and select the correct app.
2. Tap **Install**.

The DeepUnity PACSonWEB Authenticator app requires Android 5.0 or higher (API 21 – Lollipop).

Tip:

For Android, the authenticator app and the Home Reading app are only available separately.

Linking your mobile device to DeepUnity PACSonWEB



To link your mobile device:

1. Login to DeepUnity PACSonWEB.

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2. Navigate to **User Settings** > **My Account** > **Security**.
3. Select the option **Time-based One-Time-Password from app**.

   A screen opens to link a device.
4. Open your authenticator app on your mobile device and scan the QR code.
   - For the DeepUnity PACSonWEB authenticator app, confirm your linked device by tapping **Login** on your mobile device.
   - For third party authenticator apps, confirm your linked device by entering the numeric code from the app.

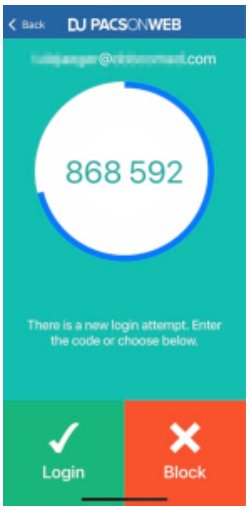
After successfully linking your device, it will be listed as a trusted device in the **My devices** tab in your DeepUnity PACSonWEB user settings.

Logging in using the Authenticator app

To log in using the Authenticator app:

1. Log in to DeepUnity PACSonWEB with your username and password.

   A notification to confirm or deny your login attempt will be displayed on all linked devices on which you have installed the DeepUnity PACSonWEB authenticator app.



2. Complete your login by tapping **Login** from the app or enter the code that is displayed in the "Time-based One-Time-Password" field.

You are now logged in to DeepUnity PACSonWEB.

If you have no internet connection on your mobile device or you are using a third-party authenticator app, you must enter the numeric code from the app and click Continue in your browser to complete your login.

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Unlinking your device

You can unlink a trusted device in the following ways:

- From DeepUnity PACSonWEB
  1. Go to User Settings > **My devices**.
  2. Click the 'X' icon (**Remove**) next to the device you want to unlink.
- From the authentication app
  1. Tap the hamburger menu ☰ .
  2. Select **Unpair**.

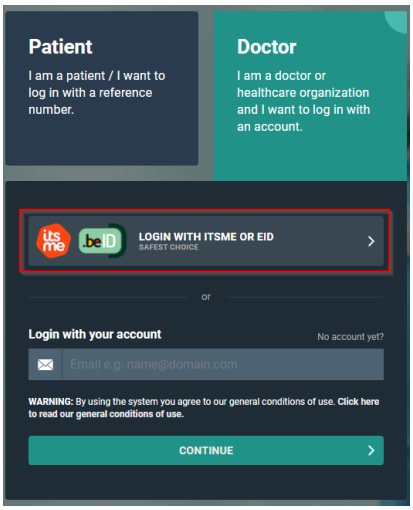
9.3 Logging in using an e-ID (BE only)

Important!

To log in through e-ID, the e-ID software has to be installed on your PC and the Windows Certificate Propagation service must be running on your computer.

To log in with e-ID

1. Click the **Doctor** box.
2. Click the '**Login with Itsme or eID**' button.



3. On the screen that follows, click **Log in with eID card reader**.

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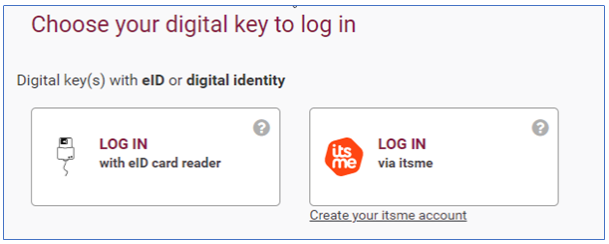
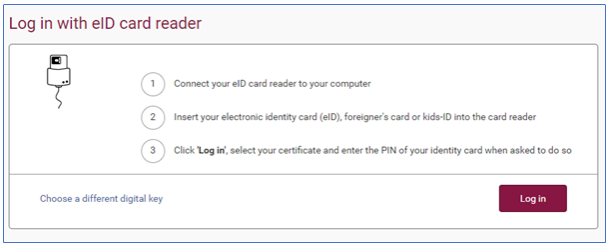
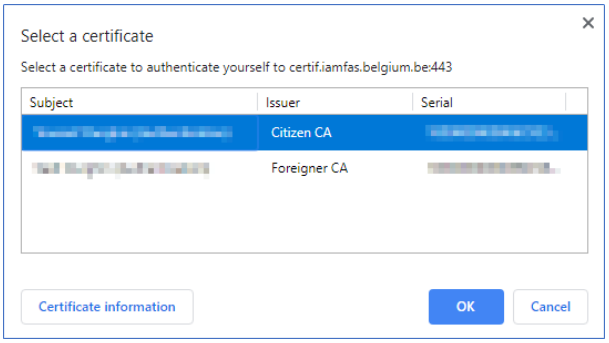


4. Follow the steps on the screen and choose **Log in**.

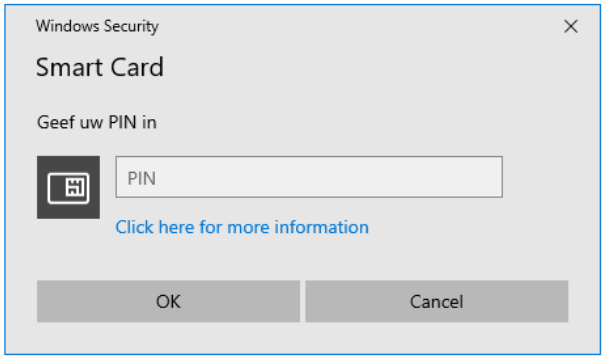


5. Select the certificate with which you wish to log in and click **OK**.
   Make sure that your electronic identity card is in your e-ID reader.



   The screenshots below may look slightly different, depending on the internet browser (Internet Explorer, Firefox, Chrome, etc.) you are using.

6. Enter the PIN for your certificate and click **OK**.



7. Verify your name, and from the drop-down menu select Civilian ('burger').

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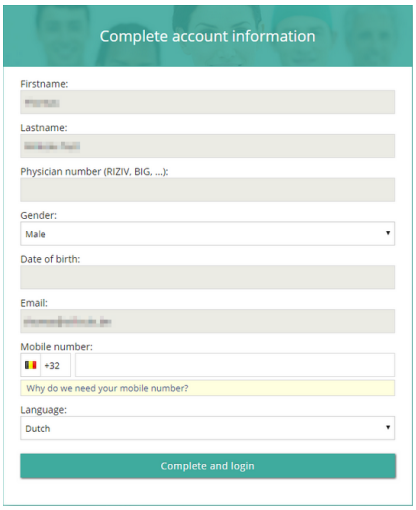
8. Click **Log in** ('Profiel bevestigen').

No account yet?

- If you do not have an account yet, you will be guided to complete your account details (cf. Register through e-ID (BE only) (Page 41)).

Already have an account?

- If you already have an account with all the required details, you now have immediate access to all the studies you requested and that have been shared with you.
- If you already have an account, but not all the required details are available within DeepUnity PACSonWEB, a dialog will be displayed for you to complete the missing details:
  - Account details that are already registered but may not be altered for security reasons are shown but are grayed out.



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9.4 Logging in as a delegate

Important!

This feature is optional. If you are interested, please contact the hospital's radiology service.

Logging in as a delegate allows you to log in using a shared (group) e-mail address while still identifying the user logging in. Logging of users is done via the **Delegates** drop-down list.

If you are interested in this feature, please contact the radiology service of the studies you wish to view. Tell them the general e-mail address that will be used to log in as well as the e-mail address of the delegate who will be administering the group. The radiology service will provide you with your login information.

To log in as a delegate

1. Go to the website of the hospital whose images you wish to view.

   Log in with the general account's username and password.

   Select your e-mail address from the drop-down list of delegates.

   Enter the OTP (One-Time-Password) that was sent to your e-mail address and click **Continue**.

You now have access to all the studies that have been shared with you.

Adding or removing delegates

Adding and removing delegates to an account that is being used by a group can only be done by the group administrator.

To add a delegate

1. Log in with the general account.
2. Select the administrator's e-mail address.

   Enter the OTP (One-Time-Password) that was sent to the e-mail address and click **Continue**.

   You now have access to all studies that were shared with the general e-mail address.
4. Hover over the **Settings icon** in the upper right corner of the overview page.
5. Select **User Settings** from the drop-down list.
6. Click on the **My Groups** tab.

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Select the group you want to add a delegate to from the **Administrator of {x} group(s)** list.

8. In the dialog, click on the **Delegates** tab
9. Click **Add delegate**.
10. Enter the e-mail address of the delegate you wish to add and click **Add**.

    Click **Save Changes**.

    If you now log in with the general account, you can also select recently added e-mail addresses.

To remove a delegate

1. Follow steps 1-8 outlined in the previous instruction (To add a delegate).
2. Find the delegate in the list that you wish to remove and click the remove icon .
3. Click **Save Changes**.

9.5 Logging in through an active directory

Tip:

Logging in using active directory means that a user can log in with the domain account or the e-mail address of the hospital and the related password.

This is an optional integration and can only be set up for radiology departments. If you are interested, please contact DH Healthcare GmbH for more information.

To log in through an active directory

1. Go to the hospital's login page and click the **Doctor** box.
2. In the username field, enter the username or e-mail address of the hospital and click **Continue**.
3. Enter the password registered with the hospital for the related account and click **Log in**.

Important!

Active Directory Federation Services

If the active directory integration has been set up using ADFS, you will be redirected to a separate page, hosted by the hospital to complete the password.

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One-Time-Password

After successfully logging in to DeepUnity PACSonWEB for the first time, you will receive a One-Time-Password (OTP) via SMS to the account's registered mobile phone.

Enter the received code you received in the **Extra security: Enter One-Time-Password** dialog and click **Continue**.

- If the OTP code is entered incorrectly, you will not be logged in.
- If an incorrect OTP is entered 5 consecutive times, the account will be locked.
- If everything has been entered correctly, the overview page will be displayed.

Password complexity pop-up

- If you have logged in with a password that does not meet the DeepUnity PACSonWEB password policy, a pop-up will notify of this and request you change your current password.
- Change your password in the User settings (Page 95) page to meet the imposed password complexity so you can keep logging in to DeepUnity PACSonWEB beyond the date displayed in the pop-up.
  - For detailed instructions on how to change your password, go to Change or reset your password (Page 68)

Important!

The password complexity is not checked when using ADFS

9.6 Logging in using EMR

Tip:

Opening studies on DeepUnity PACSonWEB, directly from the Electronic Medical Record system (EMR) is only possible for radiology departments after setup.

If you are interested, please contact DH Healthcare GmbH for more information.

- If you have opened a study from the EMR, this is made visible by displaying (EMR) next to your username in the top toolbar.
- Since you are not logged in using a regular DeepUnity PACSonWEB account, the authentication is considered insufficient to make all features available.
  - When trying to use a feature that has been made unavailable, the following notification will be shown: "You are logged in via the EMR, and have limited

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access. In order to use all user functionalities, you will need to log in via DeepUnity PACSonWEB with your account. Click here to log in."

9.7 Viewing login attempts

All login attempts to DeepUnity PACSonWEB will be logged.

- Your most recent successful login made with your username is displayed in the menu at the top of the overview page.
  - You will find it next to your username, displayed as **Last login: dd/mm/yyyy 00:00:00**)
- If there was an incorrect login attempt with your username, you will receive a warning during your next successful login.

To view a detailed list of all recorded login attempts

1. Hover over the User Settings (Page 95) icon .
2. Select **User Settings** from the drop-down list.
3. In the **My Account** tab under **Username**, click **Login history**.

The overview shows at what time and from which IP address each login attempt was recorded and whether or not this was successful.

9.8 Change or reset your password

You can change your password for security reasons or reset it if you forget it or if your password has expired.

Important!

Changing your password is only available if you are logged in to a DeepUnity PACSonWEB account. For those logged in with an Active Directory account, changing your password from this page is not possible.

Resetting your password is only possible if your mobile phone is registered with DH Healthcare GmbH

Change your password

1. Login to your DeepUnity PACSonWEB account.
2. In the top toolbar, hover over the **settings icon** .
3. Select **User Settings** from the drop-down menu.

   The page will open to the **My Account** tab

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4. Under **Security**, click **Change**.
5. Enter your current password in the **Old password** field.
6. Enter your new password in the **New password** field.
7. Confirm your new password by re-entering it in the **Confirm new password** field.
8. Click **Change password** to update your password.

   Once you click **Change password**, your old password will be overwritten with the new one.
9. To cancel your changes, click **Cancel change password**.

Your DeepUnity PACSonWEB password will expire automatically after one year.

Reset your password

1. From the login page, enter your username and click **Continue**.
2. Below the password field, click **"Forgot your password?**"

   A pop-up dialog will be displayed with the e-mail address you entered at the login page.
3. Verify the the e-mail address is correct and click **Reset**.

   A confirmation message will be displayed.
4. Click **Ok**.

   You will receive an e-mail with a link to reset your password.
5. In the email, click on the **Password reset** link. The link will open a webpage.
6. Enter the SMS code that you receive at the GSM number registered with DH Healthcare GmbH (the GSM number where the code is sent is also mentioned in the e-mail).

   If an SMS code is entered incorrectly, the password will not be changed.

   If an SMS code is entered incorrectly five times, the account will be locked.
7. Enter a new password in the **New password** field.
8. Confirm the new password in the **Confirm new password** field.
9. Click **Reset password**.

If everything was entered correctly, you will be redirected to the login page where you can log in with your username and new password.

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Important!

The link to reset your password is valid for 48 hours. After 48 hours, the link will open a dialog notifying you that the link has expired and instructing you to repeat the process for resetting your password. You will receive a new e-mail with an updated link.

9.9 Logging out

Logout of DeepUnity PACSonWEB from any page by clicking the **Logout** button on the top right-hand corner of each page.

For security reasons, your DeepUnity PACSonWEB session will be automatically disconnected in the following instances:

- If the session is inactive for 30 minutes
- 4 hours after logging in to DeepUnity PACSonWEB

  To adapt these time periods, send a request to our Service Desk.

Your DeepUnity PACSonWEB session will also be terminated if you close all browser windows.

Important!

If you still have another browser window open (even without DeepUnity PACSonWEB), the session will be retained and it is possible to reopen your DeepUnity PACSonWEB session without providing any login credentials.

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The overview page

10

Patients: If you log in as a patient with a reference number, you will be directed to the respective request (see DeepUnity PACSonWEB study page (Page 198)).

Registered users: If you log in with an account, you will be directed to the overview page. Here you will see a list of all the studies you have access rights to view.

You can have access rights on a study because:

- you are the requesting physician (or CC physician)
- a colleague in your group practice is the requesting physician and studies are shared within the group practice
- you have added the study to your list using the reference number (See Adding a study (Page 84))
- the study was shared with your user, your group or your medical department (See Sharing studies from the overview page (Page 126))
- you are member of the user group or admin group of a radiology department

By default, the overview page only contains studies that are available in the central DeepUnity PACSonWEB cloud environment.

- A medical imaging department can opt to process the images also locally by a local image cache (see Local image cache (Page 193)) to make the images available faster within the local network.
- If your user has access rights to such a local image cache, the overview page will also contain all studies that are available through the local image cache.

Tip:

For Mammograms the images will remain on DeepUnity PACSonWEB for a default period of three years. For other studies, images will remain on DeepUnity PACSonWEB for one year.

To consult an older study, contact the radiology service.

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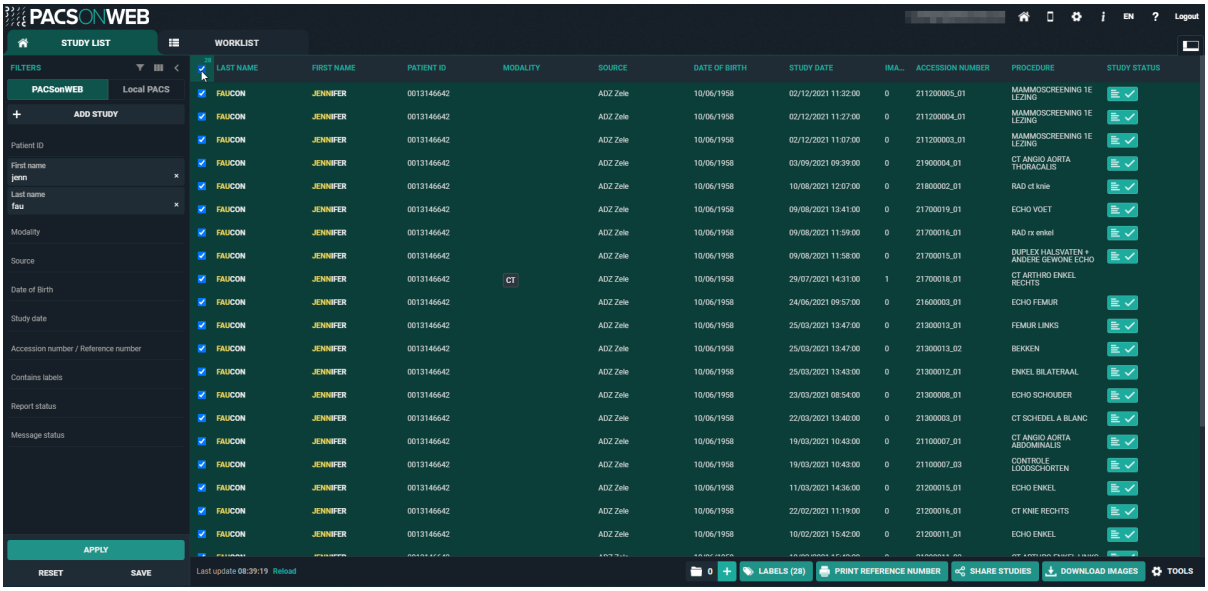
The study list



- The list reloads automatically every 5 minutes.
  - To refresh the list manually, click **Reload** at the bottom of the page.
- The list is limited to the 100 most recent studies.
  - To display more specific results or look for older studies, you can use filters (Page 79).
- You can select all the studies that are shown in your overview list.
  - To select all studies, check the top box in the first column.
  - This box will also display the number of studies selected.

Opening a study from the overview page

The overview page lists all the studies you have access to. When you click on a study from this list, the study will be opened by default in the active tab.

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Tip:

If the related setting has been activated for your account, you can open different studies within the same browser tab. Clicking on a study from the overview page will open that study in the active window and tab.

To open a study from the overview page in a new tab, you can use any of the following options:

- Ctrl + Shift + left click on the study
- Ctrl + left click on the study
- Click on the study using the scroll wheel

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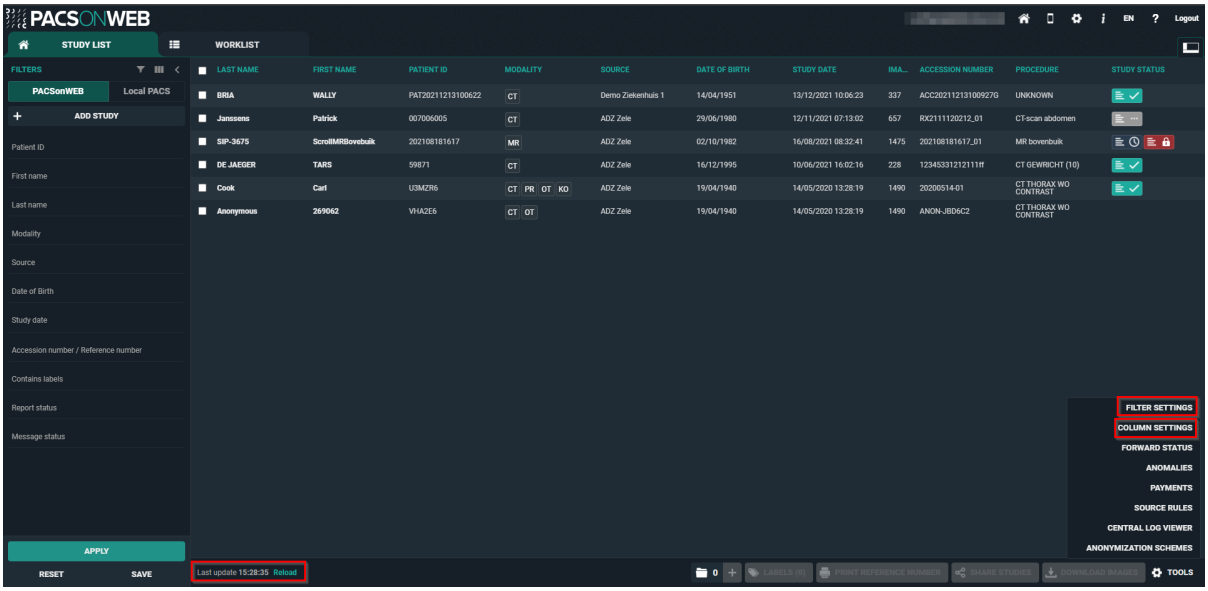
10.1 Configuring the overview page



Tip:

Refreshing the overview page

The overview page refreshes automatically every 5 minutes.

Configuring the overview page

You can configure the overview page according to your preferences by changing the filter fields in **Filter settings** and columns in **Column settings**.

There are two ways to navigate to the **Filter settings** and **Column settings**:

1. Click the respective icon in the filters panel.
   - Filter settings
   - Column settings
2. Click **Tools** and select either **Filter settings** or **Column settings** from the list.

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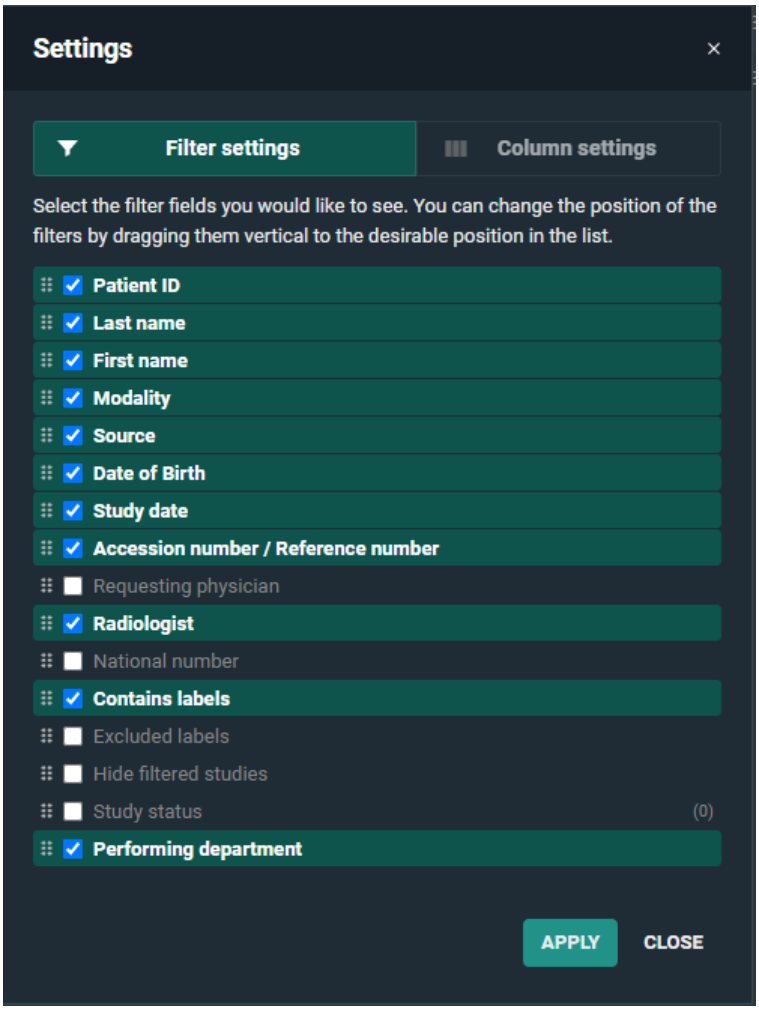
Filter settings



From the filter settings you can add, remove, or change the order of how the fields are displayed in the filter panel.

- To display a filter field, check the respective box.
- To hide a filter field, uncheck the respective box.
- To change the order of a filter field, click and drag it to the desired position in the list.

After implementing the desired changes, click **Apply**.

If a value for a filter field has already been entered, the value will be shown at the end between brackets.

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Filter fields

The table below lists the available filter fields and the input type (text, drop-down, calendar).

Field	Input Type
Accession Numbers / Reference number	Text Field
Contains labels	Multi-select Drop-down
Date of Birth	Text Field
Excluded labels	Multi-select Drop-down
First name	Text Field
First Name at Birth	Text Field
Hide filtered studies	Checkbox
Last name	Text Field
Last Name at Birth	Text Field
Modality	Multi-select Drop-down
National number	Text Field
Patient ID	Text Field
Performing department	Text Field
Place of birth	Text Field
Radiologist	Text Field
Requesting physician	Text Field

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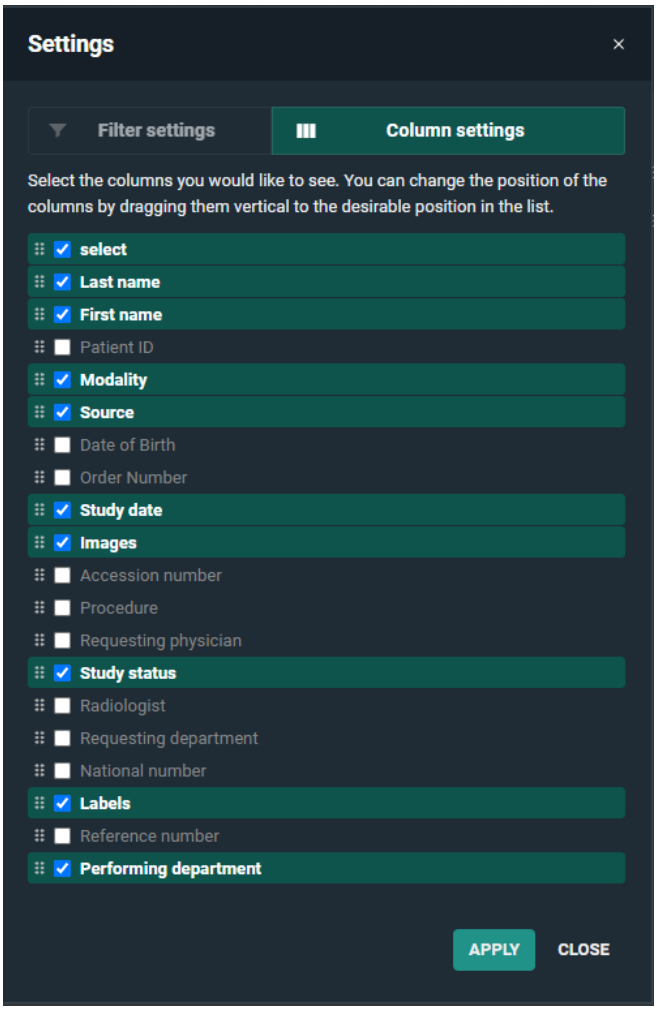
Source	Text Field
Study Date	Calendar
Study status (Report status / Message status)	Multi-select Drop-down

For more details on **Study date**, **Report status** and **Message status fields**, see Configuring the overview page (Page 74)Using Filters.

Column settings



From the column settings you can add, remove, or change the order of how columns are displayed in the study list.

- To display a column in the study list, check the respective box.

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- To hide a column from the study list, uncheck the respective box.
- To change the order of a column, click and drag it to the desired position in the list.

After implementing the desired changes, click on **Apply**.

Column fields

Below is a list of all column fields available from the study page.

- Accession Number
- Date of Birth
- First name
- First Name at Birth
- Images
- Labels
- Last name
- Last Name at Birth
- Modality
- National number
- Order Number
- Patient ID
- Performing department
- Place of birth
- Procedure
- Radiologist
- Reference number
- Requesting department
- Requesting physician
- Select
- Source
- Study date
- Study status
  - Report status
  - Message status

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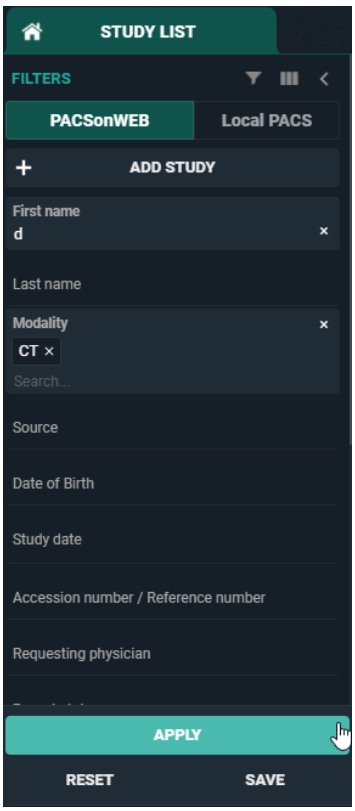
10.2 Using filters



Filters make it easier to find a study in your list.

Click on the grey arrow on the top left to display › or hide ‹ the filter fields.

Remembering filters in the overview page

You can set DeepUnity PACSonWEB to remember the values entered in the filter fields when you open an exam or log off.

To configure this setting:

1. Click on the **User settings** icon and select **User settings** from the drop-down list.
2. Click the **Preferences** tab.
3. Under **General** > **General settings**
   - To remember the filters, enable the **Remember filters in the overview page** toggle icon.

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- To clear the filters, disable the **Remember filters in the overview page** toggle icon.

4. Click **Save general settings**.

Important!

If you use a filter during a DeepUnity PACSonWEB session and don't delete it, the filter will open automatically when starting a new session.

How to search with a filter

To start a search:

1. Enter search criteria into the desired filter fields.

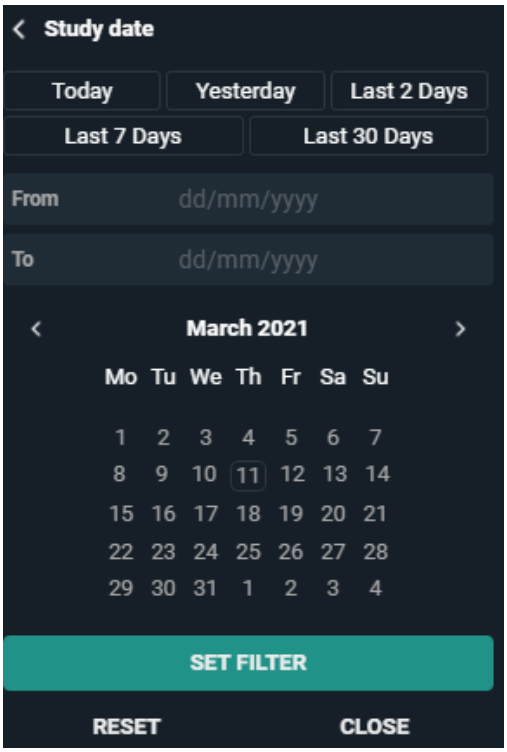
   Filter fields will be bolded and grey when containing search criteria.

2. Click **Apply**.

While the search is in progress, all filter fields are locked and cannot be edited until the search has concluded.

For a list of available filter fields, see Configuring the overview page (Page 74).

Using the study date filter



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The **Study date** field will display a calendar, allowing you to select a specific day or a day range.

To use the study date filter:

1. Click **Study date** from the **Filters**
2. Select your dates.
   - You can select dates using a predefined filter, enter your desired dates via the calendar, or manually input the dates using your keyboard.
   - You can select a specific day or a date range.
3. Click **Set filter**.
4. Click **Apply**.

Using predefined filters

You can choose from a list of predefined filters:

- Today
- Yesterday
- Last 2 Days
- Last 7 Days
- Last 30 Days

Entering dates manually

- Select the dates manually using your keyboard:

  Enter the desired dates in the **From** and **Until** fields (following the dd/mm/yyyy format) using your keyboard.
- Select dates using the calendar:

  Navigate to the desired day/month/year using the calendar and click on the days you wish to enter.
  - The first date you click will be entered automatically into the **From** field.
  - The second date you click will be entered into the **Until** field.
- Use **From** and **Until** fields to get different results:
  - To search for studies from one specific day, enter the same date in the **From** and **Until** field.
  - To search for studies from a specific date up to today, enter the date in the **From** field only.
  - To search for studies up to a specific date, enter the date in the **Until** field only.
  - To search studies between a specific date range, field out both the **From** and **Until** fields.

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To clear the study dates

To clear the study dates you entered in the **From** and **Until** fields:

1. Click the **study date** filter field.
2. Click the **Reset** button below the calendar.
3. Click **Apply** at the bottom of the **Filters**

You can also clear the study dates by clicking the 'x' to the right of the field in the **Filters** panel.

Using the report status filter

The **Report status** filter allows you to filter on one or more of the following statuses:

Icons	Status
-	No report
	Draft report
	Preliminary report
	Validated report

Using the message status filter

The **Message status** filter allows you to filter on one or more of the following statuses:

Icons	Status
	Read
	Unread

You can also select both options (read/unread) to display a list of all studies with a message.

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Using the contains labels filter

DeepUnity PACSonWEB allows users to filter for studies that contain and exclude certain labels.

You can also filter using predefined labels that are linked to studies based on HL7 message values.

- For the use of predefined labels, please contact DH Healthcare GmbH
- If certain studies for a radiology department are filtered, based on HL7 message values such as requesting department, modality, ... the studies are still listed in the explore page of source admins for reference.

Such studies are marked with the following icon in the study status field:

As a source admin, it is possible to hide filtered studies by activating the **Hide filtered studies** toggle icon.

Filtered studies are not visible for non-source admins; this filter is therefore not available for regular users.

How to save a filter

You can save a filter that you use on a regular basis.

To save a filter:

1. Enter the criteria into the desired fields.
2. Click **Save**.
3. In the dialog that appears,
   a. Enter a name for your filter.
   b. Select a group from the drop-down.
4. Click **Save filter.**

Tip:

If you are the administrator of a group practice, you can choose to save the filter only for yourself or for all members of the group practice.

Only the administrator can delete a filter that was created for all members of the group.

The filter will be saved at the bottom of the **Filter** panel. You can apply the filter at any time by clicking on it.

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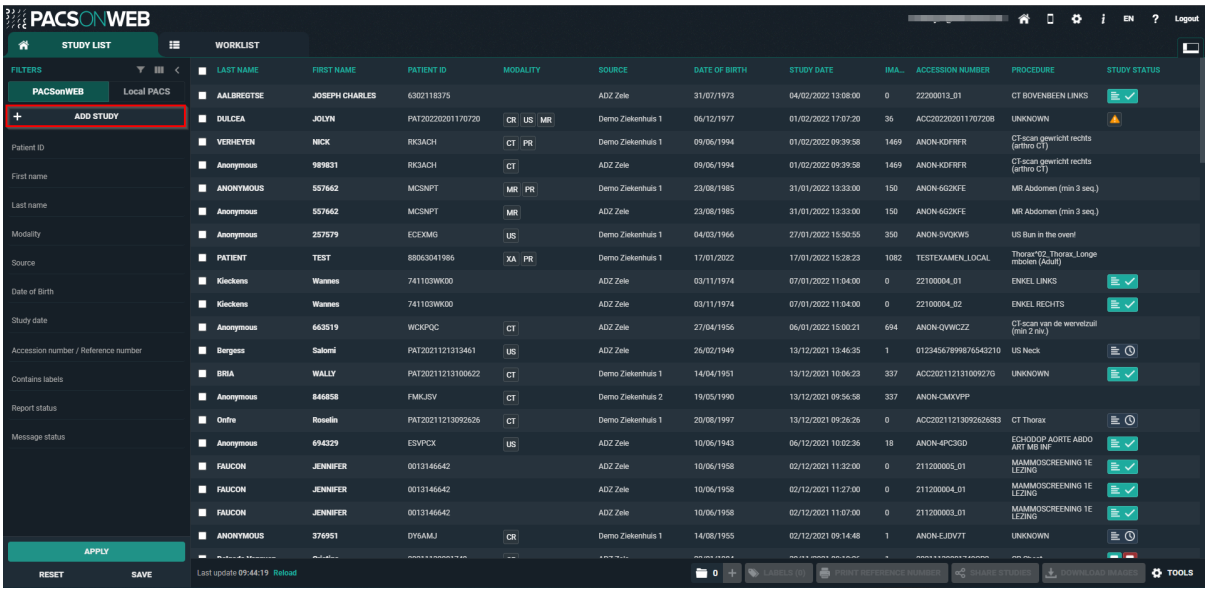
To delete your saved filter, click the **X** to the right of the filter.

10.3 Adding a study

If you wish to view a study for which you are not the requesting physician, you can add this study to your list, provided that the patient has given you the reference number and his/her date of birth.

To add the study:

1. Click the **Add Study** button in the top left corner.



2. Enter the study's reference number and the patient's date of birth in the dialog displayed.
3. Click the **Add study** button.

The respective study will be opened immediately.

If a single or multiple exams have been shared with a non-DeepUnity PACSonWEB user, there is no reference number but only a DU POW code (DU POW...).

You can add this exam in a similar way by entering the DU POW code in the reference number field and the date of birth for one of the related patients.

Tip:

After you've added a study, this study will remain available in your own list for future reference.

If you are an administrator of a group, you will have the additional option to add the exam for the entire group.

After adding the exam, it will be accessible for all members of the group.

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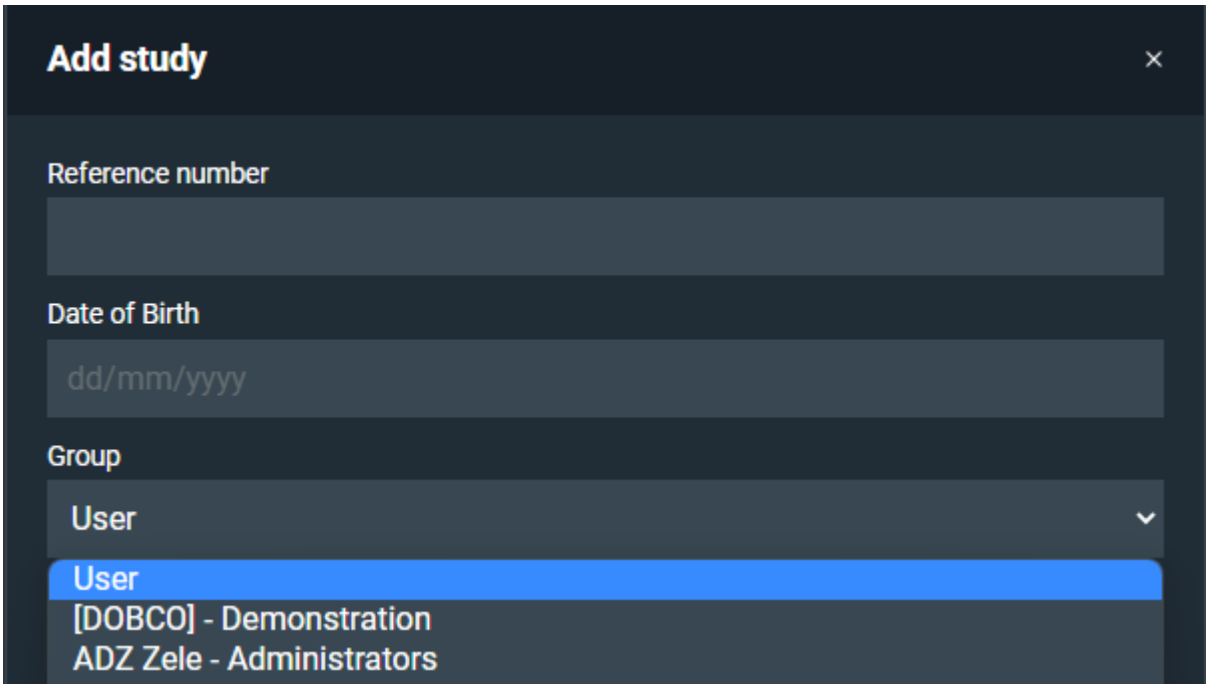

Adding a single study:

When adding a single study, you can choose between the following options:

- **Add study**: the study will be added to the study list of the user
- **Add and open study**: the study will be added to the study list of the user and the study will be opened in the viewer
- **Add and open study in list**: the study will be added to the study list with the reference number filled in as filter to show the added study

Adding a bucket (more than 1 study):

When adding a bucket, you can choose between the following options:

- **Add studies** the studies will be added to the study list of the user.
- **Add and open studies in list:** the studies will be added to the study list with the reference number filled in as filter to show the added studies.

10.4 Upload Portal

The Upload Portal allows you to upload your medical images to your Hospital/ Institution.

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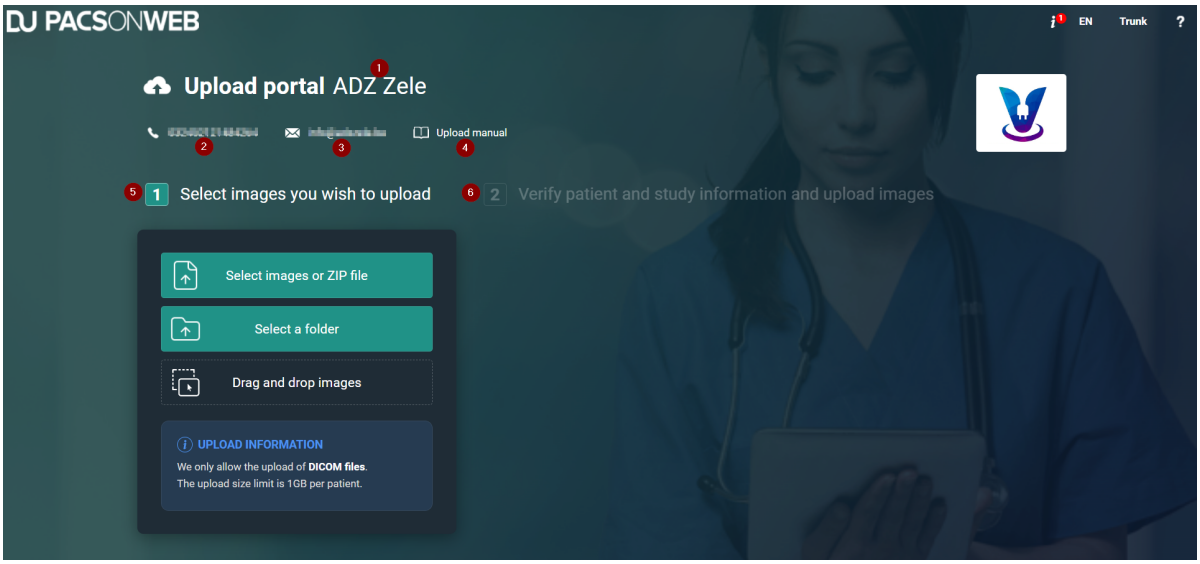
Overview of the Upload Portal page



1. Source: the Hospital/Institution from which you received the Upload code
2. Phone number from your Hospital/Institution
3. E-mail address from your Hospital/Institution
4. Hyperlink to the Upload manual
5. **Panel 1** – Select images you wish to upload (highlighted by default)
6. **Panel 2** – Verify patient and study information and upload images

Note:

Panel 2 will only become available once you have added images to the Upload Portal

Select images you wish to upload

There are **3 different options** to **add your medical images** to the Upload Portal.

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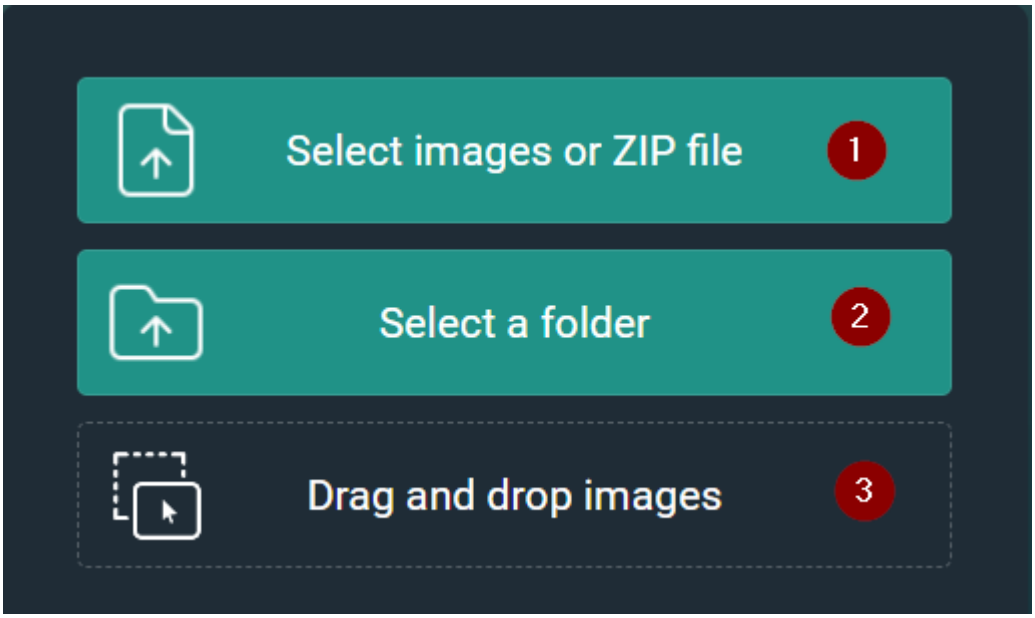
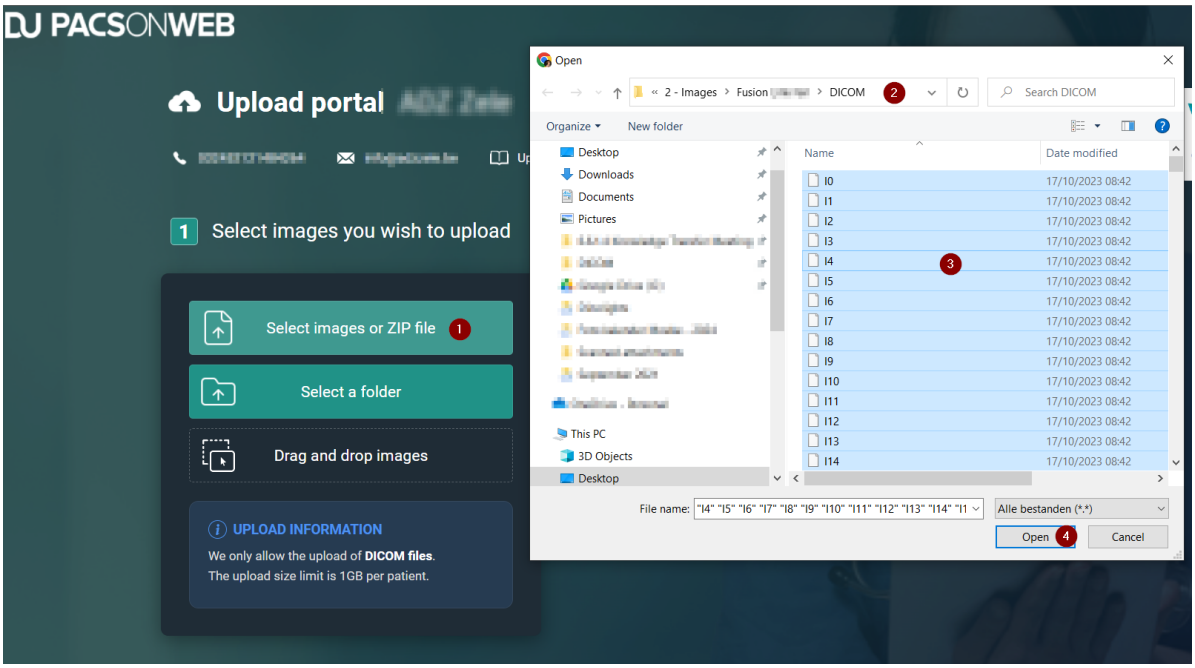


Follow the steps below to successfully upload your medical images to the Hospital / Institution:

Add multiple images using the button Select images or ZIP file



1. Click on the button **Select images or ZIP file**.
2. In the pop-up dialog, navigate to the folder, where your images are located.

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3. In the folder select all files.

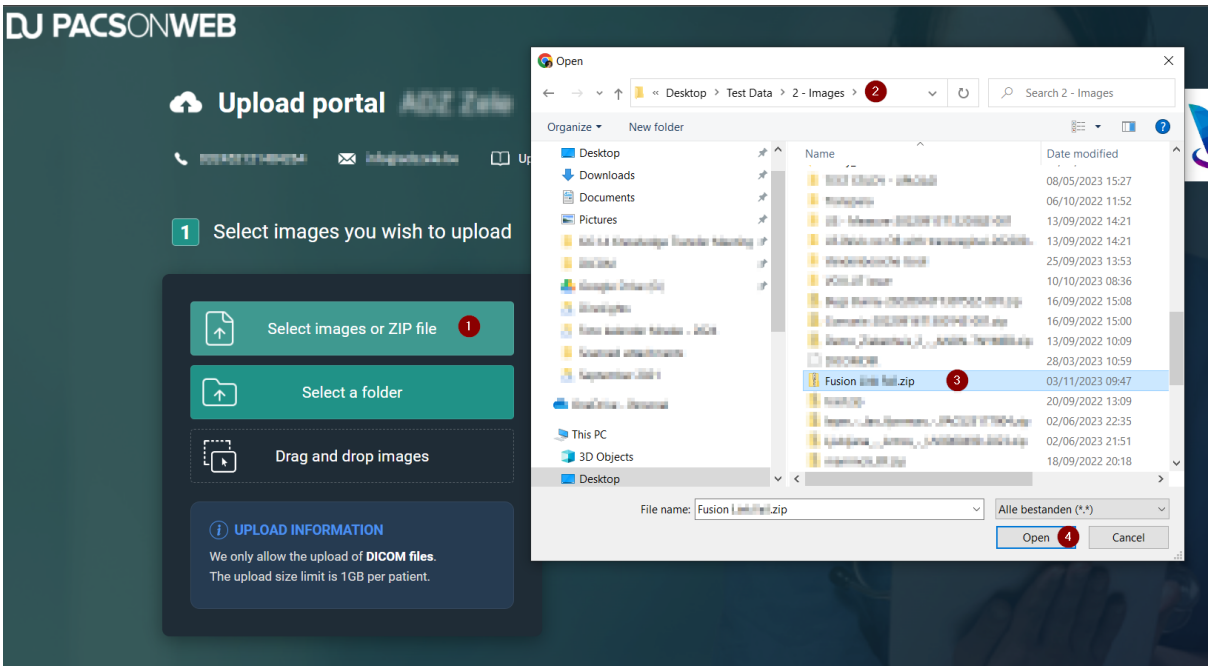
Tip:

You can select all files by selecting one file and pressing **Ctrl + A** or by selecting the first file in the folder, scrolling down to the end of the files, pressing **SHIFT + left mouse**, and clicking on the last file.

4. Click on the 'Open' button in the pop-up dialog.

Your images will now be added to the upload portal

Add a ZIP file using the button Select images or ZIP file



1. Click on the button **Select images or ZIP file**.
2. In the pop-up dialog, navigate to the ZIP file that contains your images.
3. Select the ZIP file.
4. Click on the 'Open' button in the pop-up dialog.

Your images will now be added to the upload portal

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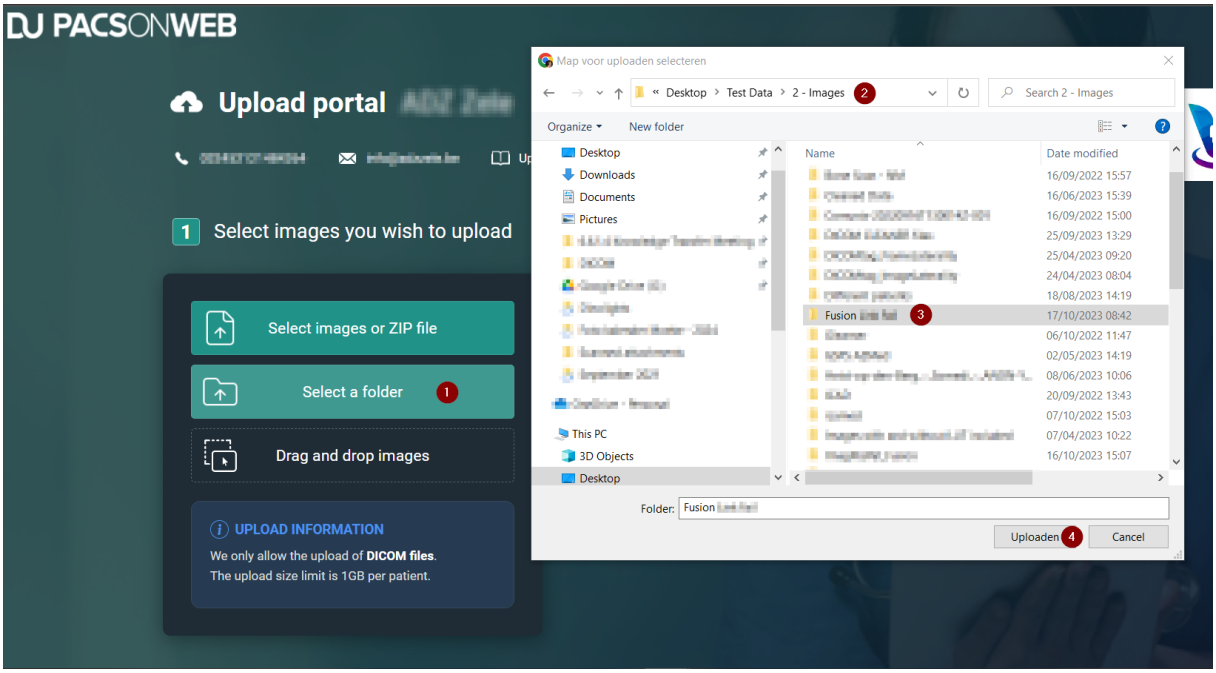
Select a folder or Select a CD/DVD using the button Select a folder



1. Click on the button **Select a folder**.
2. In the pop-up dialog, navigate to the folder or CD/DVD drive, where your images are located.
3. Select the folder that contains your images
4. Click on the 'Upload' button in the pop-up dialog.

Your images will now be added to the upload portal

Tip:

Sometimes your browser can give you an additional pop-up message when you select a folder, just click on 'Upload' again.

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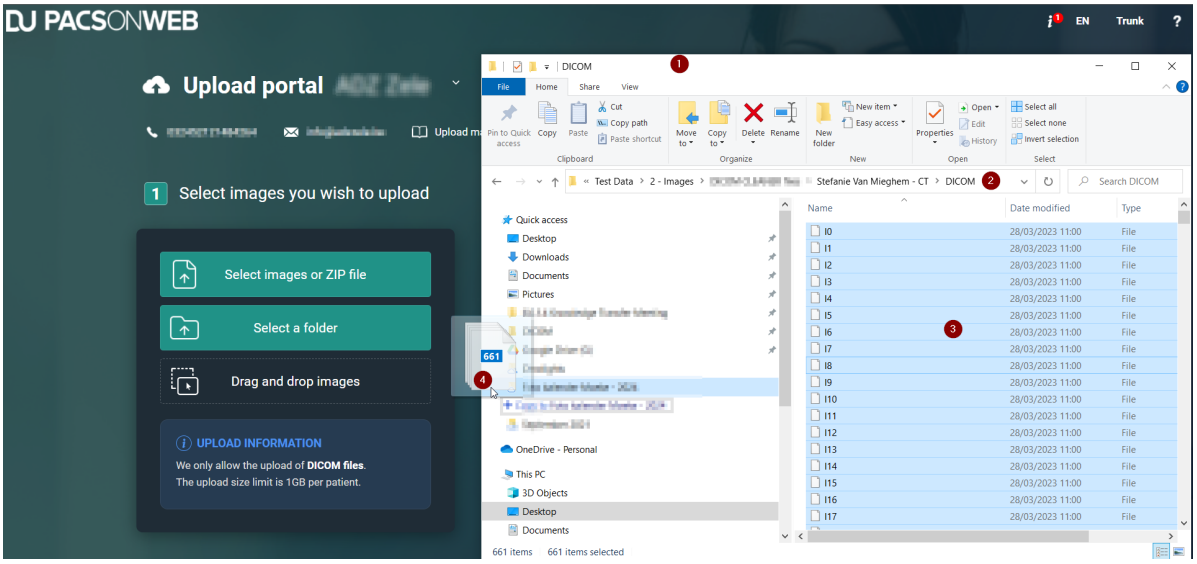
Drag and drop images using the Drag and drop images option



Note:

This is not a button, to use this option, simply drag and drop the selected files to the **Drag and drop images** option.

1. Open your file explorer.
2. Navigate to the folder, where your images are located, and open the content of the folder
3. In the folder select all files.
4. With all the files selected (highlighted), hold down the left mouse button and drag the images onto this option in the Upload portal.

Your images will now be added to the upload portal

Verify patient and study information and upload images

Verify that you added the correct images to the Upload Portal

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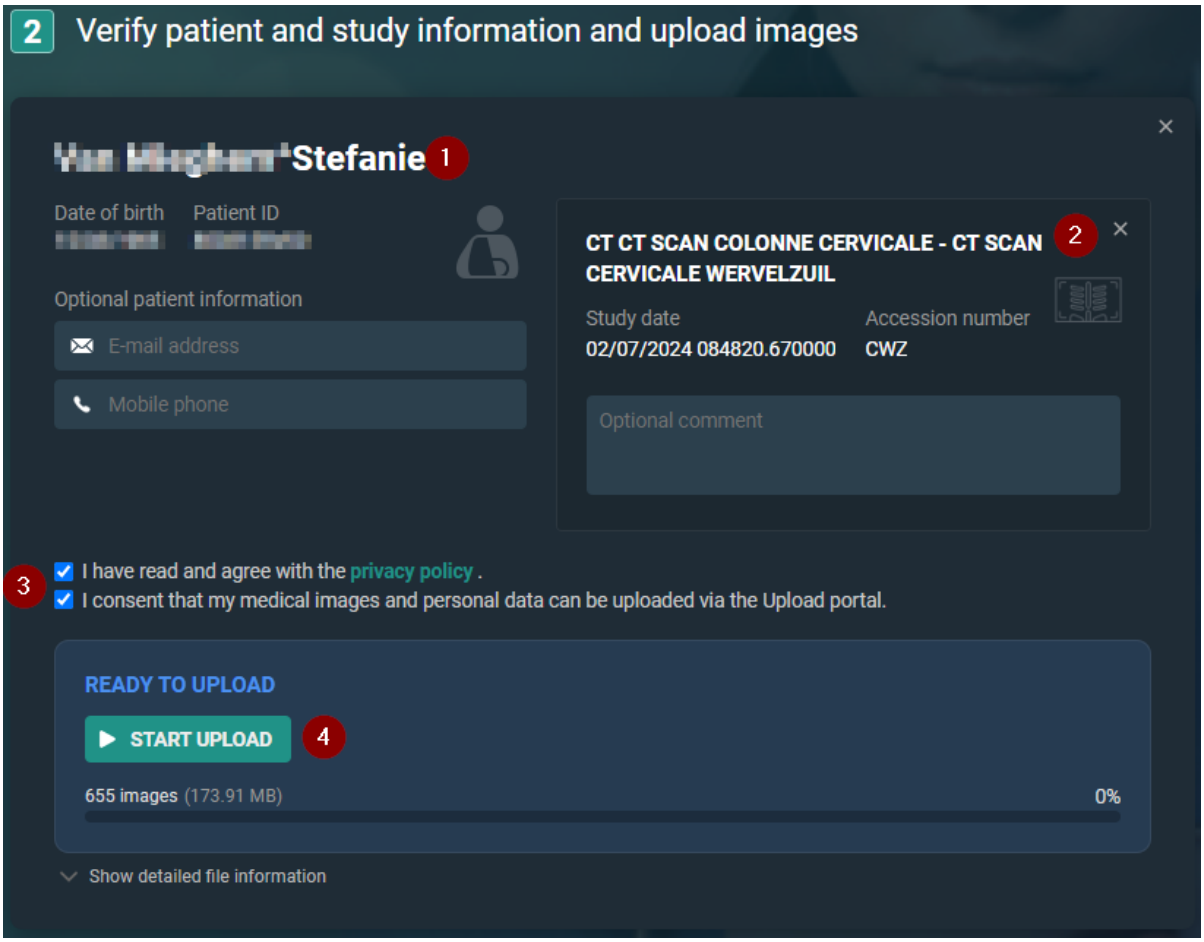

1. Check the patient information:
   a. Verify that you added the correct patient to the Upload portal.
   b. Optionally, you can enter your personal e-mail address or mobile phone number.

   Tip:

   This can be used as a reference or if the hospital needs to contact you.

2. Check the study information:
   a. Verify that you added the correct study to the Upload portal.
   b. Optionally, you can enter a comment per study you want to upload to indicate why you are uploading each specific study.
3. Agree with the privacy policy & consent to share your medical images with the hospital.
4. Click on the **START UPLOAD** button.

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Important!

Do not close your browser during upload.

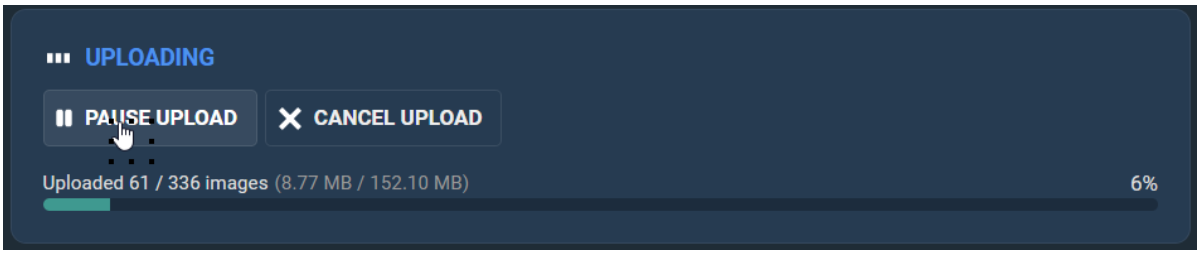
Result: The upload has started.

Note:

Accession numbers and Patient IDs will be anonymised during upload. This is to avoid mismatches in DeepUnity PACSonWEB

File upload status

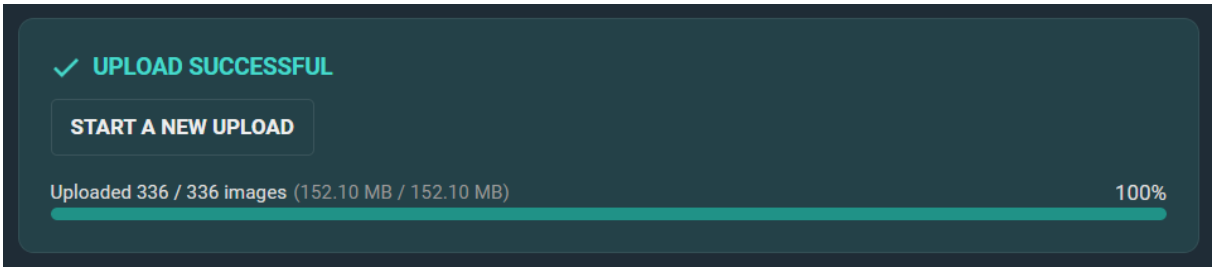
- **Uploading**: upload is in progress



  - **PAUSE UPLOAD**: You have the option to pause the upload.
  - **CANCEL UPLOAD**: You have the option to cancel the upload.
- **Validating files**: scanning for malware.

We perform a malware scan of the images, to ensure that no viruses have been uploaded that could infect the hospital/institution.

- **Upload successful**: Upload is complete. All files have been successfully uploaded to the Hospital / Institution.



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Once the message 'Upload successful' appears in the panel, you can safely close the browser or start a new upload.

As a DeepUnity PACSonWEB Source User/Source Admin

Once uploaded successfully, the studies can be found via the Worklist or the Study list. All uploaded studies will have the label '**Uploaded**'.

Accession numbers and Patient IDs

Restriction:

You **cannot** search for a study by **Accession Number** or **Patient ID** as these fields have been anonymised during upload.

Accession Numbers and Patient IDs are not generated by DeepUnity PACSonWEB, but by hospitals. As the Upload Portal receives studies from different hospitals and regions, we cannot guarantee that an Accession Number or Patient ID is a unique number and therefore they cannot be used to automatically link a study to a patient. To avoid anomalies and mismatched studies, all studies uploaded to the Upload Portal are anonymised.

This process should trigger the Source admin to link the studies to the correct patient via Patient merge to make them available as prior studies.

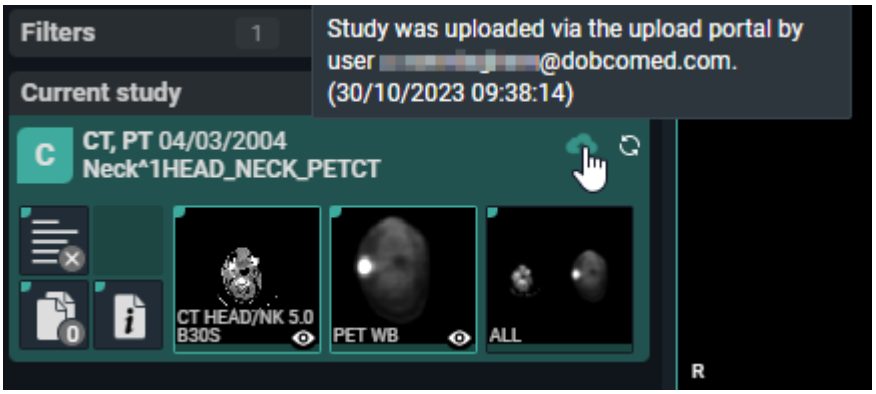
Filtering Studies

Filtering the list using the following search criteria: **'Contains Label' = 'Uploaded'**, will allow you to see all studies that have been uploaded via the Upload portal.

The workflow status of uploaded studies is automatically set to '**Finalized**' to avoid cluttering the radiologists' reading worklist.

When the study is opened in the viewer, an icon and accompanying message will be displayed indicating that the studies have been uploaded via the Upload portal.

By a user (no upload code needed)



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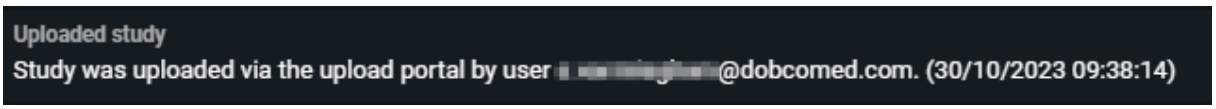
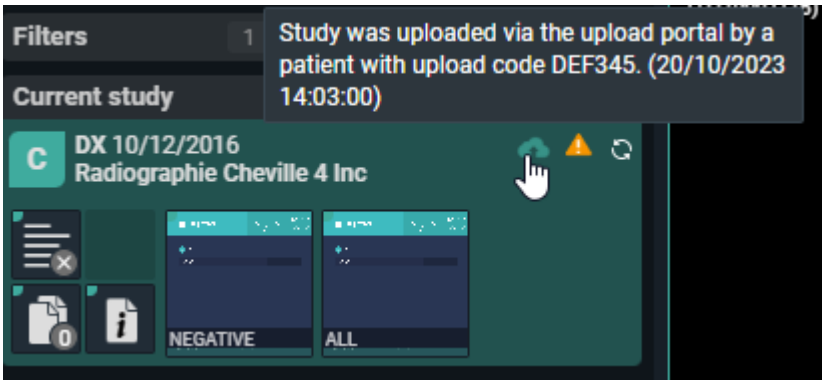
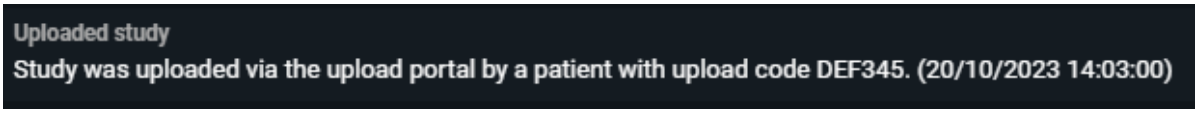
The same information is available in the **Study information** panel of the study:



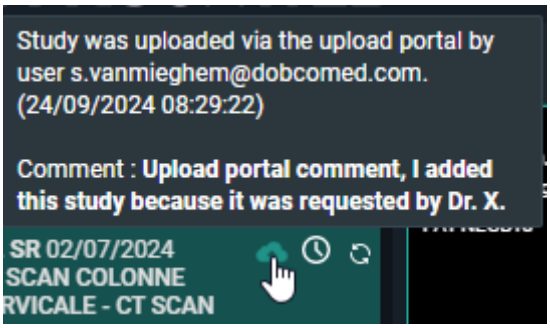
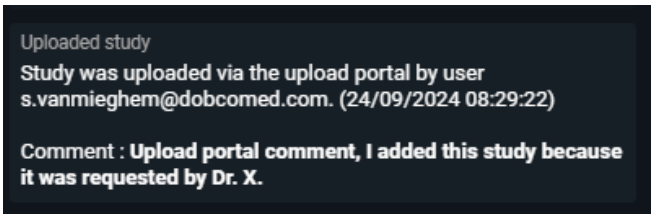
By a patient/referring physician (via upload code)



The same information is available in the **Study information** panel of the study:



If the patient/user added a **comment** via the upload portal, the information will be added in the Uploaded study information box.

Series Picker	Study info panel
	

Verifying the content of the Uploaded study

As a DeepUnity PACSonWEB Source Admin, you can change the label linked to an uploaded study.

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You can remove the label 'Uploaded'. You can link the new label 'Uploaded-Reviewed' (available by default in the system).

Additionally, all the same options are available as for other studies within DeepUnity PACSonWEB, e.g. merging with an existing patient, DICOM transfer of the study to another PACS system.

10.5 User settings

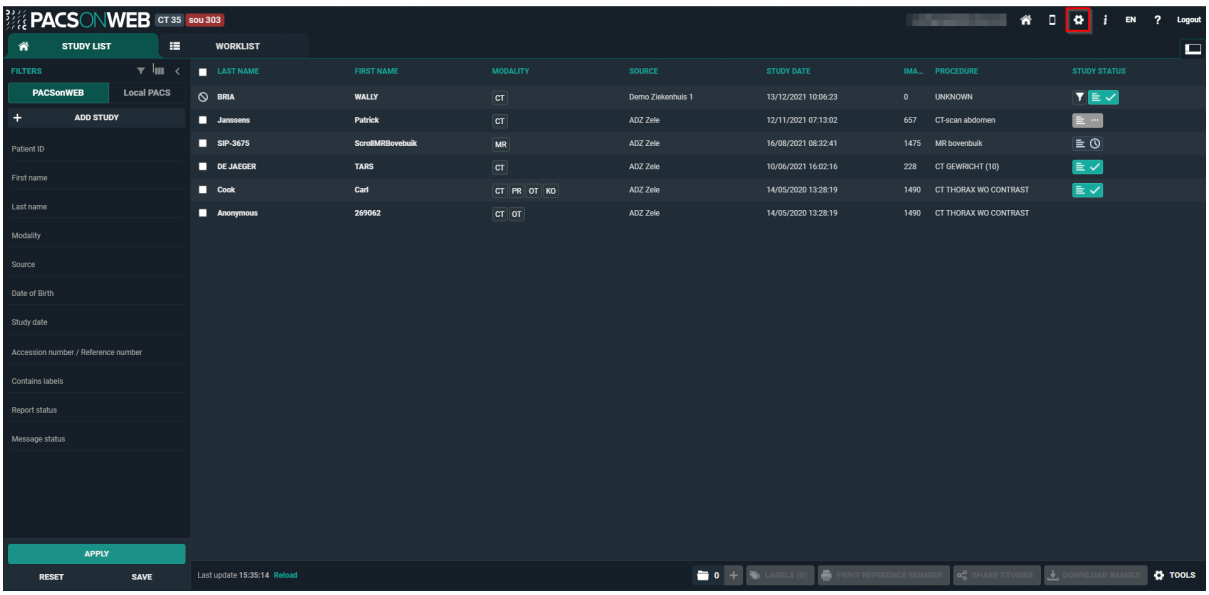
From the user settings you can:

- edit your user information
- manage your favourites list
- administer your groups
- manage your linked devices for two-factor authentication

To go to the **User Settings** page:

1. Hover over the cogwheel in the upper right corner.
2. Select **User Settings** from the drop-down list.

Clicking on your username in the top menu will also take you to User Settings.



There are several ways to return to the Overview page from **User Settings**:

- Click **Overview** in the upper left corner.
- Click the house icon in the upper right corner.
- Click the DeepUnity PACSonWEB logo in the top left.

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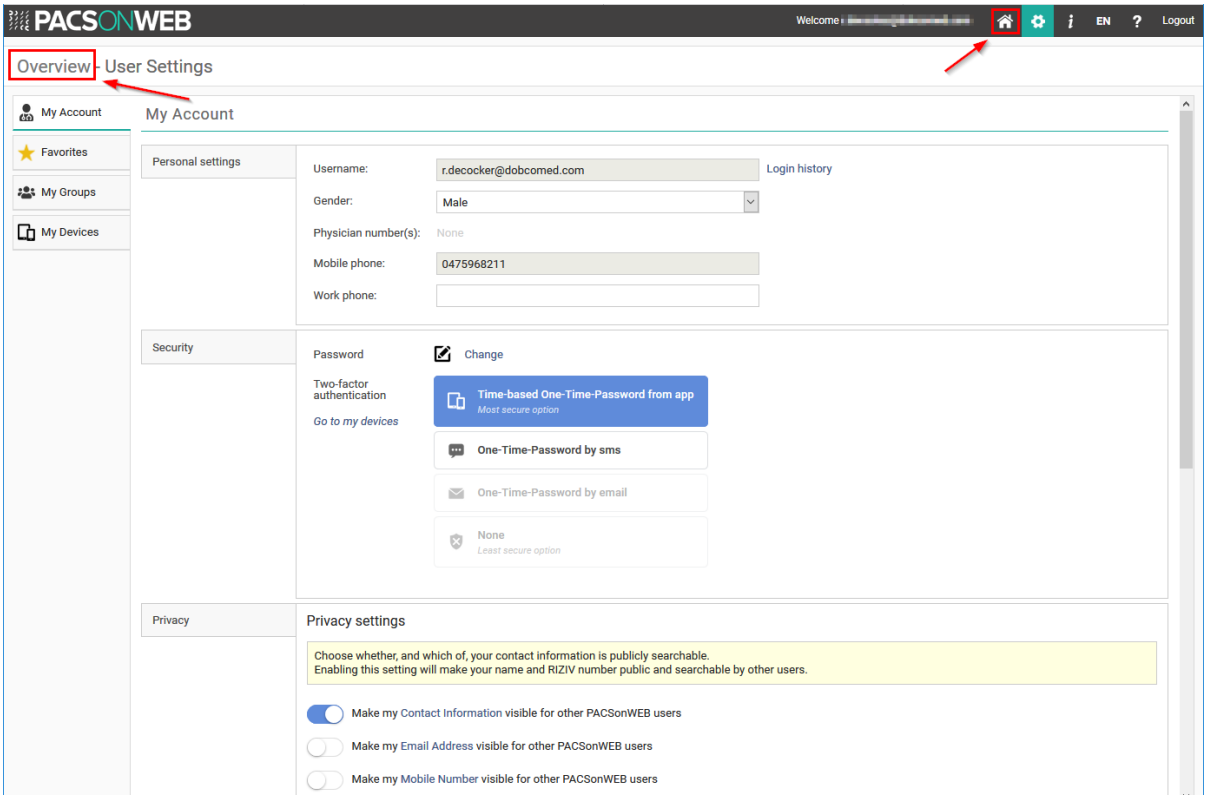

10.5.1 My account

Click on the cogwheel in the upper right of the page and you will be taken to the **User Settings**.

From this page you can view your account information.

Personal settings

Field	Description
*Username	Your username is your e-mail address
Login History	Displays an overview of the last 100 login attempts
Gender	Used to address you in automated e-mails
*Physician number(s)	Physician numbers, linked to the account
*Mobile phone	Used to send OTP messages for activation, password reset and strong authentication

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Field	Description
Work phone	Can be used to contact you in case of issues

Tip:

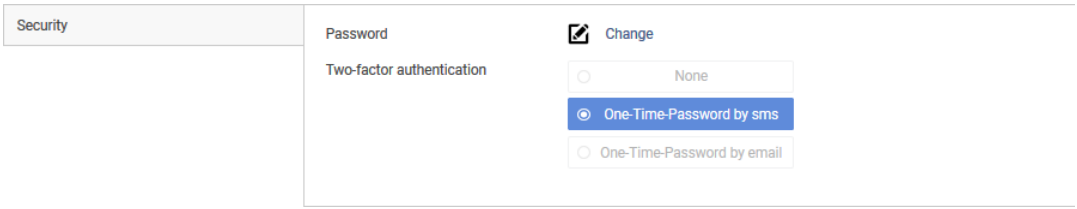
Fields, marked with * are Read-Only. To adapt, please contact the service desk.

Security

Changing your password

If your account is not linked to a domain with active directory, you can change your password by clicking the **Change** button.

If you have an active directory integration for your domain, this option will not be visible and you will need to contact your domain administrator to change your password.



To change your password:

1. Click **Change**.
2. Enter your old password and enter your new password twice in the dialog displayed.
3. Click the **Change password** button.

After clicking **Change password**, your old password will no longer be valid and you must use the new password to log in.

Enabling two-factor authentication

For improved security, you can enable two-factor authentication on your account.

For more information, refer to Two-factor authentication (Page 58)

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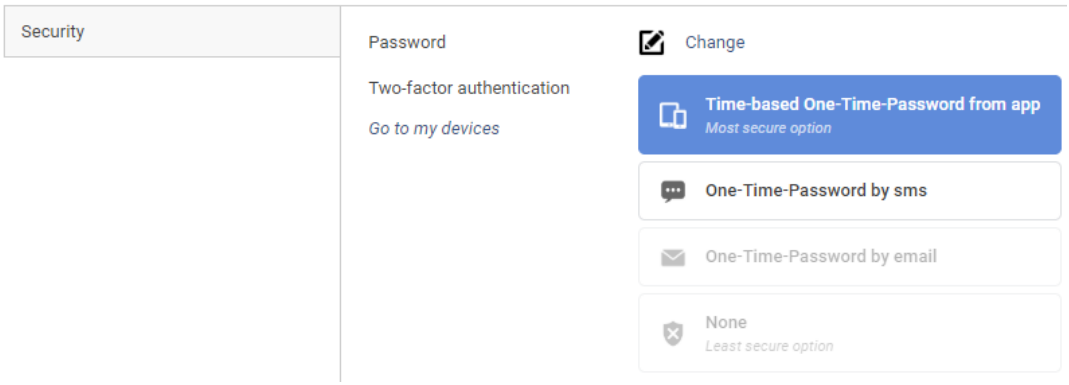

If strong authentication is mandatory in your region, you must select a two-factor authentication method. In this case, the option **None** will not be available.

Privacy settings

Here you can determine which information will be made public under **Favorites**.

- **Make my Contact Information visible for other DeepUnity PACSonWEB users**: If enabled,

  only your name and RIZIV number will be visible when a user searches for you using the **Find users** button under the **Favorites** tab.

  - This setting is enabled by default.
- **Make my E-mail Address visible for other DeepUnity PACSonWEB users**: If enabled, your e-mail address will be visible.
- **Make my Mobile Number visible for other DeepUnity PACSonWEB users**: If enabled, your mobile number will be visible.

If all privacy settings are disabled, your account will not be searchable within DeepUnity PACSonWEB.

Click **Save privacy settings** to save your changes.

Mappings

The maps provide an overview of which sources you automatically receive studies, on which name, which physician number is linked and with which group these are shared.

The switches at the front of each line determines whether or not you automatically receive an e-mail

- if a new study is available for the related source
- if the report is available for a study of the related source

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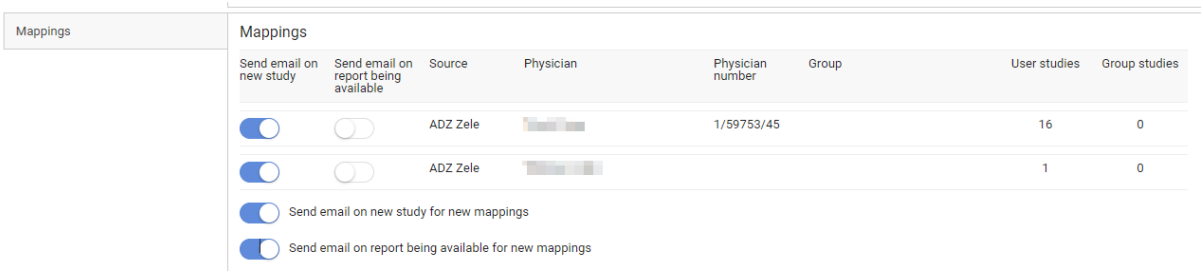
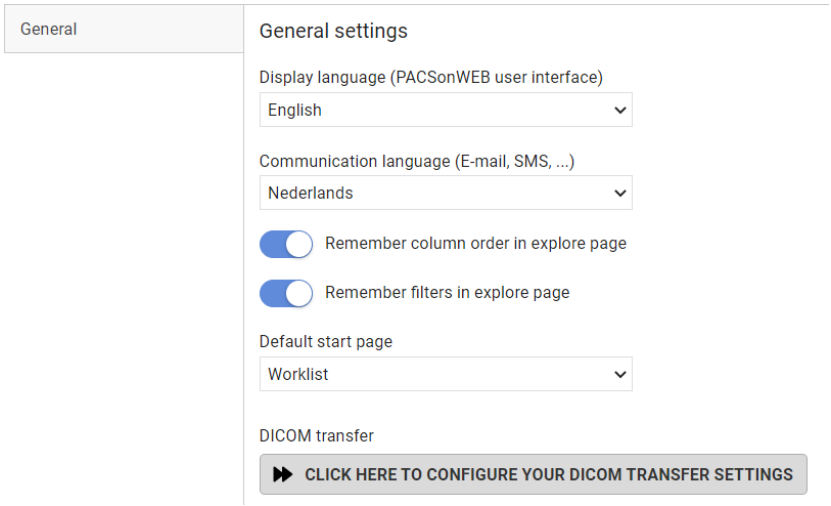
The setting **Send email on new study for new mappings** determines the default behavior to receive an e-mail when studies with images for a new source are available.

The setting **Send email on report being available for new mappings** determines the default behavior to receive an email when studies with a report for a new source are available.



10.5.2 Preferences

General settings



You can customize the following general settings:

Setting	Description
Display language (DeepUnity PACSonWEB user interface)	Select the user interface language from the drop-down list. • Your browser language is used by default on the first login. If your browser language is not a supported

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Setting	Description
	DeepUnity PACSonWEB language, the default language is English.
Communication language (E-mail, SMS, ...)	Select the language for any communications you receive.
Remember column sorting in the overview page	Enable this setting to save the column sorting in the overview page (Configuring the overview page (Page 74)).
Remember filters in explore page	Enable this setting to remember filters in the explore page.
Default start page	This setting determines if the user is redirected to the Study list or the Worklist after performing one of the following actions: • Logging into DeepUnity PACSonWEB • Clicking the home button (overview button) • Clicking the DeepUnity PACSonWEB logo **Note:** If the default start page is set to "Worklist" but the user does not have the permission to access the Worklist, the user will be redirected to the Study list instead.
DICOM transfer settings	See DICOM Transfer (Page 108) for a detailed explanation.

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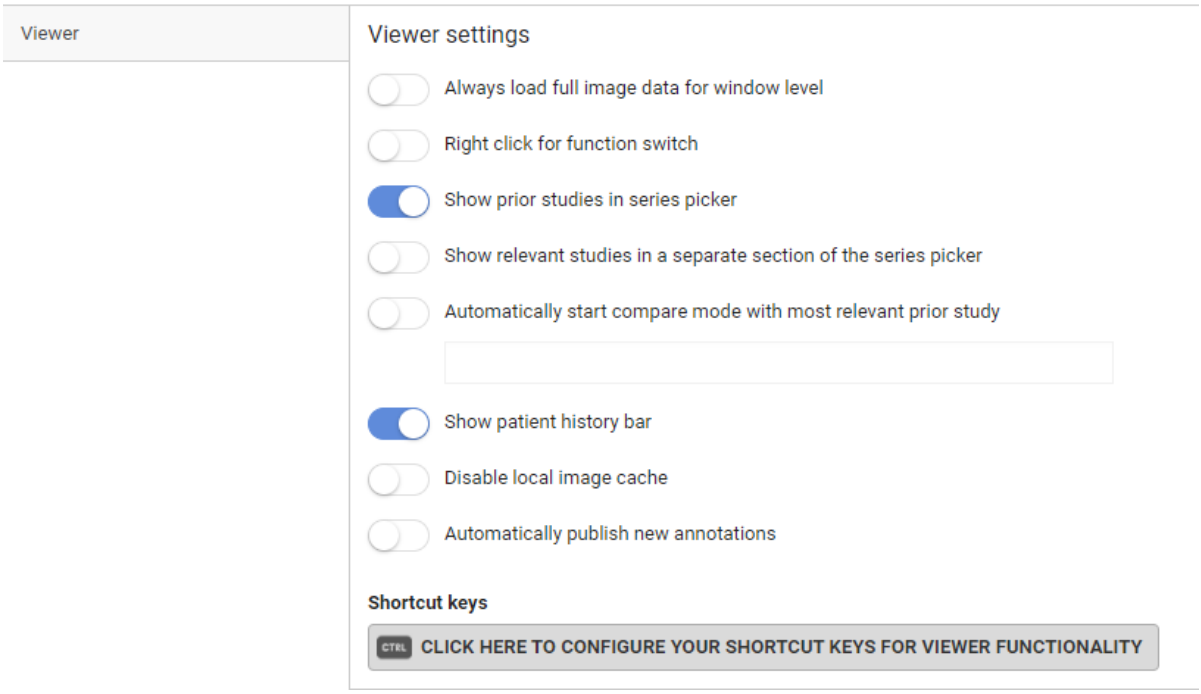
Viewer settings



You can customize the following viewer settings:

Setting	Description
Always load full image data for window level	When enabled, the study page will by default load the full 16-bit images, instead of the 8-bit gray scale images which allows you to use the window level functionality instantly.
Right click for function switch	When enabled, this allows you to switch between the following functionalities by short clicks on the right mouse button: • Window Level • Scrolling • Stepless zoom • Pan For more information: Image screen (Page 283)

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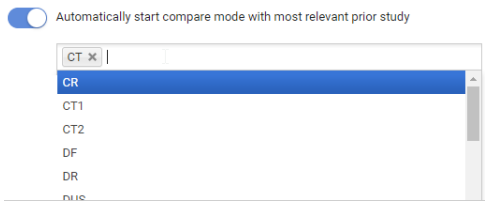
Setting	Description
Show prior studies in series picker	When enabled, all prior studies for the current patient that are accessible to you will be made available in the series picker automatically.
Show relevant studies in a separate section of the series picker	When enabled, three sections are available: • Current study, relevant studies and other studies. When disabled, two sections are available: • Current study and other studies Both options sort the studies in chronological order.
Automatically start compare mode with most relevant prior study	This option is only available if the **Show Prior studies in series picker** has been enabled. • When opening a study, the current study and the most relevant prior will be opened automatically in compare mode. • You can choose to do this only for a selection of modality types or, in case no specific modality types have been selected, it will be applied for all modality types. 
Show patient history bar	When enabled, the patient history bar will be displayed at the bottom. See History (Page 198) for more information.

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Setting	Description
Disable local image cache	Your institution may use the option Local image cache (Page 193) to make images available faster within the local network. If you are using DeepUnity PACSonWEB outside the local network, the local image cache is not reachable, hence it is preferred to disable this option.
Automatically publish new annotations	When enabled, all drawn annotations are published immediately and can be viewed by everyone who has access to the study.
Personal configuration of shortcut keys	Click the button to open the tab and configure your personal shortcut keys. A detailed explanation on how to do this, is available here: Personal configuration shortcut keys (Page 106)

Default mouse actions

The default mouse actions can be customized for every modality type.

Click the pencil icon to change the default action for the listed modality type.

Click the plus icon to add the default mouse action for a new modality type.

The 4 actions that can be chosen are:

- Pan
- Scrolling
- Stepless zoom
- Window level

When you have finished customizing the mouse actions, click on **Save Viewer Settings**.

To restore the original defaults click the cogwheel icon

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Reporting

Setting	Description
Settings	This setting plays an audible beep when toggling speech recognition. The beep is never recorded in the audio fragment. **Make a sound when toggling speech recognition.**
Style formatting	You can predefine the formatting of 6 different heading levels that can be used when creating a report.
Report signature **WARNING!** This function only applies if you are authorized to edit the report in DeepUnity PACSonWEB.	Report signature image UPLOAD IMAGE DELETE IMAGE **Note:** The signature image should be a dark, high-contrast signature against a completely white background. If you edit a report in DeepUnity PACSonWEB, your signature will be

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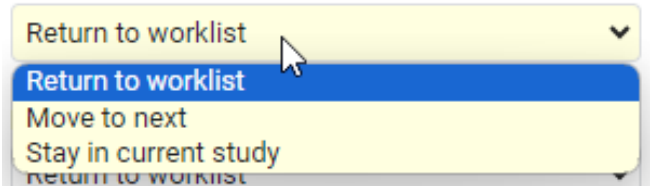
Setting	Description
	automatically displayed when you click on **Save** and **Save and validate**.
Workflow settings	 Default action on ''save preliminary report''. This will determine what happens after saving a report as preliminary. Default action on report "Finished". This will determine what happens after clicking to save a report as: **Save and validate**, **Send for correction**, **Send for review**, **Send for approval** or **Back to author**.

Behaviour of the workflow settings:

- Save as Draft: always **stay in study**
- Save as Preliminary: follow default action setting for preliminary report (see exceptions below)
- Save as Finalized: follow default action setting for report finished (see exceptions below)

  Exceptions:
  - If user settings is set to Stay in current study: always **stay in study**
  - If user setting is set to Return to worklist:
    - If the user doesn't use a selection: always **return to the worklist**
    - If the user uses a selection: go to the **next item in the selection**
    - Unless it's the last study in the selection: then **return to the worklist**
  - If user setting is Move to next:
    - If the study is not the last study in the selection: go to the **next study in the selection**
    - If the study is the last study in the selection: **return to the worklist**

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Activate report shortcuts also when report is not editable:

- When activated the shortcuts for report saving F8, Ctrl + F8 ... (See Reading workflow (Page 335)) can be used to change the study status when the report is not in Edit mode.

Custom window level presets:

Users can create personal window level presets based on modality type.

The following parameters have to be filled in to create a preset:

- Name for the preset
- Source selection
- Modality
- Window Width
- Window Level
- Shortcut key from 1 to 9

Click the plus icon to add the preset + .

When the preset(s) have been added, click SAVE WINDOW LEVEL PRESETS.

10.5.2.1 Personal configuration shortcut keys

Accessing the Shortcut keys configuration page

There are two ways of accessing the configuration of the personal shortcut keys.

1. In the viewer section, as mentioned in Preferences (Page 99).
2. By hovering over the settings icon in the top toolbar and clicking on **Shortcut keys** in the drop-down list.

A new tab will be opened where all the shortcut keys are listed and can be configured.

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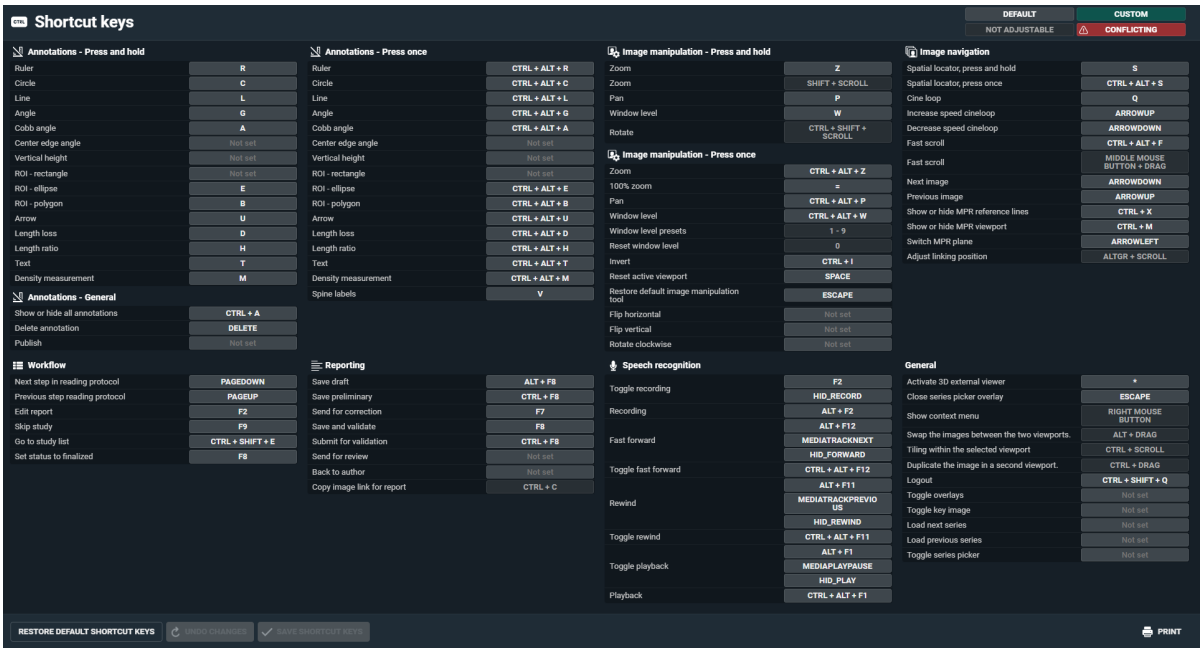

Shortcut key legend

As you can see in the screenshot above, the color-coded legend defines the following shortcut key states:

- **Default:** Shortcut key is the default for this action.
- **Custom:** Shortcut key is customized by the user.
- **Not adjustable:** Shortcut key is not adjustable.
- **Conflicting:** Shortcut key conflicts with another action (one or more actions use the same shortcut key)

Adding or changing a shortcut key

You can customize a shortcut key or add an extra shortcut key to an existing one. You can have up to three shortcut keys for one function.

Change a shortcut key

1. Click on the shortcut key you would like to change.
2. Define a new shortcut key.

Add a shortcut key

1. Hover over the functionality that you want to add an additional shortcut to.
2. Click on the **Add new** icon. A new line will become available.

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3. Click on **Not set** and define the shortcut key.

   If you have made changes to the configuration of your shortcuts, the following warning will appear at the top of the screen: *"You have unsaved changes. These changes will not be effective until the configuration has been saved."*
4. To save your modifications click on **Save shortcut keys**

Restore default shortcut keys:

To change the default shortcut key for only one shortcut, hover over the shortcut key and click on **Restore default** .

To restore all default shortcut keys, click on the **Restore default shortcut keys** button.

Supported attributes:

- CTRL
- SHIFT
- ALT

Unsupported buttons:

- All numbers (0 ... 9)
- F5
- F11
- F12

10.5.2.2 DICOM Transfer

There are 2 ways of accessing the configuration of the personal DICOM Transfer settings.

1. As mentioned in Preferences (Page 99) in the General settings section.
2. By hovering over the settings icon and clicking **DICOM transfer**.

A new tab will open where you can configure all your personal settings.

When you have made all your desired changes, click **Save** at the bottom.

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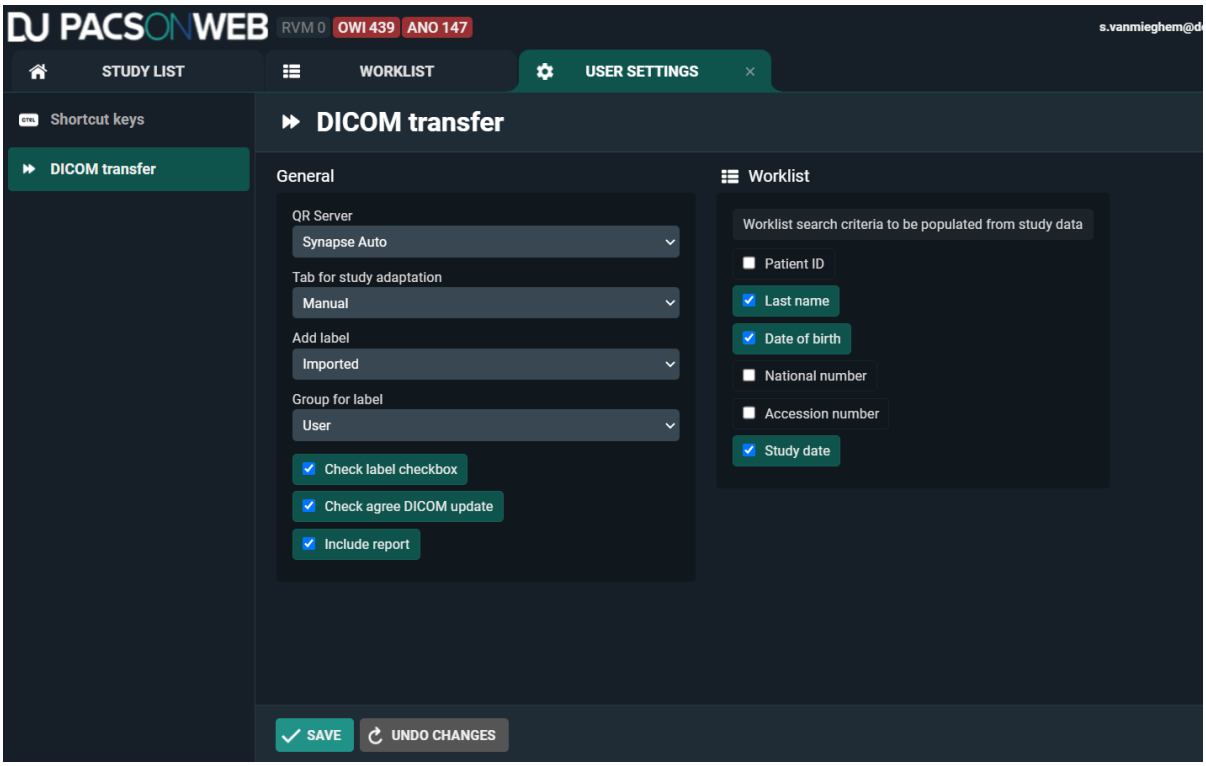

10.5.3 Favorites

You can add frequently used DeepUnity PACSonWEB users, groups and Self-defined recipients from the **Favorites** tab. The advantage of this is that when you share a study you will immediately have the user's or group's information available. You only need to select the user or the group.

To open **Favorites**:

1. Hover over the cogwheel in the upper right corner of the page.
   a. Select **User Settings** from the drop-down list.
2. Click on the **Favorites** tab on the left side of the page.

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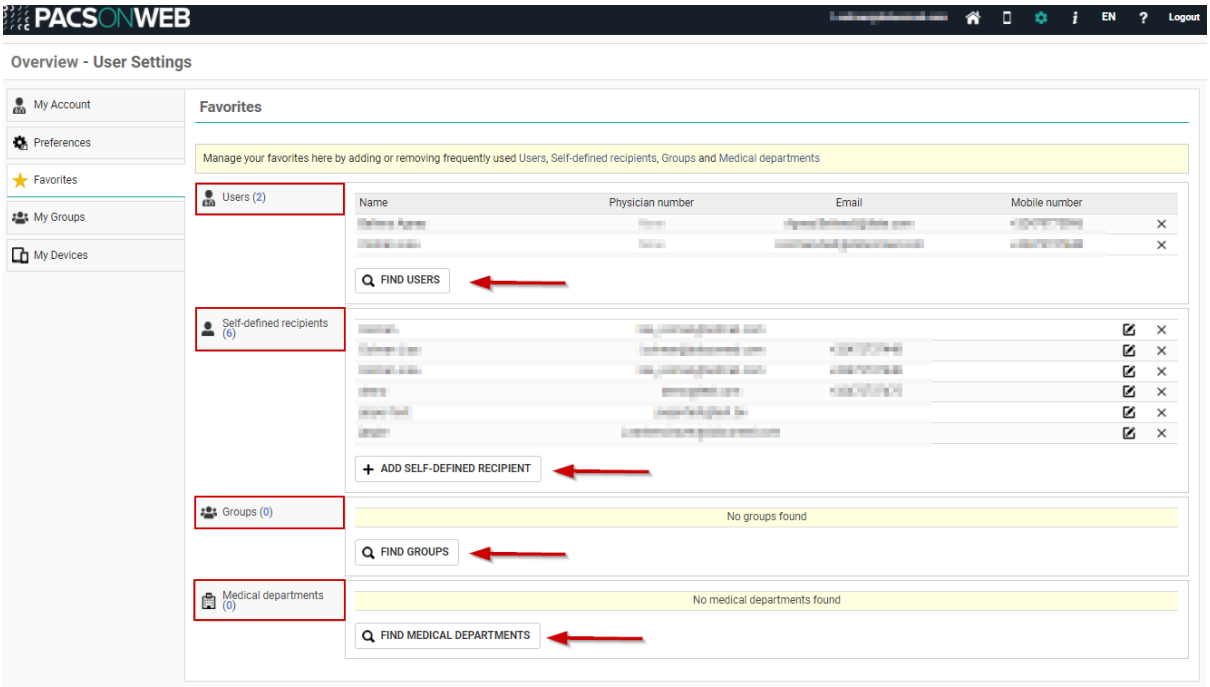

To remove a favorite, click the **X** icon at the end of the row.

Adding a DeepUnity PACSonWEB user to your favorites

To add a DeepUnity PACSonWEB user to your favorites:

1. Click on **Find Users**.
2. In the pop-up window, search for a user.
   a. You can search by name, for example.
3. Click **Filter**.
4. Select the user you wish to add.
5. Click **Add**.

This user has now been added to your favorites under **Users**.

Adding a self-defined recipient to your favorites

A self-defined recipient is a user who is not registered with DeepUnity PACSonWEB.

To add a self-defined recipient to your favorites:

1. Click **Add self-defined recipient**.
2. In the pop-up window, fill in the mandatory fields.
   The mandatory fields are marked with an asterisk *.
3. Click **Add**.

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This recipient has now been added to your address book under **Self-defined recipients**.

Adding a group to your favorites

To add a group to your favorites:

1. Click **Find groups**.
2. In the pop-up window, fill in your search criteria.
3. Click **Filter**.

   You will see a list of groups that match your search criteria.
4. Select the group you wish to add.
5. Click **Add**.

You can now find this group practice under **Groups**. The members of the group practice will also be displayed in the **Groups** table.

Adding a medical department to your favorites

To add a medical department to your favorites:

1. Click **Find medical departments**.
2. In the pop-up window, enter the name of the department.
3. Click **Filter**.

   You will see a list of departments that match your search criteria.
4. Select the department you wish to add.
5. Click **Add**.

The department has now been added to your list of **Medical departments**.

10.5.4 My Groups

The **My Groups** tab provides an overview of all the groups of which you are a member.

As a member of a group, in addition to the studies you have requested, you can also view the studies of other group members.

To view your groups:

1. Hover over the **Settings icon** in the top toolbar.
2. Select **User Settings** from the drop-down list.
3. Click the **My Groups** tab.

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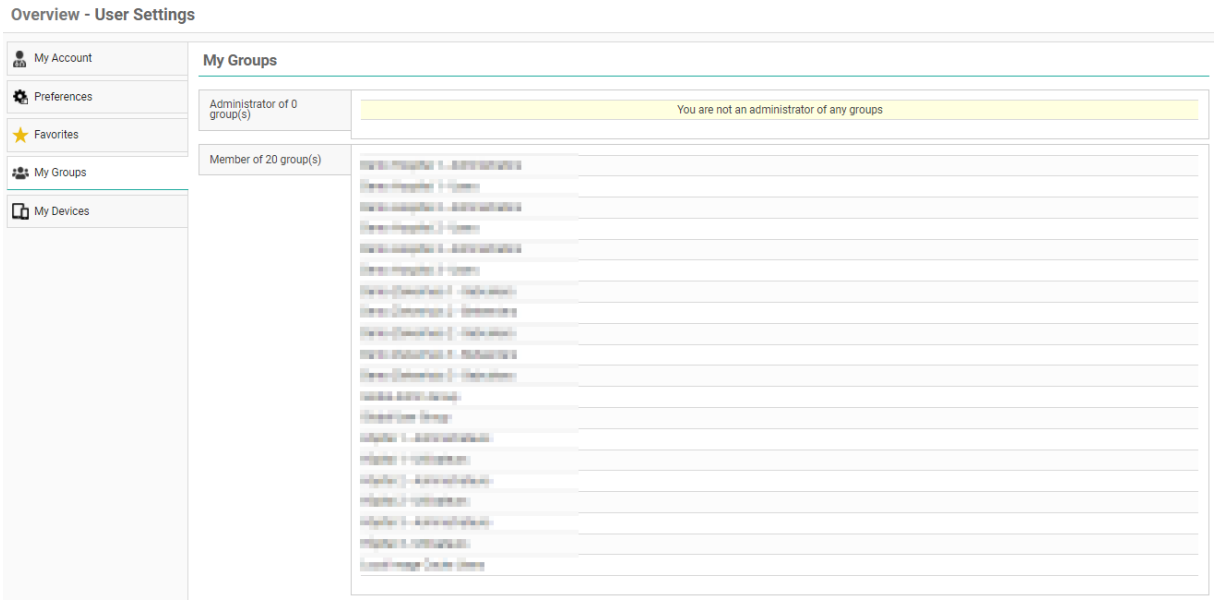
From this tab you will see an overview of the groups for which you are:

- an administrator,
- a member.



Administrator of group(s)

As an Administrator, you can change the group information and the group members and delegates.

Making changes to your group

To make changes to your group:

1. Select the group from the list that you wish to modify.
2. Update or edit the information you wish to change.
3. Click on **Save Changes**.

Managing group information

As an administrator you can:

- Provide information about the group practice.
  - Group name, description, address, etc.
- Make the group publicly available
  - When enabled, your group can be searched for, for example in order to share a study with the group, see Sharing studies from the overview page (Page 126)
- Notify members on updates

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- When enabled, every member of the group will receive an e-mail when something is changed on the group.
- For exams shared with the group, you can further configure the setting to
  - Notify primary contact on share
  - Notify all members on share

- Manage and add members and delegates

Managing members

In the group overview, there is a tab for **Members.**

In the list, find the desired member and

1. click on the member.
2. Enable the desired changes
   a. Make the member an **Administrator**
   b. Make the member a **Primary Contact**
3. Click the **Edit** button to save the changes made to that member.
4. To remove the member from the list, click **Remove**.
   a. Clicking **Remove** will close the Manage Member dialog and remove the selected member from the list of group members.
5. Click **Save changes** to save all changes made to the group.

Important!

Because this concerns your own account, you cannot change the administrator status. To change your administrator status, please contact your local DeepUnity PACSonWEB support.

Add a member

From the group overview, you can add a member. To add a new physician to the group practice,

1. Click **Add member**.
2. Enter search criteria and click **Filter.**
   - The DeepUnity PACSonWEB users who fit your search criteria will be displayed.
3. Select the user you want to add and click on **Add.**

The user will be added to the group and can be seen in the **Members** list.

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Add a delegate

To add a delegate,

1. click on the **Delegates** tab and then on **Add delegate**.
2. Enter the e-mail address of the delegate and then click **Add.**
3. Click **Save changes**.

The user will be added to the list of delegates for this group.

Member of group(s)

From the My Groups tab, you will see a list of all the groups of which you are a member. To view information about the group, click on the desired group.

If you no longer belong to this group practice and wish to unsubscribe from it,

1. click **Unsubscribe**.
2. In the dialog that appears you can enable the following:
   - **Group retains access to my old studies**

     If enabled, this will allow the members of the group practice to continue to view your studies from the period that you belonged to the group practice.
   - **Keep my old studies**

     If enabled, you will still be able to view your studies from the period that you belonged to the group practice. This is enabled by default.
3. Click **Unsubscribe.**

You will no longer be a member of the group practice.

10.5.5 My devices

Hover over the cogwheel in the upper right corner and select **User Settings** from the drop-down list.

Then click on **My devices** on the left side of the page.

An overview is displayed of all devices that have been linked to your DeepUnity PACSonWEB account for two-factor authentication through an authenticator app (Page 59)

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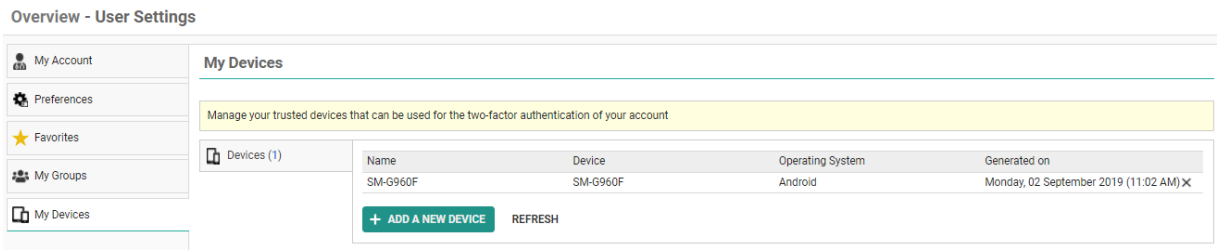


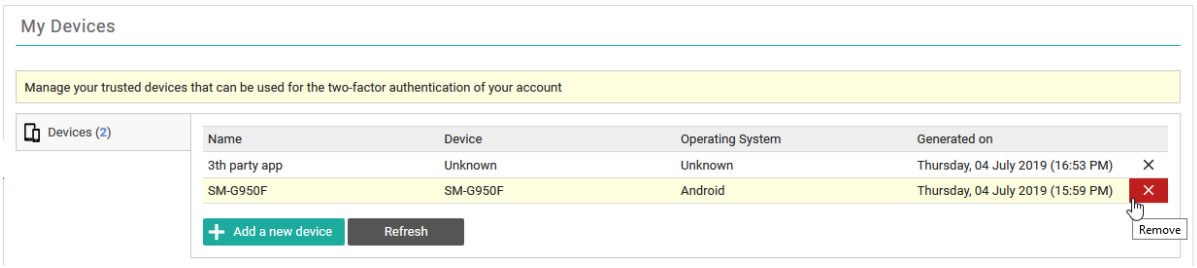
You can link additional devices by clicking Add a new device.

How to link a device can be found on Two-factor authentication through Authenticator app (Page 59).

Tip:

You can link up to 5 devices simultaneously.

To unlink a device, click the **X** icon at the end of the related entry.



If you are unlinking the last trusted device, your method for strong authentication will automatically be converted to 'OTP by SMS' or, in case no mobile number is registered, to 'OTP by email'.

10.5.6 Text blocks

Creating a Text block:

Text blocks can be created in two ways:

- In the **user settings**
- In the viewer report pane

Creating a text block from the user settings

To create a new text block from the user settings:

1. Open the **Text blocks** tab.
2. Click **Add new text block** to create a new text block.

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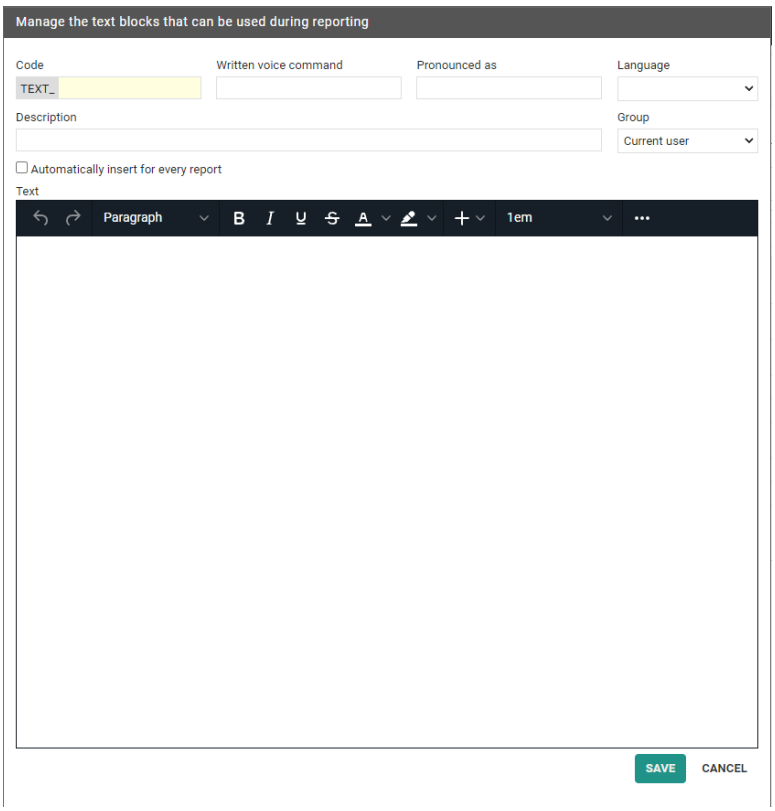
The following window will open:



3. Fill in the fields.
4. Click **Save**.

Creating a new text block from the viewer report pane

To create a new text block from the report window in the viewer:

1. Open a study.
2. Click on the report window.
3. Click on the **T]+** icon in the corner of the report pane.

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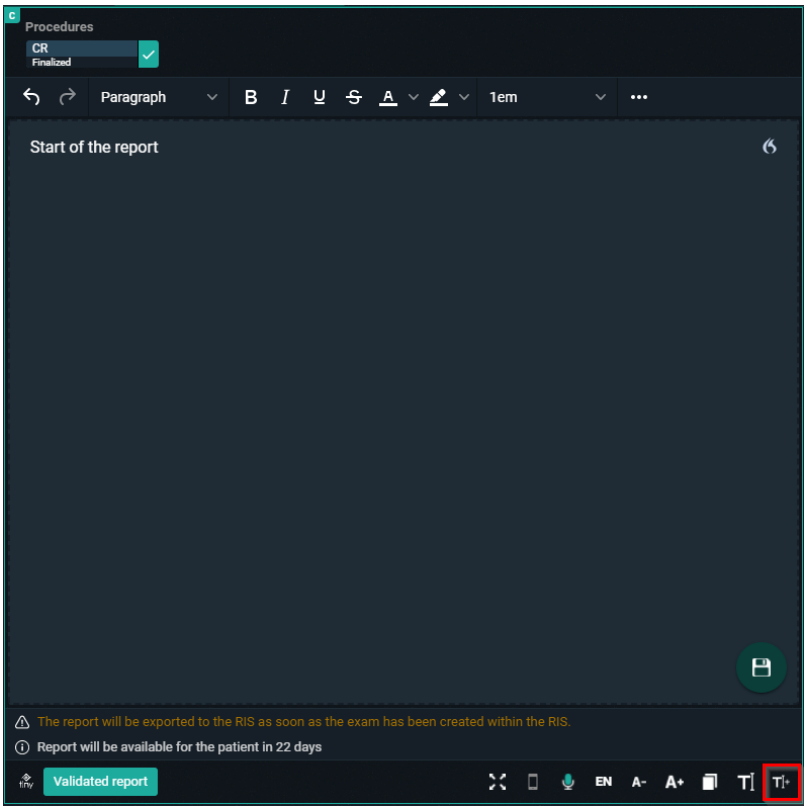

This opens the same window as when you add a text block from the user settings.

Fields to complete

The following fields must be completed when you create a new text block from either the user settings or in the viewer report pane.

- **Code:** used as shortcut when typing the report
- **Written voice command:** voice command for inserting text block
  - For the written voice command only the following characters are allowed: a-zßàáâãäåæçèéêëìíîïðñòóôõöùúûüýþÿœšž.

    If an unsupported character is used, a warning will be displayed at the bottom of the page.
- **Pronounced as:** written version of how to pronounce the voice command
- **Description:** description for the text block (not mandatory)
- **Group:** save the text block for current user or a group (admins only)
- **Text:** the report text

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Important!

If a textblock exists for a user AND a user group, the user specific text block will be used.

If the same code exists for multiple user groups, the first text block will be used.

Tip:

You can insert a specific text block for every report you create by ticking the **Automatically insert for every report** option.

Variables:

The variables **Diagnostic Question** and **Clinical Information** can be added to the report.

These will be updated with the actual information of the study. If no value can be found, nothing is inserted in the report.

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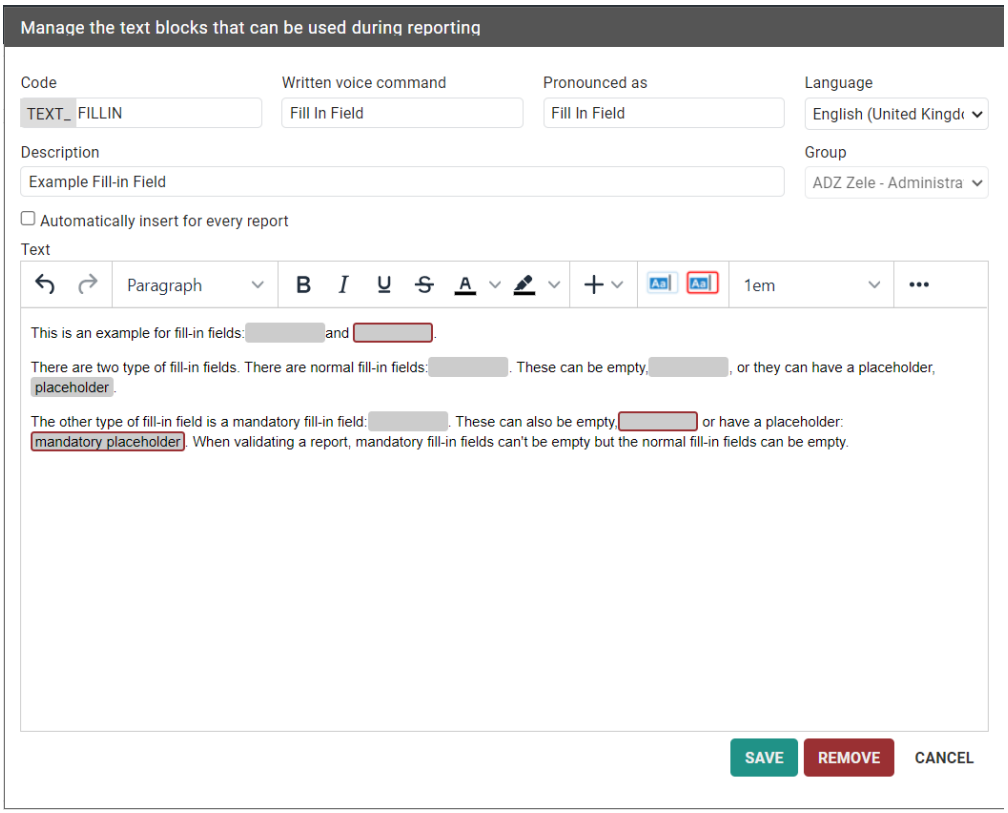
Fill-in Fields



Fill-in fields can be inserted into a **Text block**.

- Add a fill-in field
- Add a mandatory fill-in field

Fill-in fields allow you to create predefined reports where certain values or text need to be added later.

Create a text block with fill-in fields

- You can pre-populate the fill-in fields with a placeholder or leave them empty.
- You can easily change the value of a fill-in field while writing the report if the content does not apply to that particular study.
- You can navigate through fill-in fields using voice commands, keyboard shortcuts and SpeechMike buttons.

During report creation

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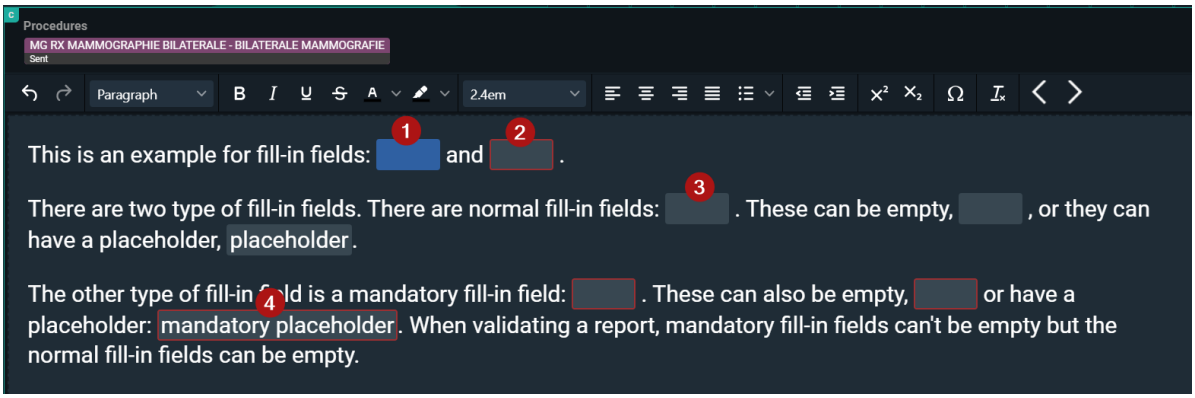

Number	Designation	Description
1	Active field	The active fill-in field is highlighted in blue. This indicates it is currently selected and ready for input.
2	Mandatory fill-in field	Mandatory fill-in fields are displayed with a red border. **Note:** Mandatory fill-in fields cannot be left empty. You will not be able to validate a report with empty mandatory fill-in fields and an error message will prompt you to fill in all mandatory fields before validating the report.
3	Non-mandatory field	Non-mandatory fill-in fields are displayed in grey.

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Number	Designation	Description
		Note: If left empty, these fill-in fields will be replaced by whitespace and will allow you to validate the report.
4	Pre-populated field	For both mandatory and non-mandatory fill-in fields, pre-populated text is displayed within the fill-in field in the same font and size as the rest of the text.

All fill-in fields will be converted to plain text from the moment your report is saved. The fill-in fields will be displayed when editing the report again.

Inserting a Text block

Text blocks can be inserted in a report in multiple ways:

- By dictating the speech command (speech)
- By typing the text block code in the report
- By selecting a text block code from the list

Speech:

Dictate the command **insert**, followed by the text as saved in the **pronounced as** section of the text block.

Typing:

Type the prefix TEXT_ followed by the code of the text block and press enter on your keyboard. The first 5 results are displayed in alphabetical order at the bottom of the report window.

- Entering will insert the first text block from the list.
- The other text blocks can be selected by clicking or typing more characters of the text block code.

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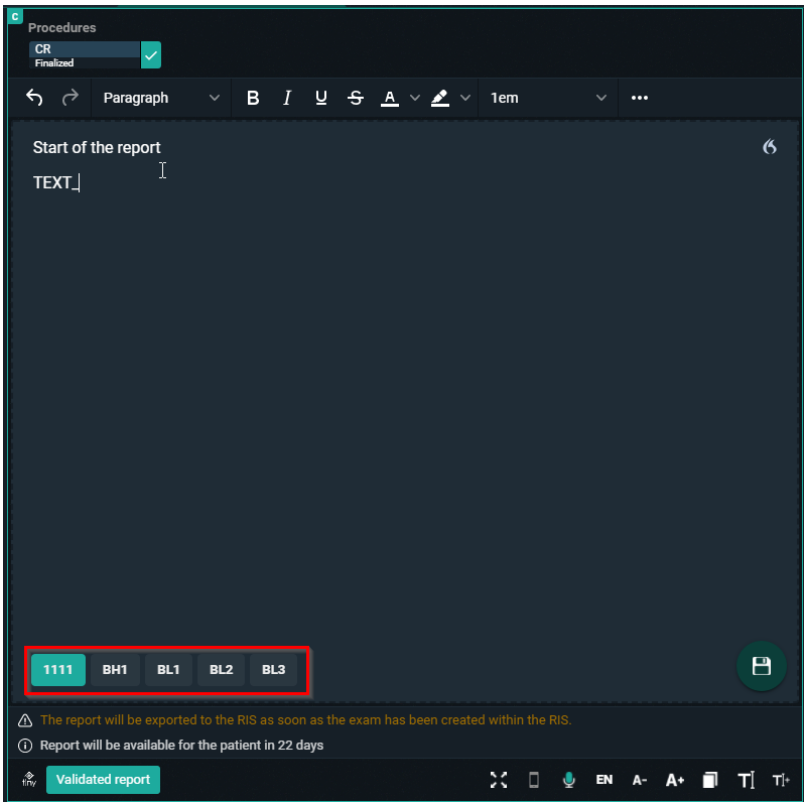
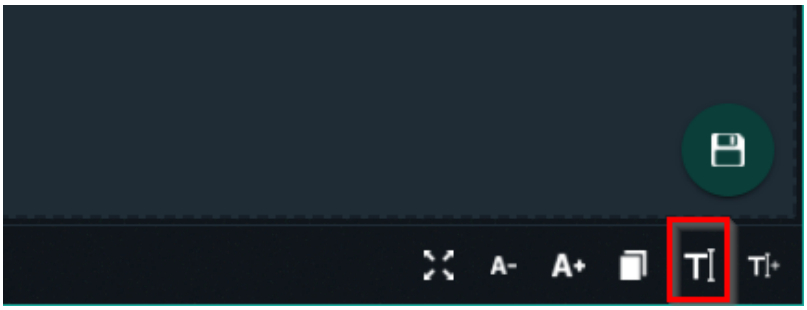


Text block button:

Click on the text block button to open the overview of the text blocks the user has access to.



To search for a text block, enter 3 or more characters. Click on the text block to insert it.

Clicking **Manage text blocks** will redirect the user to the **User Settings** page.

10.6 Additional access conditions

It may occur that there are certain studies in your explore list that are not, by default, accessible.

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This is caused by one of the following additional access conditions:

- Strong authentication (Page 123)
- Break-The-Glass (Page 123)
- Payment required (Page 126)

How to gain access to such exams is explained on the related page in the user manual.

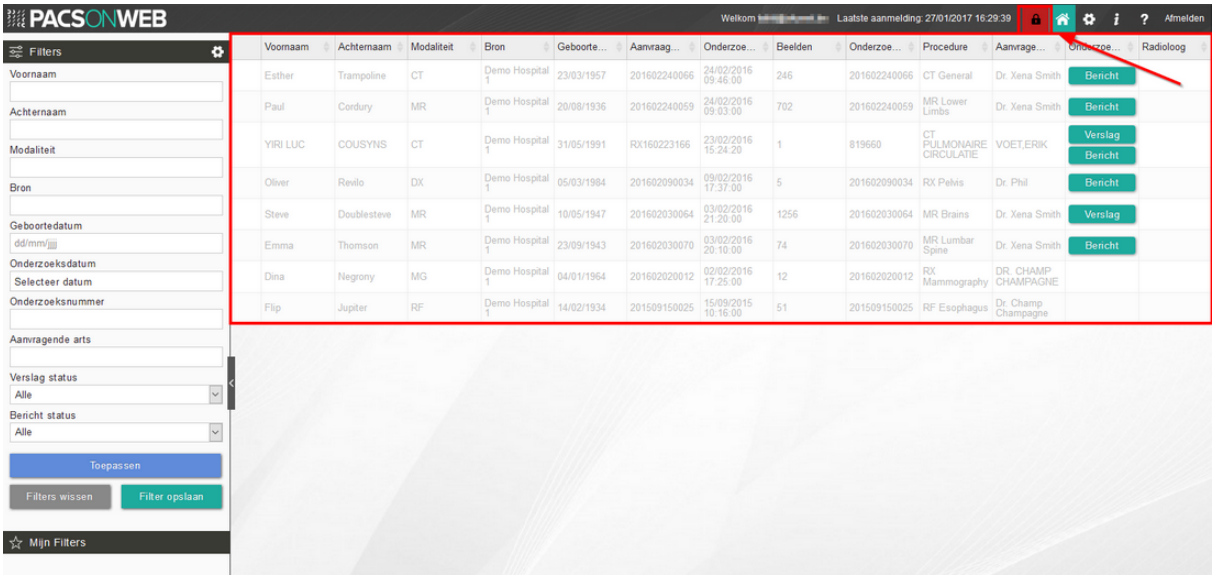
10.6.1 Strong authentication

The radiology departments have the possibility to enforce strong authentication to access their studies (e-ID, two-factor).

- An indicator on top of the page will light up in red to indicate that strong authentication is required.

  By clicking this indicator, it is possible to login using strong authentication.

If you are logged in to DeepUnity PACSonWEB without strong authentication, such exams will not be accessible / selectable.



10.6.2 Break-The-Glass

A radiology department may allow studies to be visible, by default, to the requesting physician only.

- If you are part of a user group or group practice and you have been granted access to a study requested by a colleague, the corresponding line in the explore page will be grayed out with only the patient's name, date of birth and study date visible.

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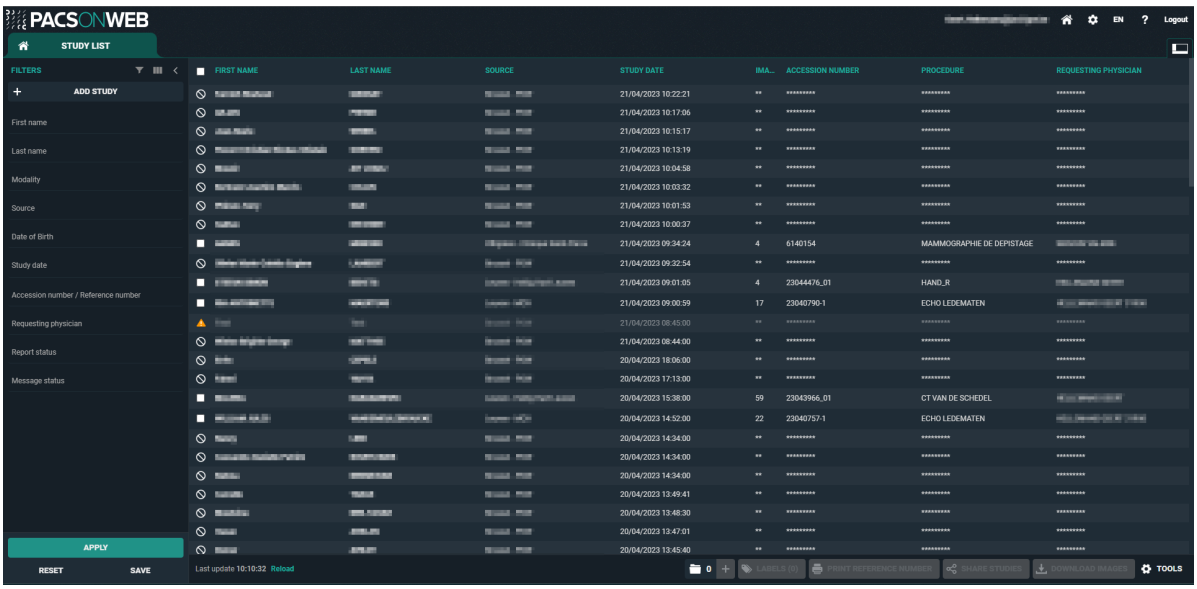
- Access to such a study is only possible by specifying the reason why access is required.



To access the study:

1. Click on the corresponding line in your list.
2. Enter the reason why you need access.
3. Click **Unlock study**

Tip:

After entering the reason, the study will be available for 7 days, unless specified otherwise by the related radiology department.

At the bottom of the study page, the History (Page 198) of exams for the same patient is displayed.

Here you will find studies for which you already have access, but also studies that require you to enter a reason for gaining access.

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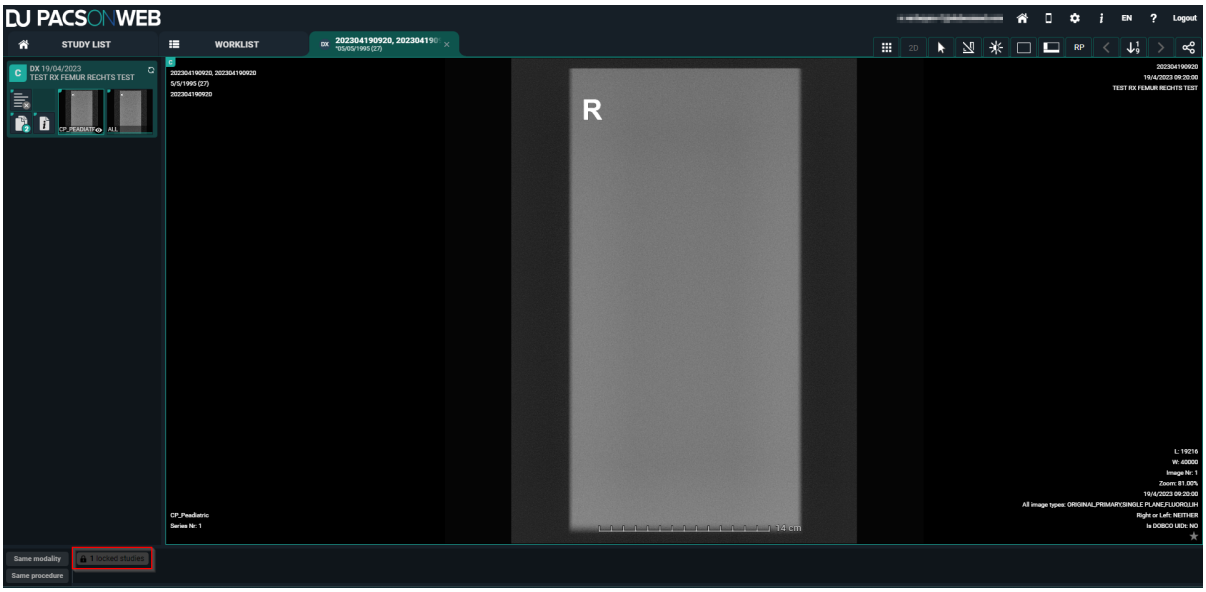
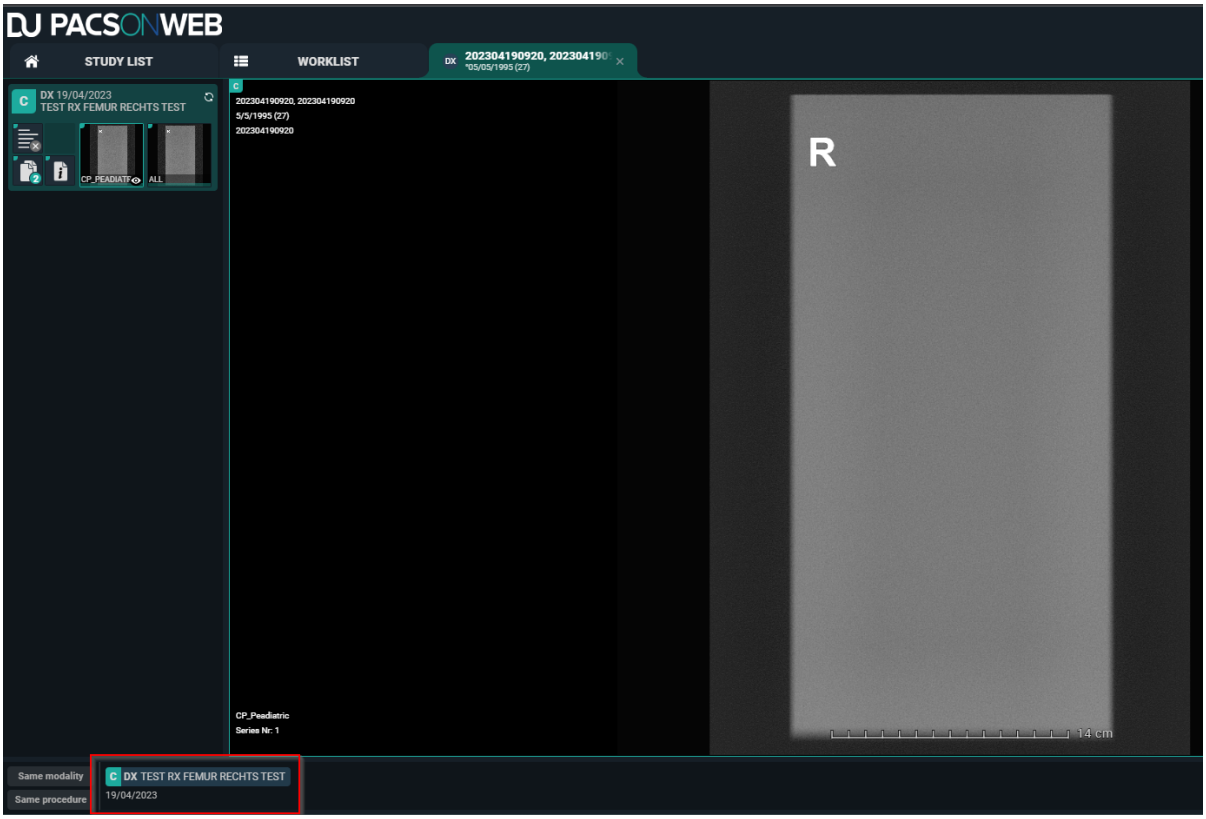


1. Click the label **x locked studies**.
2. In the pop-up window, enter the reason why you need access to the study.
3. Click **Unlock study**.

Upon submission of the reason for access, the related studies become visible.



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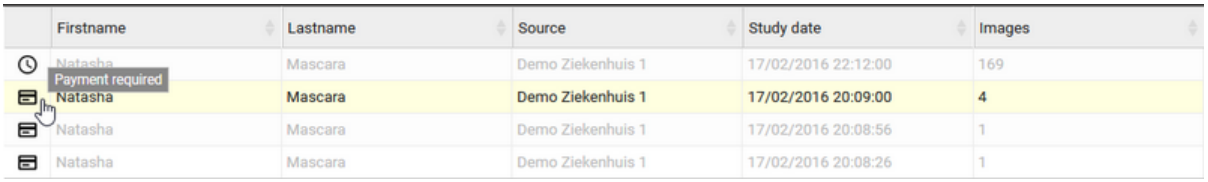
Important!

If you are an administrator for the related radiology department, you can consult who has accessed the exam, when it was accessed and for what reason.

For more information, see Access to the study (Page 262).

10.6.3 Payment required

For patients that are logged in but need to pay for access to their studies, all unpaid studies will be grayed out.



To initiate a payment:

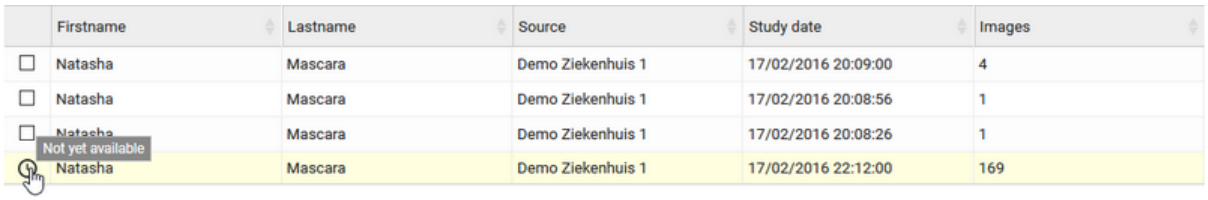
1. Click the Bank Card icon.
2. In the **Payment required** pop-up window, click **Make payment**.
   You will be redirected to the payment page.
3. Select to pay by credit card (MasterCard or VISA) or Vipps.

The study will be available to you, once a payment has been made.

After payment you are redirected to the explore page and studies are now accessible.

A radiology department can decide that a study should not yet be accessible for the patient.

In this case, the study is listed grayed out in the explore page with a clock icon in front.



10.7 Sharing studies from the overview page

It is possible to share one or more studies from the overview page.

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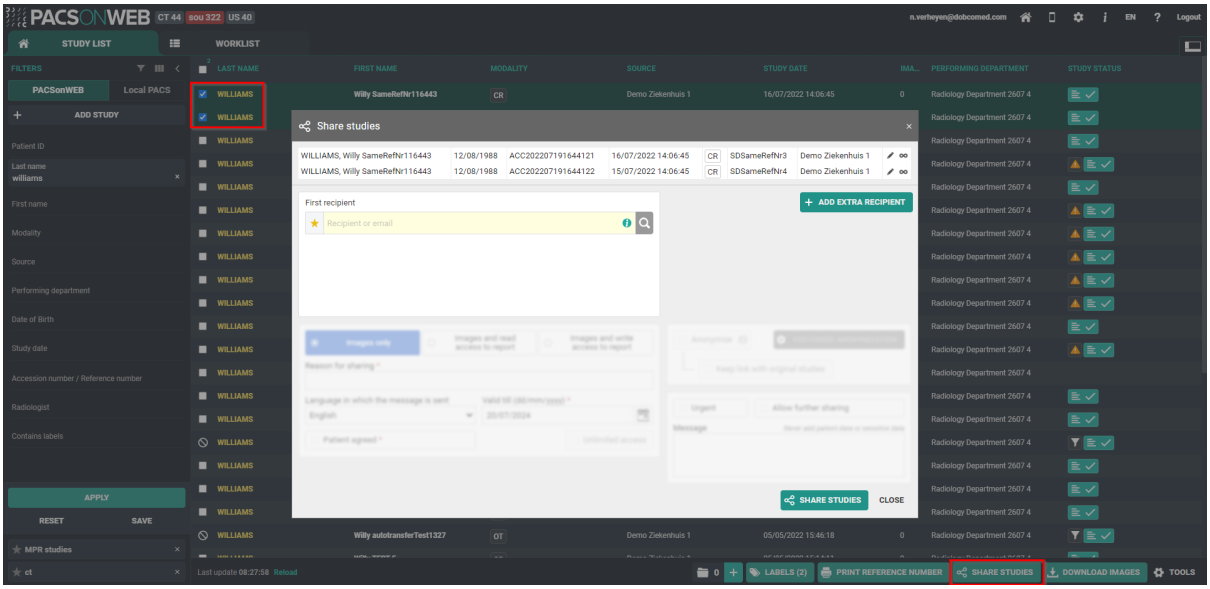
Check the studies that you wish to share and click **Share studies**.

Attention:

Sharing multiple studies at once is only possible if all studies originate from the same source.



A pop-up window will be displayed with the studies that you wish to share.

You can:

- Share studies with users (Page 128)
- Share studies with groups (Page 136)
- Share studies with a radiology department (Page 144)
- Share studies with a self-defined recipient (Page 152)

You can share studies with up to 3 recipients.

If two-factor authentication is not used when sharing the study, the patient name is masked in the e-mail.

Only the first letter of the first and last name is shown. All other letters are replaced by asterisks '****'.

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Important!

If a study is shared multiple times with the same user, the most extensive rights are retained.

This applies both to the expiration time for access to the study as the extent of access rights, i.e. read or read and share.

Tip:

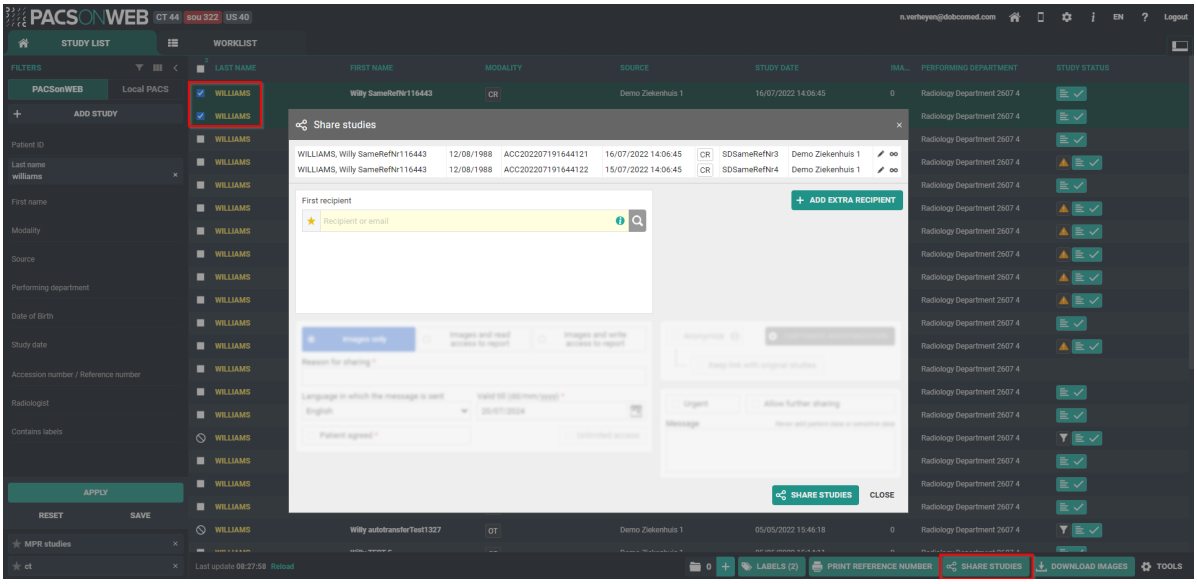
All e-mails that are sent automatically when sharing an exam can be customized by the sending radiology department.

Please contact the service desk to have this configured.

10.7.1 Sharing studies with a user

This instruction shows you how to share a study with a user .

STEP 1: Select the studies that you wish to share



STEP 2: Select your recipient(s)

You can select a recipient by :

1. clicking the favorites icon ★.
2. filling out criteria with the field 'recipient'.

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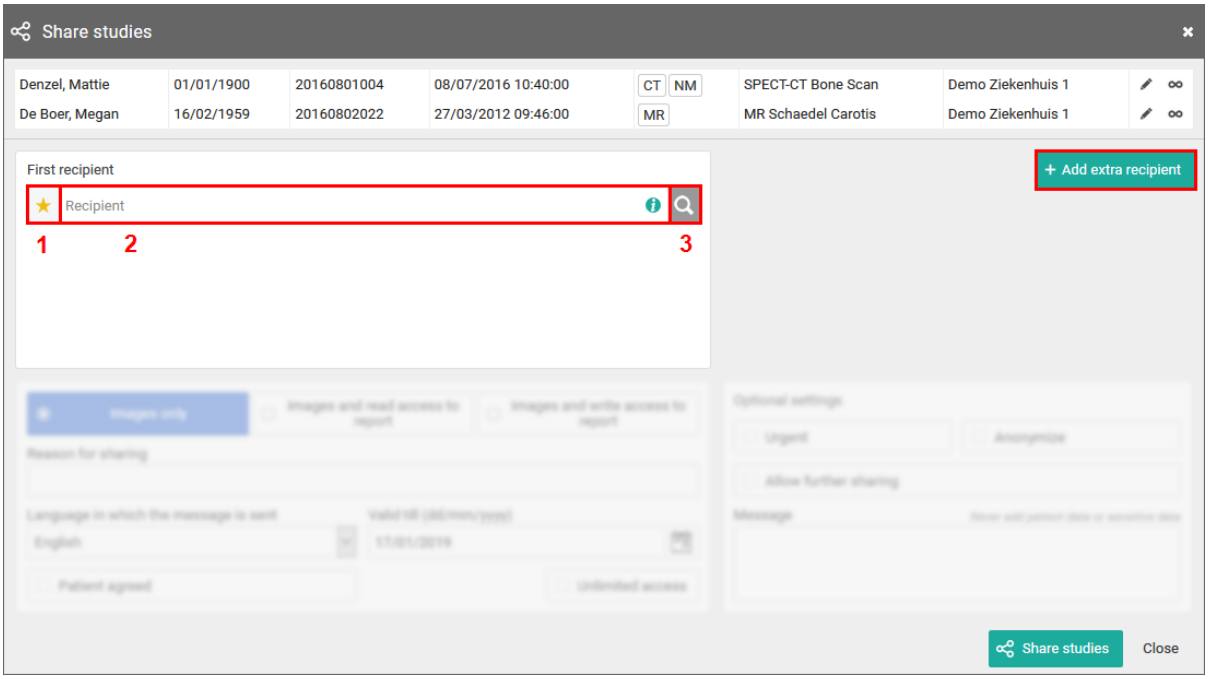
3. clicking the 'search' icon.

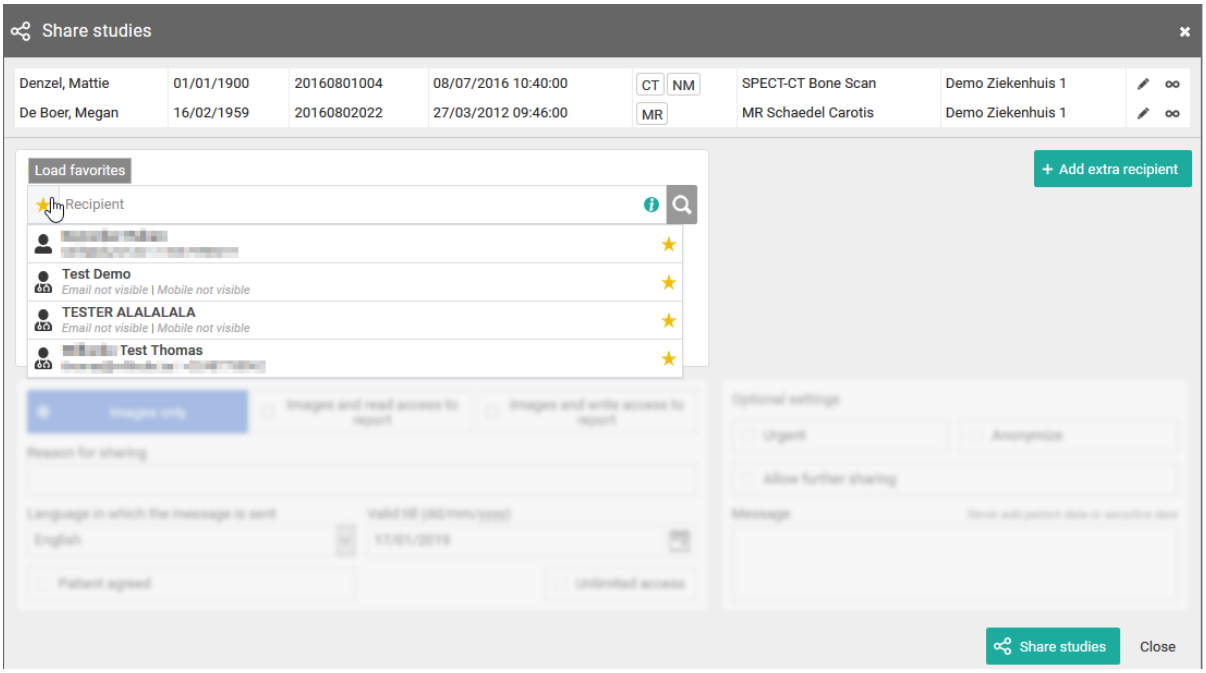
You can add additional recipients by clicking Add extra recipient.



1. Favorites ★

By clicking the icon, your list of favorites will be shown.

Clicking a favorite will automatically add this user as a recipient.



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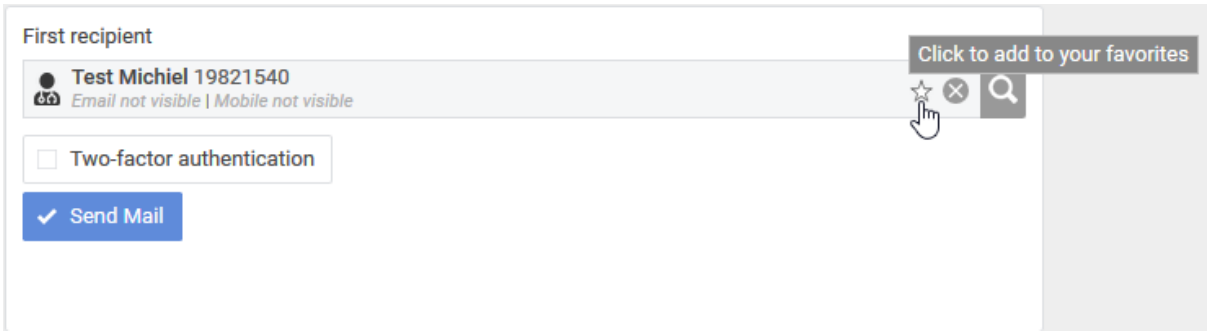
You can add favorites to your list:

- from your address book (Page 109) by selecting a user and highlighting the star icon:



Important!

Be aware: the user will be added to your list of favorites, after the share action has been completed.

2. Searching for a recipient

From the search bar, you can look up a user by:

- First name
- Last name
- Physician number (RIZIV, BIG, INSEE, HIN, UCGN, PNB ...)
- Mobile number (if public)
- Email address (if public)

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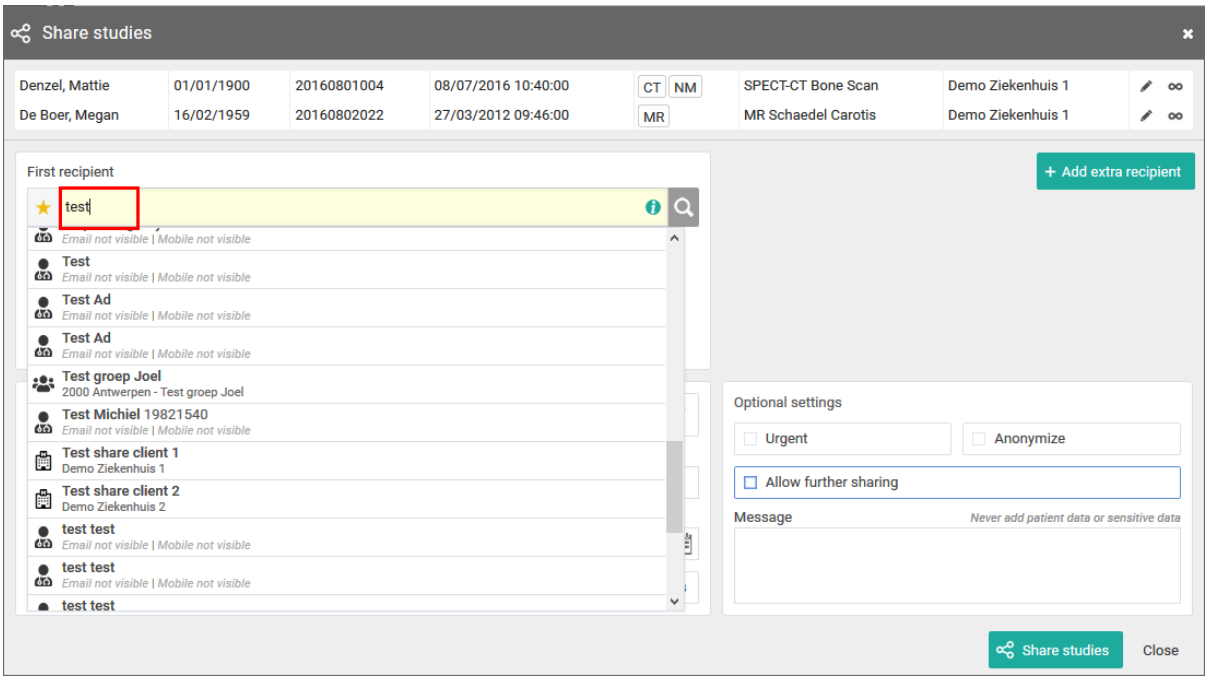

3. Detailed search

From this screen, you can use specific selection criteria to look up and select the desired user, group or radiology department as recipient.

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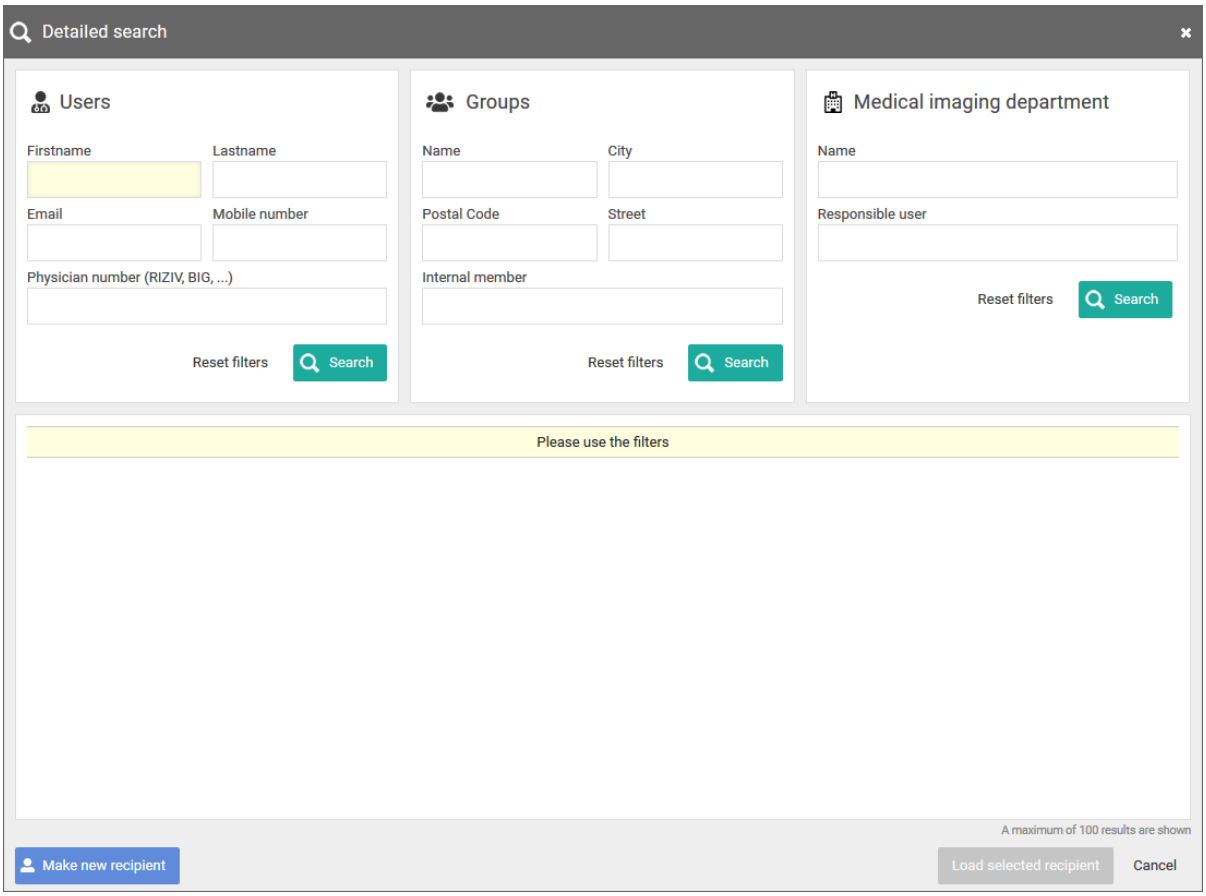

If you have selected a recipient, you can add the following options:

- two-factor-authentication

  In case the recipient wants to consult the shared study, a one-time-password will be sent by text message to the registered mobile number and needs to be entered before access is given.

Important!

If the user gives an erroneous OTP 5 times in succession, the bucket is blocked.

The bucket can be unlocked by the Service desk or an admin user of the sending radiology department (see Status Forwarding (Page 176))

- Send Mail:

  The user with whom the study was shared, will receive an email with the following information:

  - that an exam has been shared
  - who shared the exam

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- which exam was shared (patient initials, description of the exam, date of the exam) + a link to open the exam
- the message in case this was entered by the sender when sharing

STEP 3: Parameters for sharing

1. When sharing a study with a user, you can opt for

- Images and read access to the report
- Images and write access to the report

Tip:

The option 'Images only' is not available when sharing with a user.

2. You need to register a 'Reason for sharing'. The reason is not communicated to the recipient but is mandatory and will be registered in DeepUnity PACSonWEB.

3. The language, used for sending the message:

By default the language of the first recipient is selected but you can change the language by using the drop down menu.

Important!

If you select multiple recipients with different languages, the mail is sent to all recipients, using the language of the first recipient.

If however, the majority of the recipients have the same language, this is the language that will be selected automatically.

4. Valid till (dd/mm/yyyy)

By default the validity period is set to 1 month but you can change this by:

- filling out the desired time period manually.
- selecting a date, using the calendar icon.
- selecting the option **Unlimited access**.

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Tip:

The default validity period can be configured for each sending radiology department. DeepUnity PACSonWEB offers the possibility to define a default or maximal validity period.

The option 'Unlimited access' can also be deactivated on a source level.

In case a specific configuration is desired, please contact the service desk.

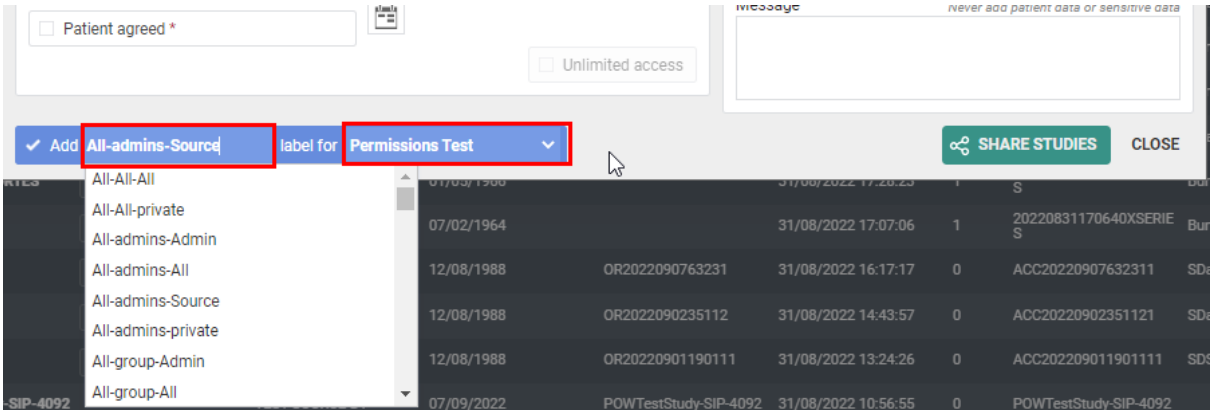
5. Patient Agreed

The "Patient agreed" checkbox must always be checked, because without the patient's consent the study may not be shared.

6. Add label

With this option a label can be attached to the study.

Enable the checkbox to select a label. Additionally the label can be set for the user or a group.



7. Optional settings

- 'Urgent' :

  This adds 'Urgent' to the subject of the related mail

- 'Anonymize' :

  This replaces the name of the patient:

  - The first name is replaced by a number
  - The last name is replaced by Anonymous

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Important!

The report for an anonymized study will never be accessible, even if you selected the option 'Images and read access on the report' or 'Images and write access on the report'.

- Allow further sharing

  Activating this option allows the recipient to share the study further with other recipients
- Message

  If you add a message, it is added to the mail, sent to the recipient and it is visible to the recipient when opening the study in DeepUnity PACSonWEB.

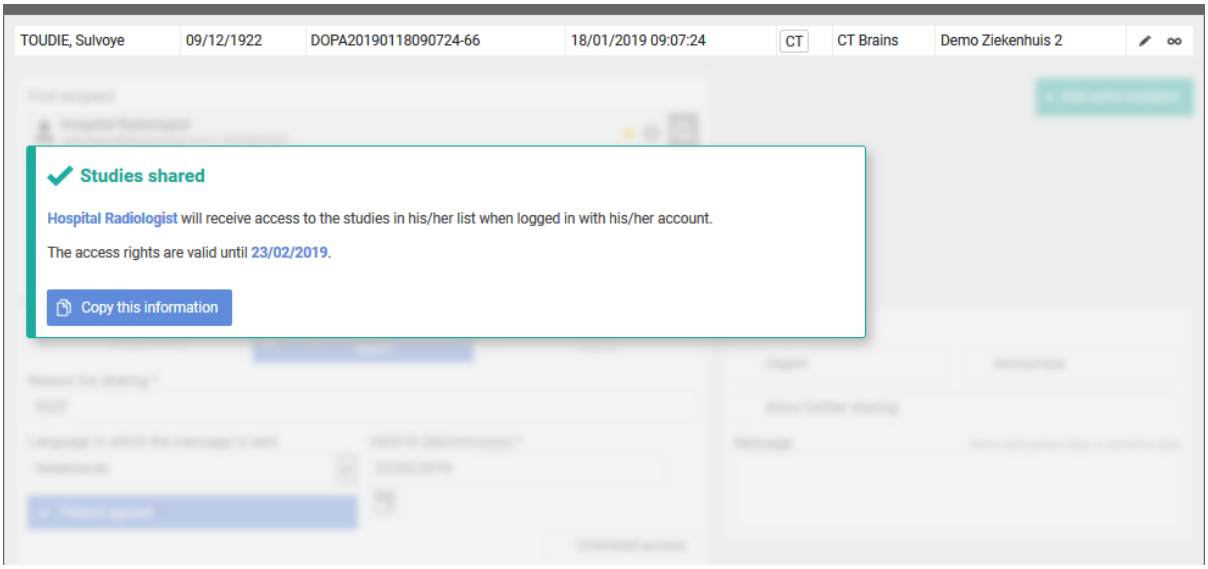
Tip:

When sharing a study with a user the same values for the following parameters are selected automatically with the next user sharing operation:

- Two-factor authentication
- Send mail

STEP 4: Confirmation

A pop-up window with the information about the shared study will be displayed.



- With the button **Copy this information**, the content of the pop-up is copied to the clipboard so e.g. it can be pasted into your own email.

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- In case ‘Send e-mail’ is checked, the recipient will receive an e-mail with a link to the study and the message that you have shared a study with him/her.
- The exam will be available in the overview list of the receiver for the time period as entered by the sender.
- If the sender has specified a message this will be indicated on the explore page with a separate label "Message".

  In case the study hasn't been opened yet, the label 'Message' will be red .

  Once the study has been opened, the label turns green .

- The message is available within the exam as a separate series.

- Using Share again you can share the same set of studies again with another recipient.

10.7.2 Sharing studies with a group

In this instruction we will show you how to share a study with a DeepUnity PACSonWEB group .

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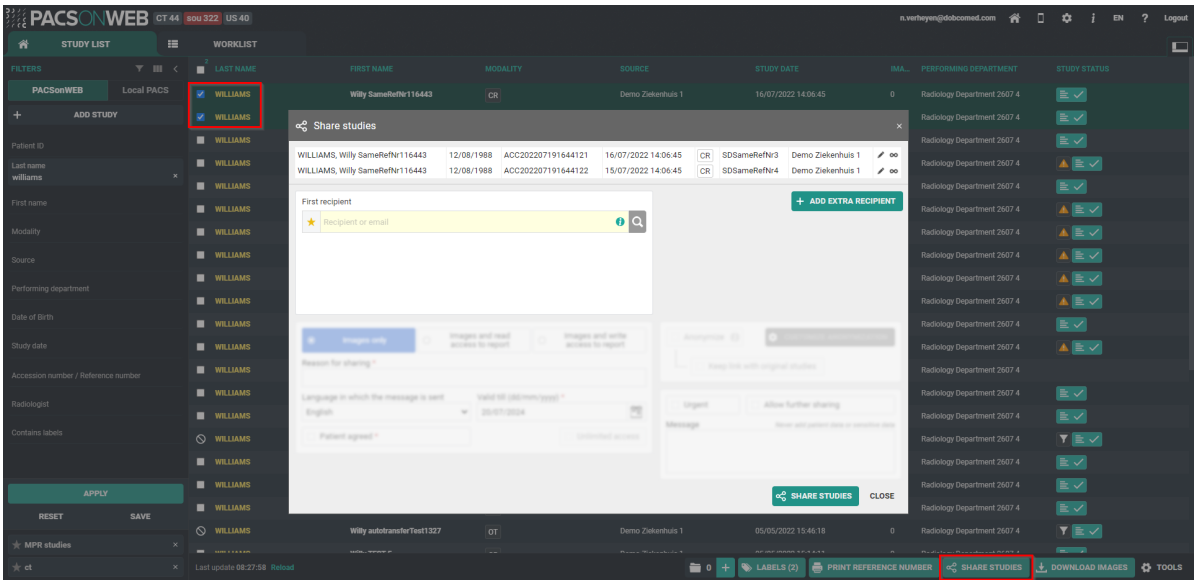
STEP 1: Select the studies that you wish to share



STEP 2: Choose your recipients

You can select a recipient by:

- clicking the 'favorites' icon ★
- filling out criteria with the field 'recipient'
- clicking the 'search' icon.

You can add additional recipients by clicking the button Add extra recipient .

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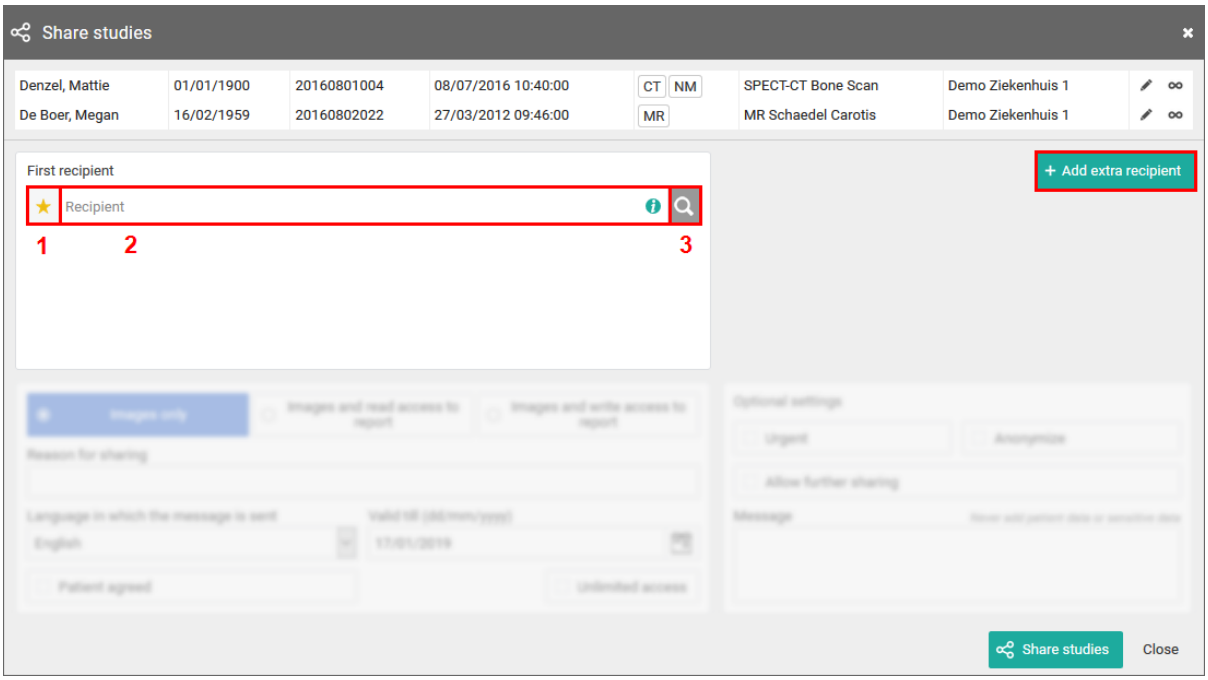


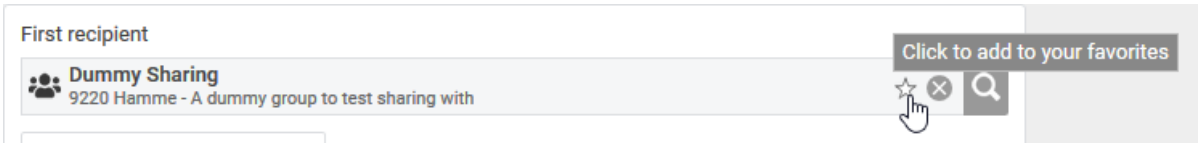
1. Favorites ★:

By clicking the icon, your list of favorites will be shown.

Clicking a favorite will automatically add this group as a recipient.

You can add favorites to your list:

- from your address book (Page 109)
- by selecting a group and hightlighting the star icon:



Important!

Be aware: the group will be added to your list of favorites after the share action has been completed.

2. Searching for a recipient

In the search bar you can lookup groups by searching:

- the name of the group

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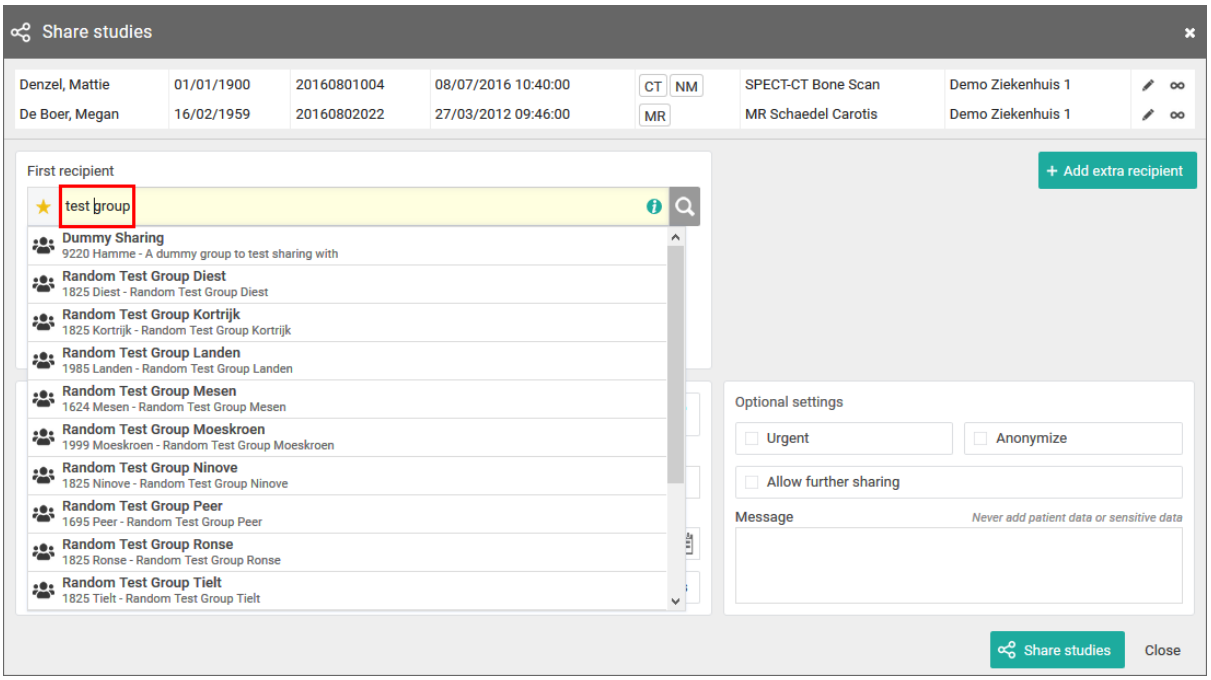

3. Detailed search

From this screen, you can use specific selection criteria to look up and select the desired user, group or radiology department as recipient.

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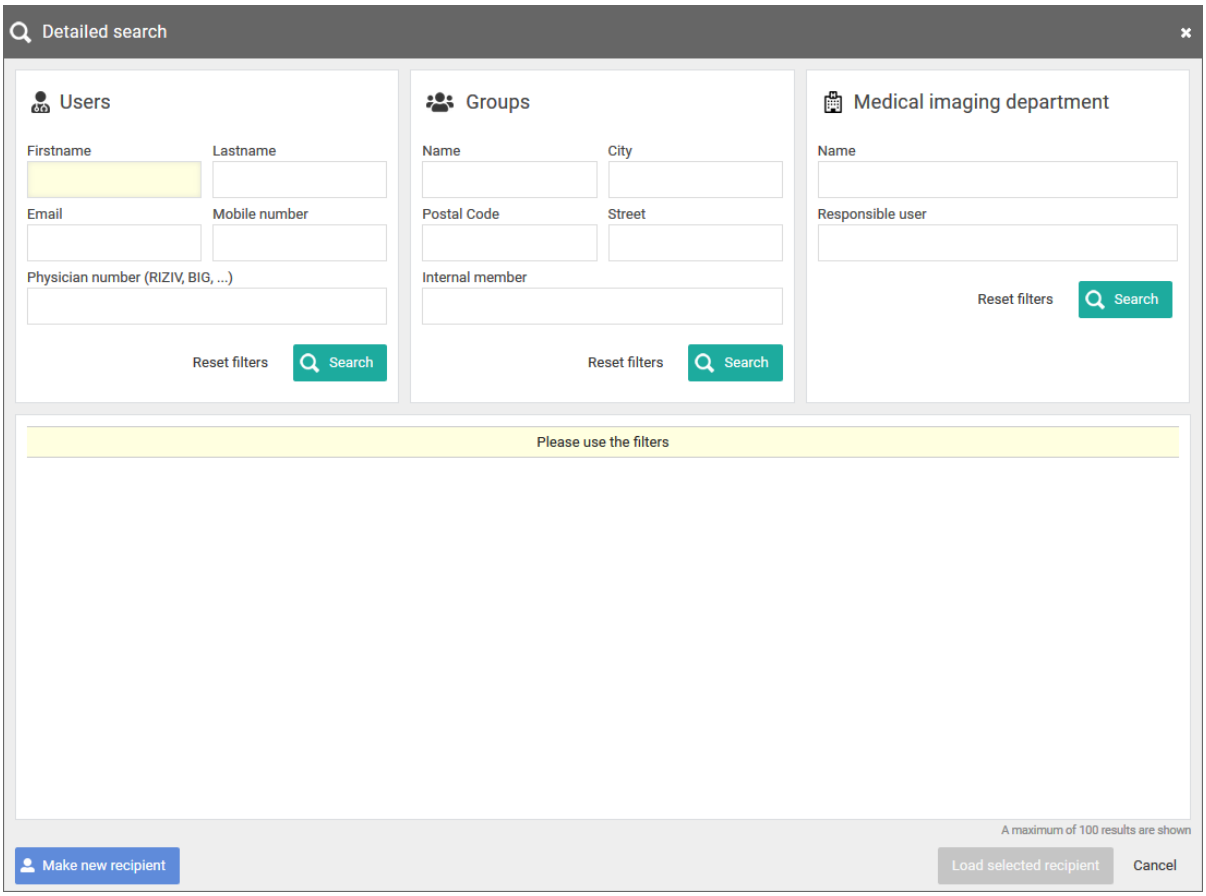

If you have selected a group as recipient, you can add the following options:

- two-factor-authentication

  In case a member of the group wants to consult the shared study, a one-time-password will be sent to the registered mobile number and needs to be entered before access is given.

Important!

If the user gives an erroneous OTP 5 times in succession, the bucket is blocked.

The bucket can be unlocked by the Service desk or an admin user of the sending radiology department (see Status Forwarding (Page 176))

- Send mail

  All users or only the selected user of the group with whom the study was shared, will receive an email with the following information:

  - that an exam has been shared
  - who shared the exam

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- which exam was shared (patient name initials, description of the exam, date of the exam) + a link to open the exam
- the message in case this was entered by the sender

Step 3: Parameters for sharing

1. When sharing a study with a user, you can opt for

- Images and read access to the report
- Images and write access to the report

Tip:

The option 'Images only' is not available when sharing with a group.

2. You need to register a 'Reason for sharing'. The reason is not communicated to the recipient but is mandatory and will be registered in DeepUnity PACSonWEB.

3. The language, used for sending the message:

By default the language of the primary contact of the group is selected but you can change the language by using the drop down menu.

Important!

In case you select multiple recipients with different languages, the mail is sent to all recipients, using the language of the first recipient.

If however, the majority of the recipients have the same language, this is the language that will be selected automatically.

4. Valid till (dd/mm/yyyy)

By default the validity period is set to 1 month but you can change this by:

- filling out the desired time period manually.
- selecting a dte, using the calendar icon.
- selecting the option 'Unlimited access'.

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Tip:

The default validity period can be configured for each sending radiology department. DeepUnity PACSonWEB offers the possibility to define a default or maximal validity period.

The option 'Unlimited access' can also be deactivated on a source level.

In case a specific configuration is desired, please contact the service desk.

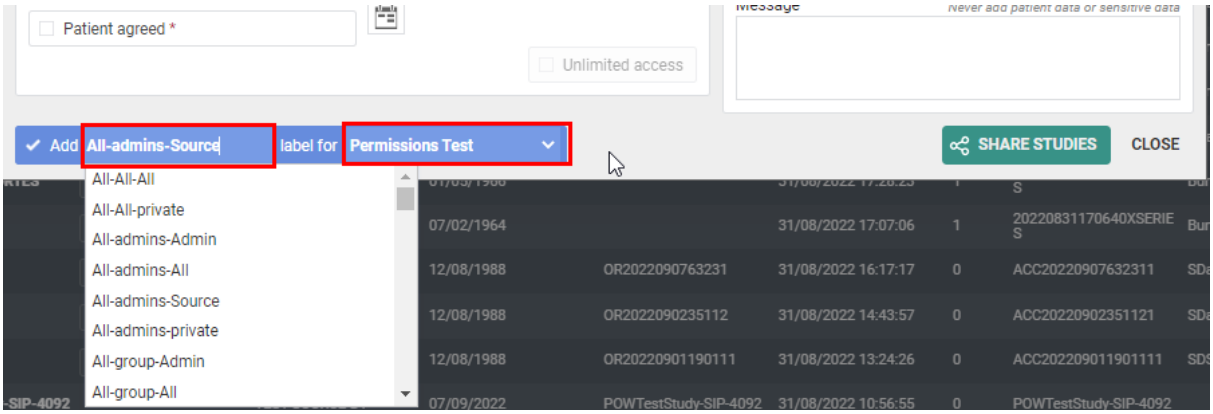
5. Patient Agreed

The "Patient agreed" checkbox must always be checked, because without the patient's consent the study may not be shared.

6. Add label

With this option a label can be attached to the study.

Enable the checkbox to select a label. Additionally the label can be set for the user or a group.



7. Optional settings

- 'Urgent':

  This adds 'Urgent' to the subject of the related mail

- 'Anonymize':

  This replaces the name of the patient:

  - The first name is replaced by a number
  - The last name is replaced by Anonymous

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Important!

The report for an anonymized study will never be accessible, even if you selected the option 'Images and read access on the report' or 'Images and write access on the report'.

- Allow further sharing

  Activating this option allows the recipient to share the study further with other recipients
- Message

Important!

Unlike when sharing with a user, the message is not available as a separate series within the exam and no label 'message' is added.

It is added to the mail, sent to the recipient.

Tip:

When sharing a study with a group the same values for the following parameters are selected automatically with the next user sharing operation:

- Two-factor authentication
- Send mail

STEP 4: Confirmation

A pop-up window with the information about the shared study will be displayed.

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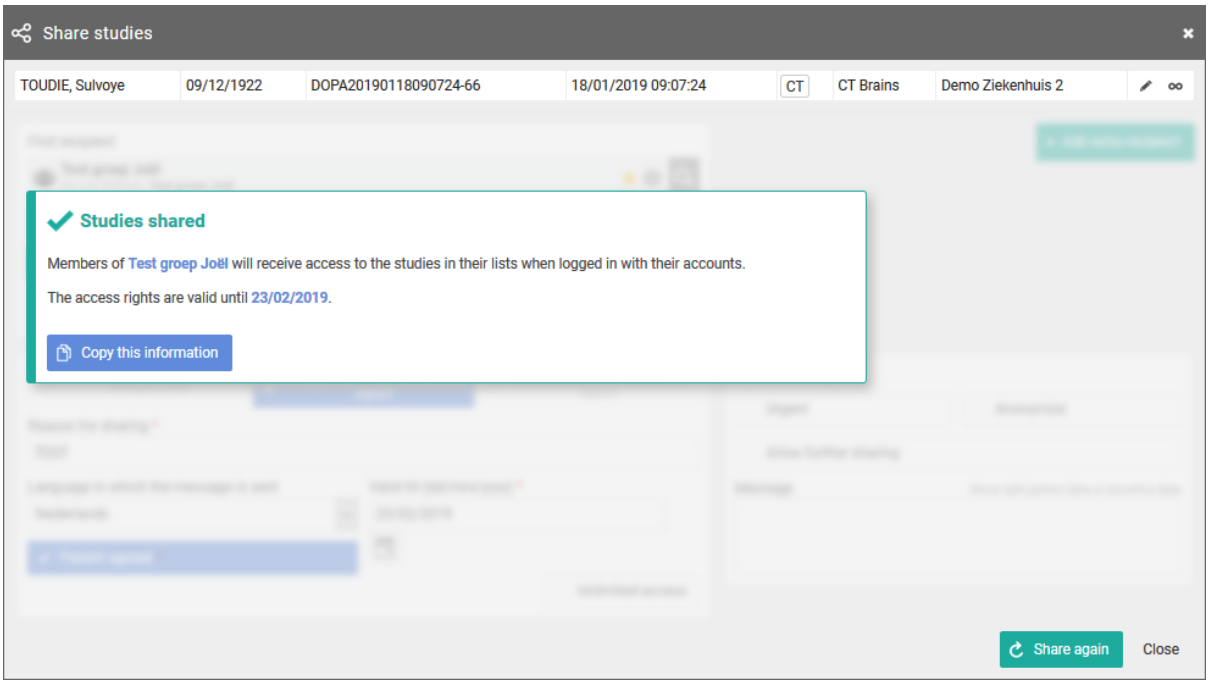

- With the button **Copy this information**, the content of the pop-up is copied to the clipboard so e.g. it can be pasted into your own email.
- In case 'Send e-mail' is checked, the recipient will receive an e-mail with a link to the study and the message that you have shared a study with him/her.
- The exam will be available in the overview list of the receiver for the time period as entered by the sender.
- Using Share again you can share the same set of studies again with another recipient.

10.7.3 Sharing studies with a radiology department

In this instruction we will show you how to share a study with a radiology department .

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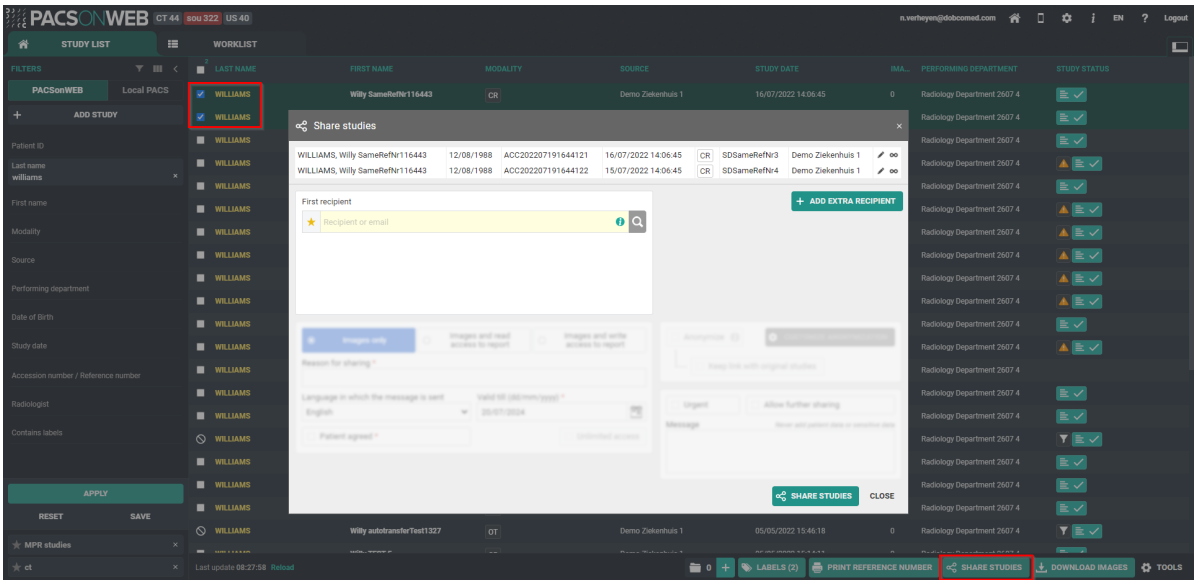
STEP 1: Select the studies that you wish to share



STEP 2: Choose your recipients

You can select a recipient by:

- clicking the 'favorites' icon ★
- filling out criteria with the field 'recipient'
- clicking the 'search' icon

You can add additional recipients by clicking the button Add extra recipient.

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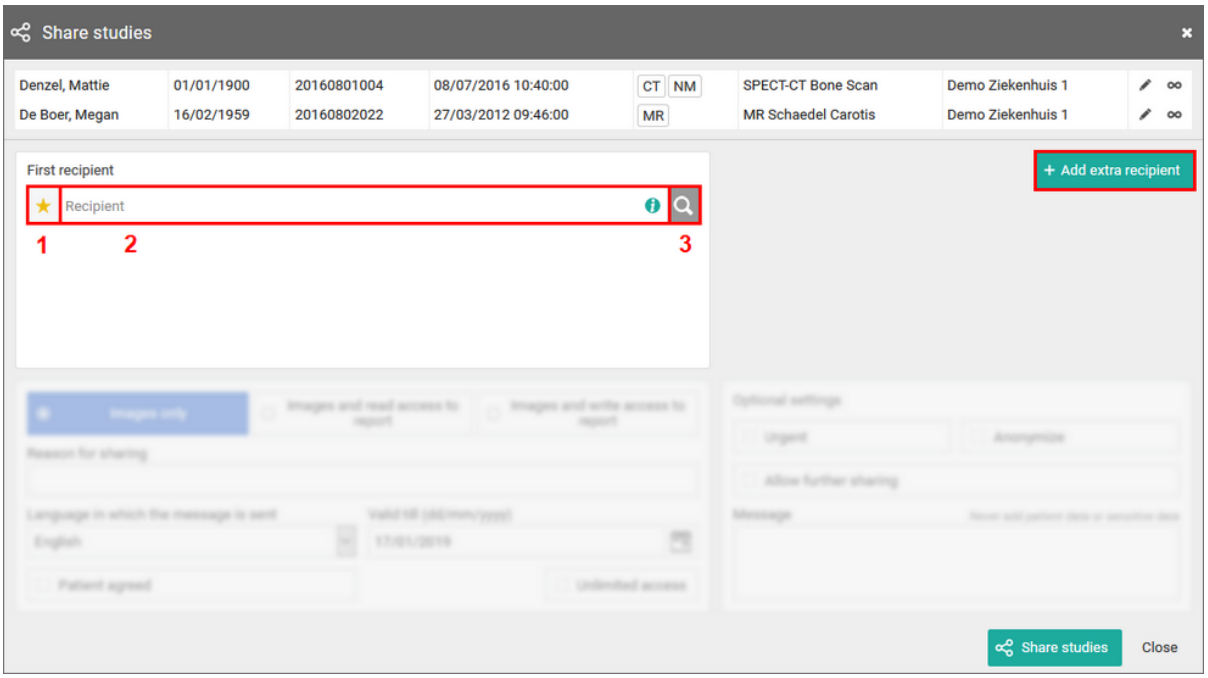
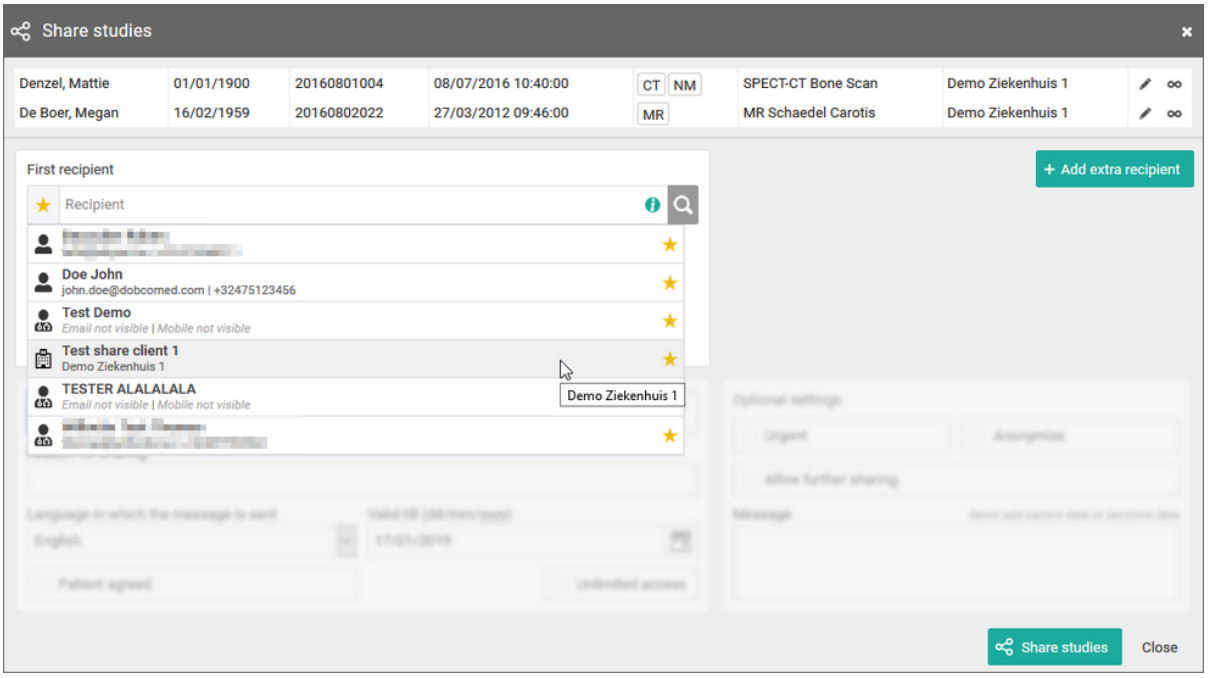


1. Favorites ★ :

By clicking the icon, your list of favorites will be shown.

Clicking a favorite will automatically add this group as a recipient.



You can add favorites to your list:

- from your address book (Page 109)

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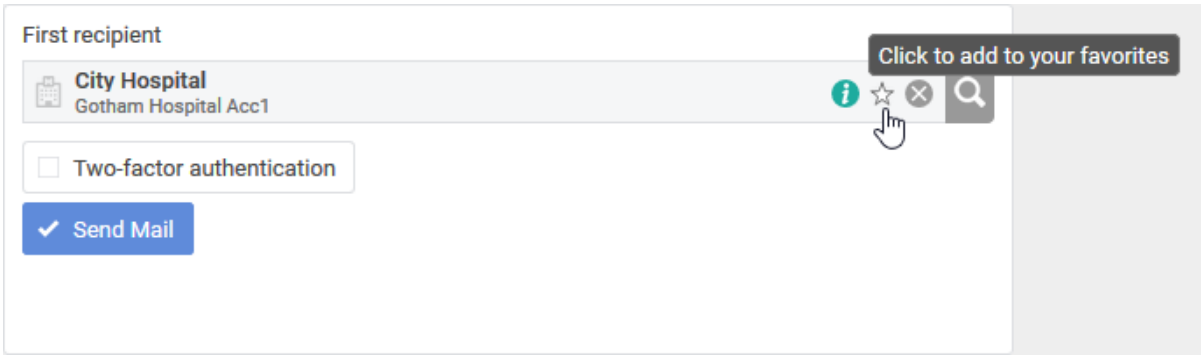
- by selecting a group and highlighting the star icon:



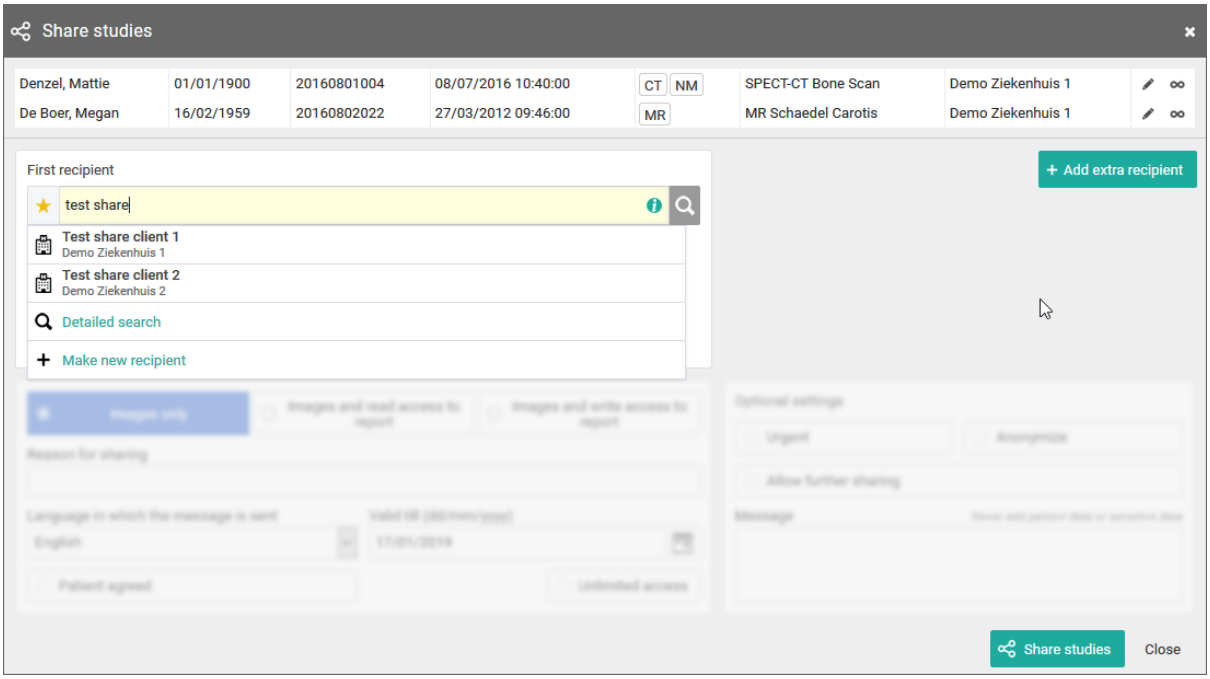
Important!

Be aware: the radiology department will be added to your list of favorites after the share action has been completed.

2. Searching for a recipient

In the search bar you can lookup a radiology department by searching:

- the name of the radiology department



When hovering over the information icon , additional information on the selected medical department is displayed.

3. Detailed search

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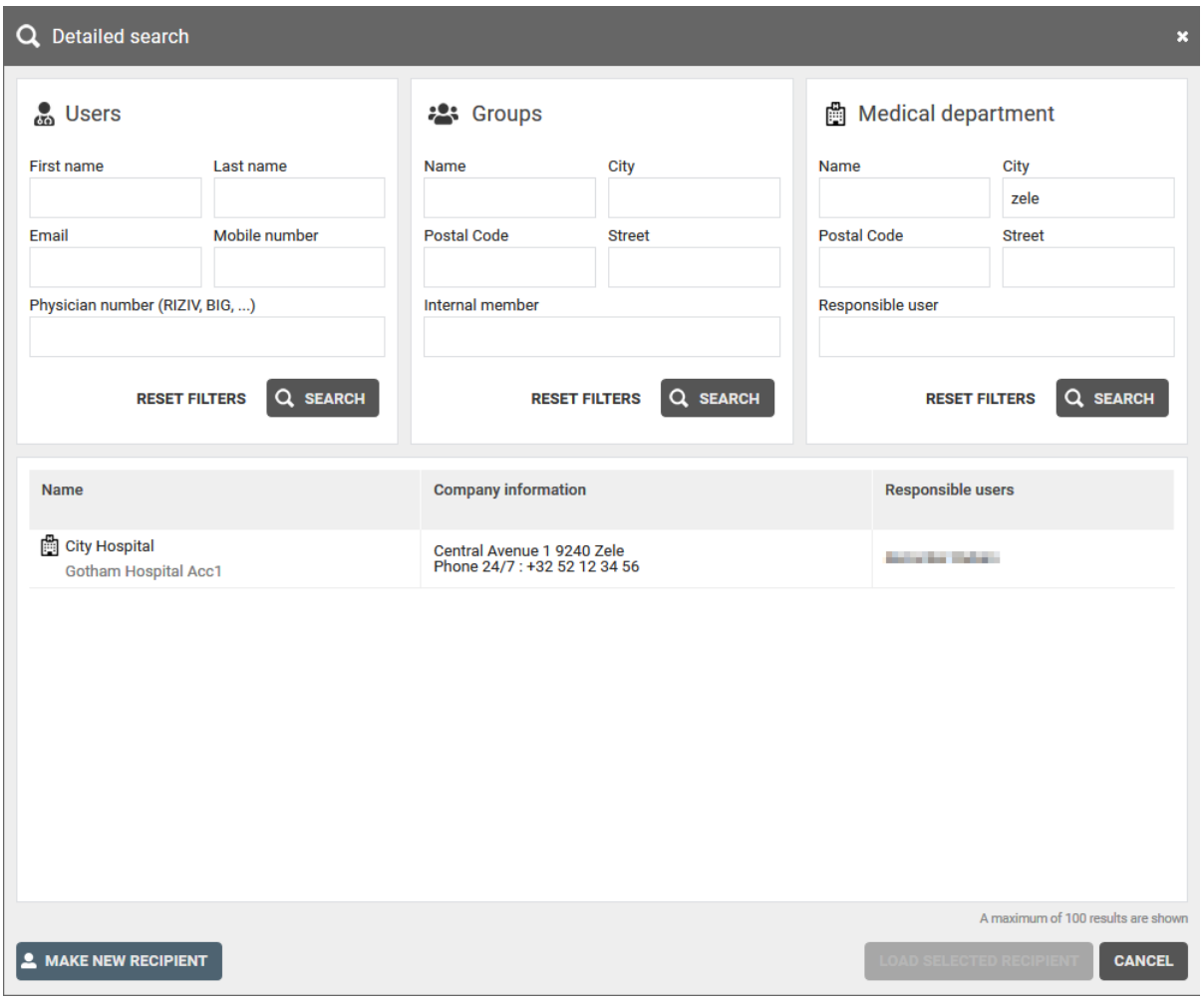
From this screen, you can use specific selection criteria to look up and select the desired user, group or radiology department as recipient.



If you have selected a group as recipient, you can add the following options:

- two-factor-authentication

  In case a member of the radiology department wants to consult the shared study, a one-time-password will be sent to the registered mobile number and needs to be entered before access is given

Important!

If the user gives an erroneous OTP 5 times in succession, the bucket is blocked.

The bucket can be unlocked by the Service desk or an admin user of the sending radiology department (see Status Forwarding (Page 176))

- Send mail

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The mail will be sent to all users of the radiology department that are marked as "responsible" and have indicated that they want to receive this type of email. The mail contains the following information:

- that an exam has been shared
- who shared the exam
- which exam was shared (patient name initials, description of the exam, date of the exam) + a link to open the exam
- the message in case this was entered by the sender

Step 3: Parameters for sharing

1. When sharing a study with a radiology department, you can opt for

- Images and read access to the report
- Images and write access to the report

Tip:

The option 'Images only' is not available when sharing with a radiology department.

2. You need to register a 'Reason for sharing'. The reason is not communicated to the recipient but is mandatory and will be registered in DeepUnity PACSonWEB.

3. The language, used for sending the message:

By default the language of the first recipient is selected but you can change the language by using the drop down menu.

Important!

In case you select multiple recipients with different languages, the mail is sent to all recipients, using the language of the first recipient.

If however, the majority of the recipients have the same language, this is the language that will be selected automatically.

4. Valid till (dd/mm/yyyy)

By default the validity period is set to 1 month but you can change this by:

- filling out the desired time period manually.

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- selecting a dte, using the calendar icon.
- selecting the option 'Unlimited access'.

Tip:

The default validity period can be configured for each sending radiology department. DeepUnity PACSonWEB offers the possibility to define a default or maximal validity period.

The option 'Unlimited access' can also be deactivated on a source level.

In case a specific configuration is desired, please contact the service desk.

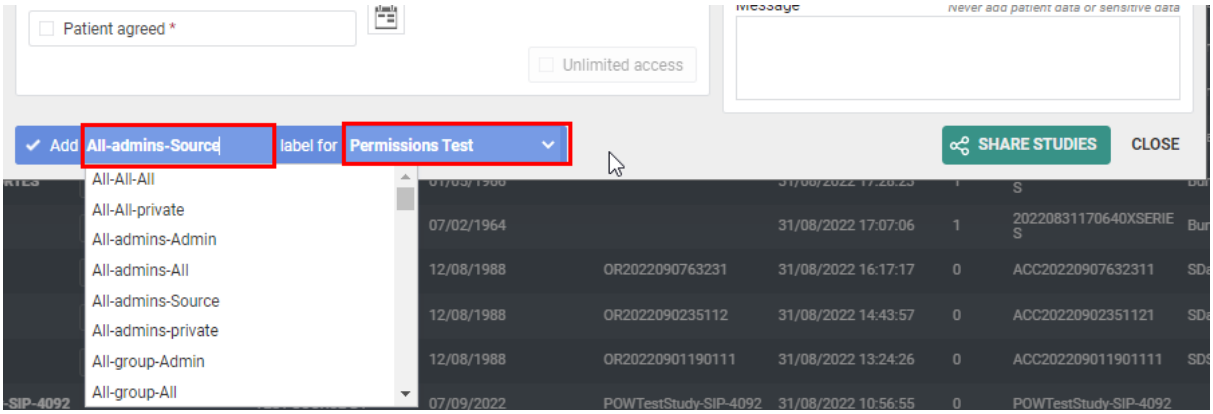
5. Patient Agreed

The "Patient agreed" checkbox must always be checked, because without the patient's consent the study may not be shared.

6. Add label

With this option a label can be attached to the study.

Enable the checkbox to select a label. Additionally the label can be set for the user or a group.



7. Optional settings

- 'Urgent':

  This adds 'Urgent' to the subject of the related mail

- 'Anonymize':

  This replaces the name of the patient:

  - The first name is replaced by a number
  - The last name is replaced by Anonymous

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Important!

The report for an anonymized study will never be accessible, even if you selected the option 'Images and read access on the report' or 'Images and write access on the report'.

- Allow further sharing

  Activating this option allows the recipient to share the study further with other recipients
- Message

Important!

Unlike when sharing with a user, the message is not available as a separate series within the exam and no label 'message' is added.

It is added to the mail, sent to the recipient.

Tip:

When sharing a study with a medical imaging department, the same values for the following parameters are selected automatically with the next user sharing operation:

- Two-factor authentication
- Send mail

STEP 4: Confirmation

A pop-up window with the information about the shared study will be displayed.

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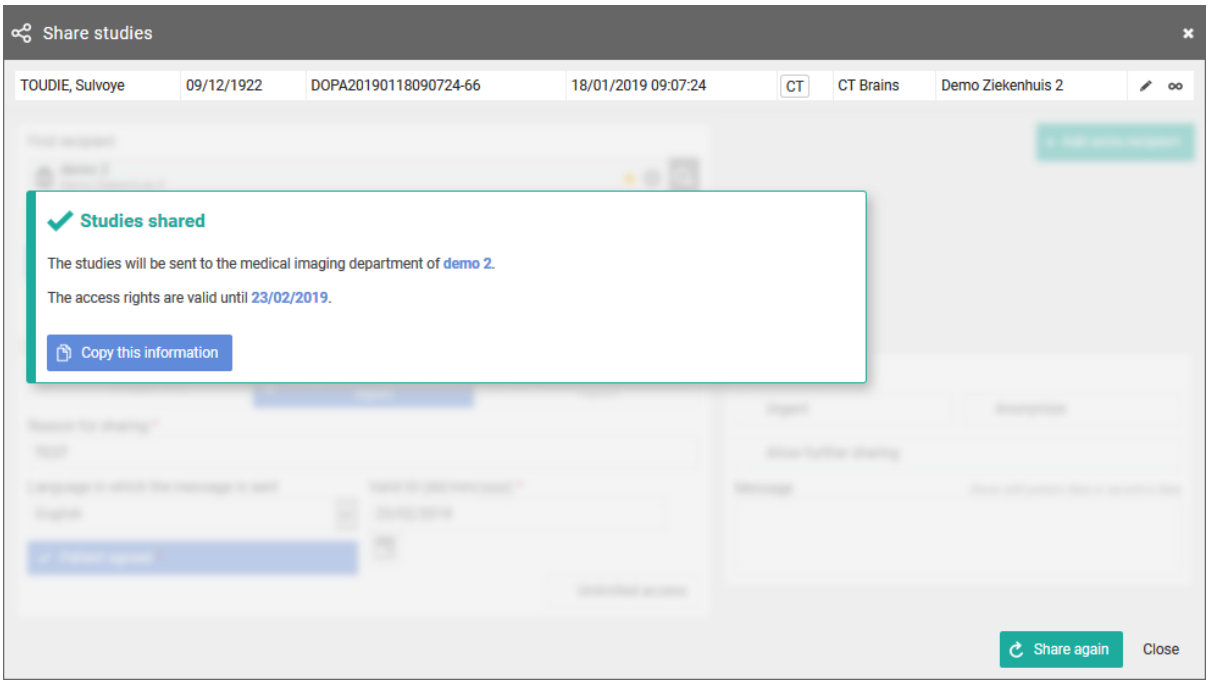

- With the button "Copy this information", the content of the pop-up is copied to the clipboard so e.g. it can be pasted into your own email.
- In case ‘Send e-mail’ is checked, the mail is send to all user from the receiving radiology department, marked as responsible and registered to receive these mails.
- Using ‘Share again’ you can share the same set of studies again with another recipient.
- In case the receiving radiology department has the autotransfer option enabled, the images will be loaded into the local PACS system automatically.

10.7.4 Sharing studies with a self-defined recipient

This instruction will show you how to share a study with a self-defined recipient .

Tip:

A self-defined recipient is someone that does not have an account on DeepUnity PACSonWEB, e.g. a patient.

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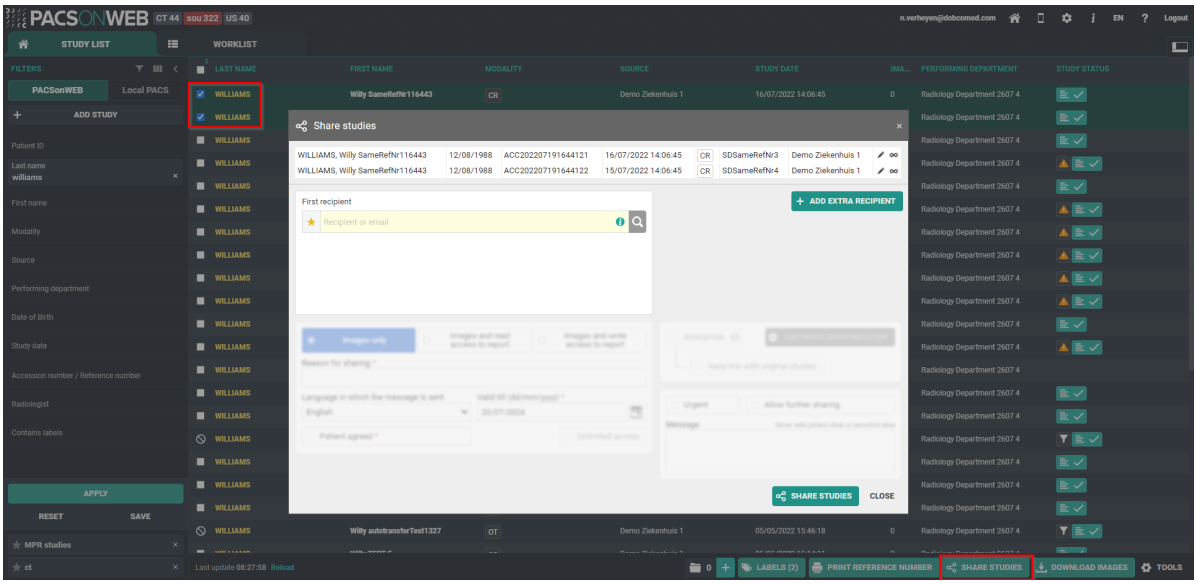
STEP 1: Select the studies you wish to share



STEP 2: Select your recipient(s)

You can select a recipient by:

1. clicking the 'favorites' icon ★.
2. filling out criteria with the field 'recipient'.
3. clicking the 'search' icon 🔍.

You can add additional recipients by clicking Add extra recipient.

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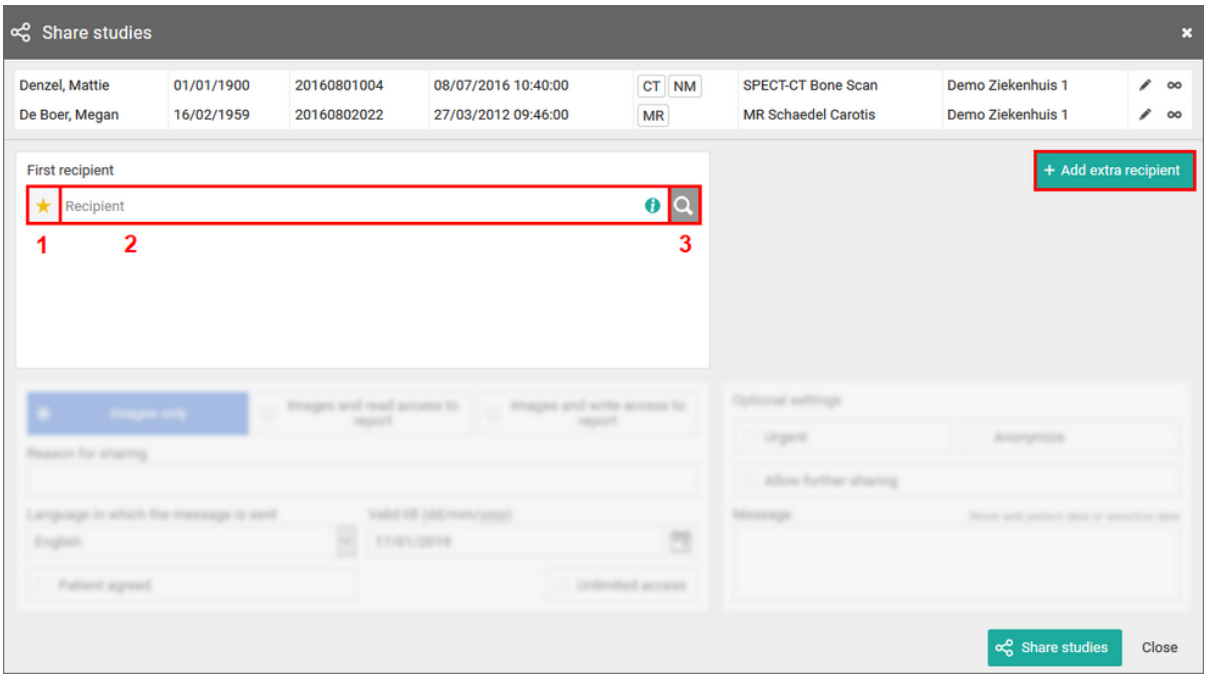
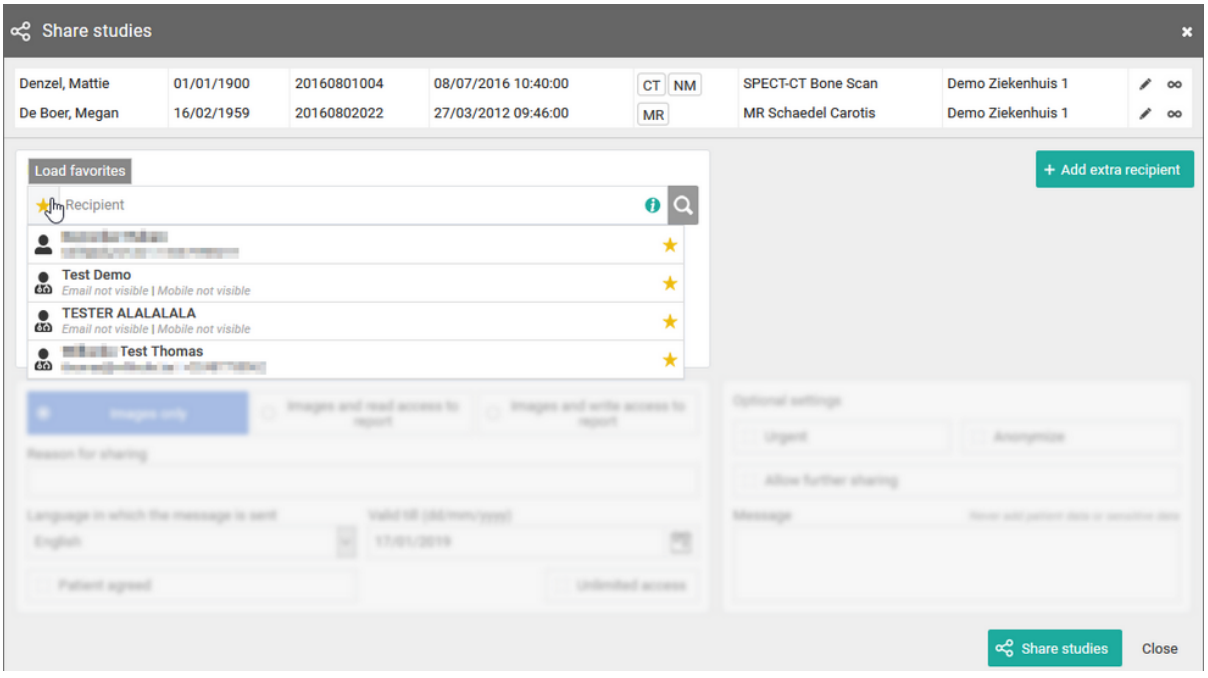


1. Favorites ★

By clicking the icon, your list of favorites will be shown.

Clicking a favorite will automatically add this user as a recipient.



You can manage your favorites through your address book (Page 109).

2. The name of the recipient

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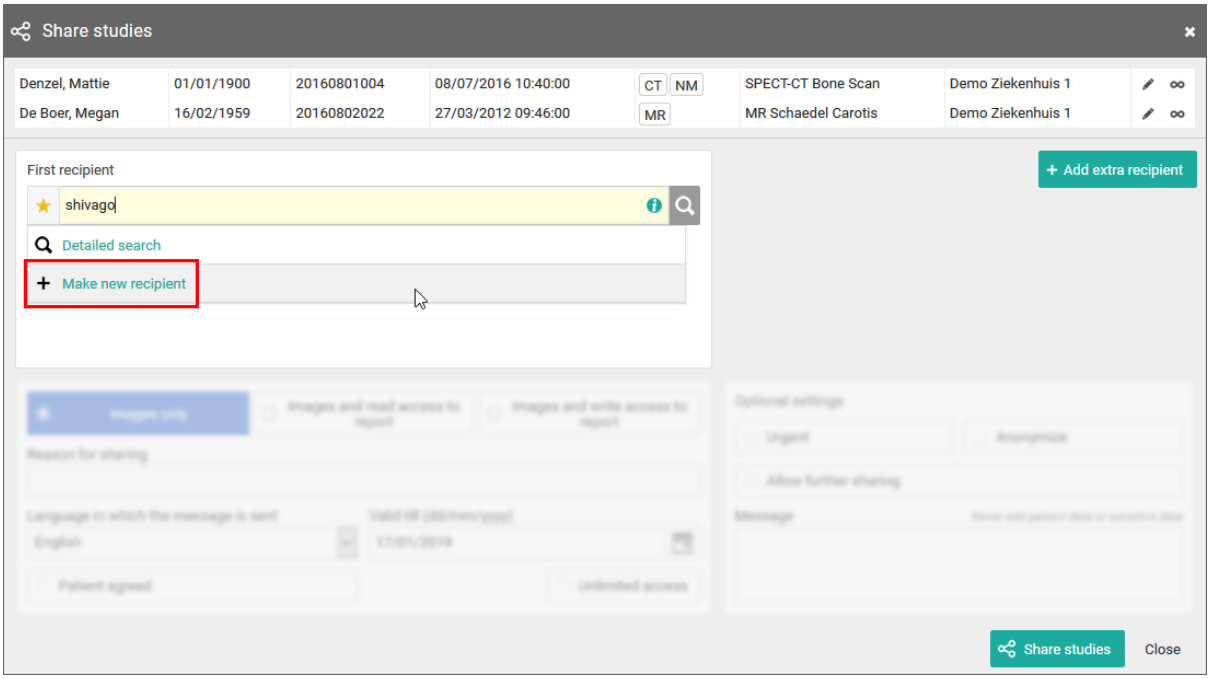
From the search bar, you can look up a user by:

- First name
- Last name
- Mobile number
- Email address

In case your search does not return the recipient you are looking for, you can create a new self-defined recipient.



If you enter an e-mail address in the search field, you also have the possibility to forward a reference code without creating a self-defined user.

To share the selected studies in this way, click on "Use this e-mail address".

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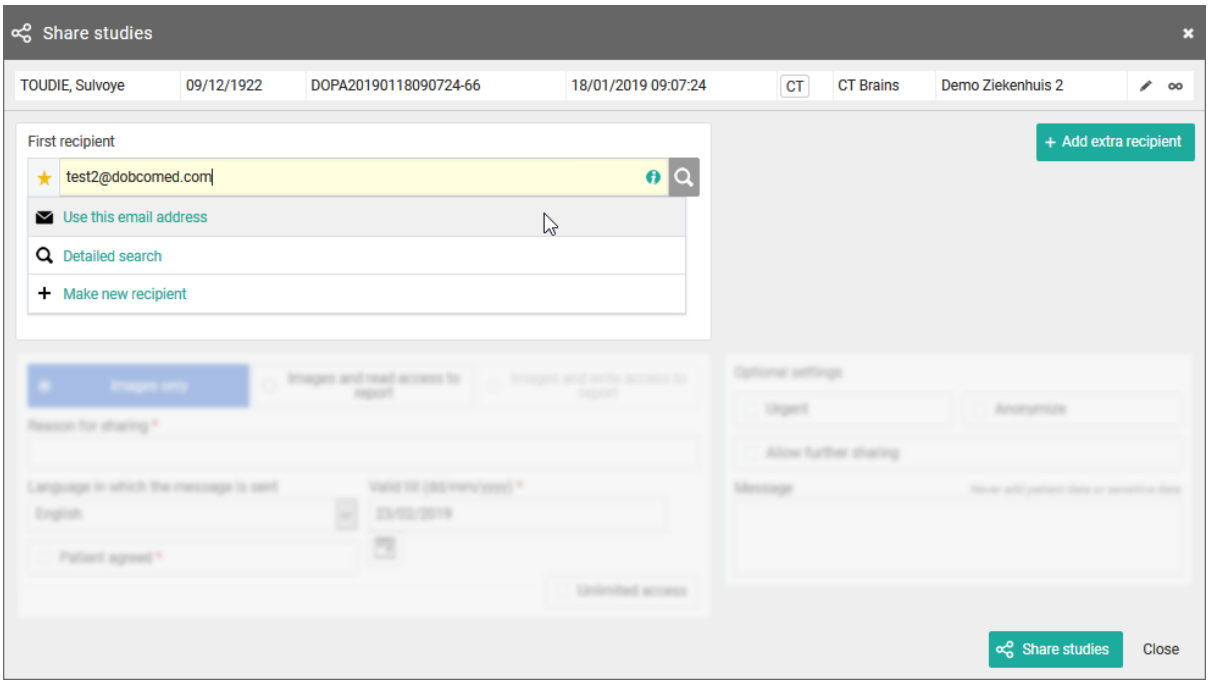

3. Detailed search

From this screen, you can use specific selection criteria to look up and select the desired user, group or radiology department as recipient.

At the bottom of this screen, you have the possibility to add a self-defined user.

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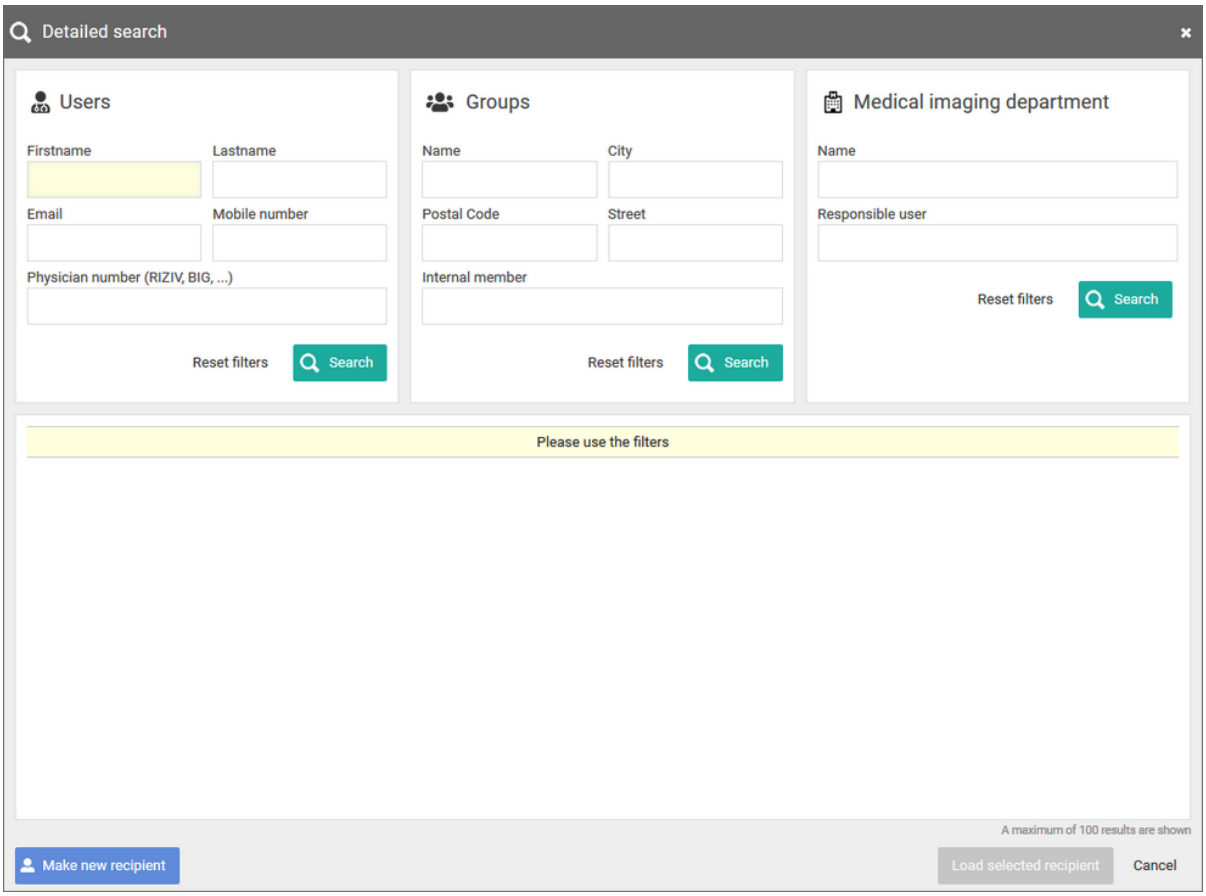
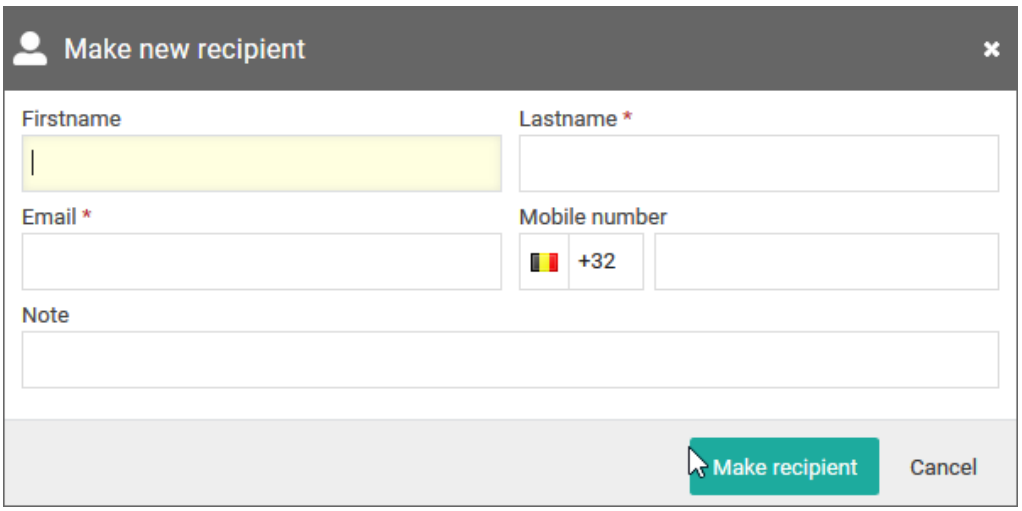


When creating a new user, it is mandatory to register the Last name and email address of the recipient.

In case you want to send the reference code or the one-time password by text message, you will also need to fill out the mobile number.



The country code + flag that is used by default, is determined by following logic:

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- When entering a phone number in share or print reference number dialog:
  - The last used country code for this machine and this browser (this is saved in a cookie);
  - If no cookie is available, the most frequently used country code from the personal address book;
  - If no contacts have been saved yet, "+32" is used.
- When adding a new contact to the personal address book:
  - The most frequently used country code from the personal address book;
  - If no contacts have been saved yet, "+32" is used.

Tip:

When you create a self-defined recipient, it is automatically added to your favorites.

When you select a self-defined recipient, you can select if you want to send the reference code by mail or text message.

In case you want to apply an additional two-factor-authentication, a one-time-password will be sent by mail or text message when entering the reference code and the date of birth on the patient portal.

By default, if the reference number is shared by mail, the OTP will be sent by text message or vice versa.

Sending both identifiers (reference number + OTP) over the same mean (mail or SMS) is only possible if allowed explicitly by the source of the related study.

Important!

If the user gives an erroneous OTP 5 times in succession, the bucket is blocked.

The bucket can be unlocked by the Service desk or an admin user of the sending radiology department (see Status Forwarding (Page 176)).

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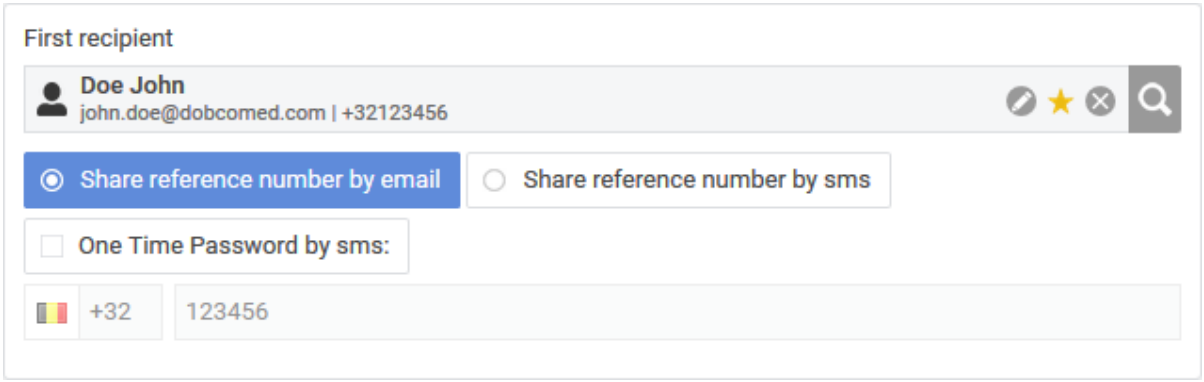

STEP 3: Parameters for sharing

1. When sharing a study with a user, you can opt for

- Images only
- Images and read access to the report

Tip:

The option 'Images and write access to report' is not available when sharing with a self-defined recipient.

2. You need to register a 'Reason for sharing'. The reason is not communicated to the recipient but is mandatory and will be registered in DeepUnity PACSonWEB.

3. The language, used for sending the message:

By default the language of the first recipient is selected but you can change the language by using the drop down menu.

Important!

In case you select multiple recipients with different languages, the mail is sent to all recipients, using the language of the first recipient.

If however, the majority of the recipients have the same language, this is the language taht will be selected automatically.

4. Valid till (dd/mm/yyyy)

By default the validity period is set to 1 month but you can change this by:

- filling out the desired time period manually.
- selecting a date, using the calendar icon.

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Tip:

The default validity period can be configured for each sending radiology department. DeepUnity PACSonWEB offers the possibility to define a default or maximal validity period.

In case a specific configuration is desired, please contact the service desk.

The option 'Unlimited access' cannot be used for self-defined recipients.

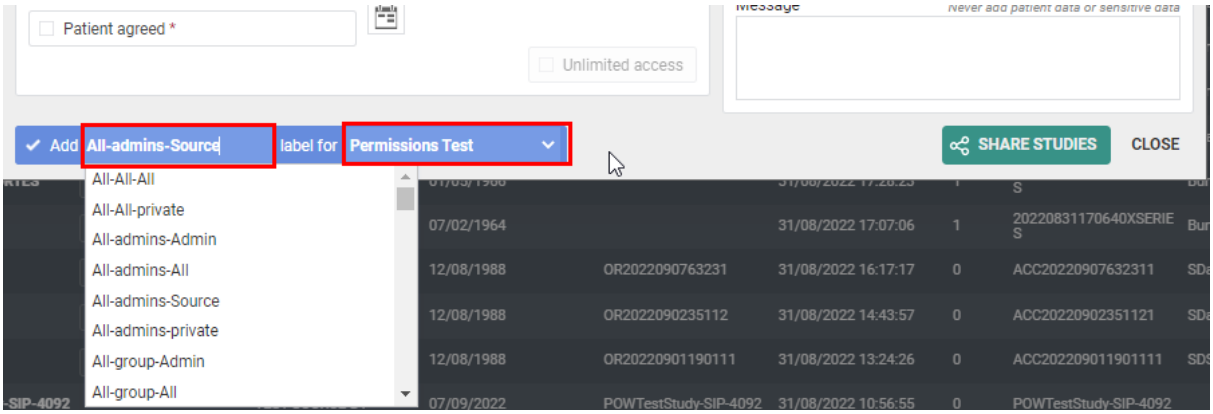
5. Patient Agreed

The "Patient agreed" checkbox must always be checked, because without the patient's consent the study may not be shared.

6. Add label

With this option a label can be attached to the study.

Enable the checkbox to select a label. Additionally the label can be set for the user or a group.



7. Optional settings

- 'Urgent':

  This adds 'Urgent' to the subject of the related mail

- 'Anonymize':

  This replaces the name of the patient:

  - The first name is replaced by a number
  - The last name is replaced by Anonymous
  - The email contains only the initials of the patient name. All other letters are replaced by '*****'

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Attention:

The report for an anonymized study will never be accessible, even if you selected the option 'Images and read access on the report' or 'Images and write access on the report'.

- Allow further sharing

  This option cannot be used for self-defined recipients.
- Message

  If you add a message, it is added to the mail, sent to the recipient and it is visible to the recipient when opening the study in DeepUnity PACSonWEB.

Tip:

When sharing a study with a self-defined recipient, the same values for the following parameters are selected automatically with the next sharing operation involving a self-defined recipient:

- Share reference number by mail / text message
- One-Time-Password
- One-Time-Password by mail / text message
- One-Time-Password by text message: country prefix
- Language

STEP 4: Confirmation

A pop-up window with the information about the shared study will be displayed.

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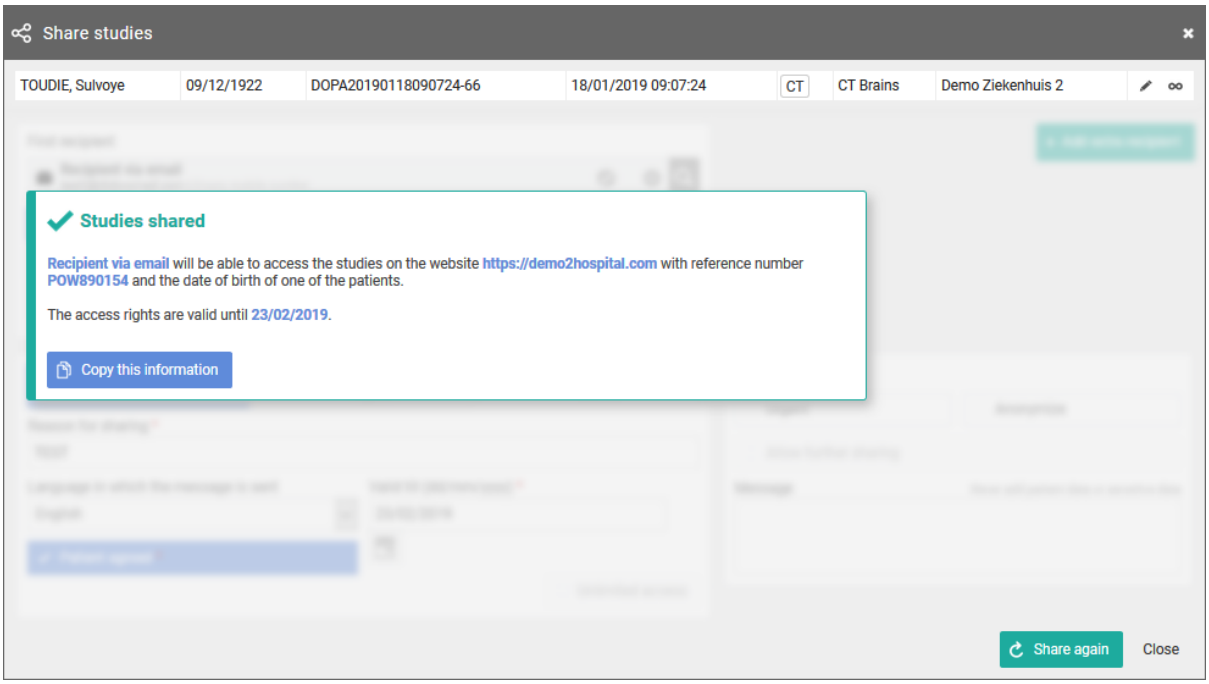

- With the button **Copy this information**, the content of the pop-up is copied to the clipboard so e.g. it can be pasted into your own email.
- A mail is sent, only in case the option to send the reference code or OTP by mail was checked.

Tip:

For reasons of privacy the patient name is masked in the mail. For the first and last name only the first letter is shown; all other letters are replaced by '****'.

- The message is available within the exam as a separate series.

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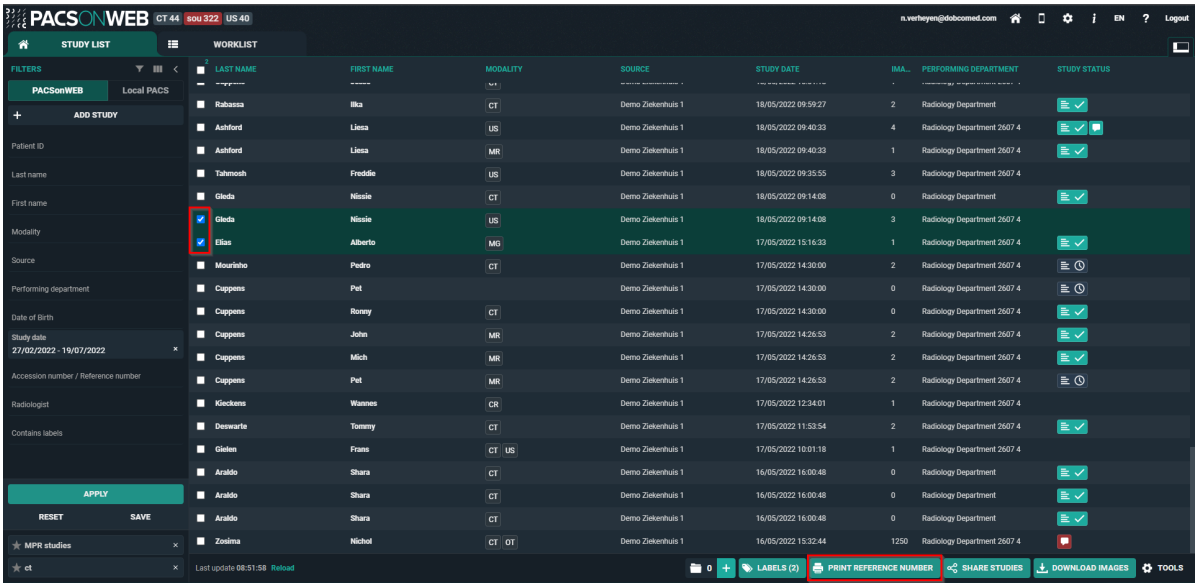
- Using ‘Share again’ you can share the same set of studies again with another recipient.

10.7.5 Print reference code from the explore page

In this instruction it is explained how to print a reference code from the explore page.

STEP 1: Select the studies for which you want to print a reference code

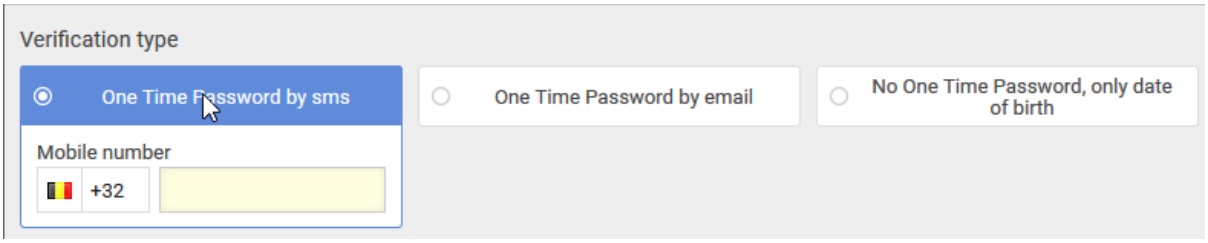
Select the studies for which you want to print a reference number and click the following button at the bottom of the page: Print reference number.



STEP 2: Choose the verification type

There are 3 possible verification types:

1) **One Time Password by SMS**



2) **One Time Password by email**

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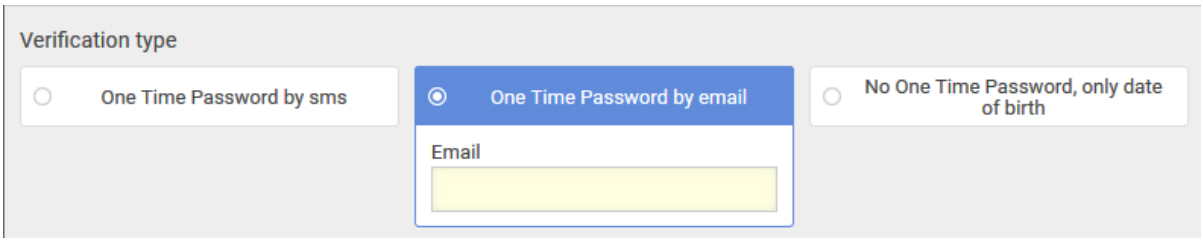
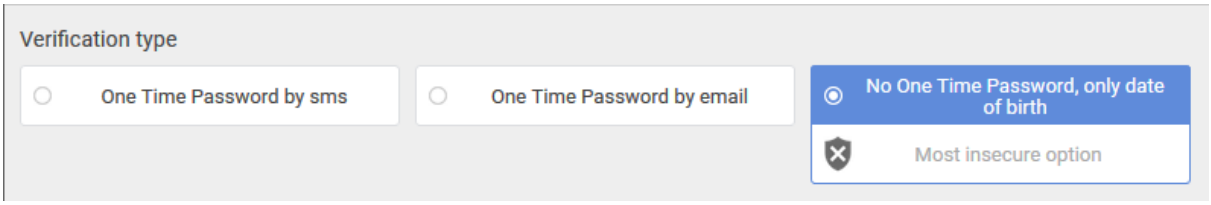


3) **No One Time Password, only date of birth**



Important!

If, in case of verification type 1 or 2, the user gives an erroneous OTP 5 times in succession, the bucket is blocked.

The bucket can be unlocked by the Service desk or an admin user of the sending radiology department (see Status Forwarding (Page 176)).

STEP 3: Parameters for sharing

1. You can choose to print a reference code for:

- Images only
- Images and read access to report

2. You need to fill out a "Reason for printing". This reason will not be printed but is mandatory and will be registered in DeepUnity PACSonWEB.

3. The language, used for printing the document:

By default the display language of DeepUnity PACSonWEB is selected but you can change the language from the drop down menu.

4. Valid till (dd/mm/yyyy)

By default the validity period is set to 1 month but you can change this by:

- filling out the desired time period manually.
- selecting a date, using the calendar icon

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Tip:

The default validity period can be configured for each sending radiology department. DeepUnity PACSonWEB offers the possibility to define a default or maximal validity period.

In case a specific configuration is desired, please contact the service desk.

The option 'Unlimited access' is not available when printing a reference number.

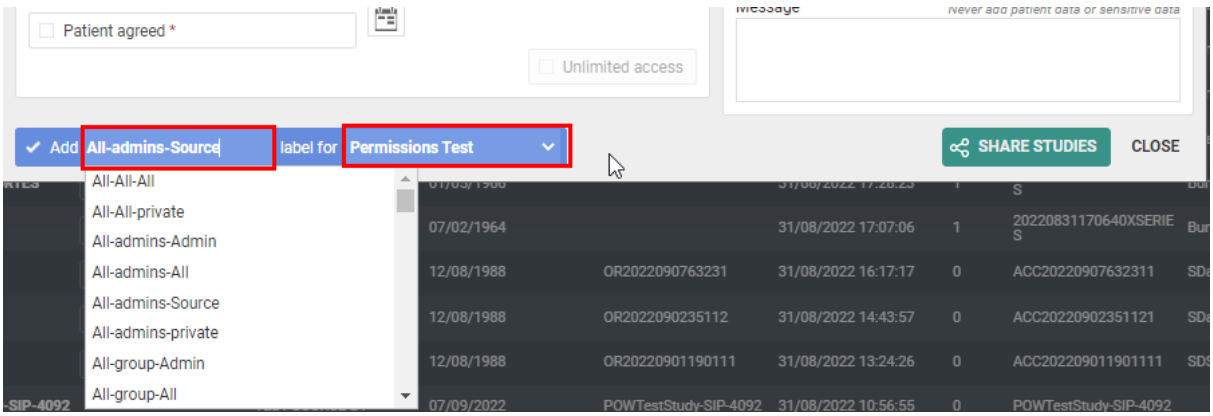
5. Patient Agreed

The "Patient agreed" checkbox must always be checked. Without the patient's consent reference number may not be printed.

6. Add a label

With this option a label can be attached to the study.

Enable the checkbox to select a label. Additionally the label can be set for the user or a group.



7. Optional settings:

- Anonimyze:

  This replaces the name of the patient:

  - In DeepUnity PACSonWEB, the first name is replaced by a number and the last name is replaced by Anonymous
  - In the letter, only the last name 'Anonymous' is mentioned

Attention:

The report for an anonymized study will never be accessible, even if you selected the option 'Images and read access on the report'.

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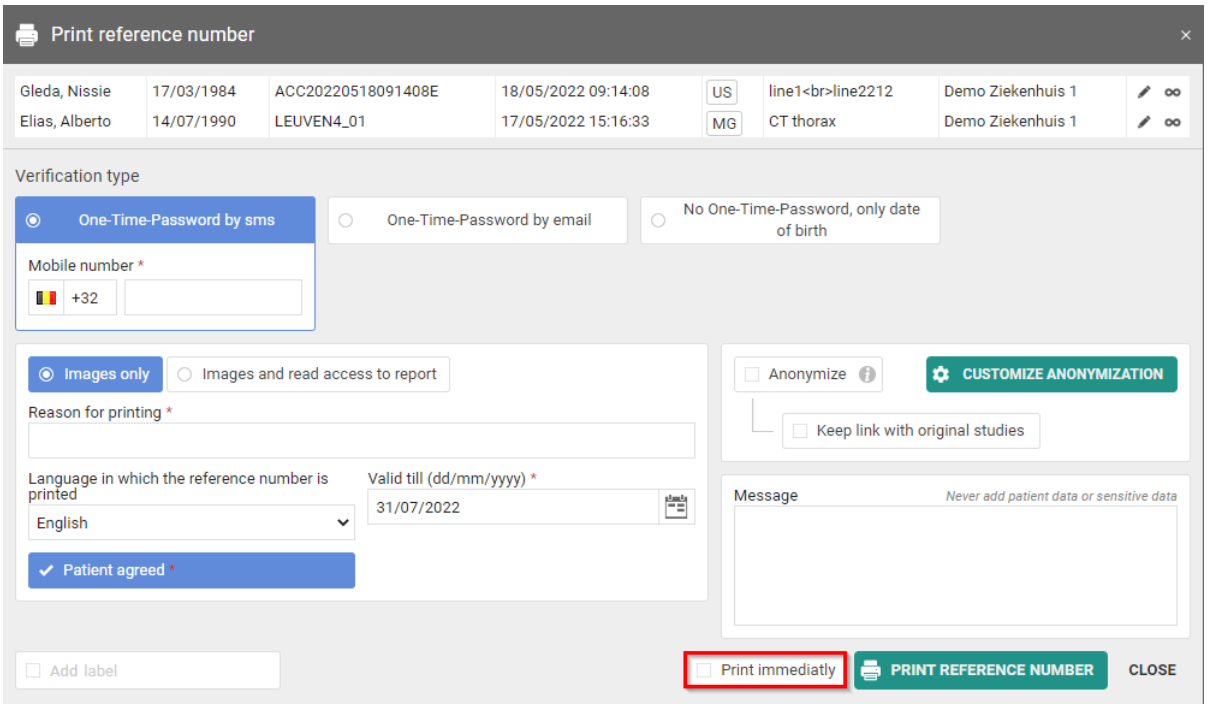
- Message: In case a message is entered when printing the reference code, the message is not available as a separate series within the exam and no label 'message' is added.

  It is added to the letter that is being printed.

8. Print immediately:

If this option is selected, when clicking on "Print Reference Number" a document will be opened for printing with instructions for the patient.

If not, only the confirmation screen is shown.



Tip:

When printing a reference number, the same values for the following parameters are selected automatically with the next printing of a reference number:

- One-Time-Password by mail / text message / none
- One-Time-Password by text message: country prefix
- Language

STEP 4: Confirmation

A pop-up window with the information about the printed reference number will be displayed.

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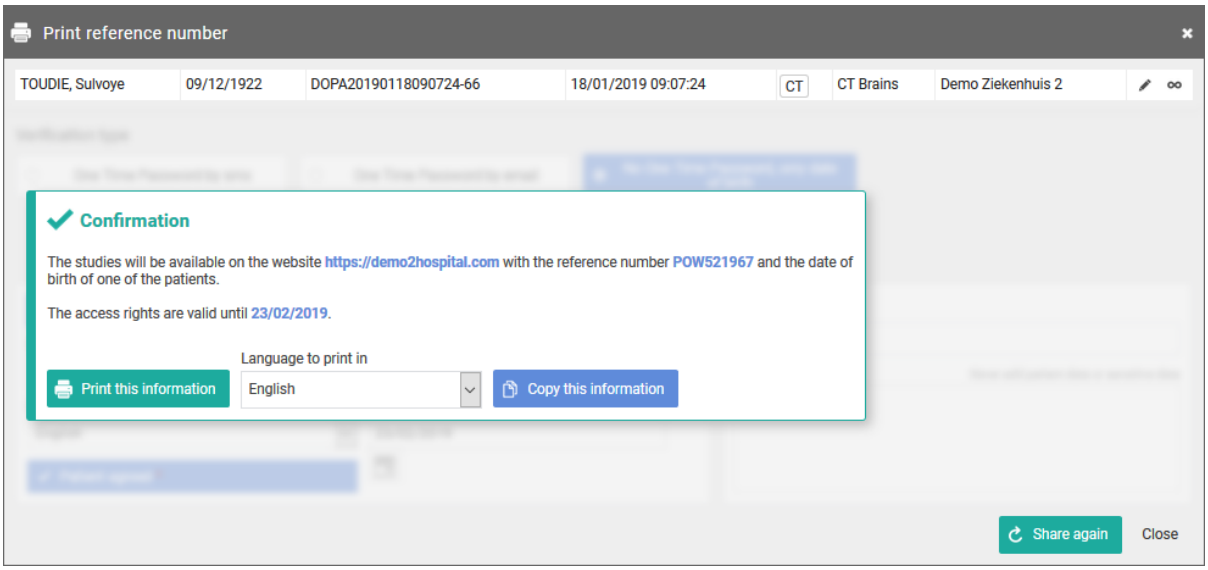
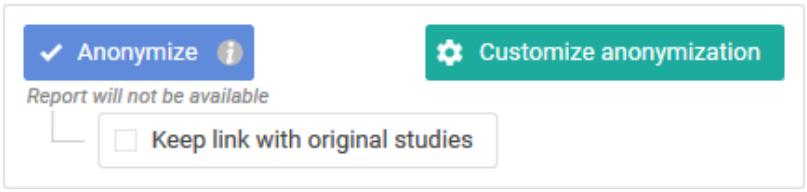


With the button **Copy this information**, the content of the pop-up is copied to the clipboard so e.g. it can be pasted into your own email.

You can print the same letter with reference code again in another language from the confirmation screen.

10.7.6 Anonymizing Studies

If you tick 'Anonymize' the following patient and study information will be adjusted:



- The patient's name is adjusted: the surname is replaced by 'Anonymous' and the first name is replaced by 6 digits.
- The research number is adjusted to: ANON + Base29 series (unique in DeepUnity PACSonWEB)
- The application number is adjusted to: ORD + Base29 series (unique in DeepUnity PACSonWEB)
- The Study Instance UID is adjusted to: a UID, starting with 1.2.528.56.1006 (unique worldwide, as registered by DH Healthcare GmbH)

If you check the option "Keep link with original study" ("pseudonymization"), a user has a link between the pseudonymized study and the original study if he has access to both studies within DeepUnity PACSonWEB.

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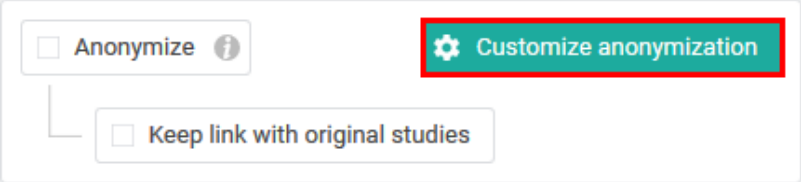
Important!

The report will never be available, even if the option 'Images and read access to report' or 'Images and write access to report' has been selected.

Attention:

DeepUnity PACSonWEB offers the possibility of anonymizing the identifiable information of a study as desired, either manually or by using an anonymization scheme.

This feature is optional. If you are interested, please contact DH Healthcare GmbH or the medical imaging department of the hospital.



We refer to the following pages for more information about the possibilities on customized anonymization:

Default anonymization (Page 168)

Using anonymization schemes (Page 169)

10.7.6.1 Default anonymization

If you have access to the paying option for using anonymization schemes, the button Customize anonymization will be available.

This allows you to adjust patient and study data yourself, either manually (see below) or using an anonymization scheme (see Using anonymization schemes (Page 169)).

With default anonymization, the following patient and study data will be adjusted as follows:

- The patient's name is adjusted: the surname is replaced by 'Anonymous' and the first name is replaced by 6 digits.
- The research number is adjusted to: ANON + Base29 series (unique in DeepUnity PACSonWEB)
- The application number is adjusted to: ORD + Base29 series (unique in DeepUnity PACSonWEB)
- The Study Instance UID is adjusted to: a UID, starting with 1.2.528.56.1006 (unique worldwide, as registered by DH Healthcare GmbH)

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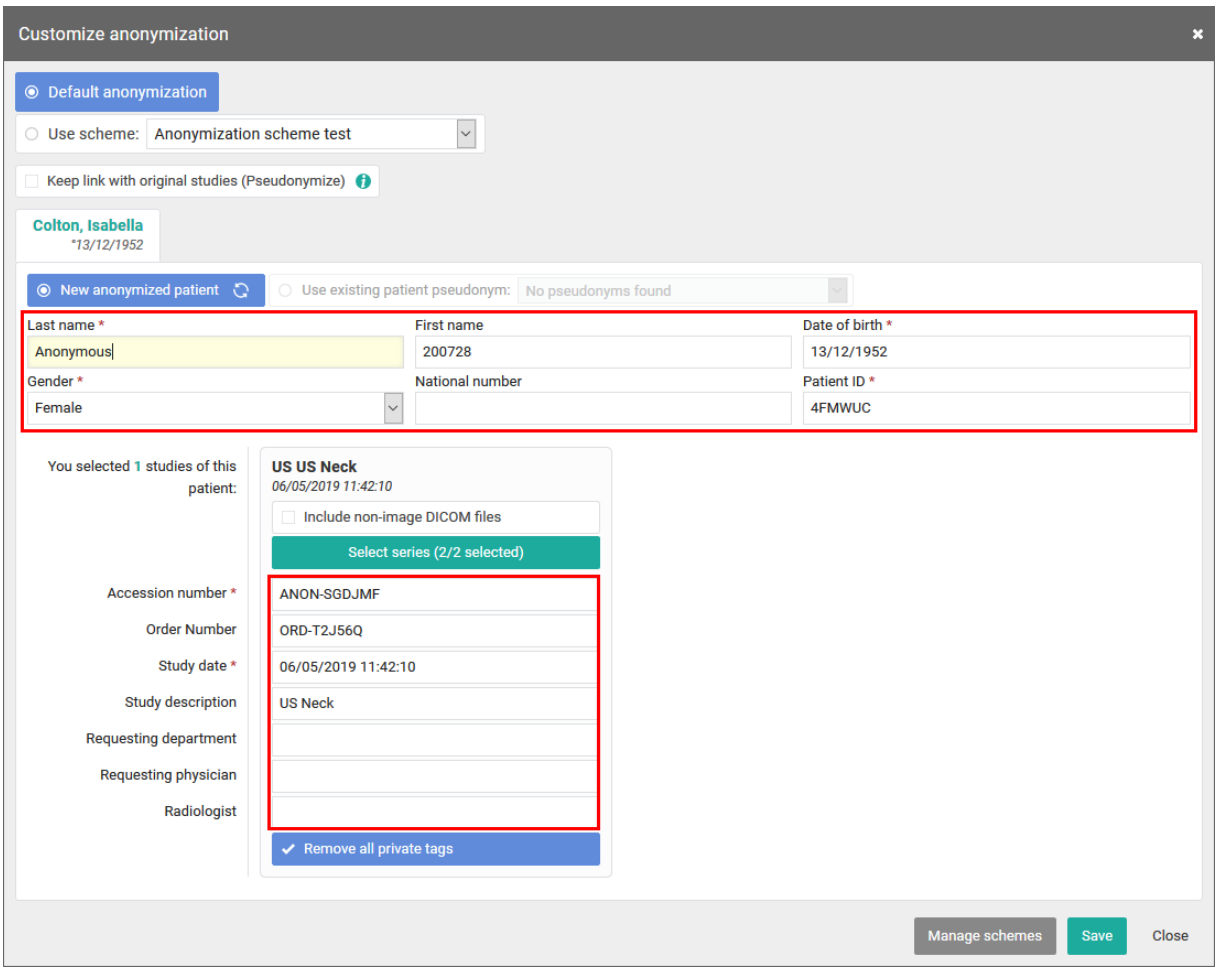
Additionally, you also have the option to manually adjust all marked fields.



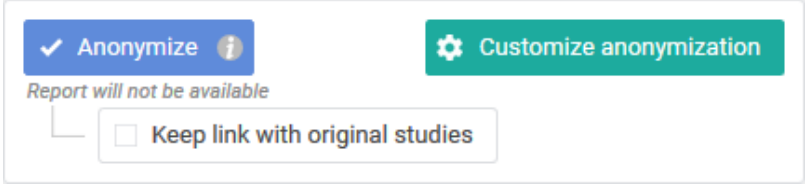
10.7.6.2 Using anonymization schemes

Attention:

This is an optional functionality within DeepUnity PACSonWEB. If interested, you can contact DH Healthcare GmbH for more information.

This option can be activated for all studies from a specific source.

If you wish to use an anonymization scheme, click Customize anonymization .



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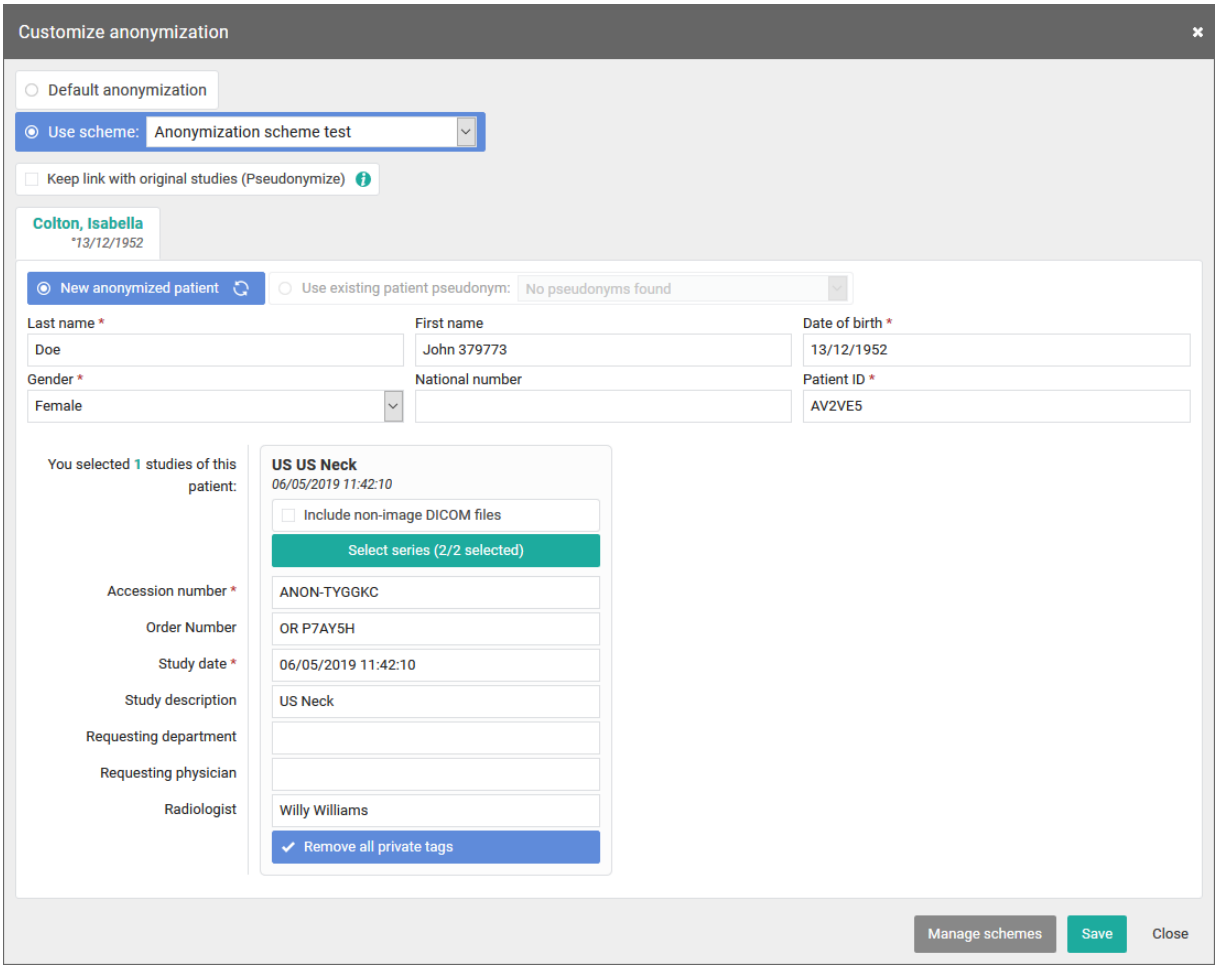
Click on 'Use scheme' and select the scheme that you want to use.

This changes the patient and study data, as defined in the selected scheme.



The option is available to all users who have access to a study from the source for which this option has been activated.

Manage schemes:

Attention:

This option is only available for source admins.

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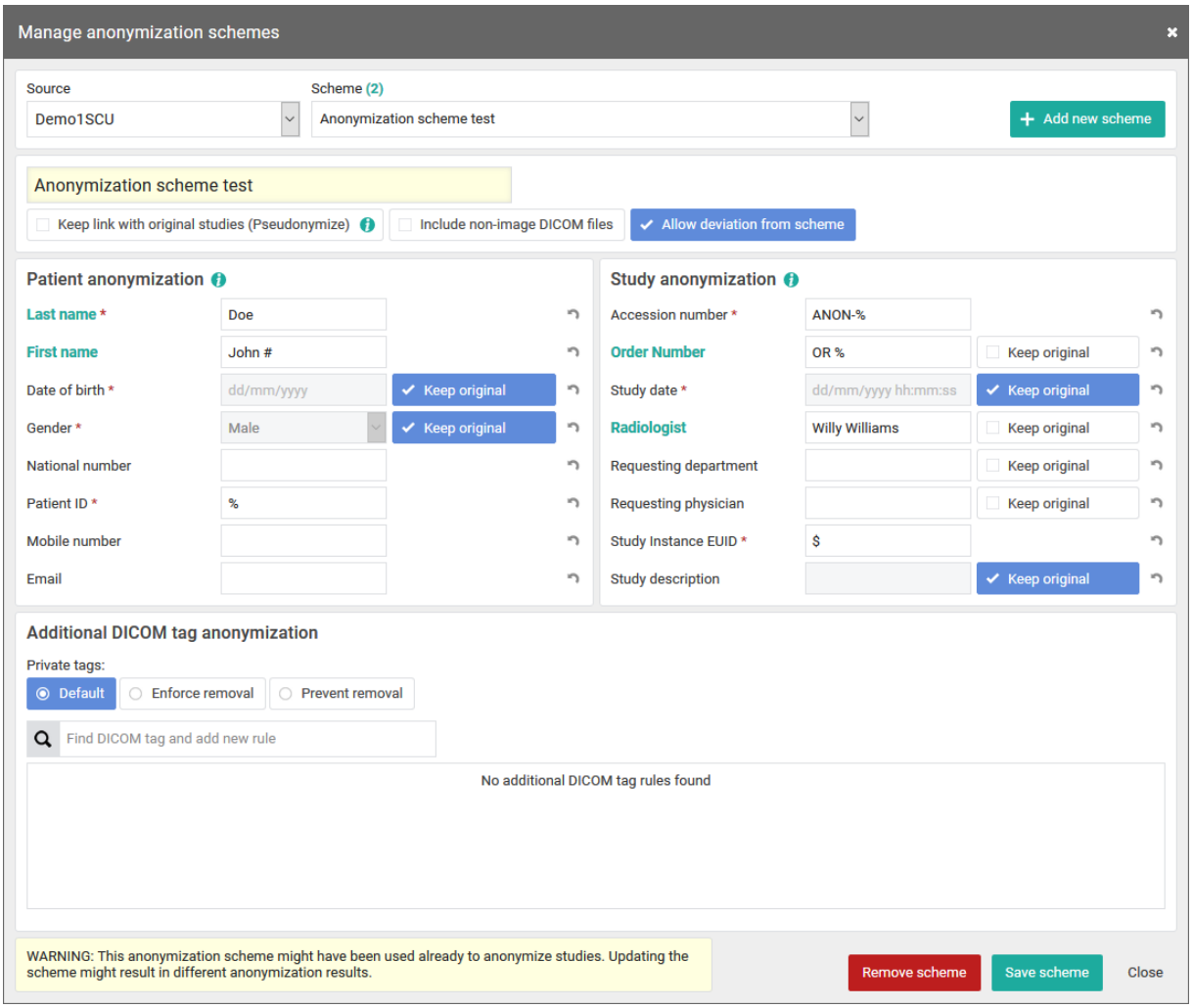

1. Select the scheme you want to change or click on Add new scheme:

2. Enter or adjust the name of the scheme:

Check the following options if required:

- Keep link with original study ("pseudonymization")

  A user has a link between the pseudonymized study and the original study if he has access to both studies within DeepUnity PACSonWEB.

- Include non-image DICOM-files:

  Determines if non-DICOM files such as Structured Reports, Dose reports, ... are made available in the anonymized study or not.

- Allow deviation from scheme:

  This determines if it is permitted or not to manually change the adjusted patient and study data when using the scheme.

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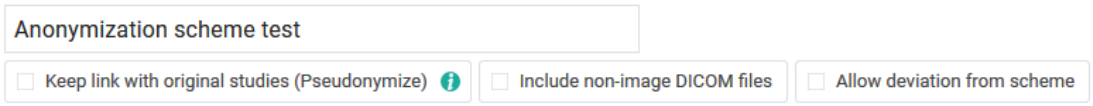
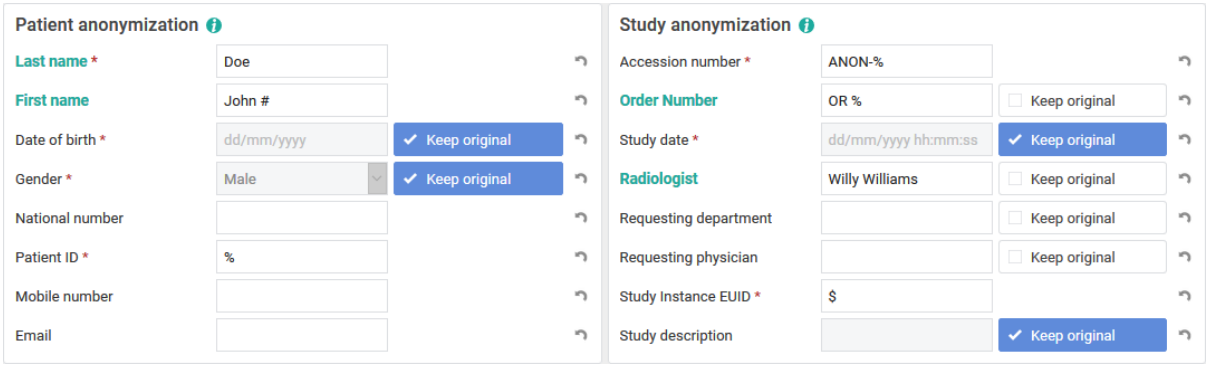
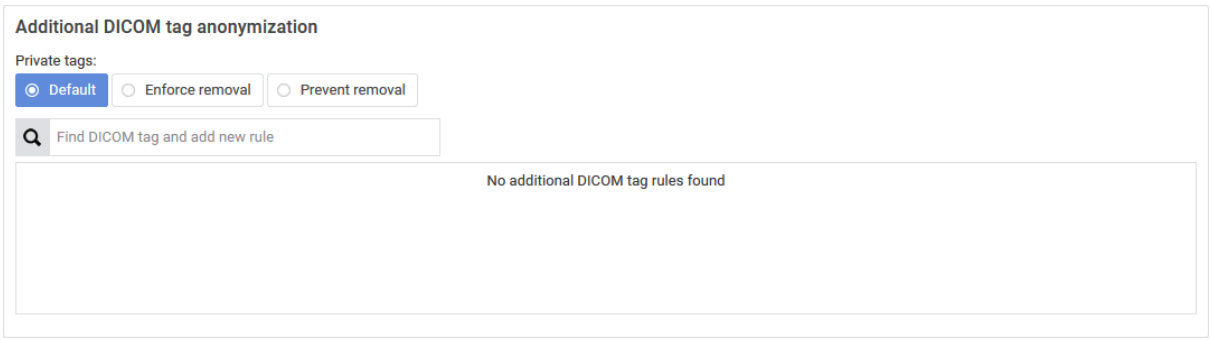


3. Enter the desired adjustments to patient and study data for the schedule:



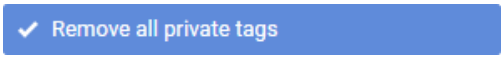
Date of birth, gender, study date and description are retained by default, unless explicitly configured otherwise.

4. Specify how private DICOM tags should be dealt with



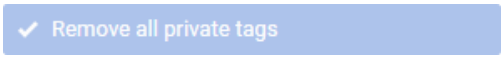
- Default:
- If 'Allow deviation from scheme' is checked, the user can still choose whether the private tags will be removed or not.

  By default, they are deleted.

- Enforce removal:

  This enforces removal of the private tags. The user cannot change this when using this scheme.

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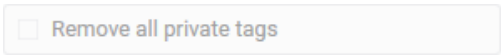
- Prevent removal:

  When using this scheme, the user is not able to remove the private tags.

- Find DICOM tag and add new rule: You can add additional DICOM tags to the scheme.

5. Finally, you can delete an existing schedule or save a new or modified schedule:

Remove scheme Save scheme **Close**

Select the scheme you want to change or click on Add new scheme

10.8 Placing studies online and sharing studies

Attention:

In order to be able to use this application, you must be an administrator, and this application must have been implemented.

Proceed as follows to place a study from the PACS system on DeepUnity PACSonWEB:

1) Select PACS (= only available if this has been implemented.)

2) Use the filter to find the study again.

Note:

Dates in the filter are interpreted in your own time zone and date times in the results are displayed in your own time zone, not in the time zone of the local PACS.

3) Select the studies that you wish to share. A selection of the shared studies is called a bucket.

4) Click on the ‘Share studies’ button. An overview of the studies that you wish to share will be displayed.

You can then choose to share the study with

- a user (Page 128)
- a group (Page 136)
- a radiology department (Page 144)
- a self-defined recipient (Page 152)

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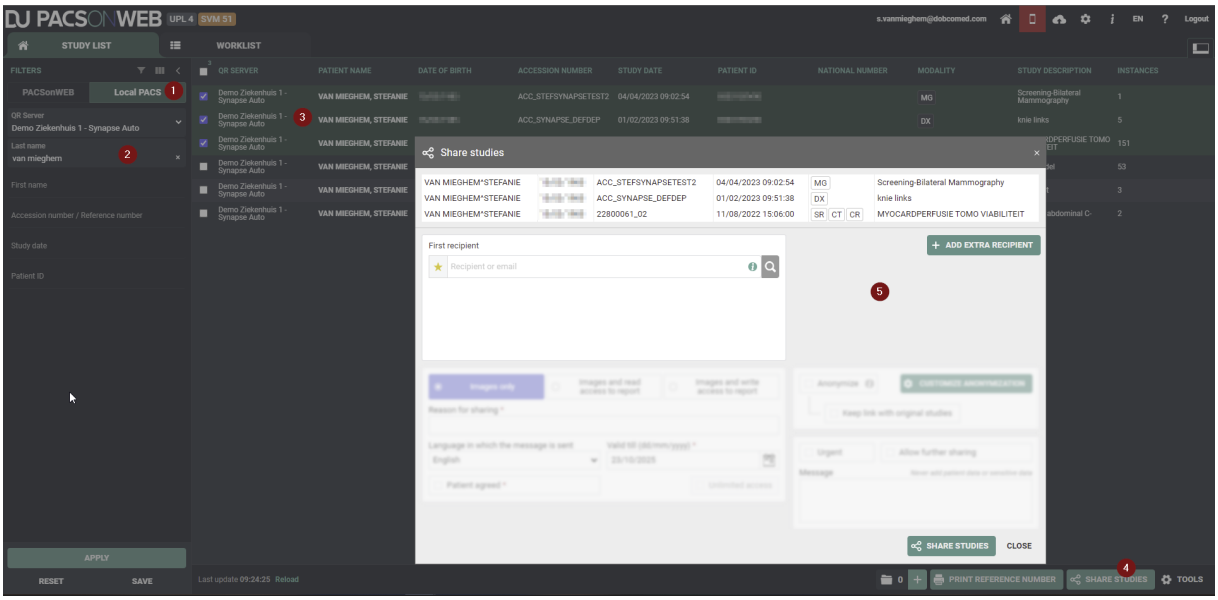

5) Once you've completed the sharing procedure, a pop-up window will be displayed containing information of the shared studies.

Attention:

Be aware: the information in the confirmation dialog differs depending on the type of recipient.

6) Using the "Share again" option, you can share the same studies again.

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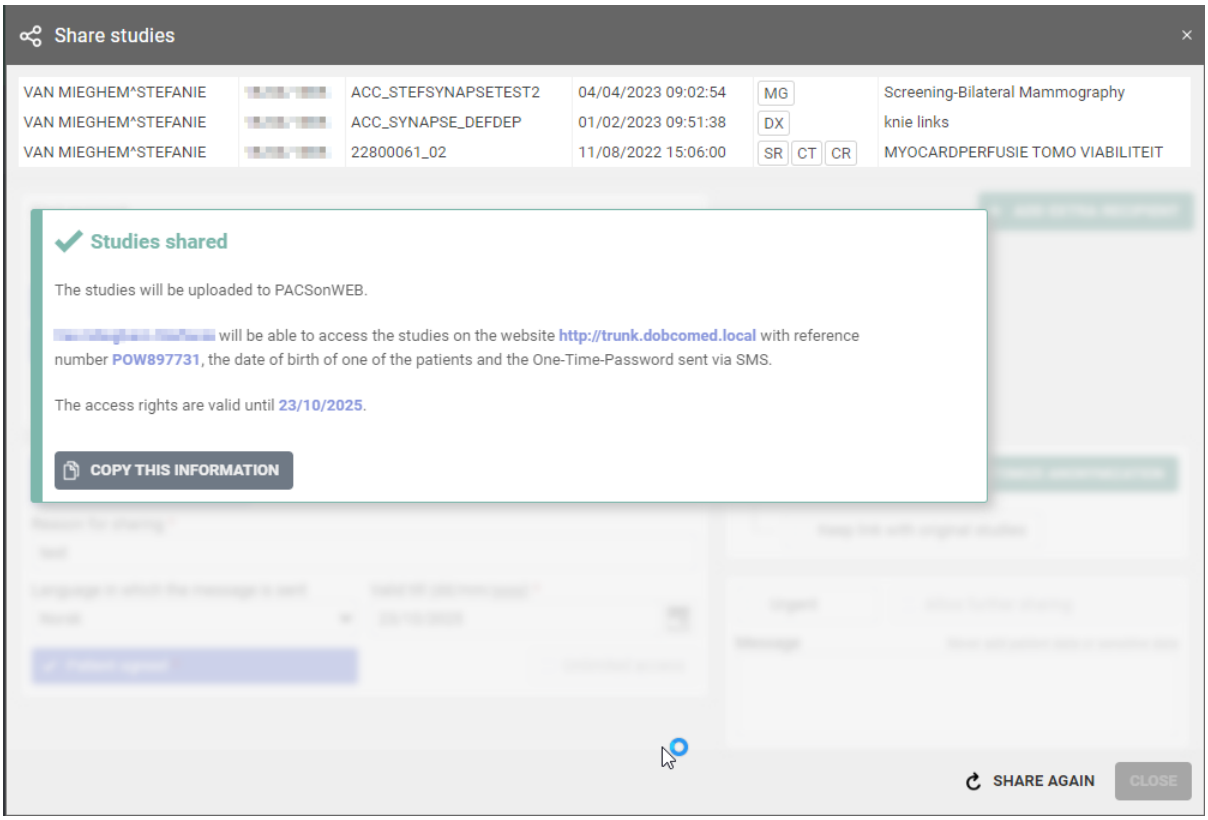
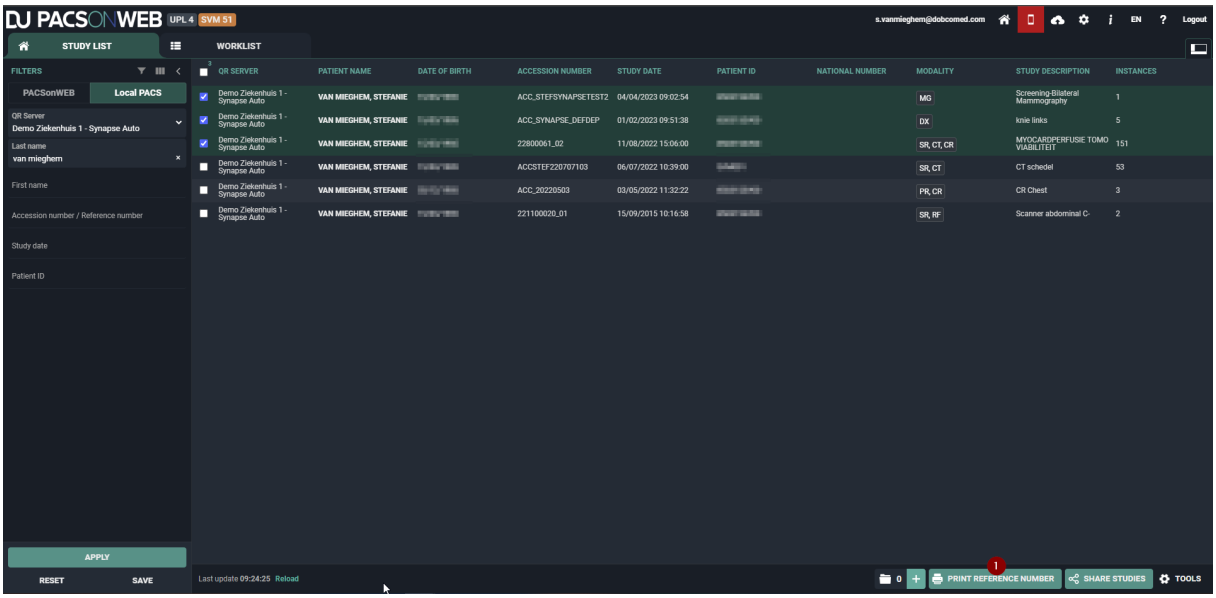


The option "Print reference number" allows to upload exams and print a reference number instead of sending the reference number my mail or SMS.

The procedure is similar to Print reference code from the explore page (Page 163).



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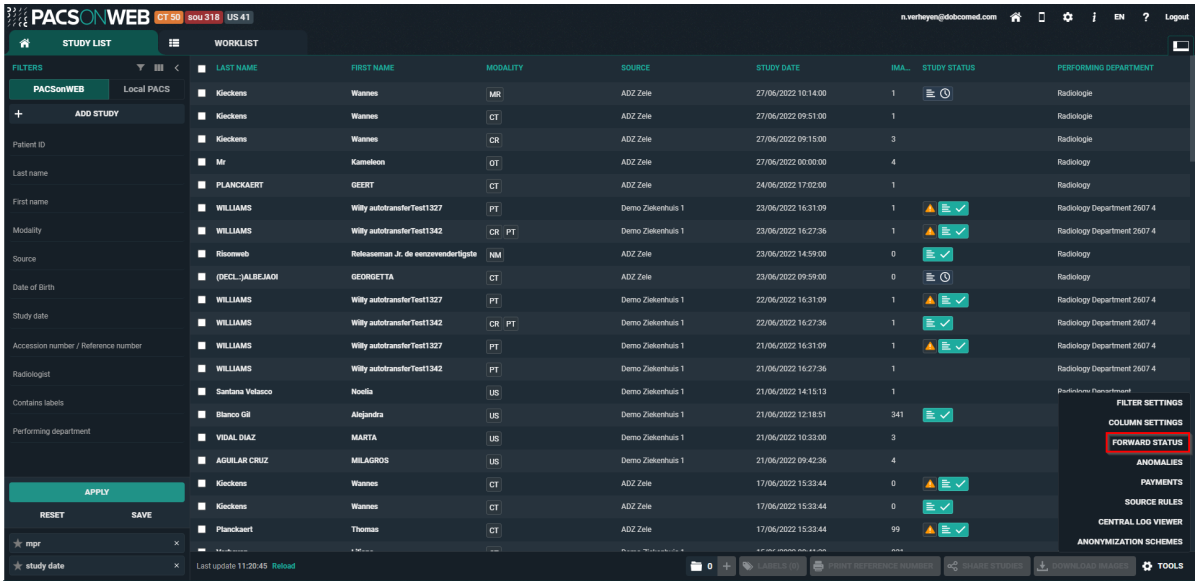
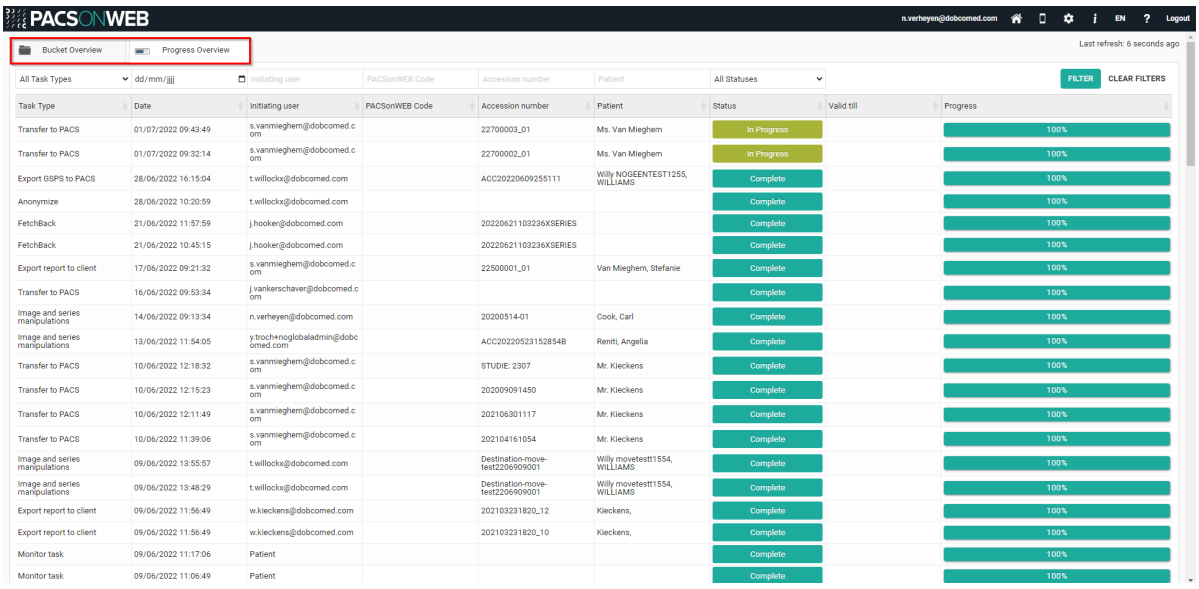
10.9 Status Forwarding

To find out the status of your shared studies, proceed as follows:

1) Click on the ‘Functions’ button and then on ‘Forward status’.



2) A new tab will open that says ‘Buckets overview’ and ‘Progress overview’.



10.9.1 Buckets overview

This page displays a list of all the buckets that the logged-in user shares with a non-DeepUnity PACSonWEB user.

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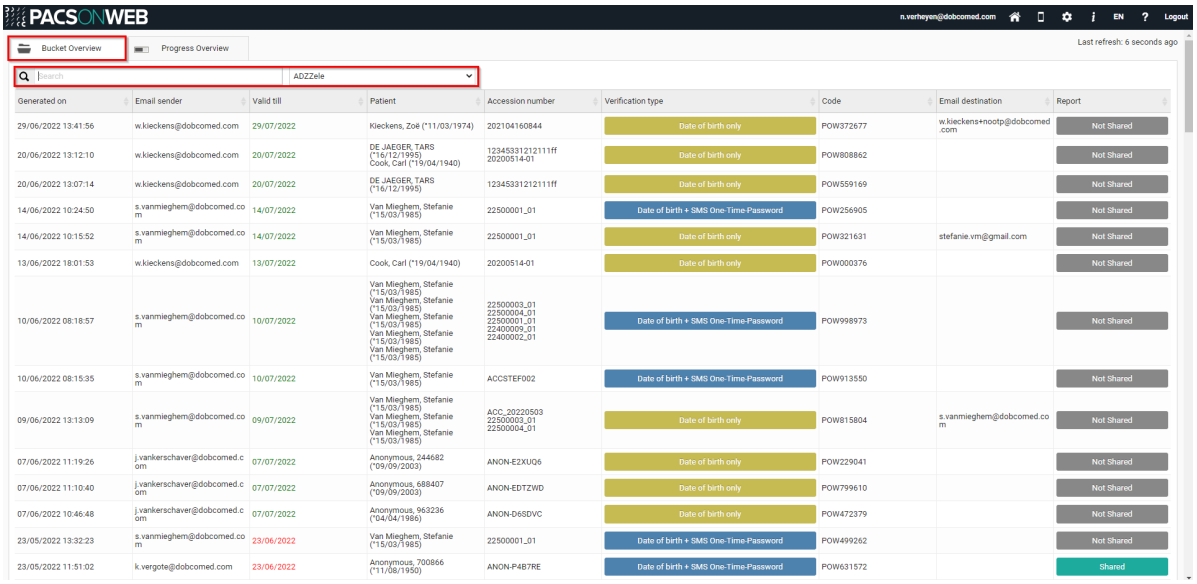
If the logged-in user is also the administrator of the group, he/she will see all the buckets that are placed online by the group.

The following information is displayed for the buckets:

- The date on which the bucket was created
- The e-mail address of the person who created the bucket
- The date until which the bucket will be available
- The patient data
- The respective study numbers
- The verification method
- The reference number
- The recipient's e-mail address
- Whether the entire report is shared or only the images ('not shared')

In addition, you can use the filter to find a study/bucket.



When you click on a bucket, all details on the sharing of the bucket are displayed in a pop-up.

In case an OTP is required for access to the bucket and the bucket code and date of birth have been entered correctly, but the OTP was entered incorrectly, this will be registered in the field "Failed OTP attempts".

After 5 consecutive incorrect attempts, the bucket code is locked for access. It can be unlocked by clicking the icon which will reset the failed OTP attempts.

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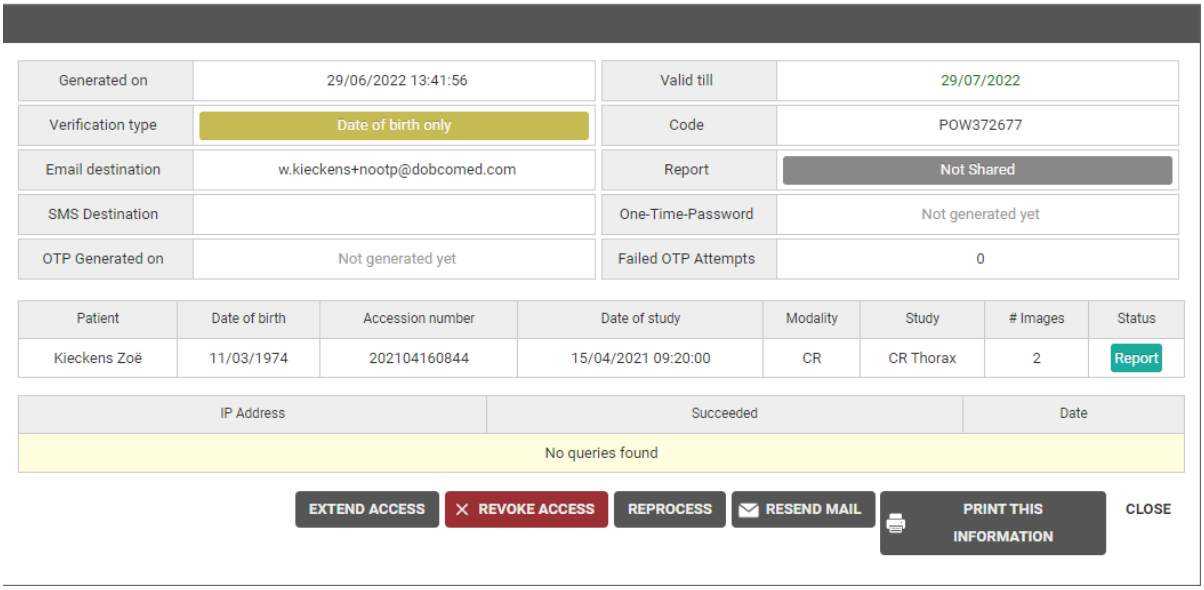

Various options are listed at the bottom of the screen:

- Extend access: Extend the period during which the generated DU POW code can be use to access the exam
- Revoke access: The DU POW code is no longer valid as of today.
- Reprocess: The study will be reprocessed.
- Resend e-mail: The recipient will receive the e-mail with the DU POW code again.
- Print this information: The information about the shared bucket will be displayed in A4 page format which you can print.
- Close: Close the window.

10.9.2 Progress overview

Attention:

You can only use this function if you administer the online placement of studies (Placing studies online and sharing studies (Page 173)).

This page provides the following status information:

- The studies that have been placed online using the PACS overlay.
- Exams, sent from DeepUnity PACSonWEB to a local PACS system.
- Exams, imported from DeepUnity PACSonWEB using an import client.

You can only see the transfers for which you have the required access rights within DeepUnity PACSonWEB.

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Just as with **Buckets overview**, you can use the filter to find a specific study. You can filter by:

- Task Type
  - Share Pacs Study
  - Reprocess bucket
  - DICOM Transfer
  - FetchBack
  - Local import client
  - Anonymize
  - Image and series manipulations
  - Export report to client
  - Export GSPS to PACS
  - Monitor task
- Date
- User
- POW code
- Accession number
- Patient
- Status
  - All Statuses
  - Queued
  - In Progress
  - Complete
  - Cancelled
  - Failed
  - Obsolete
- Source

Tip:

Click on a column heading to sort the data alphabetically.

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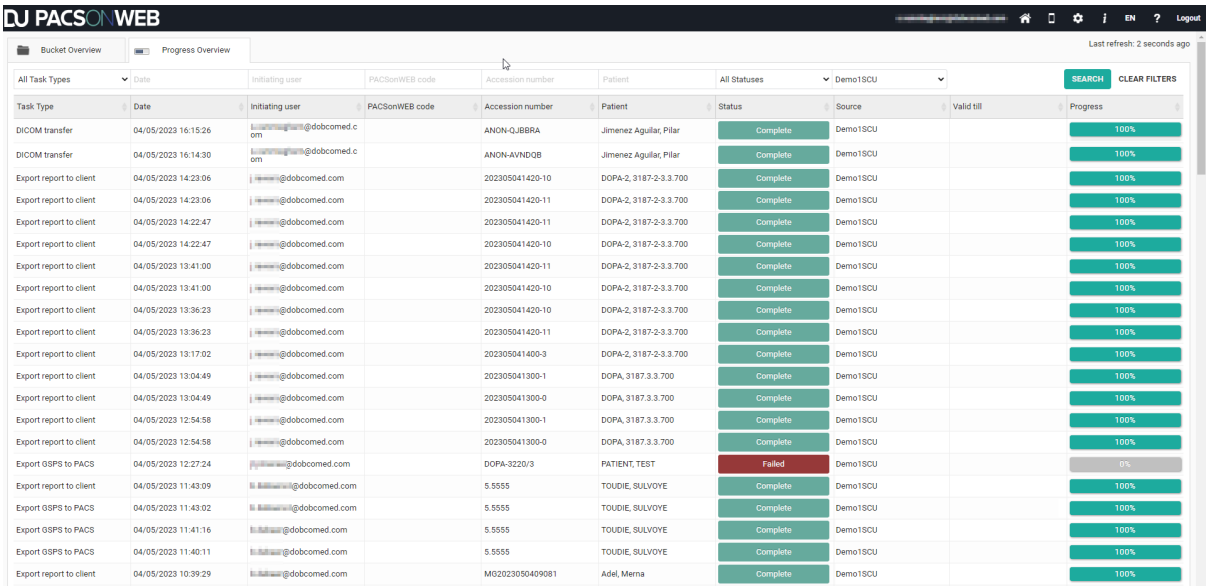
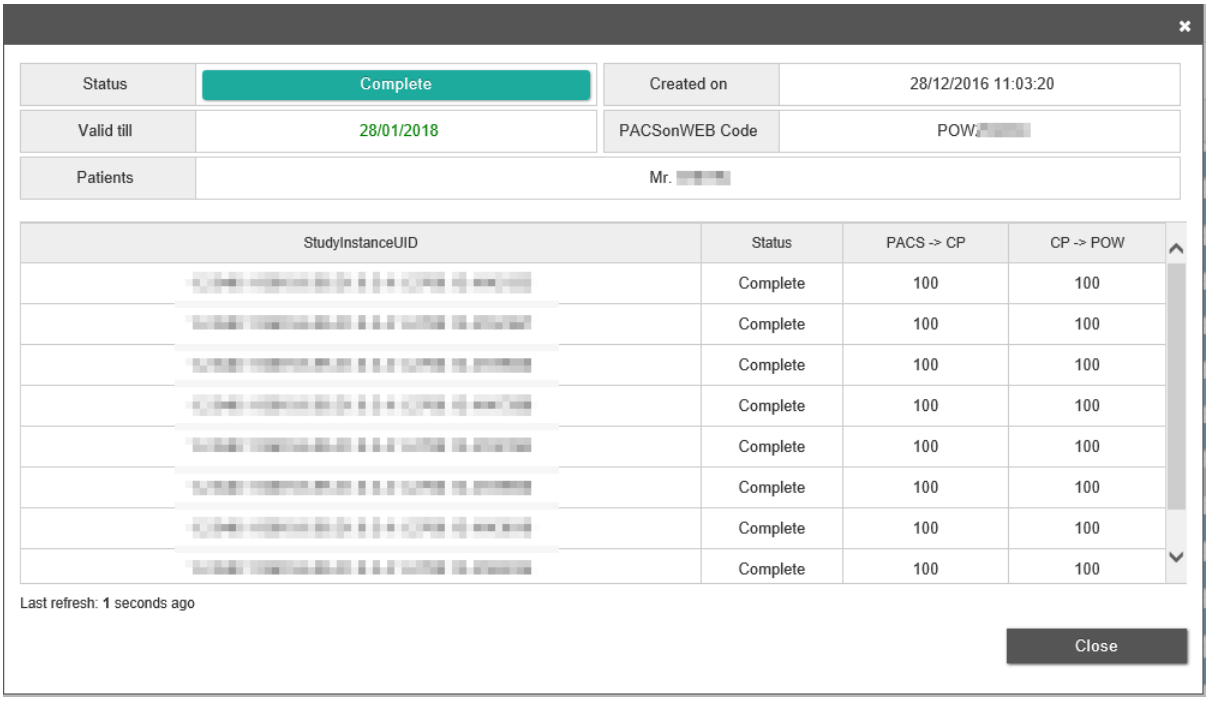


The following window will be displayed if you click on a study.



Here you can find more detailed information about the study. The details displayed depend on the type of transfer.

If the study is not yet complete, you can cancel the online placement by clicking **Cancel Task**.

If a study transfer has failed, you can restart the transfer by clicking the **Retry task** button.

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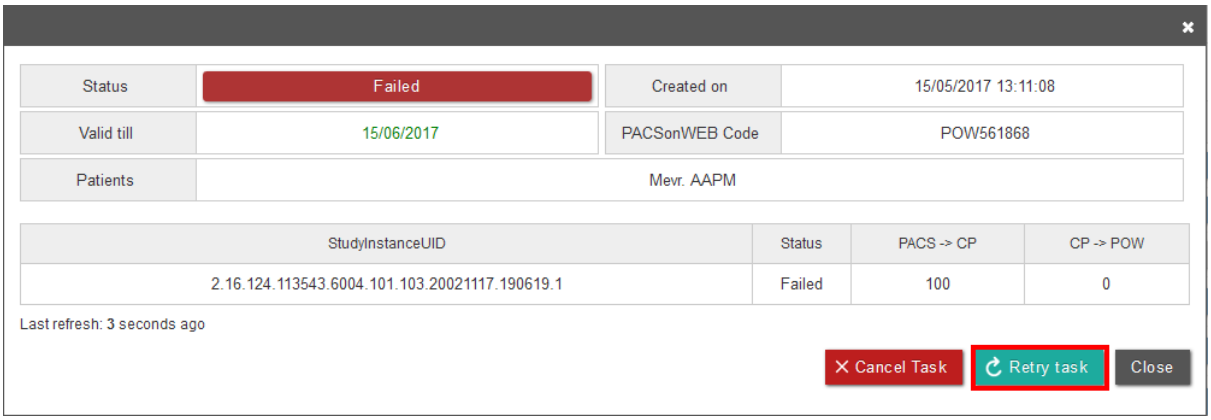

10.10 Downloading studies from the overview page

Proceed as follows to download a study from the overview page:

1. Select the studies you wish to download.
2. Click on Download images.
3. A pop-up window will appear offering you various options for downloading the images:
   - Download a ZIP file with images in PNG format (standard image format)
   - Download a ZIP file with images in DICOM format (medical standard)
   - Download a ZIP file with images in original DICOM format with DICOM tags as provided by the local modality or PACS, not taking into account modifications by RIS data or made in DeepUnity PACSonWEB
   - Download a ZIP file with images in uncompressed DICOM format
   - Load the images directly in Osirix

     Note:

     You can only use this option if OsiriX has been installed.

     In order to be able to load exams into OsiriX, it is mandatory that pop ups from the DeepUnity PACSonWEB website are allowed by your browser

   - Transfer the images to PACS

     This option has been moved to a separate DICOM Transfer dialog. See Importing studies in PACS (Page 185)

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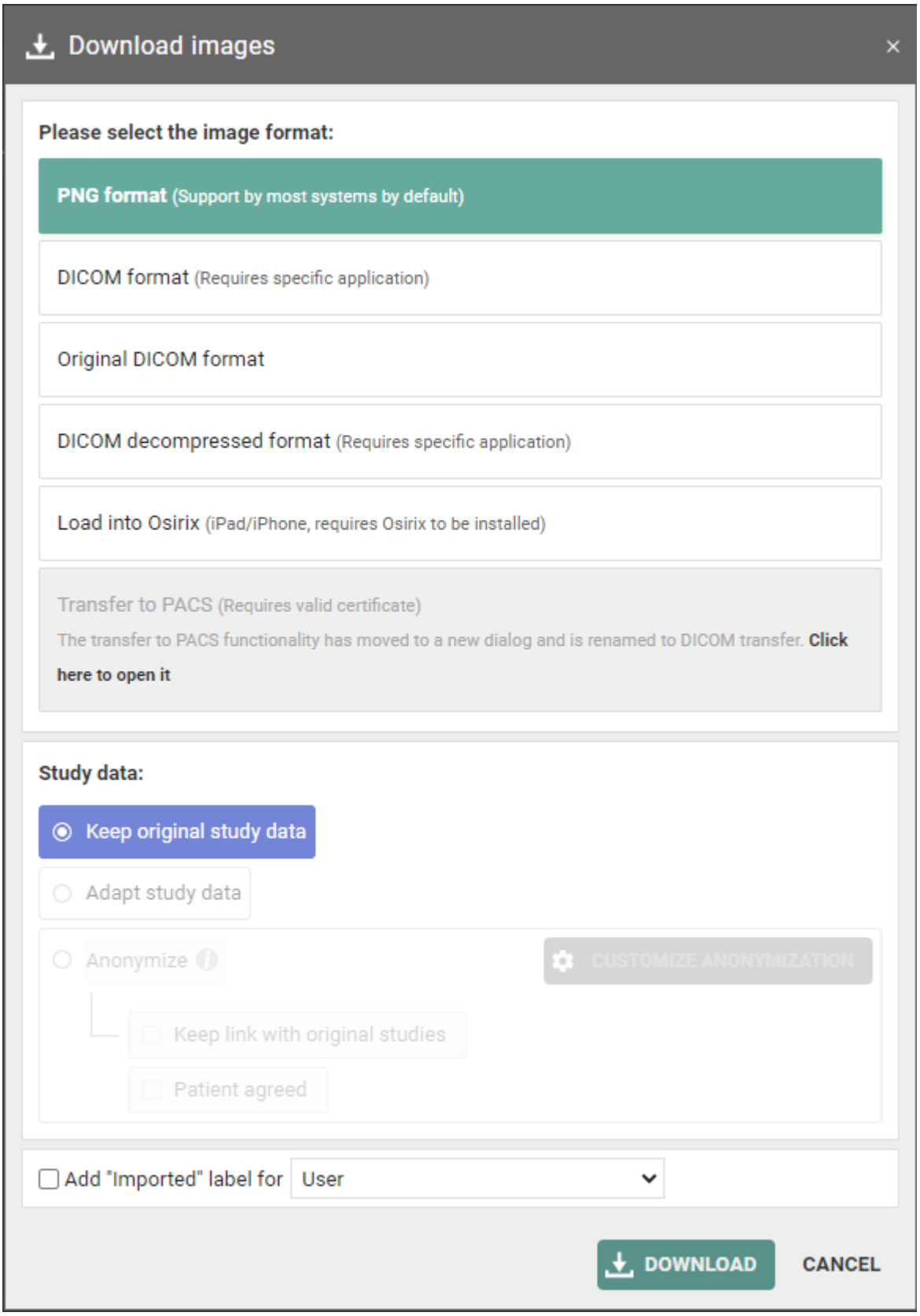

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4. Click on the format you wish to download and then click on DOWNLOAD.

   For the following options, the report is included as a SR file (structured report) by default:

   - DICOM format
   - DICOM decompressed format

   Note:

   The **include report** option is not available if:

   - There is no report.
   - The report is still a draft and doesn't have the status **preliminary** or **validated**.
   - The report is in PDF format.
   - You don't have access to the report.

   For the same options, it is possible to include an offline viewer, which will allow you to view the images outside of DeepUnity PACSonWEB.

   Note:

   The availability of the offline viewer depends on your environment, because of region-specific viewer licenses.

   Study information

   If you download a single exam and select DICOM, DICOM uncompressed or Load into Osirix, you have the option to modify or anonymize the study data.

   A full explanation on data anonymization is available in Anonymizing Studies (Page 167).

   Label

   You can add the **Imported** label to the study for

   - your user
   - a user group

   This label is visible on the overview page in the column **Labels**.

   How to configure your column settings is explained in Configuring the overview page (Page 74)

5. If you download a single exam and select DICOM or DICOM uncompressed, you also have the option of editing the study data.

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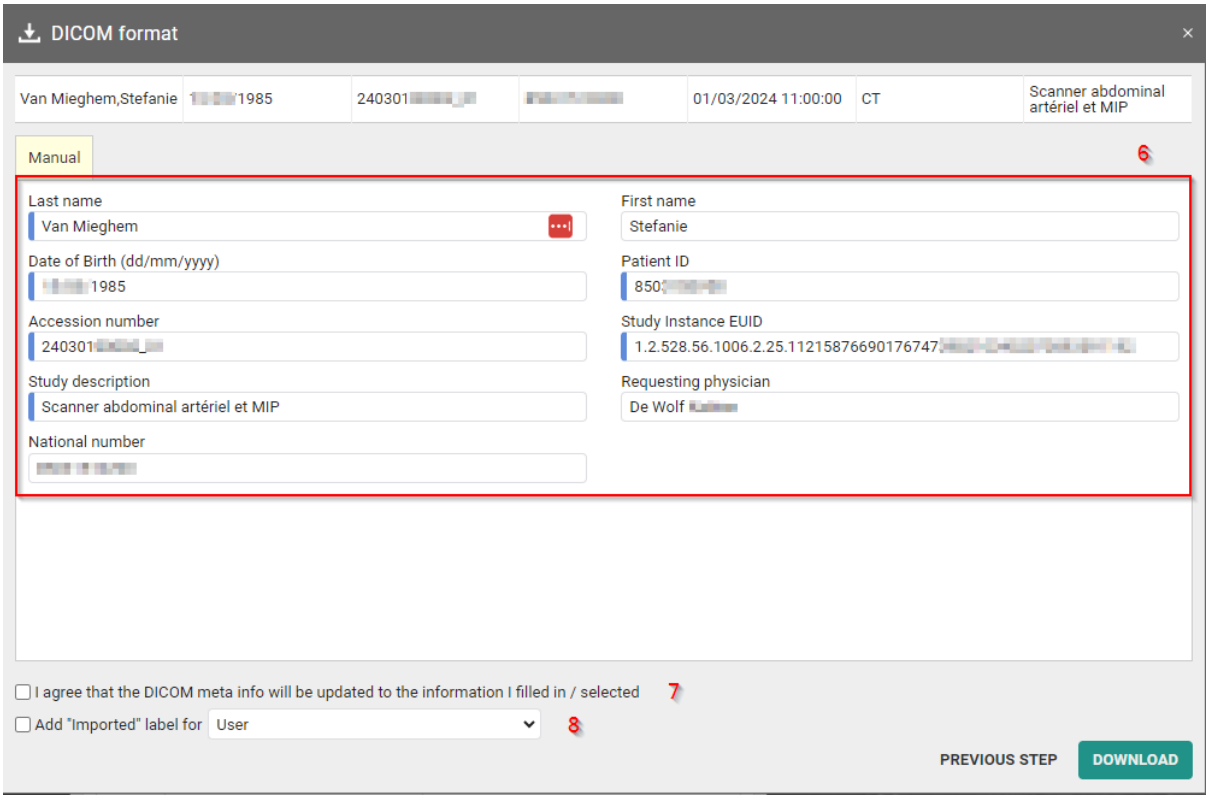
Select **Adapt study data** and then click on **Next step**. This option is always selected for **Load in OsiriX**.

For the other options, the data can only be edited manually.



6. Here you can edit the study data and patient information.
7. You must always check the box next to **I agree to the DICOM meta info being updated with the entered/selected information** before you may proceed.
8. If you wish to add the **imported** label to this study, check the box next to **Add the "Imported" label for**.

Note:

You can configure this for your user and for the groups to which you belong.

9. A ZIP file will be displayed.

Note:

Where the ZIP file appears depends on your browser. In Google Chrome, for example, it will be displayed in the lower left part of the screen.

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10. Double-click on the ZIP file. A window will be displayed with a tab called **Extract: Compressed Folder Tools**.
11. You can now see various directories. Each directory corresponds to a study whose images you wish to download.
12. Click on **Extract all** to extract the ZIP files and save them on your computer.

10.10.1 Importing studies in PACS

Warning:

You can only use this function if your local DeepUnity PACSonWEB service partner has installed an import client on your server (paying option).

Proceed as follows to import a study into your PACS system:

1. Select the studies you wish to import.
2. Click on DICOM transfer
3. A pop-up window will appear offering you various options, most of these options can be configured, see section DICOM Transfer (Page 108).
4. Select the desired PACS system in the drop down menu (QR Server).

   If a report is available with status set to "preliminary" or "validated", it is included by default as a SR file (structured report).

   If the report is still in status "draft" or is stored in PDF format, it will not be possible to forward.

   The option to include the report can be unchecked by the user before transferring the study.
5. In case a DICOM worklist has been configured, you can now look up and select the patient or study by using the filters.

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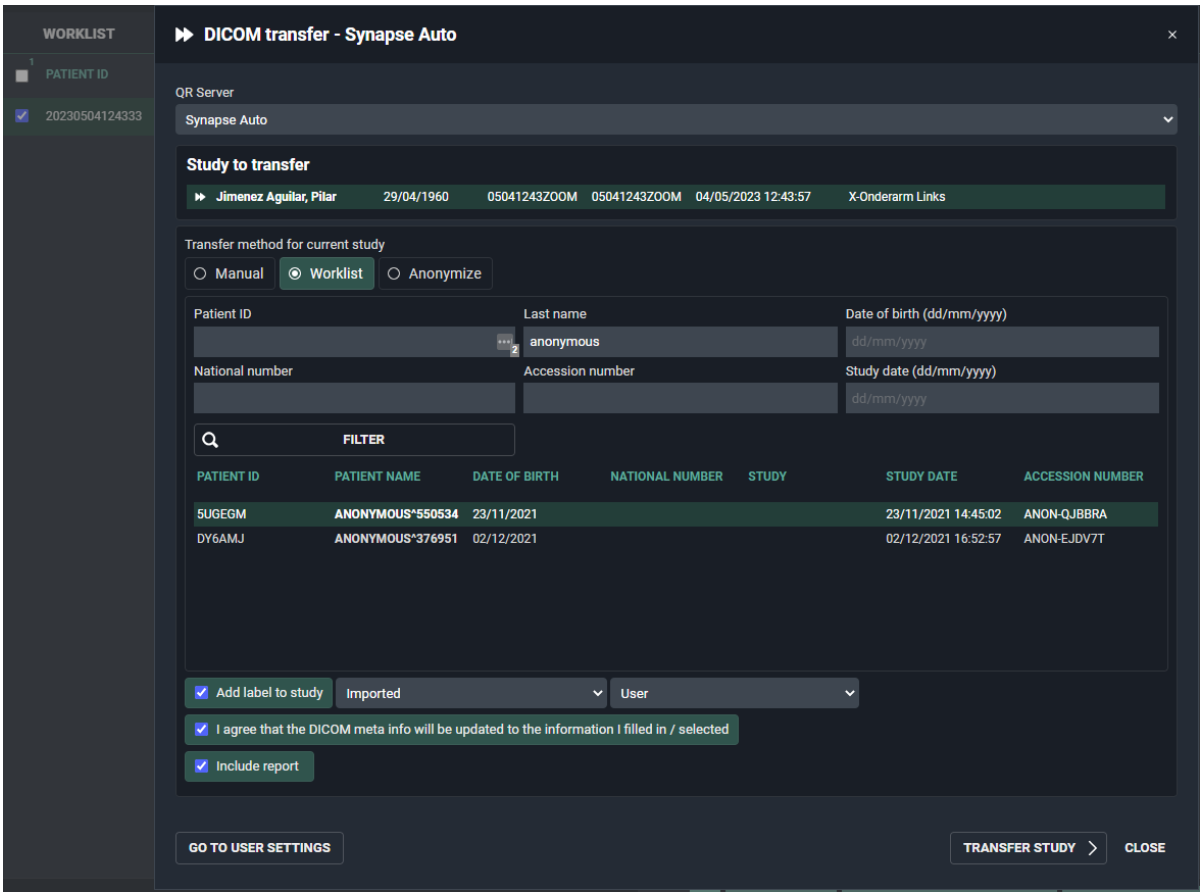
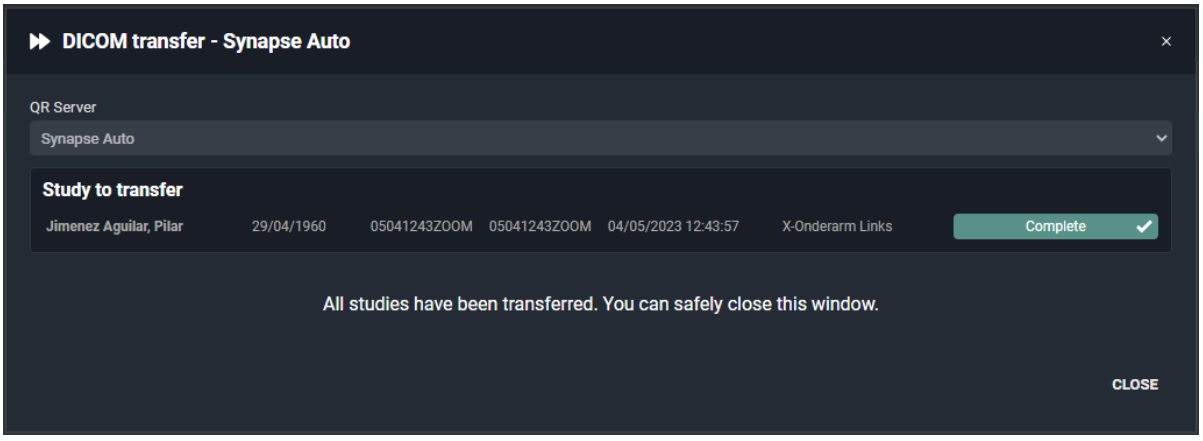


6. If you do not have a Worklist configured or cannot find the patient or study, you can add the patient ‘Manually’,by clicking the "Manual" radiobutton. Edit the fields you wish to modify and click **Transfer Study**.
7. A pop-up window with the status will now be displayed.



8. Once the transfer has completed, the study will be available in the local PACS system and the label ‘Imported’ will be added to the study in DeepUnity PACSonWEB.

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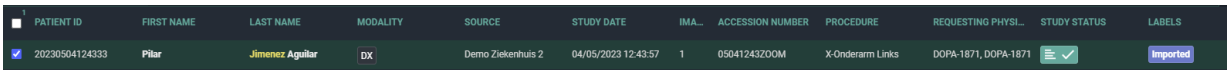


Tip:

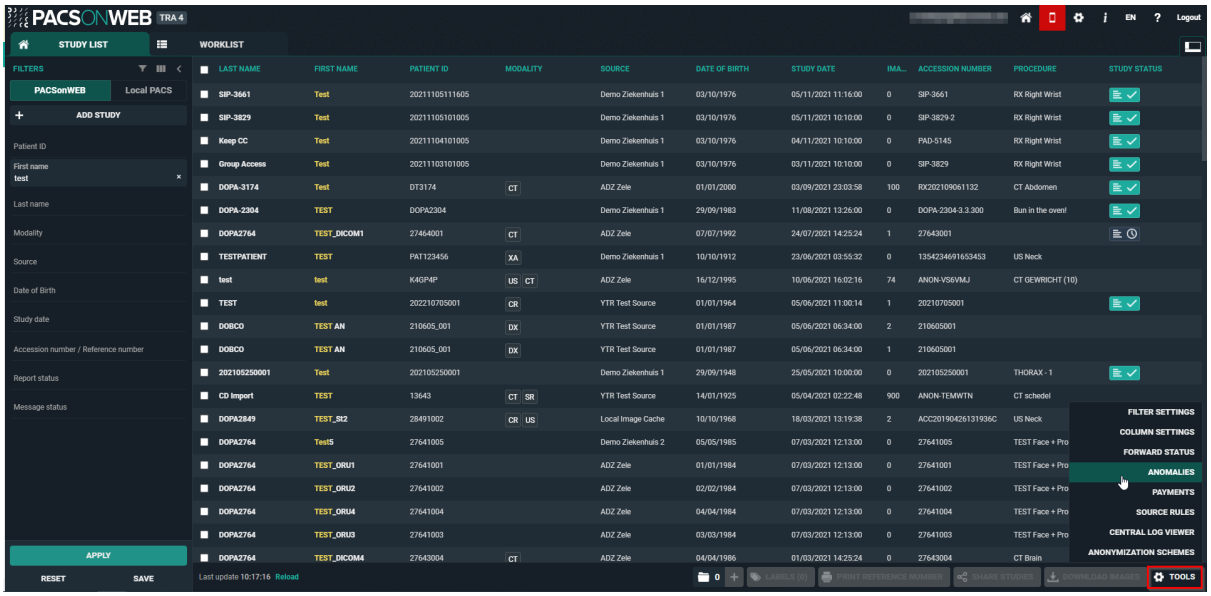
You can filter by the 'Imported' label if you make labels available under Filtering (Page 79). The 'Imported' label will be displayed in your overview list if you have configured the 'Labels' column under 'Column settings (Page 74)'.

10.11 Overview page anomalies

Important!

This functionality is only available for the administrators of a sending radiology department.

To get an overview of all anomalies that have been registered for your radiology department, click on 'Functions' and choose 'Anomalies'.



This page lists all anomalies, as registered on the study administration page (see Anomalies (Page 264)) for each individual exam, grouped in two categories:

- anomalies on study level
- anomalies on patient level

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Anomalies on study level

The following anomalies will be reported:

- national number in DICOM files differs from HL7 information
- date of birth in DICOM images differs from HL7 information
- no or incorrect date of birth registered
- number of images in DeepUnity PACSonWEB differs from the number of images in the local PACS (taking into account any applied filtering)
- national number already registered with another patient through DICOM
- image or HL7 message received with the same study instance EUID or accession number but with other patient ID
- study for patient without ID is changed to a patient with ID via DICOM or HL7
- incompatibility with CvKO requirements
- studies of different patients have been merged
- failed move or delete operation of image or series

Anomalies on patient level

The following anomalies will be reported:

- Multiple internal patient IDs have been registered for a single patient
- Received national number already linked to another patient
- Date of birth differs from date of birth that was registered with a previous exam
- National number already registered with another patient through HL7
- Patient without ID from DICOM (scroll to bottom of the page for more explanation)
- Patient without name from DICOM: a patient name is generated ("UNK_"+ [source abbreviation]+unique number) and used (scroll to bottom of the page for more explanation)

For each registered anomaly, the following information is shown:

- the source of the study
- a link towards the study
- the study date
- date and time when the anomaly was registered
- the anomaly type + the required access level of a user to be able to open the study
- a description of the anomaly

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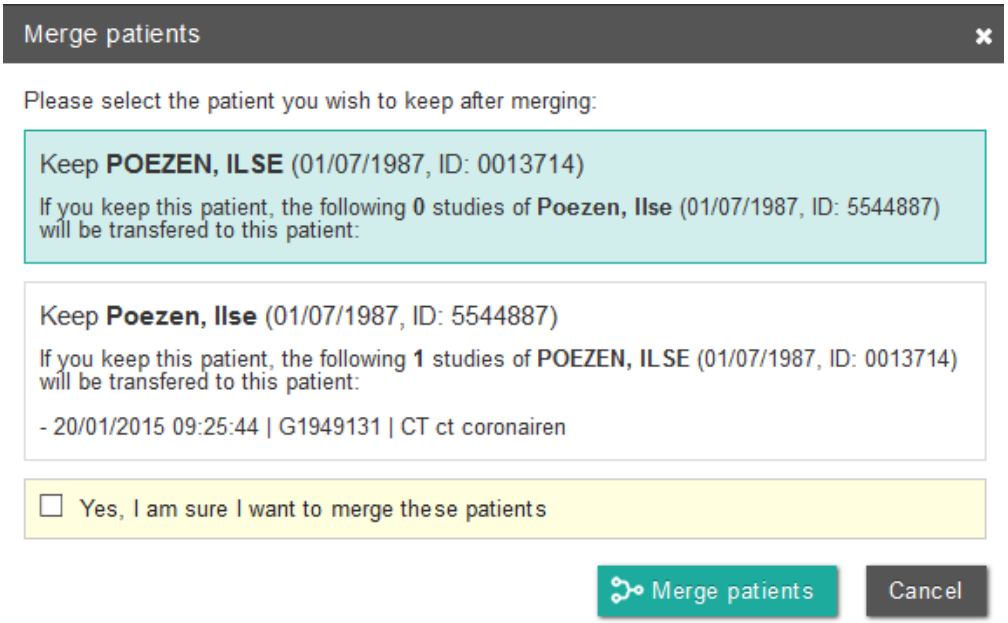
- the possible corrective measures

Once a solution has been selected, it will be marked in green. When hovering the cursor over the label, it is displayed by whom and when the selected solution was applied.

In case a national number was registered for two different patients, it will be possible to assign this to the first patient, the second patient or to merge both patients.

For the latter option, the following screen is displayed to perform the merge in a controlled way:



Warning:

Once a solution has been applied, this cannot be undone!

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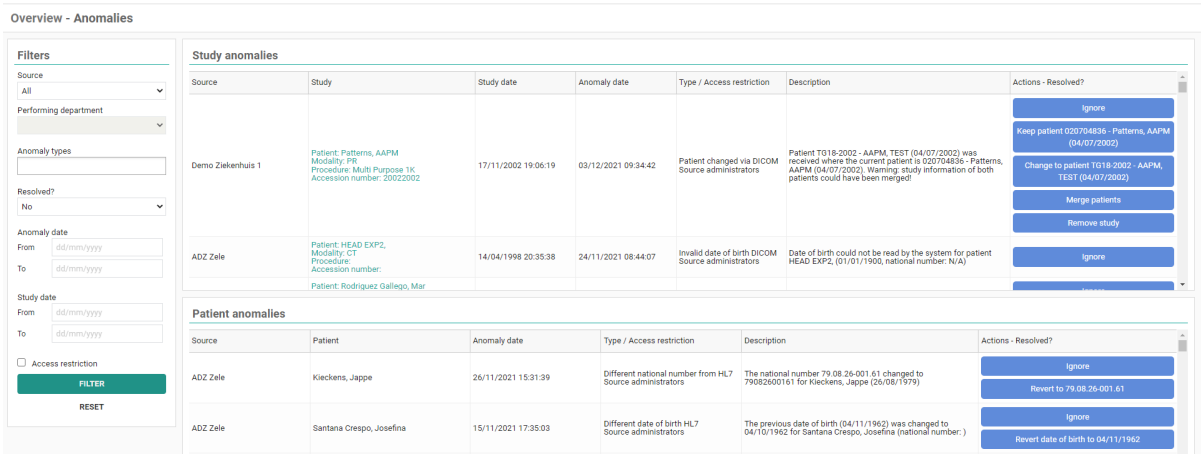

Refresh rules

The anomaly overview page is refreshed after an action that could impact other anomalies:

Following rules are applied:

If a record is changed via HL7, the page will refresh after following actions:

- Keep patient
- Merge
- Assign national number
- Remove study

If a record is changed via DICOM, the page will refresh after following actions:

- Change
- Merge

If a record is changed via HL7, the page will **not** refresh after following actions:

- Ignore
- Keep National number
- Change patient
- Revert date of birth

If a record is changed via DICOM, the page will **not** refresh after following actions:

- Ignore
- Keep

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Important!

Only the 100 most recent anomalies are listed in the overview.

To display a selection of the registered anomalies, you can use the filter.

Filtering can be applied, based on a single field or multiple fields.

Possible fields are:

- Source
- Performing department

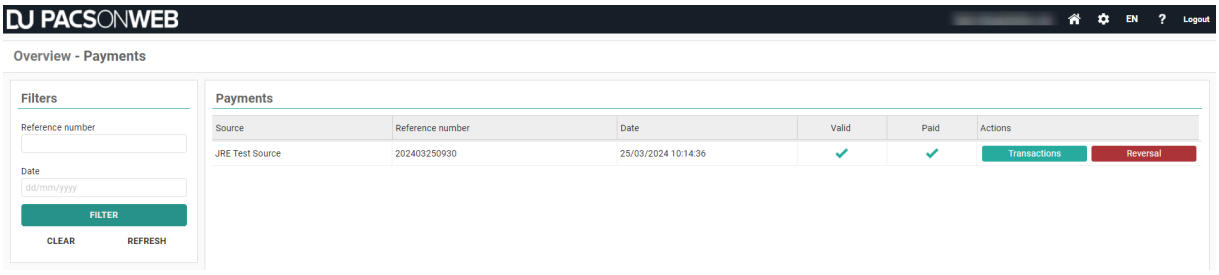
  If Source is set to "All", the performing department cannot be selected
- Anomaly types
- Status
- Anomaly date
- Study date (from = 0h00 ; to = 23h59)
- Access restriction

10.12 Payments overview page

Important!

This functionality is only available if you are an administrator of a sending radiology department and patients need to pay to have access to the study.

To view the overview of all payments that have been registered for your radiology department, in the bottom right corner of the screen, click **Tools** and select **Payments**.



The overview page lists the most recent 100 login actions for studies that require payment.

You can filter for a specific exam by entering the reference number or the study date and clicking **Filter**.

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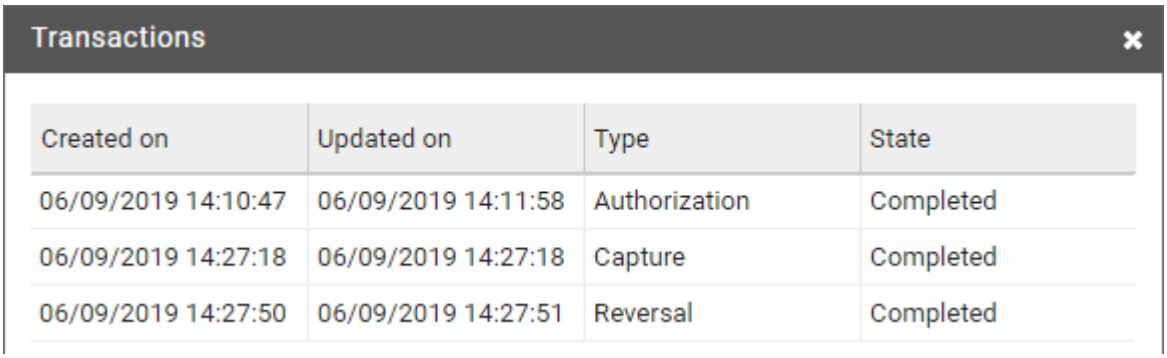
Each entry contains the following:

- **Source**: The source from which the study originates.
- **Reference number**: The reference number that has been used to access the study.
- **Date**: The timestamp when the access attempt was registered.
- **Valid**: Indicate that a token was requested successfully with the payment instance.
- **Paid**: Indicates that the payment was registered successfully
- **Actions**: Contains two buttons, **Transactions** and **Reversal**.
  - **Transactions**: Clicking this button results in a dialog displaying all transactions on the payment.



    - Transactions types:
      - **Authorization**: The user has given authorization to perform the payment; money has not been transferred yet.
      - **Capture**: The payment has been performed; money has been transferred
      - **Reversal**: The payment has been reversed.
    - Transaction states:
      - has been initiated
      - is in progress
      - has completed successfully
      - has failed
  - Reversal: Clicking this button initiates a reversal of the payment.

Warning:

When reverting the payment, a refund will be initiated but the study will still be marked as paid.

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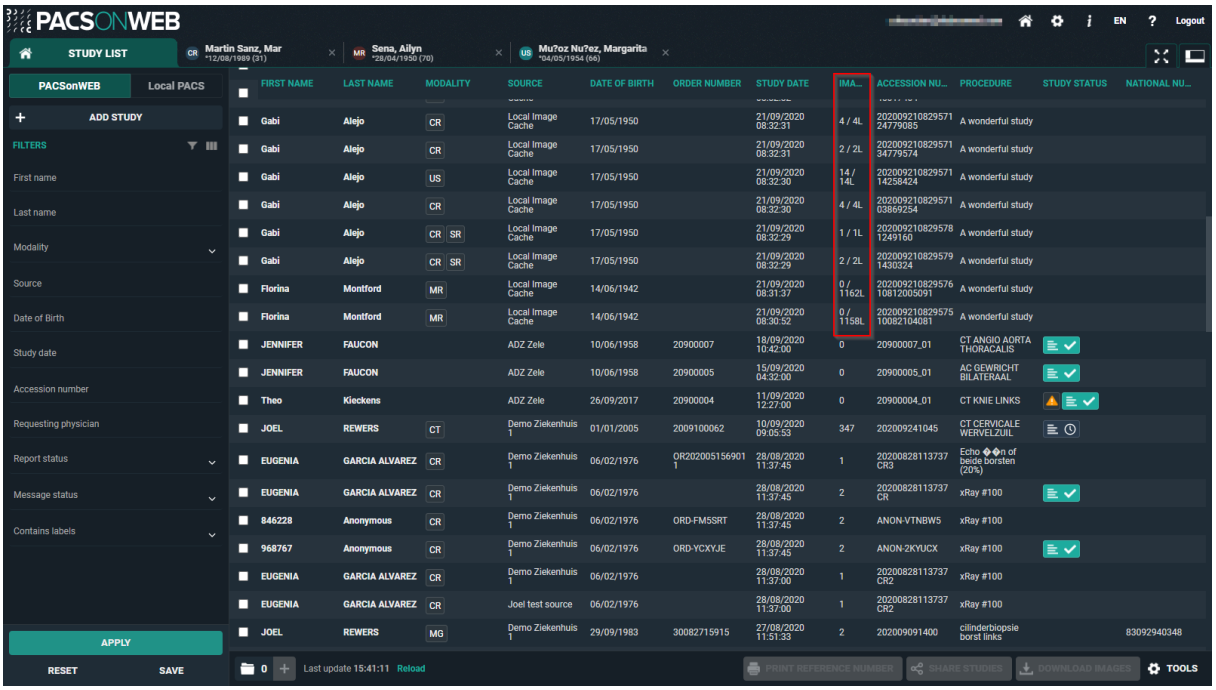
10.13 Local image cache

In addition to processing images in the central DeepUnity PACSonWEB cloud environment, a medical imaging department can choose to process the images locally in a local image cache.

- Users with access to the local image cache can access these images almost instantly within the local network, rather than waiting for all images to be transferred and processed by the central DeepUnity PACSonWEB environment.
- For these users, the overview page will include all studies available through the local image cache as well as those available through the central DeepUnity PACSonWEB environment.
- For studies available through the local image cache, the **Images** column contains the number of images that are available in DeepUnity PACSonWEB / the number of images that are available in the local image cache (L).



For study images that are only available via the local image cache, the following features are not available:

- sharing a study (Sharing studies from the overview page (Page 126))
- downloading images (Downloading studies from the overview page (Page 181))

These features will become available once all images are available in the central DeepUnity PACSonWEB environment.

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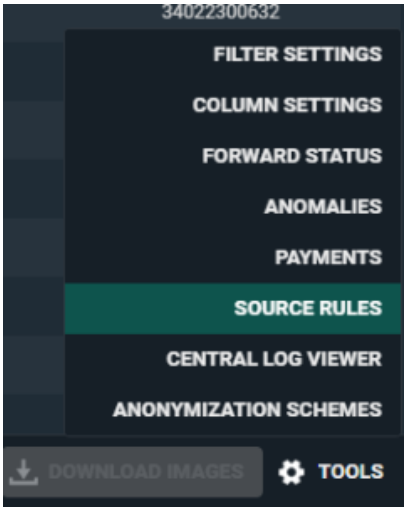
10.14 Source rules

Specific DICOM based source rules can be configured for a source. The rule needs to have a name, rule type and rule requirements.

Configuration of a rule

1. Click on the tools menu in the study list and then on **source rules**.



   A dialog will open where you can configure new rules.
2. Select the correct source (only sources for which the user has admin rights will be listed).
3. Give the rule a name and select the rule type. The following rule types can be configured:
   - Send to CVKO
   - Send to AI
4. Select the DICOM Tag, the selection criteria and fill in the relevant value for the rule.
5. Optionally, you can add an additional requirement to the rule. To do this, click **Add New Requirement**.
   - **Source rules with one rule and two requirements:** The DICOM images must meet both requirements to comply with the source rule and be sent to CVKO or AI.
   - **Source rules with two rules, each with one or more requirement:** The DICOM images must meet one of the rules to comply with the source rule and be sent to CVKO or AI.
6. Click **SAVE** when finished.

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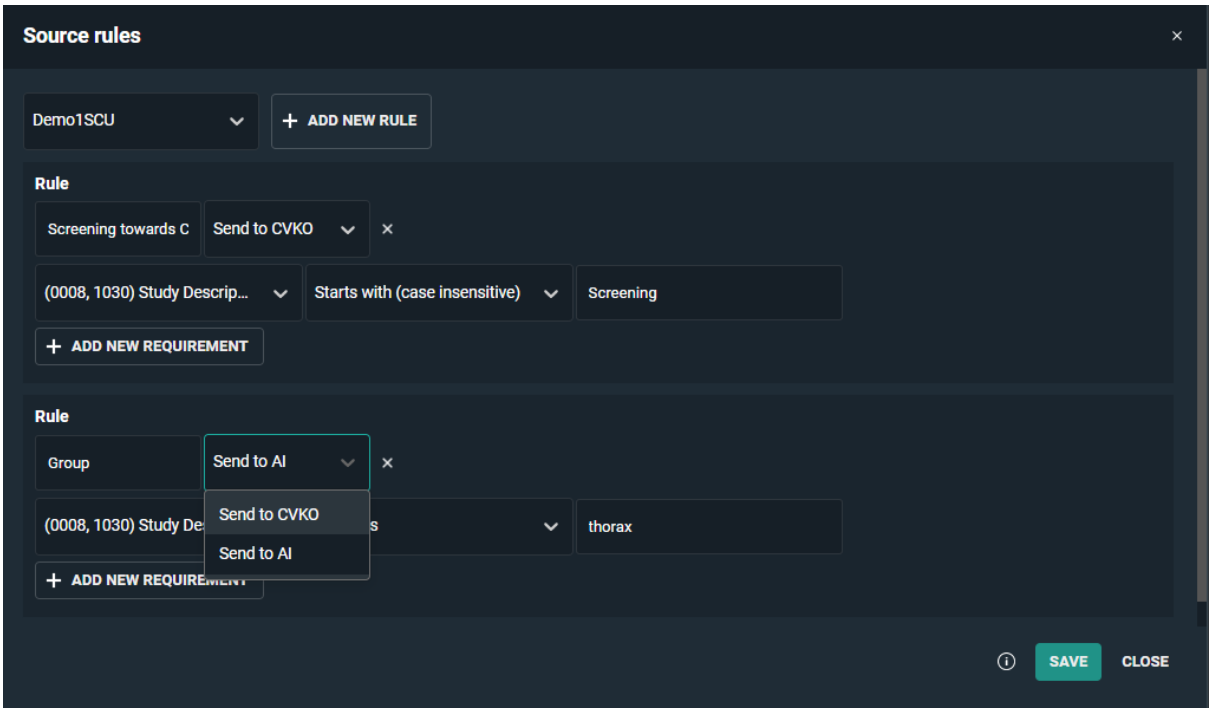

10.15 Adding labels to studies

You can add labels to studies from the overview page.

To link a label to one or more studies from the list:

1. Select the study or studies that you want to add a label to.
2. Click the **Labels** button at the bottom of the page.
   a. Select the desired labels you want to add.

The label(s) will be added to the selected study or studies and displayed in the **Label** column.

- If the **Label** column is not visible in your overview, you can configure this in **column settings**. See Configuring the overview page (Page 74) for a detailed explanation.

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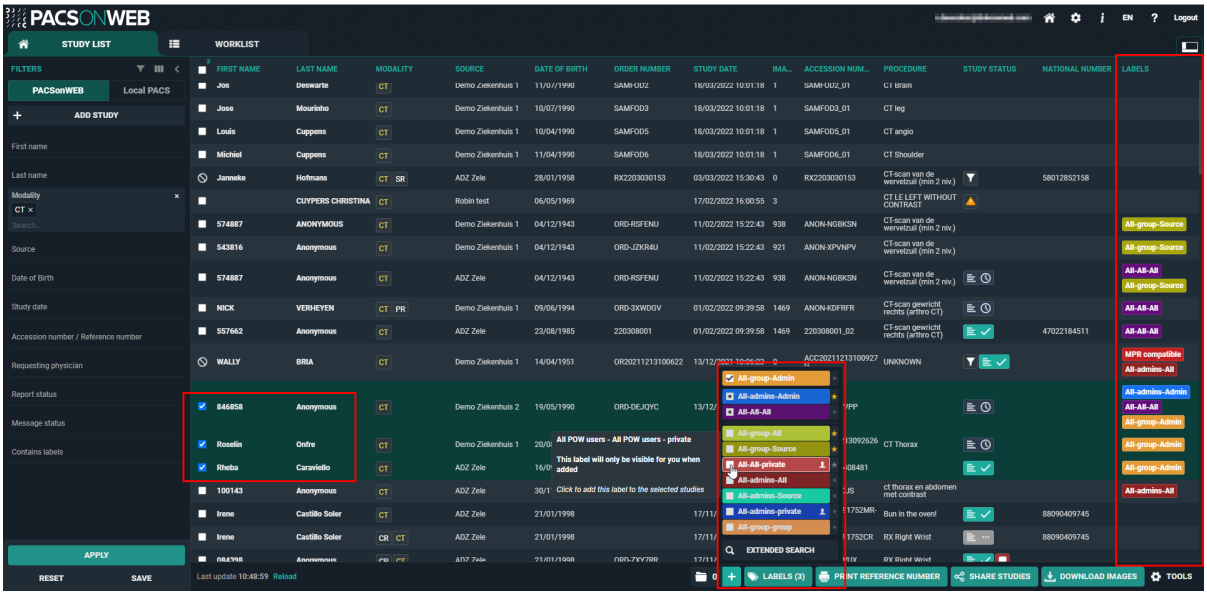

Label icons	Description
Favorites	Marks a label as a favorite. Add or remove a label from your favorites by clicking the star icon next to the desired label.
Private	Marks a label as private. Make the label visible only to you by adding a private label.
Selected studies	Indicates that the label is linked to all the selected studies. Selected studies are displayed at the top of the list of labels.
Subset of selected studies	Indicates that the label is linked to a subset of the selected studies, but not all selected studies.

By default, 10 labels are displayed when you click the **Labels** button.

- Favorites, Selected studies, and Subsets of selected studies are always visible, if applicable.
  - If these three categories do not combine to 10 labels, other available labels are added to the list alphabetically.

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- If you have access to more labels than displayed in the list, you can click on **Extended Search** to see all other labels.
  - To find a specific label, you can scroll through the list or type the label name in the search bar.

Tip:

You can also add or remove labels to the study from the **Study Administration** page under the Labels (Page 269) tab.

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DeepUnity PACSonWEB study page

11

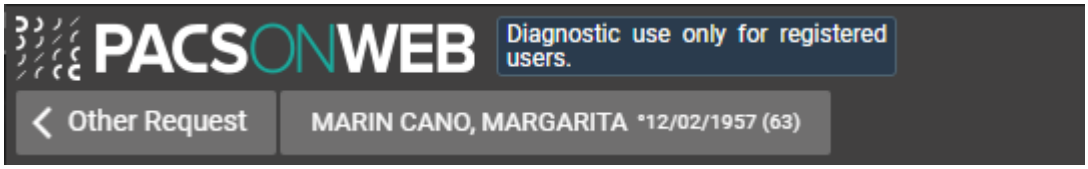
When you click on a study in the study list, you will be taken to the study page.

This is also the page that opens if you log in using a reference number (I am patient...).

Important!

It is NOT allowed to use DeepUnity PACSonWEB for diagnostic purposes in case you are connected with a reference number !!

In this case, this is also indicated within the study page:



11.1 History

An overview of the patient's studies can be found at the bottom of the study page. Only the studies that you have access to will be displayed

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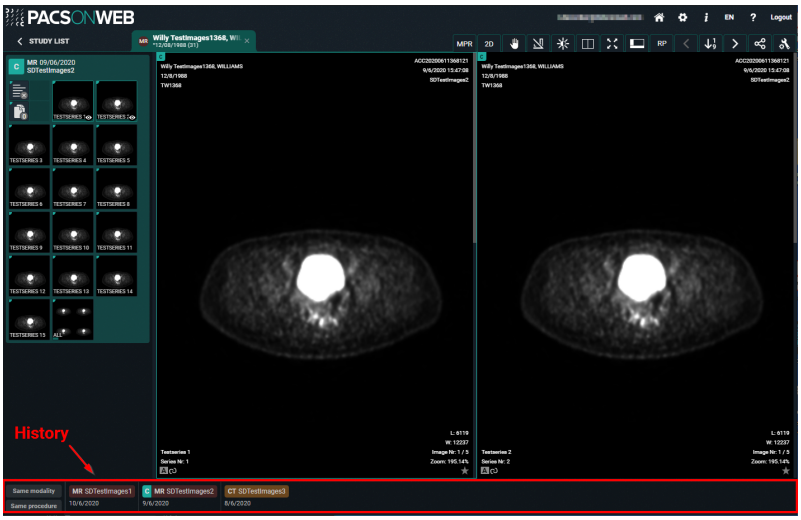
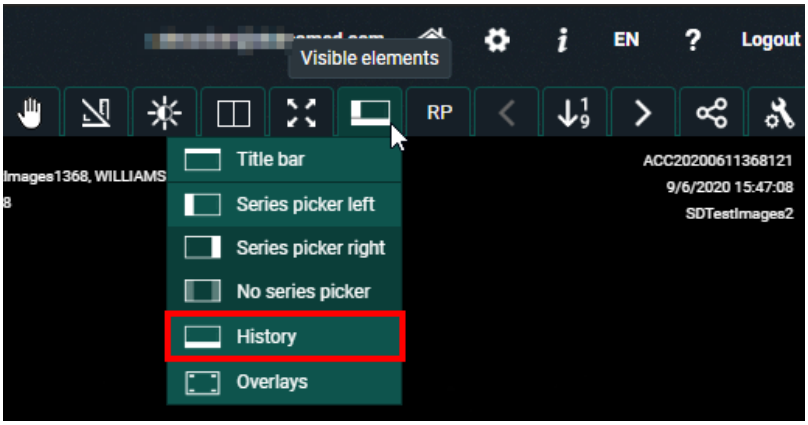


To display the overview of the patient's studies:



1. Click on **Visible elements** in the toolbar.
2. Select **History** from the drop-down list.

- **Logging in with a reference number**: The studies displayed are linked to the reference number.
- **Logging in through your account:** The studies displayed are those that have been assigned to you or your group.

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Warning:

Only in Belgium

As a registered user you also have access to previous studies from the patient if the following conditions are met:

- The patient's consent is registered.
- You are part of a "circle of trust".
- The hospital where the previous study was performed allows sharing the study in this way (patient timeline).

Using the history bar

You can filter by type of device or study type. To do this, click on the **Same modality** or **Same procedure** buttons located at the bottom left of the study page.

Hovering over a study in the history bar will display the following options:

- **Open study**
- **Compare study**
- **Load study** +

  Hovering over the currently open study displays the message **Current study**. No other options are available.

Open study

Clicking **Open study** will close the currently open study and open the study you want to view.

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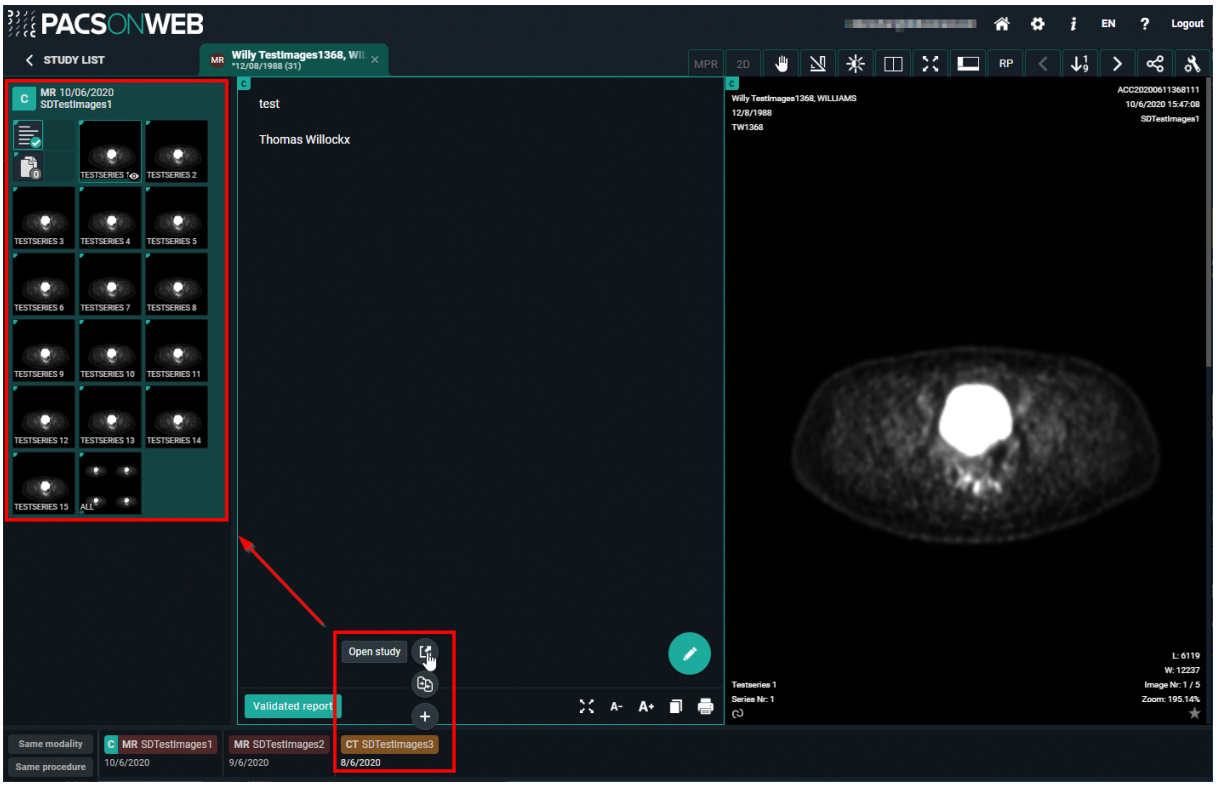

Compare study

Clicking **Compare study** will display the study in the series picker and in the image screen.

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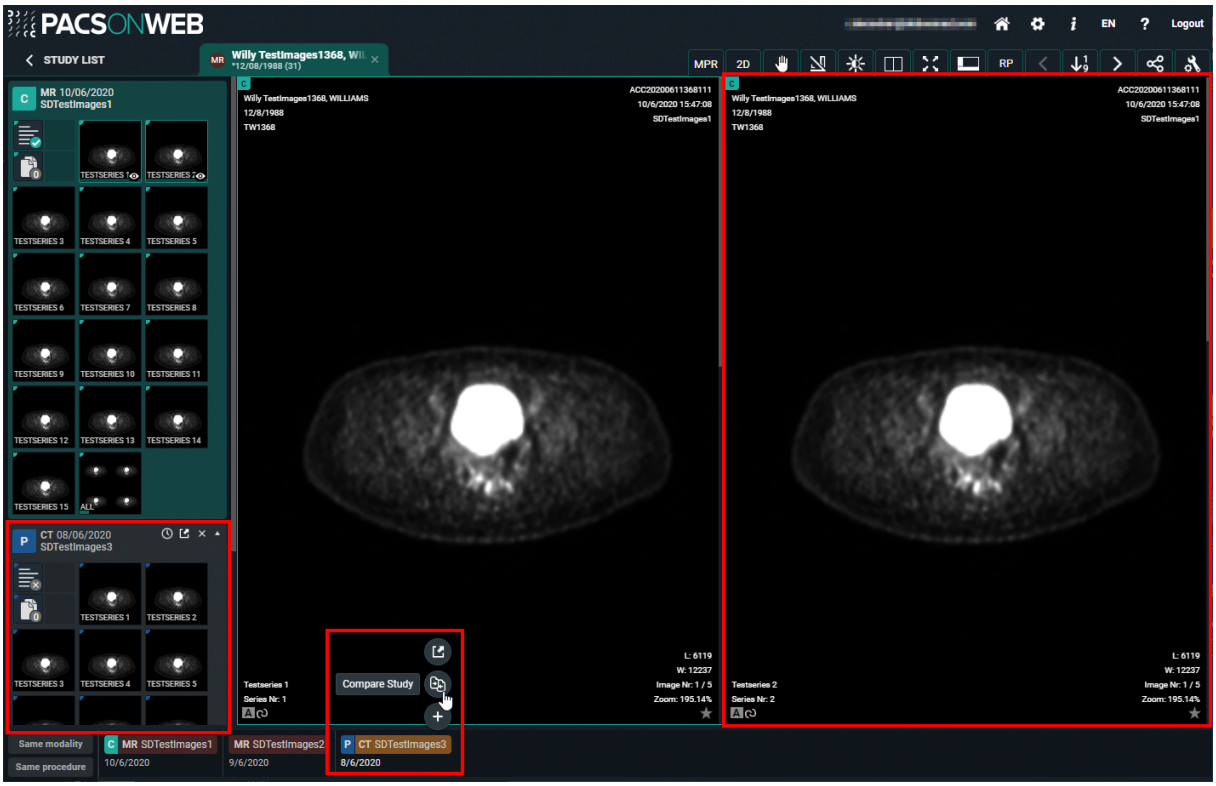
SSN: DOC-3947337



Load Study

Clicking **Load study** will display the study in the series picker.

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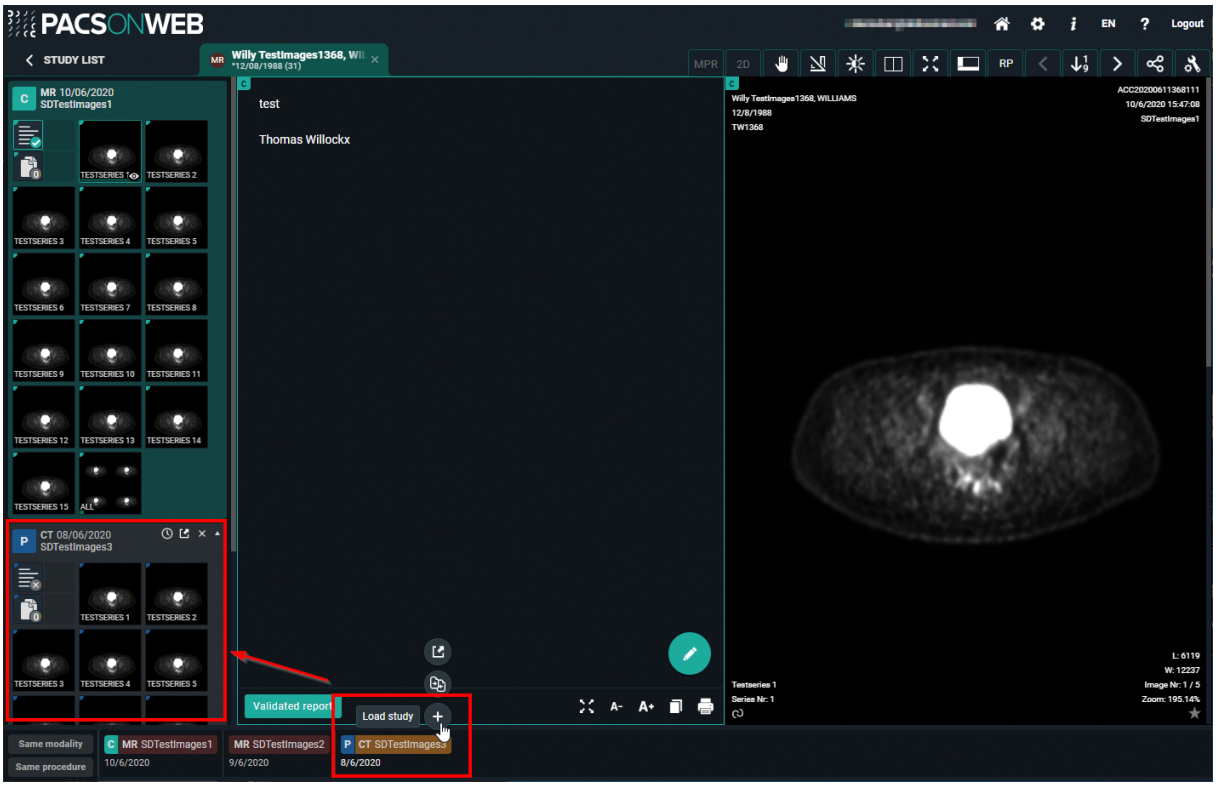
SSN: DOC-3947337



11.2 Series picker

Available series

In the series picker a list of available series for each study is presented.

If the series picker is not shown, click **Visible elements** in the menu bar.

You can choose to display the series picker at the left or right side of the screen or not at all.

- **Series picker left**
- **Series picker right**
- **No series picker**

How information is displayed

The type of study, the study date and the procedure description of the study are listed at the top of the image series.

In the top right corner of the series picker, an icon is available to reload the study e.g. in case additional images have been made available for the study.

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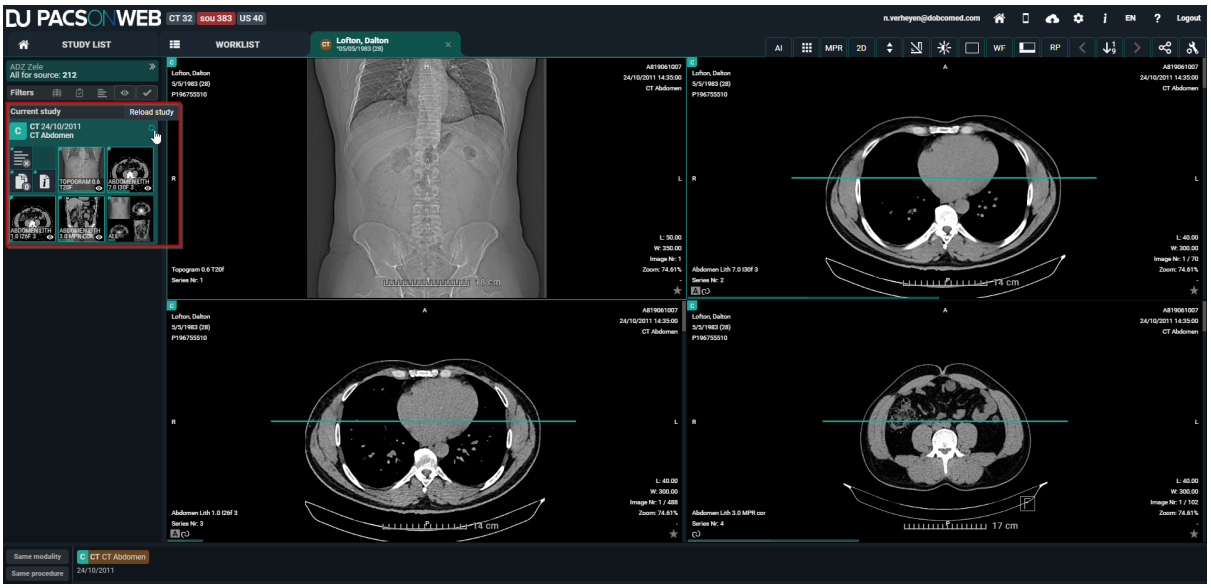

Report, documents & Order information

The series picker also contains the report, additional documents and the order information. You can consult these, download them, print them, etc.

Caution:

This is only the case when these are available and you have access to them.

Validated report available

Peliminary report available

Draft report available

No report available

Document(s) available (3 for this example)

No documents available

Order information available

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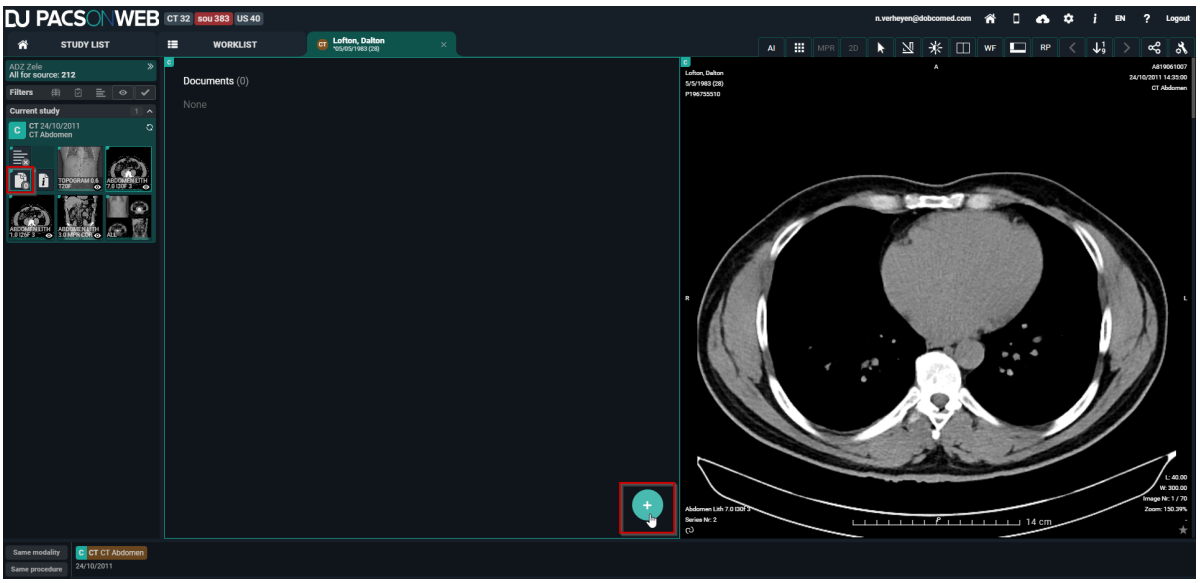
Important!

Only administrators of a study can create a report, add documents and add order information.

- Create report

  See: Report display (Page 294)
- Add documents:

  Click the documents icon and subsequently the green plus icon.



Select the appropriate document and click Open.

Only the following file types can be uploaded:

- PDF
- RTF
- TXT
- PNG
- JPEG
- JPG

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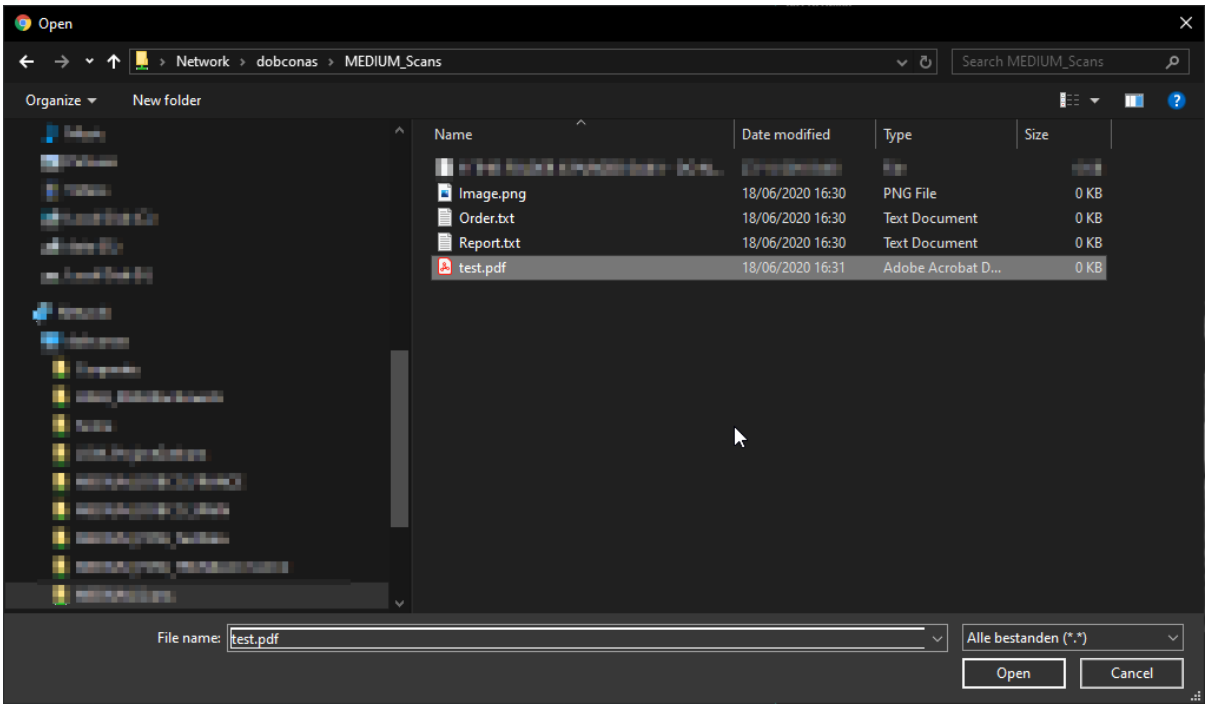
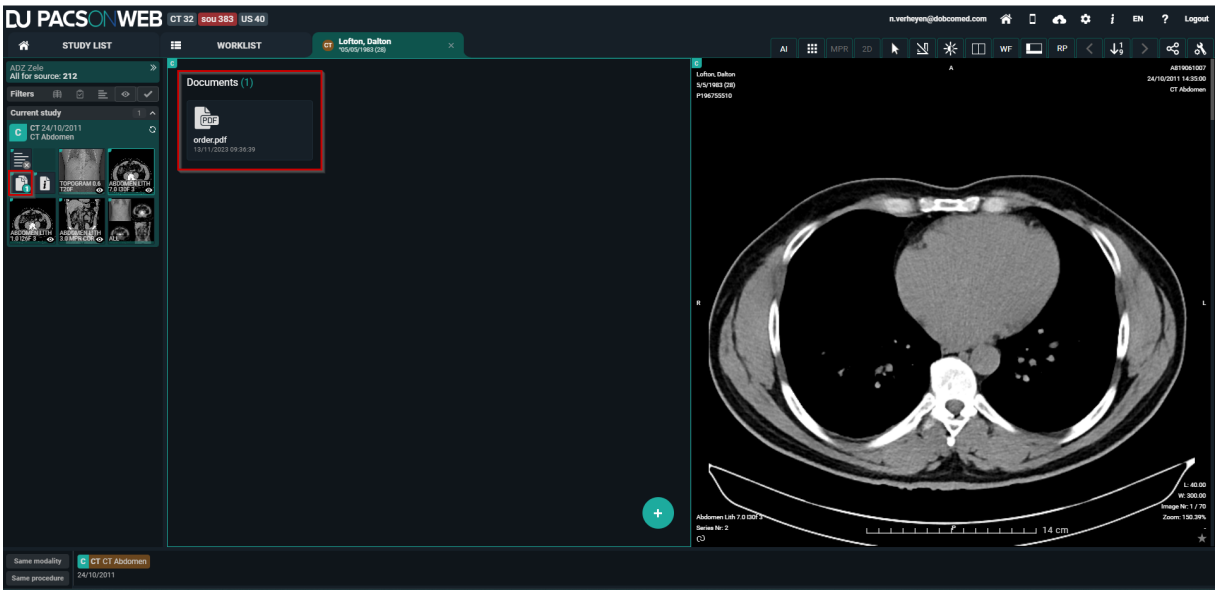


The document is uploaded and displayed in the documents overview.



Drag and drop: You can also add a file by dragging it directly from your computer onto the Documents window.

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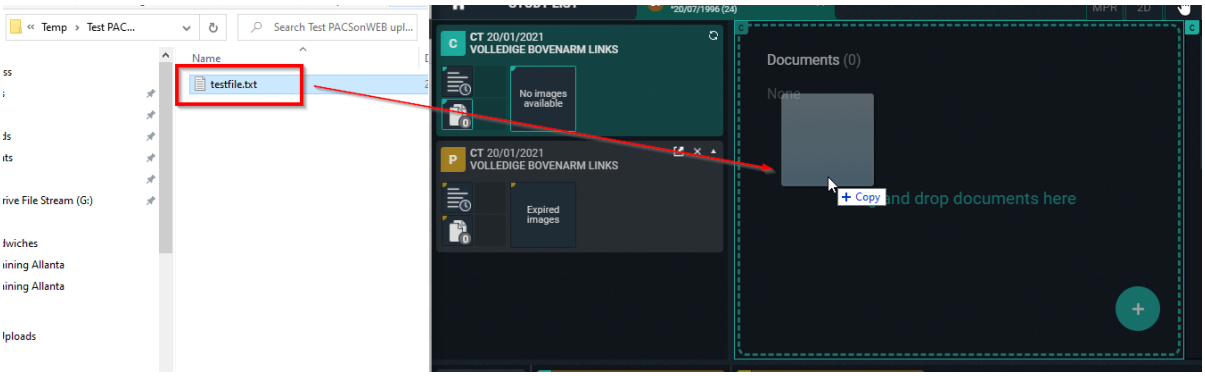
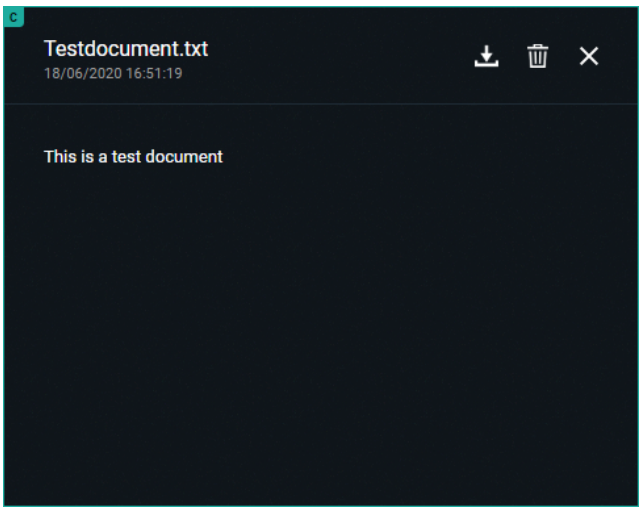
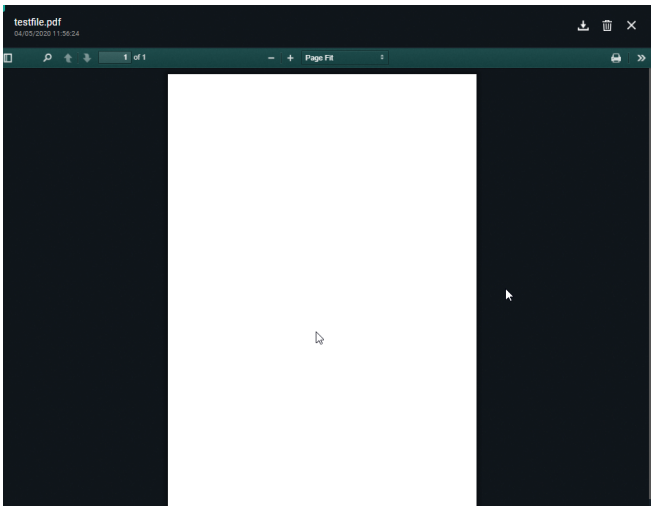


By clicking the document you can open it, download it or remove it.





- Add order information:

  Click the documents icon and subsequently the green plus icon.

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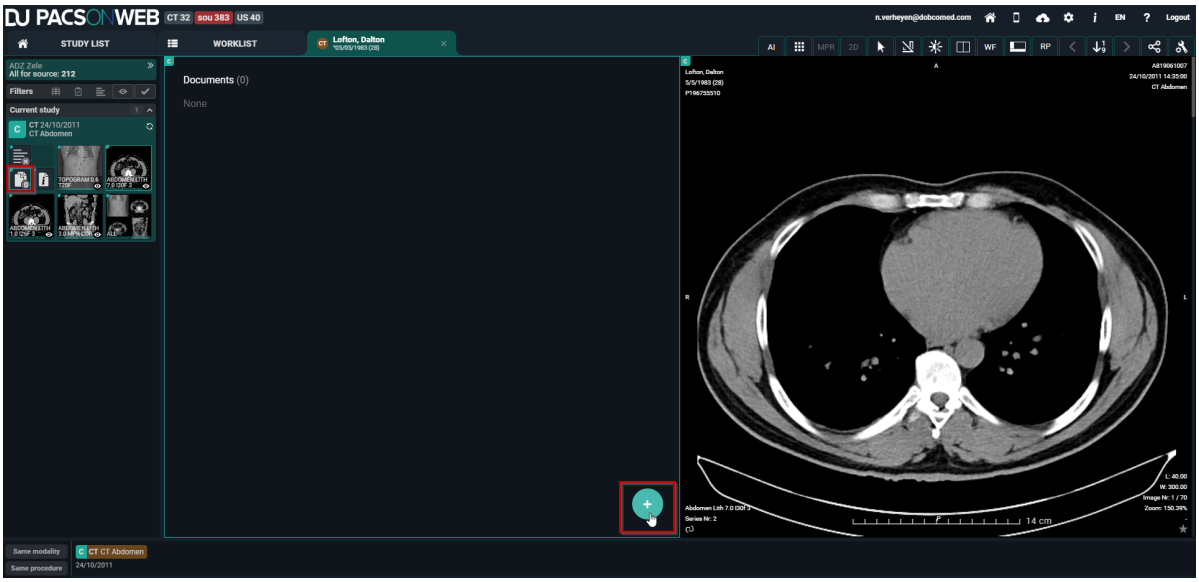
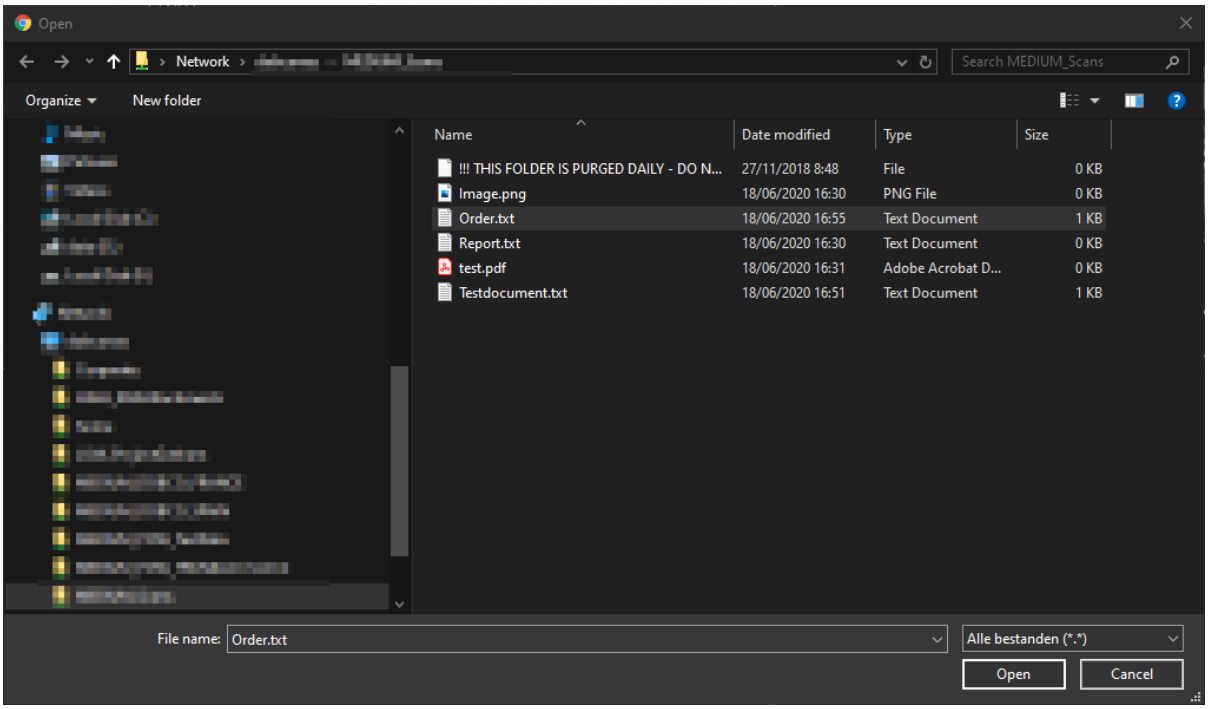


Drag and Drop or select the appropriate document and click Open. The file must have the name 'Order' and file type must be txt or pdf.



The uploaded document is displayed in the documents overview and the order icon becomes visible in the series picker.

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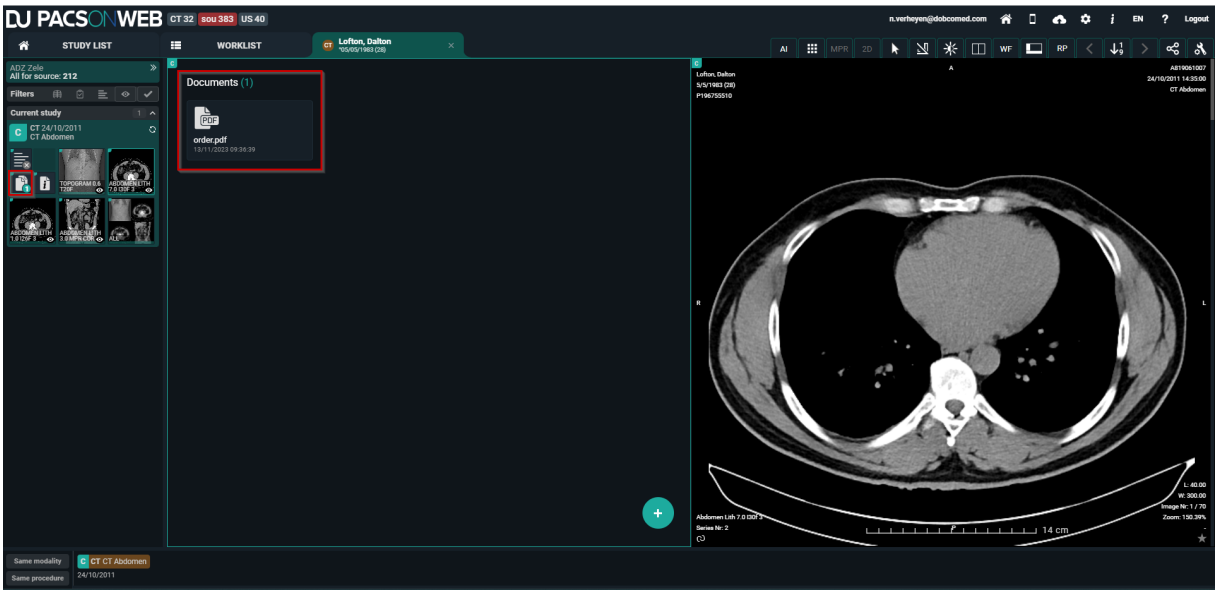

Encapsulated PDF files will be shown in the "Documents" viewport.

Warning:

Existing encapsulated PDF, processed before DeepUnity PACSonWEB 3.3.300, will be shown with document title "Unknown".

Displaying Study Information

Clicking on the order information icon will display the scanned order, if it is available and if you have the required access rights.

A second tab displays the study information. If no scanned order is available, the study information is displayed immediately.

The study information panel shows all the information we have available about the patient, the study, the order and the requesting physician.

If the fields are filled in, they will be highlighted, otherwise they will be greyed out. This panel is read-only, none of the fields can be adapted here. If changes need to be made to this information, please refer to Administration (Page 241) for instructions.

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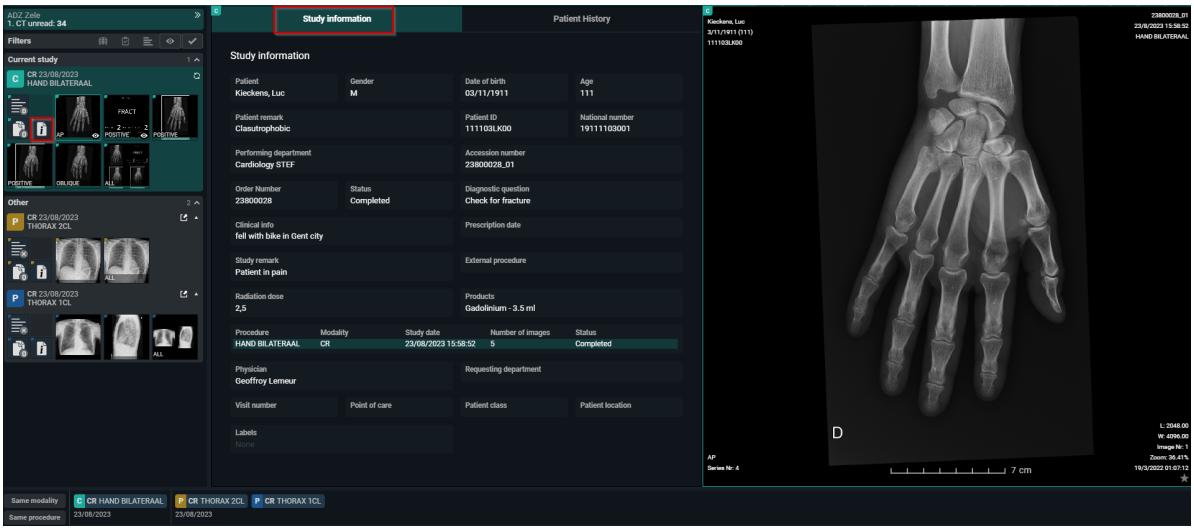
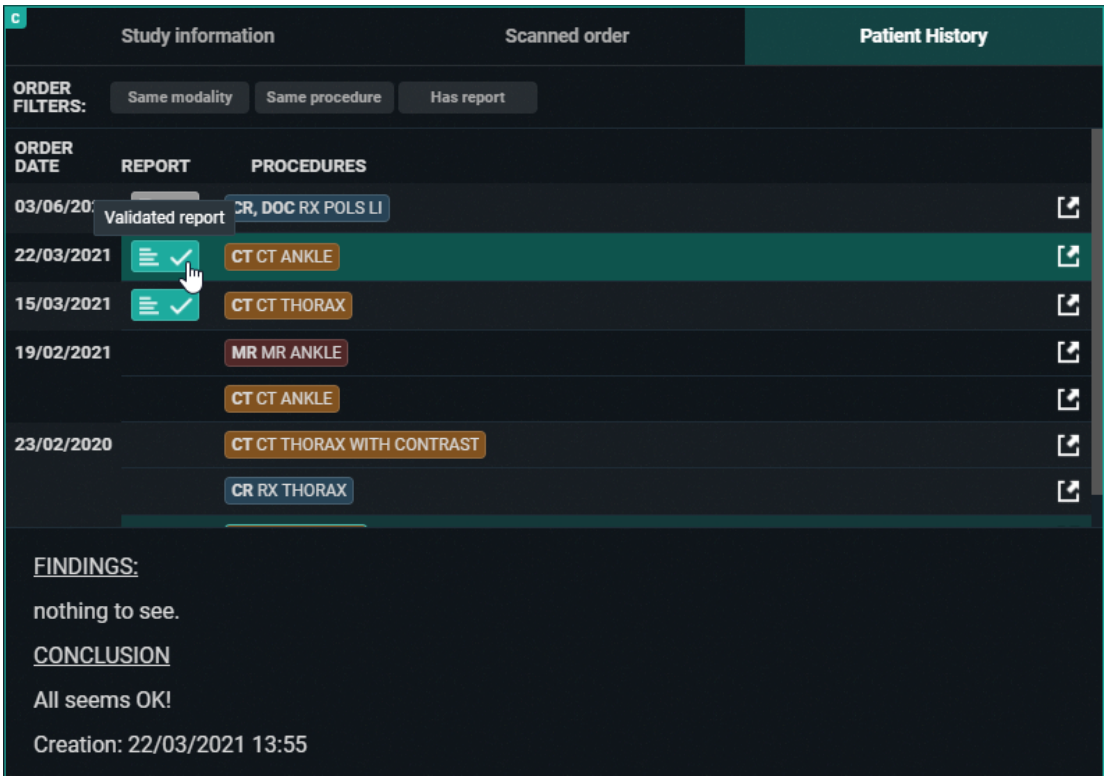
Overview of the study information panel



In a third tab the patient history is available. This contains a list of all studies for the patient, sorted chronologically.

With the order filters the list can be filtered to get a better overview.

By clicking a report icon, the report for the related study will be displayed in the section below the list.



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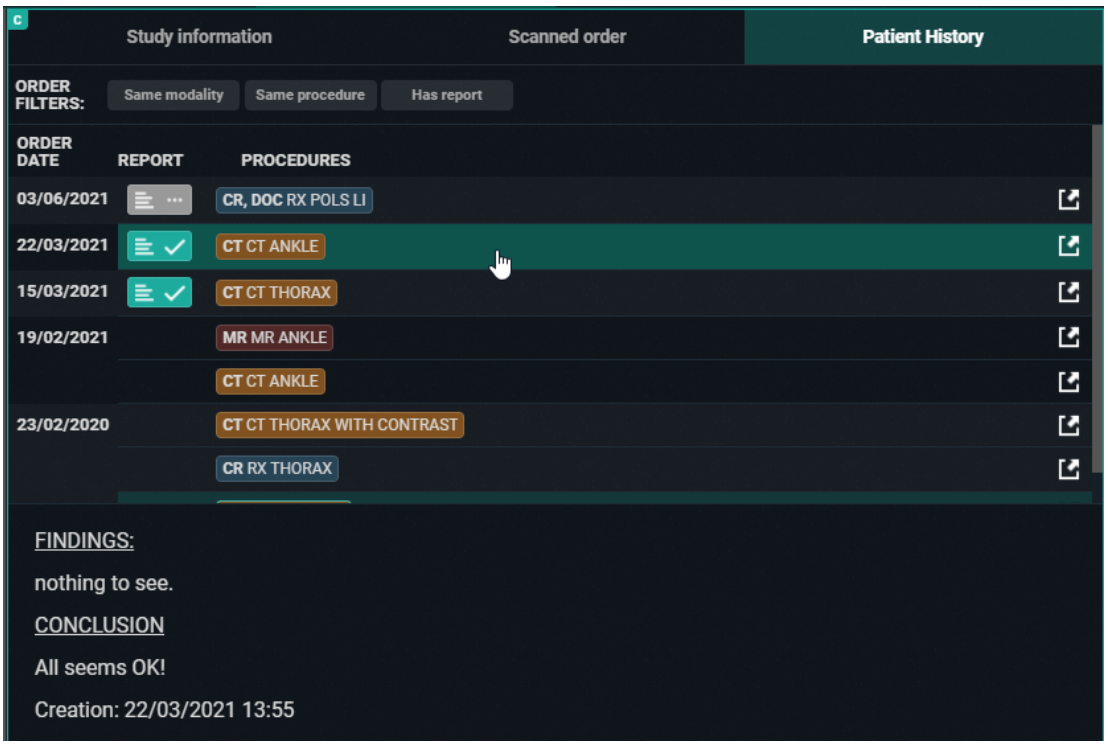
By clicking a procedure description the images for the related study will be opened automatically for comparison with your current study.



Note:

The fields that are being displayed in the order information can be configured on a source level.

If you want to change the displayed fields or the access to the order information for your source, please contact our Service Desk.

Displaying series

You can add series to the image screen by dragging or clicking on them.

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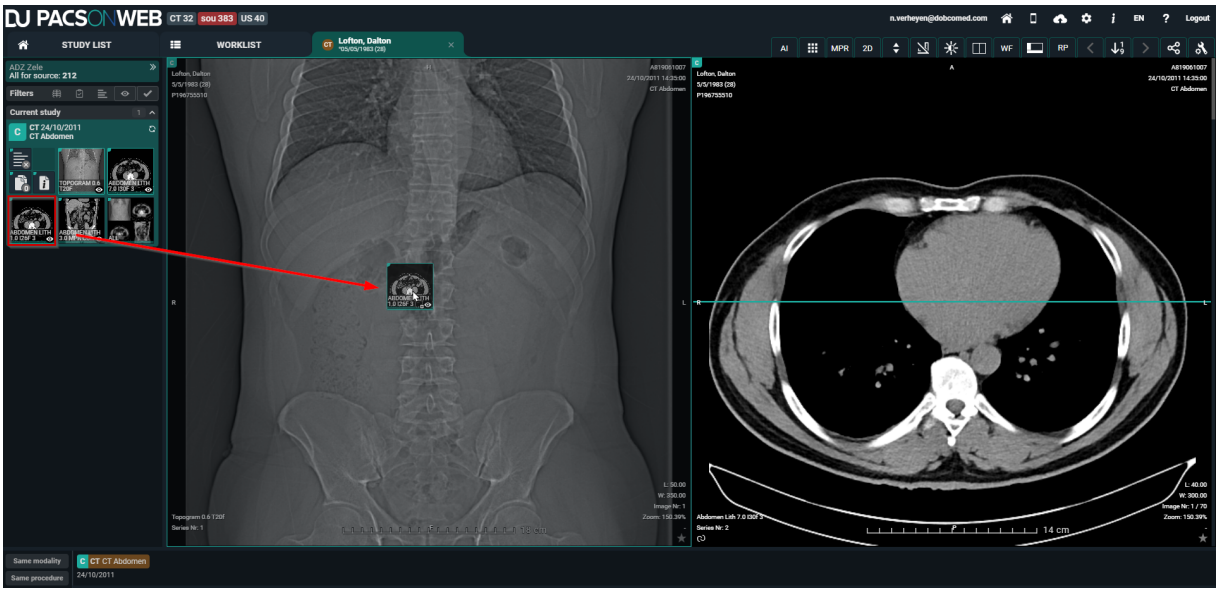

By default, images are kept online for a period of 1 year, 3 years for mammo. In case the retention time has expired, the images will be removed form DeepUnity PACSonWEB and a series, marked as "Expired images", will be available in the series picker.

The same series is also shown in case a study is available for at least 1 week and no images are available yet.

Depending on the sending radiology department, you may have the possibility to retrieve the expired / missing images, using the Fetch functionality.

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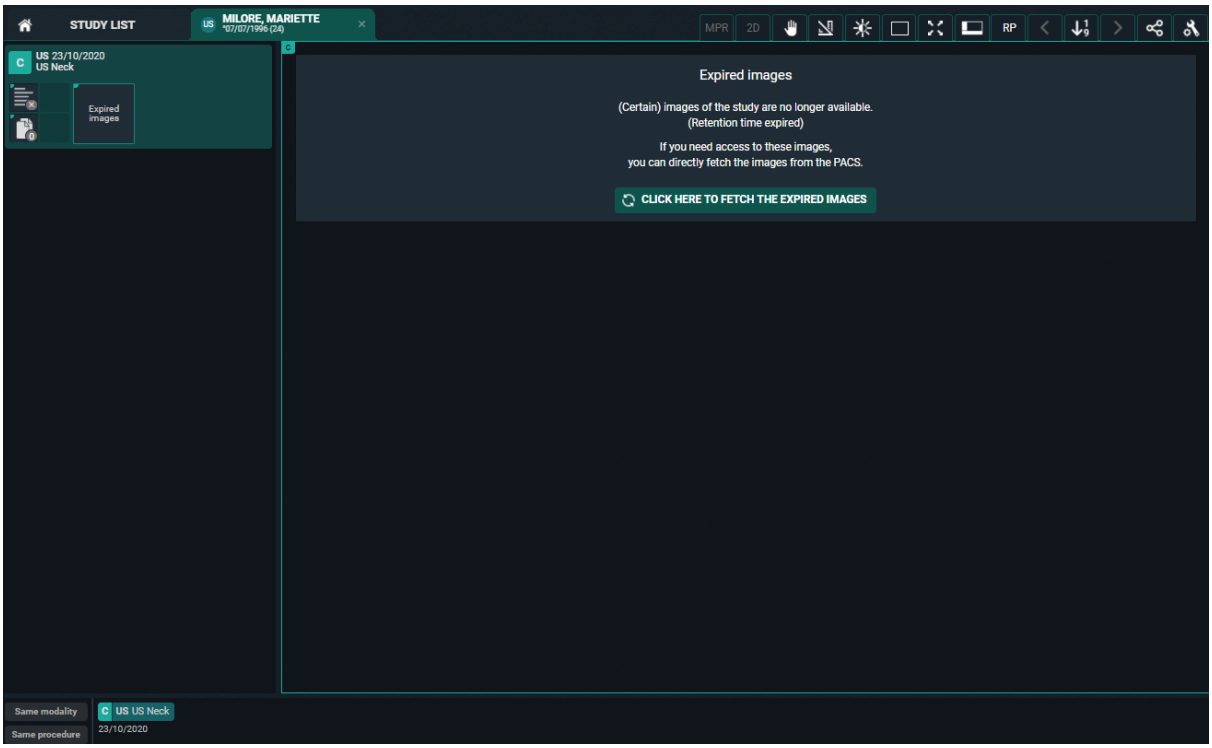

In case this option is available, you have the possibility to:

- **FETCH IMAGES:** fetch the set of images that were initially available (possibly filtered)
- **FETCH ALL IMAGES**: fetch all images of the exam

You can add multiple studies to the list by clicking on a study in the history (Page 198).

Also in case you logged on as a patient with a reference code that allows access to multiple exams, all exams will be loaded into the series picker.

Prior and subsequent studies

Prior and Subsequent studies

When a study is opened, DU POW indicates with the symbols P and S if an older or more recent study is also available to compare with the current active study.

P = Prior study: The study has a study date which is older than the current study.

S = Subsequent study: The study has a study date which is more recent than the current study.

When an image from a Prior or Subsequent study is in view, the date is highlighted to give an extra indication.

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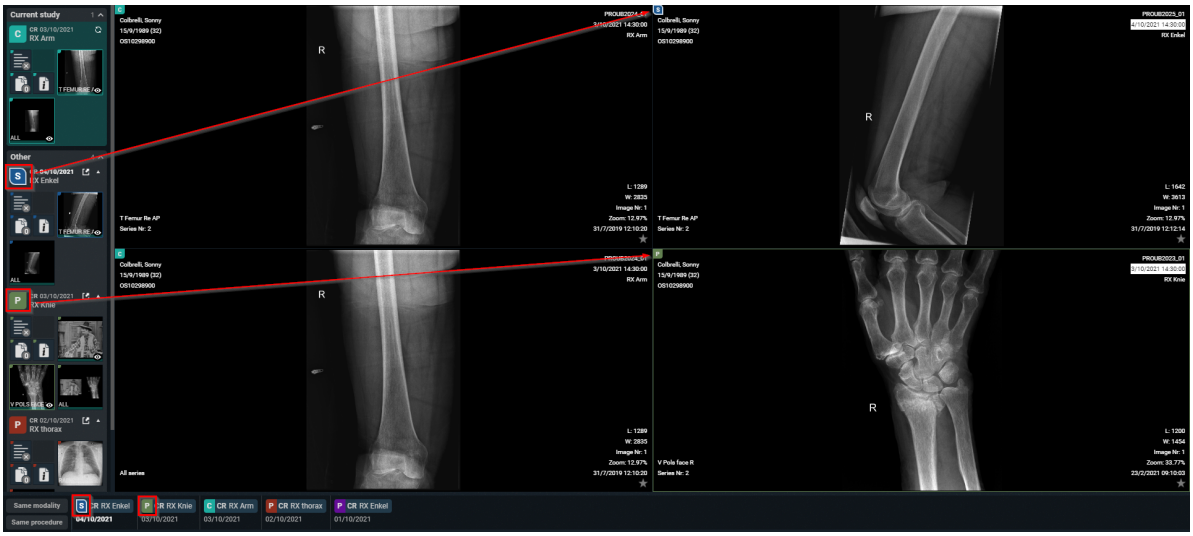
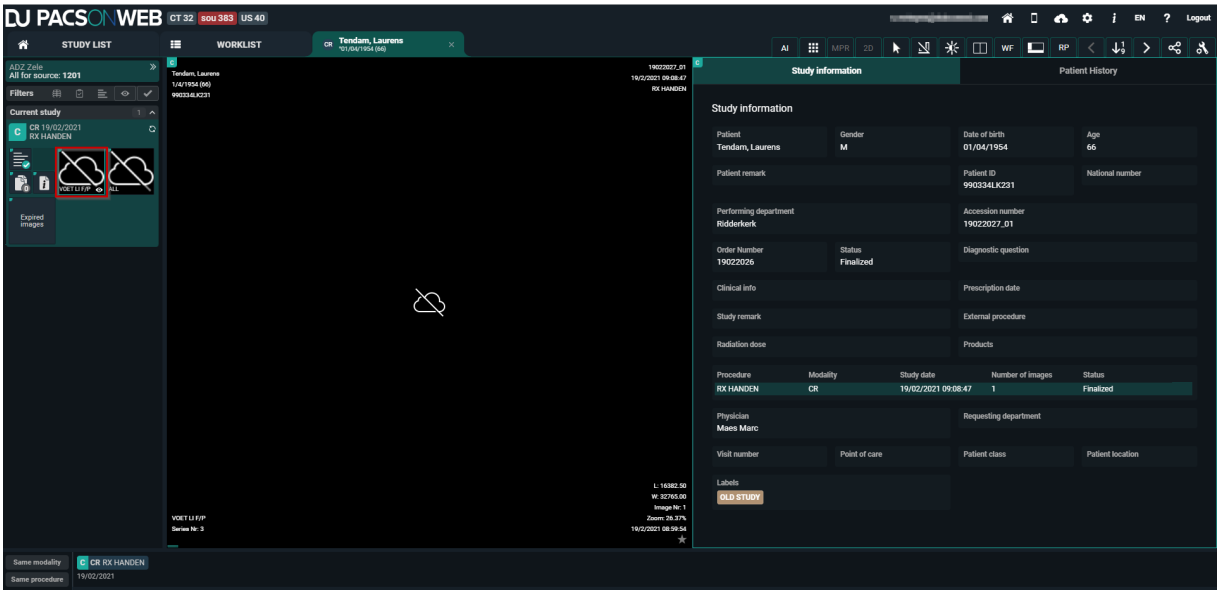


In case an issue occurs when loading an image, the following icon will be displayed. In such case, please contact the service desk.



11.2.1 The Extended Seriespicker

Tip:

By default the extended series picker is not enabled. You can activate this by going to your user settings and enable the option: 'Show prior studies in series picker'.

See Preferences (Page 99) for more information.

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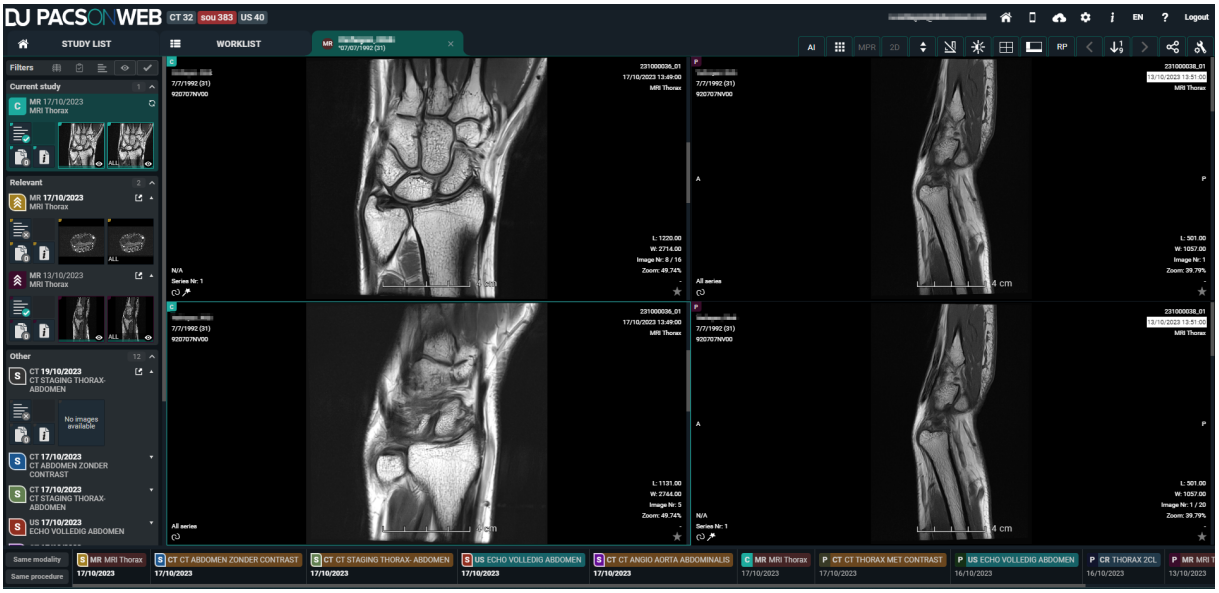
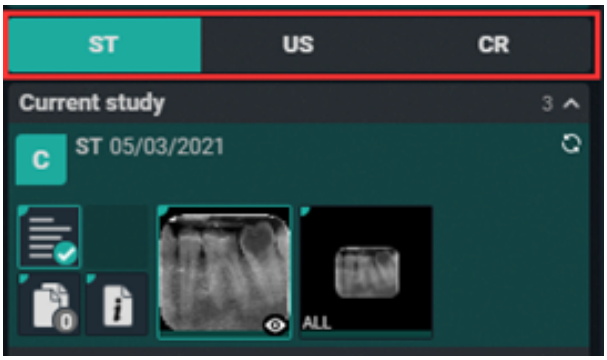
Extended series picker

The studies are grouped in the extended series picker as follows:

- Current open study
- Relevant: Prior studies from the same patient, considered as relevant for the open study
- Other prior studies



For an order with more than 1 primary study the same grouping applies but for every primary study there is a tab to switch between the studies.



Filters in series picker

Extra filters can be used to filter an excessive series picker list. See image below:

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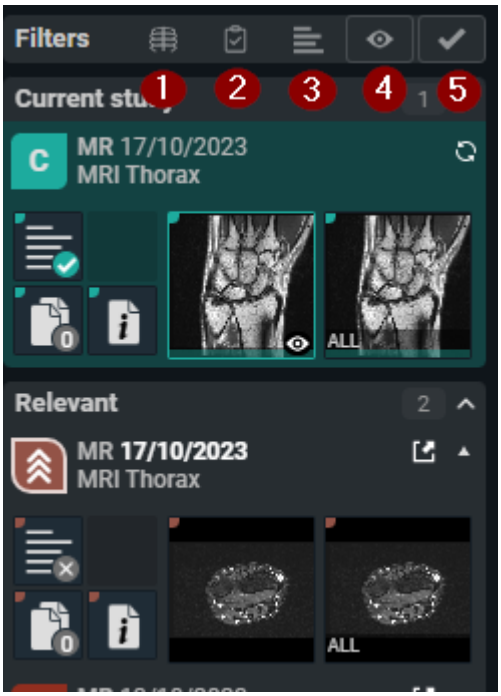

1. Same modality
2. Same procedure
3. Has report
4. Has images
5. Is not cancelled

Behaviour of the filters

The filters "same modality", "same procedure" and "has report" are **not sticky**. These filters will be reset to disabled when opening another study.

The filters "has images" and "is not cancelled" are **sticky**. These filters are remembered when opening another study.

Linking relevant studies

Within the series picker, there are two ways to link different procedures as relevant.

1. By linking manually:

In the extended series picker, click the 'P' icon in the top left corner of the procedure you want to link as relevant.

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The icon will change to indicate that the procedure is now marked as relevant with high priority.

By clicking the icon a second time, the procedure will remain linked as relevant but now with low priority.

2. Linking when comparing.

You can automatically compare the current study with another study by:

- clicking the study description in the extended seriespicker
- hovering over the label in the patient history and click "Compare Study"

In both cases, a pop-up will be shown in the right bottom corner of the screen, asking if you want to mark the related procedure as relevant for the procedure of the current study.

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or

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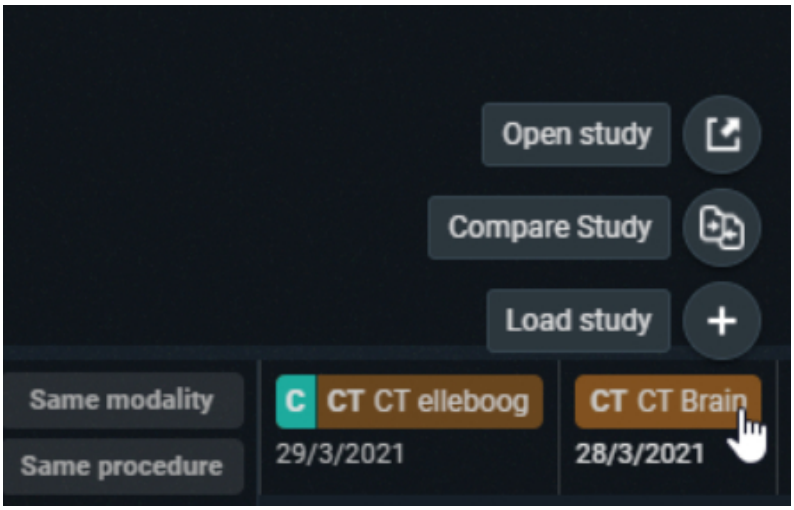


Click **YES**, if you want to link these procedures.

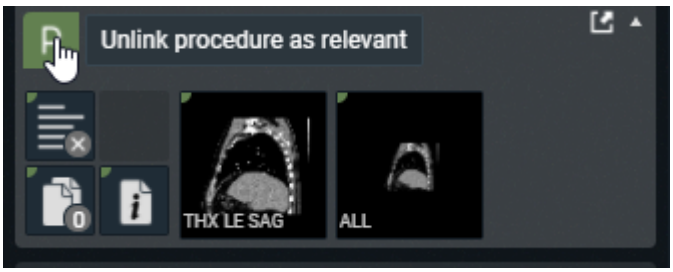
Unlink a relevant procedure:

Unlinking a procedure as relevant can be done by clicking the same icon in the extended series picker.

If the procedure is marked as relevant with low priority, one click on the icon unlinks the procedure.

When a procedure is marked as relevant with high priority, it has to be clicked twice.

- Click 1: Procedure gets low priority linking
- Click 2: Procedure is unlinked as relevant



Note:

With these links, a link is made between procedures, not between studies.

This implies that, when linking procedures as relevant with studies from one patient, the same will occur for other patients that had the same studies.

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Caution:

A link with a relevant procedure cannot be removed in case it has the study has the same procedure as the open study.

Note:

Relevant linked procedures are registered on a user level and therefor apply only within the context of a user account.

In case the user option 'AutoCompare' has been activated, the study at the top of the Prior list will automatically be shown in compare when loading a study.

The list with Prior studies contains:

- The first study of the same order as the current study
- The first relevant linked study
- Any other study from this patient

A prior study is automatically considered Relevant if it has the same procedure as the current study.

11.3 Toolbar

The upper right part of the study page contains a menu bar with image editing tools and other functions.

The ‘pan’ and ‘reference lines’ functions are activated by default.

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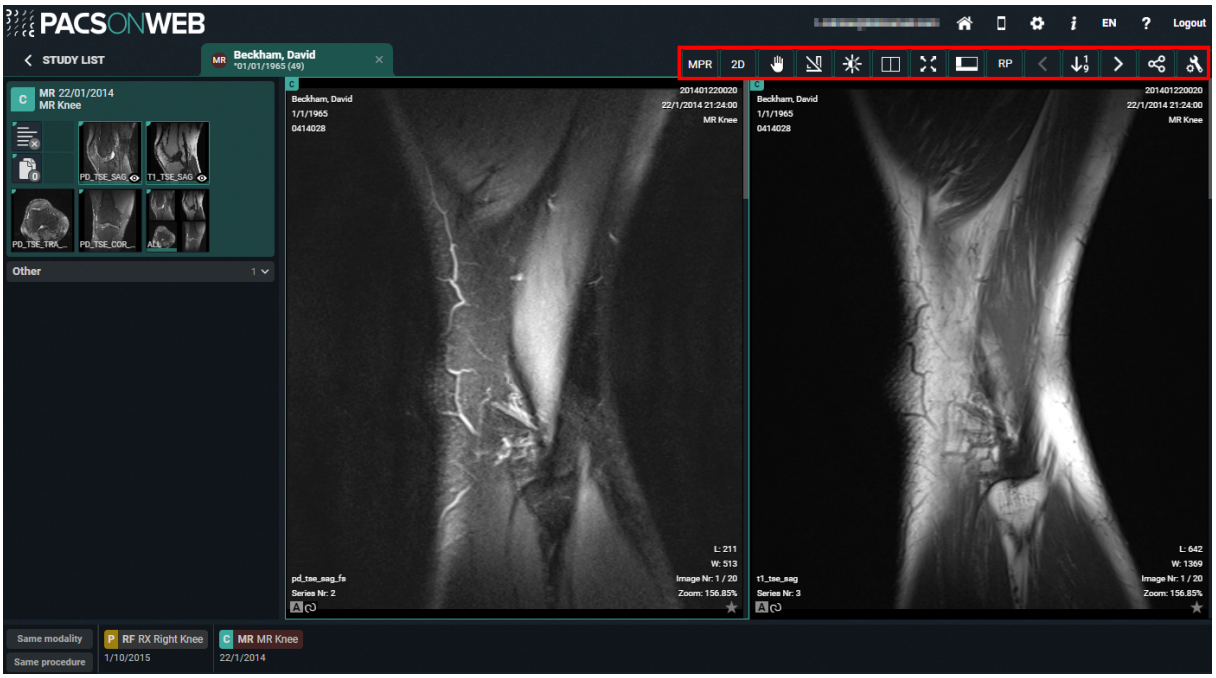

11.3.1 Image transformations

You have the possibility to change the positioning of the image by clicking “Image functions” from the toolbar and selecting “Image Transformations.

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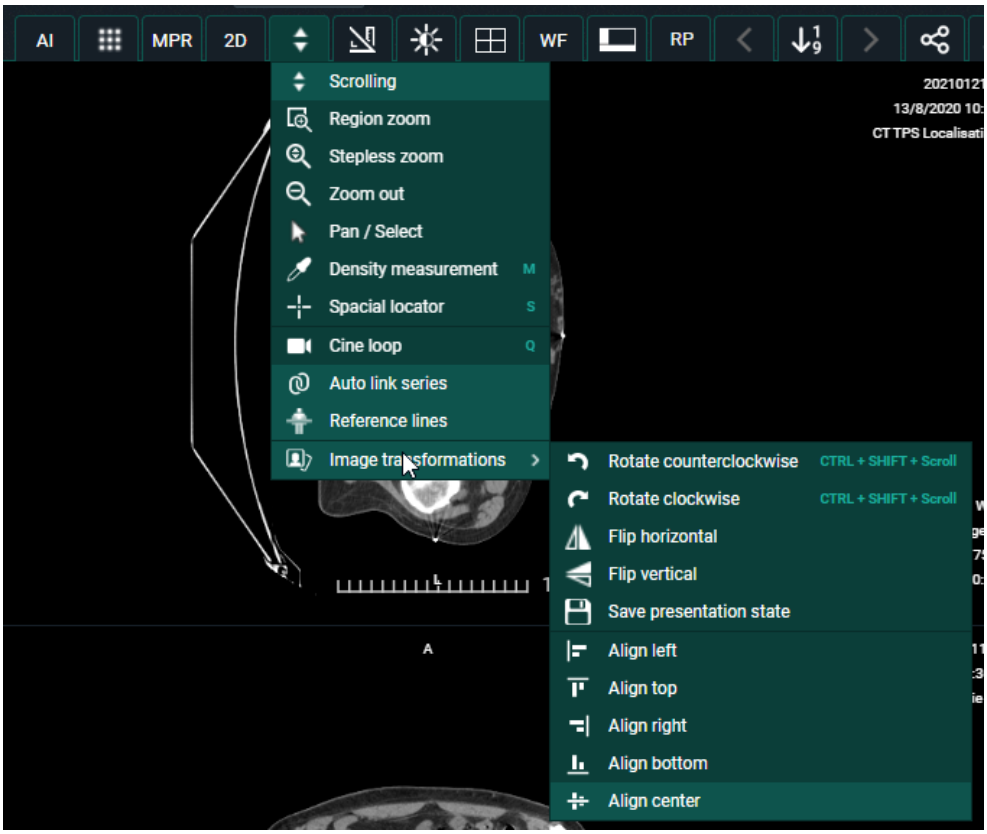

You can perform the following transformations:

- Rotate counter clockwise
- Rotate Clockwise
- Flip Horizontal
- Flip Vertical
- Align left
- Align top
- Align right
- Align bottom
- Align center

Tip:

To rotate the image you can use the following short cut: CTRL + SHIFT (keyboard) + scroll (mouse wheel)

Save presentation state:

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A Presentation State is an independent DICOM SOP Instance that contains information on how a particular image should be displayed.

This is used when a correction needs to be made for an image or multiple images.

For example: Flipping or rotating an image.

When the correction is applied, click on Save presentation state. **Save presentation state**

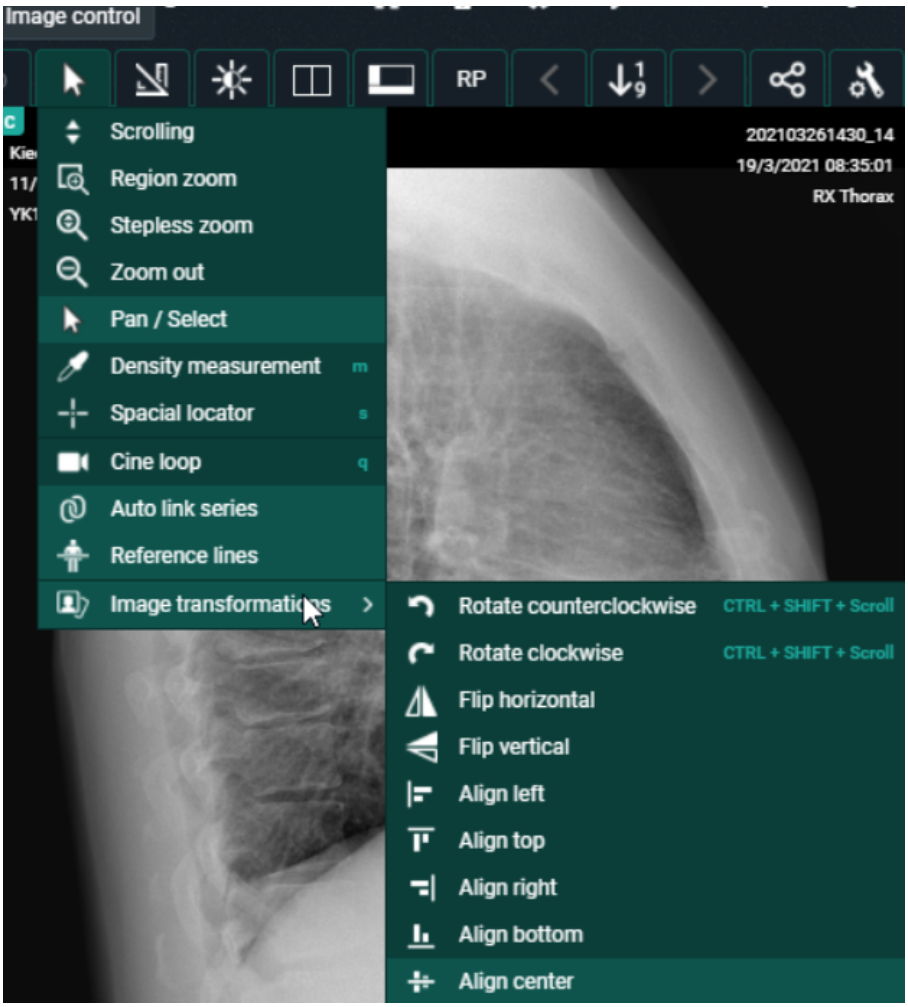
The **last saved presentation state** will be displayed.

Info

A user can only save the presentation state if he is a source admin or has the permission SavePresentationState.

11.3.2 Image functions

You can customise the image to your needs, using the tools available in “Image control”.



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- **Scrolling**: Function of the scroll wheel. Hold down the left mouse button and move the cursor over the image. You can now scroll through the series.
- **Region zoom**: Zoom in on a specific region.
- **Stepless zoom**: Zoom in on the image without intermediate steps.
- **Zoom out**: Zoom out.
- **Pan/Select**: You can still drag the image even if you've zoomed in on it.
- **Density measurement**: Select this function and hold down the left mouse button to measure the density in Hounsfield units (HU), optical density (OD) or unspecified units (US).
- **Spatial locator**: This function is used to navigate to the same reference point in series. It only works for CT and MRI images.
- **Cine loop**: Use this function to automatically scroll through all images without actually using the scroll wheel. The used frame rate is the value, specified in DICOM Tag RecommendedDisplayFrameRate.

  In case this value is not available, by default a frame rate of 30 fps is used. You can also adjust the scrolling speed yourself.
- **Auto link series**: Different series with the same "frame of reference" are linked automatically for simultaneous scrolling.
- **Reference lines**: This tool is activated by default and uses lines to indicate the position of the selected image compared to another series. This tool only works for CT and MRI images.
- **Image transformations**: For more information, see Image transformations (Page 221)

Tip:

To zoom the image you can use the following short cut: SHIFT (keyboard) + scroll (mouse wheel)

To zoom the image to 100% (1 pixel on the image = 1 pixel on the screen), press '=' on your keyboard

When performing a zoom action, an orange indicator dot is displayed at the bottom left until the image is fully loaded.

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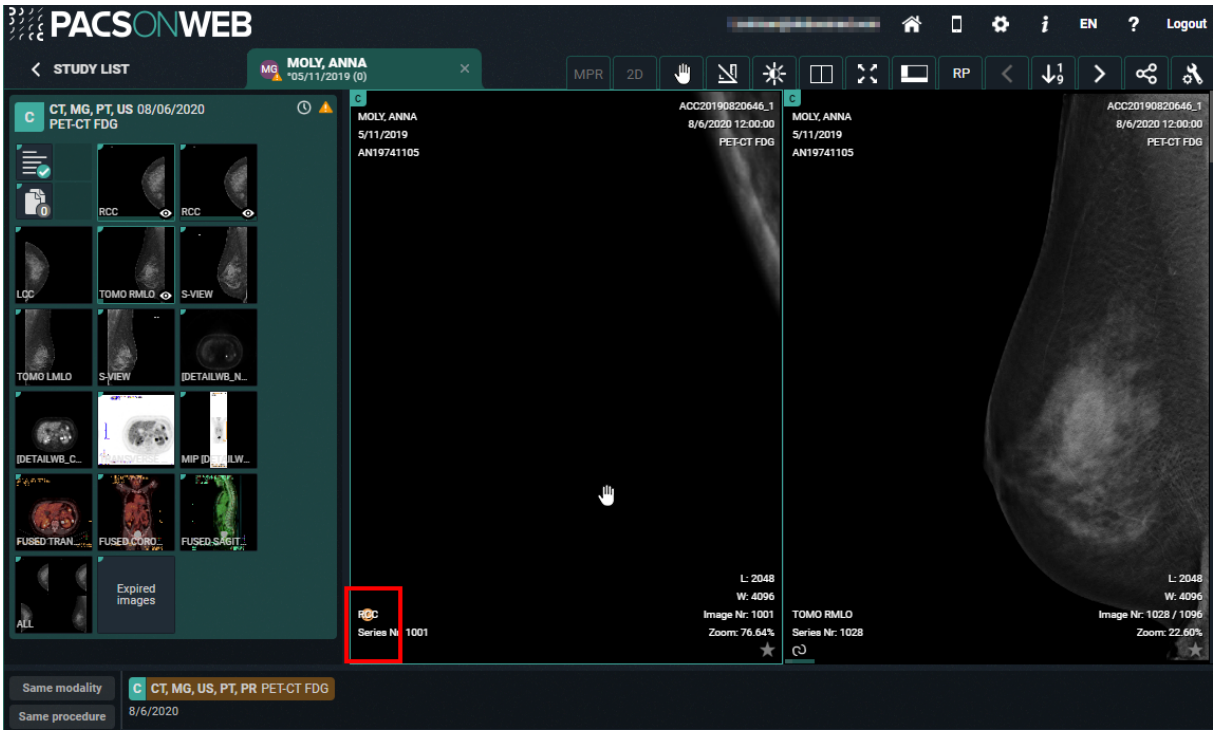

Note:

Touch events on mobile devices

Independent of the selected image control or image editing tool, it is possible to drag or zoom in or out on the image:

- Zoom: pinch in or out on an image to zoom in or zoom out
- Pan: Hold two fingers on the image and move them simultaneously to drag the image

All image control and image editing tools can be used when set active by touching the screen with one finger.

E.g.: Use the scroll tool by sliding one finger up and down the image

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Caution:

Be aware: the following features cannot be used when your device is on IOS12:

- Region Zoom
- Stepless Zoom
- Zoom out

You can use pinching in/out instead, as described above.

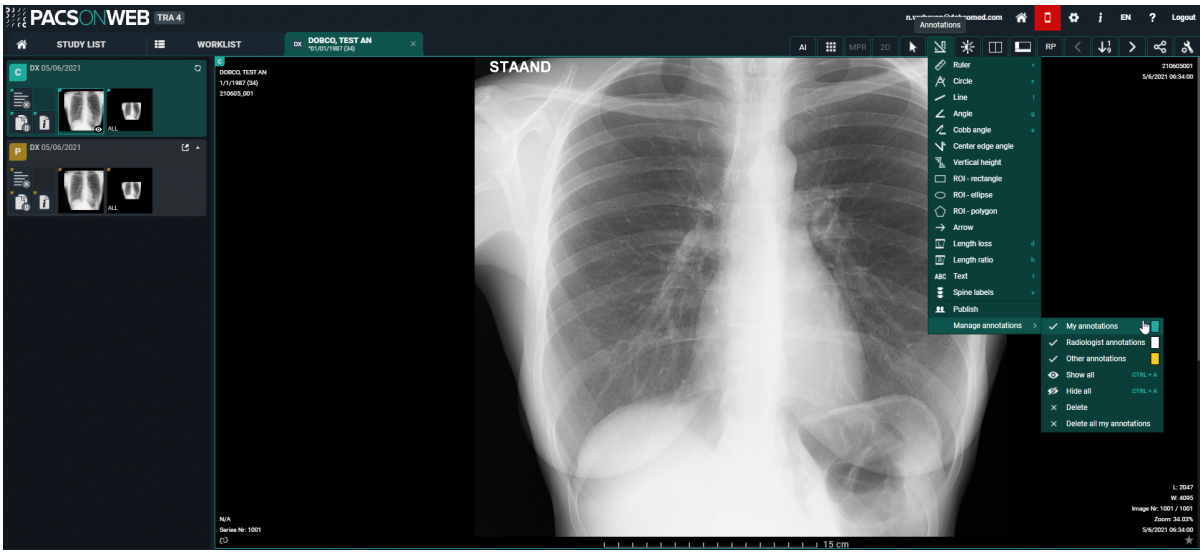
- Pan
- Density measurement
- Spatial locator
- Window level

You can use presets.

- Adding and modifying annotations

11.3.3 Annotations

When clicking "Annotations" a menu is displayed, allowing to perform the following measurements:



- **Ruler** Length measurement: measurement between two points.

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Tip:

When drawing a ruler that is near horizontal, you can have it adjusted automatically to a ruler that is perfectly horizontal with respect to the image by holding the SHIFT button.

You can recognize it by the following symbol:

The same applies for a near vertical ruler.

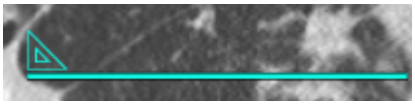
- **Circle** Circle with midpoint identifier and measurement of the radius.
- **Line** The line between two points.

Important!

When drawing a line that is near horizontal, it will be adjusted automatically to a line that is perfectly horizontal with respect to the image.

The same applies for a vertical line.

You can recognize it by the following symbol:



If this behavior is undesired, press the SHIFT key while drawing the line.

- **Angle**: Three-point angle measurement: the angle defined by selecting three dots.
- **Cobb angle**: The angle, defined by drawing two lines.
- **Center edge angle** :Centre edge angle with angle measurement: Centre edge angle that creates an angle with the tangent of the figure on which it is placed.
- **Vertical height**: The perpendicular line between 2 points.
- **ROI-rectangle**: Density measurement for a rectangular area. Displayed values are: A: total area; Dens: average value for the area; Min: minimum value within the area; Max: maximum value within the area; $^{\sigma}$: standard deviation.
- **ROI-ellipse**: Density measurement for a elliptical area. Displayed values are: A: total area; Dens: average value for the area; Min: minimum value within the area; Max: maximum value within the area; $^{\sigma}$: standard deviation.

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- **ROI-polygon**: Density measurement for a freehand annotation. Displayed values are: A: total area; Dens: average value for the area; Min: minimum value within the area; Max: maximum value within the area; σ : standard deviation.
- **Arrow**: Arrow with text box to add text.
- **Length loss**: Measure the difference in length between 2 lines.
- **Length ratio:** Measure the length ratio of 2 lines.
- **Text**: Text that can be added as an annotation to images.
- **Spine labels**: Placing of the spine labels on the vertebrae.

Note:

- Spine label annotations will be placed on the image itself + 3 slices before and 3 slices after
- Spine labels on the image itself will be in lighter green compared to the other images
- The spine label tool detects automatically if the user wants to label from top to bottom or bottom to top (cranial - caudal)

- **Publish** Make your annotations visible for all users that have access to the study.
- **Manage annotations**: Manage the annotations, displayed on the image.
  - **My annotations**: Select if your personal annotations, marked in green, are displayed or not.
  - **Radiologist annotations**: Select if the annotations made and published by the creator of the report or received through DICOM, marked in white, are displayed or not.
  - **Other annotations:** Select if annotations made and published by other users, marked in yellow, are displayed or not.
  - **Show all**: Show all of the above annotations.
  - **Hide all**: Hide all of the above annotations.
  - **Delete**: Delete the annotation you have selected. (only for own annotations)
  - **Delete all**: Delete all of your own annotations.

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Tip:

For ease of use, you can use the following short cuts:

Length measurement	R + left mouse button down
Circle	C + left mouse button down
Line	L + left mouse button down
Angle measurement	G + left mouse button down
Cobb angle measurement	A + left mouse button down
Text	T + left mouse button down
Spine labels	V + left mouse button down
ROI ellipse	E + left mouse button down
Length Loss	D + left mouse button down
Length Ratio	H + left mouse button down
Show all annotations	CTRL + A (keyboard)
Hide all annotations	CTRL + A (keyboard)
Delete Annotation	Select annotation + 'Delete' button

Note:

Administrators

Administrators of a radiology service can delete annotations, by selecting the annotation and hitting the 'Delete' button.

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Note:

Touch events on mobile devices

Independent of the selected image control or image editing tool, it is possible to drag or zoom in or out on the image:

- Zoom: pinch in or out on an image to zoom in or zoom out
- Pan: Hold two fingers on the image and move them simultaneously to drag the image

All image control and image editing tools can be used when set active by touching the screen with one finger.

E.g.: Use the scroll tool by sliding one finger up and down the image

Caution:

Be aware: the following features cannot be used when your device is on IOS12:

- Region Zoom
- Stepless Zoom
- Zoom out

You can use pinching in/out instead, as described above.

- Pan
- Density measurement
- Spatial locator
- Window level

You can use presets.

- Adding and modifying annotations

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Important!

The DeepUnity PACSonWEB measuring functions contain length measurements, angle measurements and density measurements based on the information that is provided by the original modality.

Length measurements are expressed in millimeters (mm).

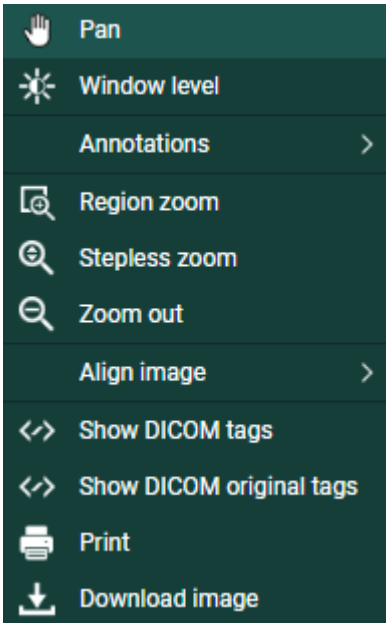
Angle measurements are expressed in degrees (°).

Density measurements are expressed in the unit, as provided by the modality : Hounsfield Unit (HU), Optical Density (OD) or UnSpecified (US).

For measurement precision within the DeepUnity PACSonWEB environment, DeepUnity PACSonWEBrelies on the precision of the information that is provided by this modality.

In case a measurements displays "N/A" as the resulting value, it implies that the original DICOM images do not contain the required information to perform a quantitative measurement.

The accuracy of the modality is defined by the PixelSpacing that can be verified by performing a right click on the related image and selecting the option “Show DICOM tags”.



The resolution (x,y) is available in the DICOM Tag “PixelSpacing” (0028,0030) and is expressed in mm.

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0028,0004	PhotometricInterpretation	MONOCHROME1
0028,0008	NumberOfFrames	1
0028,0010	Rows	4740
0028,0011	Columns	3540
0028,0030	PixelSpacing	0.05 0.05
0028,0100	BitsAllocated	16
0028,0101	BitsStored	12
0028,0102	HighBit	11

The resulting value for a measurement within DeepUnity PACSonWEB, will always be displayed with two decimals as a result of the calculations, performed on the data provided by the modality.

A maximal deviance on a performed measurement of

$$\sqrt{(x^2 + y^2)}$$

must however be taken into account.

The accuracy of the different measurements have been validated for length measurements up to 0,01 mm and up to 1° for angle measurements.

In case a measurement is made in another CE class IIa approved DICOM viewer for comparison, it must be taken into account that the measurement accuracy is affected by the coordinates of the start and end point of the line. DeepUnity PACSonWEB only allows measurement points to be set on pixel crossings. In case the DICOM viewer, used for comparison, allows any point to be selected to perform a measurement, again, a maximal deviance of

$$\sqrt{(x^2 + y^2)}$$

can occur.

Besides the measurement accuracy, we take a rounding factor into account of maximum 0,05 mm for comparison of both resulting values since it cannot be guaranteed that the user who performs the measurement selects exactly the same pixels on the image in both viewers.

In case a measurement is performed in an external PACS system and imported in DeepUnity PACSonWEB, the imported measurements can differ slightly when displayed in DeepUnity PACSonWEB. As the coordinates of the measurement points can deviate from the points, used in DeepUnity PACSonWEB, the resulting value will also deviate. In order to indicate that the value in DeepUnity PACSonWEB is not

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exactly the same as the one from the original measurement, the value will be preceded by a '~'.

11.3.4 Other image editing tools

You can find the following image editing tools in the toolbar:

Image editing toolbar

Icons	Description
	Window level: Use this function to modify the brightness and contrast of the selected image.
	Layout: Use this function to change the screen layout.
	Fullscreen: Use this function to display the series in full-screen mode.
	Visible Elements: Use this function to apply full-screen mode, to display/hide the title bar, the series picker (Page 203), the history (Page 198) and the overlays, and to configure the scaling factor of diagnostic monitors. • Scaling factor options: ○ 100% ○ 150% ○ 200%

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Icons	Description
	○ 250% ● Applying a predefined scaling factors to a specific megapixel screen will apply that scaling factor to any diagnostic monitor with the same megapixel or higher resolution. ● You can still apply a larger scaling factor to higher megapixel screens, and it will similarly apply that scaling factor to any diagnostic monitor with that resolution or higher. **Note:** Applying a large scale on your monitor may cause buttons to overlap. Use larger scales only on high-megapixel monitors.
RP	The available reading protocols for the currently opened study
	Previous step in the reading protocol
	The steps for the (automatically) selected reading protocol
	Next step in the reading protocol

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Note:

The available reading protocols can differ, depending on number of displays, study type, available series ...

Window level and invert

Use **Window level** to modify the brightness and contrast of the selected image.

To apply window leveling to an image. click on the **Window level** icon.

- By holding the left mouse button down and moving the mouse to the left/right you can decrease/increase the value for **Window**.
- By holding the left mouse button down and moving the mouse down/up you can decrease/increase the value for **Level**.
- If all images of a series have the same initial value for window and level, the window leveling will be applied to all images.
- If images within a series have different values for window and level, the window leveling will only be applied to the selected image.

To support window level on images with higher bit values, the default change in value for the Window or Level is doubled per extra bit.

- This means window levelling reacts faster on the higher bit images.
- To use the normal behavior click the SHIFT button + drag.

If you click on **Invert**, everything that was dark in the series will become bright and vice versa.

Manually entering window level value:

Click on the label of **Window** or **Level** and fill in the desired value.

If you click **Window level** in the menu now, by default **Custom** will be selected. To return to the initial image representation, click **original**.

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Tip:

Depending on the study type, the menu **Window level** contains several predefined Window/Level settings (presets).

If you wish to take a closer look at the lungs, for example, click on **Lung**.

You can use the following shortcuts:

Invert	CTRL + I
Image in initial representation	0
Preset Abdomen	1
Preset Bone	2
Preset Head	3
Preset Lung	4

Warning:

You won't find these presets for every customer. Depending on where the study was done, you will find presets in the **Window level** menu.

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Note:

Touch events on mobile devices

Independent of the selected image control or image editing tool, it is possible to drag or zoom in or out on the image:

- Zoom: pinch in or out on an image to zoom in or zoom out
- Pan: Hold two fingers on the image and move them simultaneously to drag the image

All image control and image editing tools can be used when set active by touching the screen with one finger.

E.g.: Use the scroll tool by sliding one finger up and down the image

Caution:

Be aware: the following features are unavailable on devices running iOS12:

- Region Zoom
- Stepless Zoom
- Zoom out

You can use pinching in/out instead, as described above.

- Pan
- Density measurement
- Spatial locator
- Window level

You can use presets.

- Adding and modifying annotations

11.3.5 Share

You can share the study, print the report and download the images using functions.

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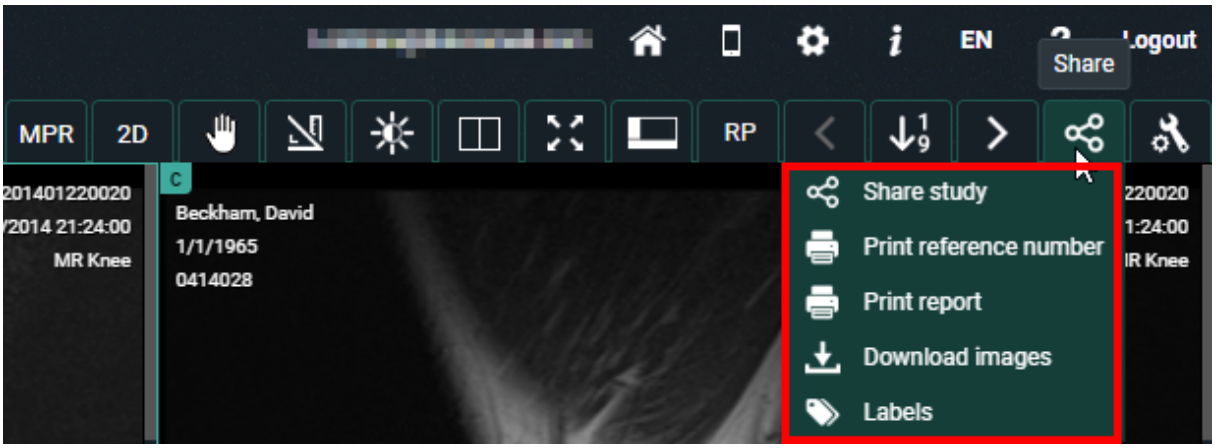

Share study

If you click on 'Share study', you will see the same pop-up as when you share a study from the overview page (Share study (Page 126)).

Print reference number

You can print a reference number for the opened study from the study page.

For more information, see Print reference code from the explore page (Page 163).

Print report

The following window will be displayed if you click on this function. You can now print the report.

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O'Barkeep, Erin (°04/07/1962)

Study description: **RX Chest**
Study date: **22/01/2016 14:46**
Reference Number: **201601220042**

http://demo.pacsonweb.com

Sint-Niklaas, 23/02/2016

Geachte collega,

Verslag over Uw patiënt:
O'BARKEEP ERIN, °04/07/1962

RX rechterschouder en AC-gewricht.

Controle na trauma.
Normale glenohumerale verhoudingen.
Subluxatie van het AC-gewricht links.

Echografie van de rechterschouder:

Duidelijke opzetting van de gewrichtskapsel van het AC-gewricht, compatibel met sequel van elongatietrauma met (partiële) ruptuur.
Geen hydrops van het schoudergewricht.
Geen scheur van de rotator cuff.
Normale lange bicepspees.

BESLUIT:

(Sub) luxatiestand van het AC-gewricht rechts na trauma.

Met beste dank en collegiale groeten,

PACSonWEB

Tip:

Do you want to know the reference number of the study? You can find this in the report heading.

If you scan the QR code, you will be taken to the login page. Enter the reference number and the date of birth of the patient here to view the study.

Download images

You can view images in your own PACS or viewing software when you click on 'Download images'.

With this option you can:

- download a ZIP file with images in PNG format (standard image format)
- download a ZIP file with images in DICOM format (medical standard)
- download a ZIP file with images in uncompressed DICOM format

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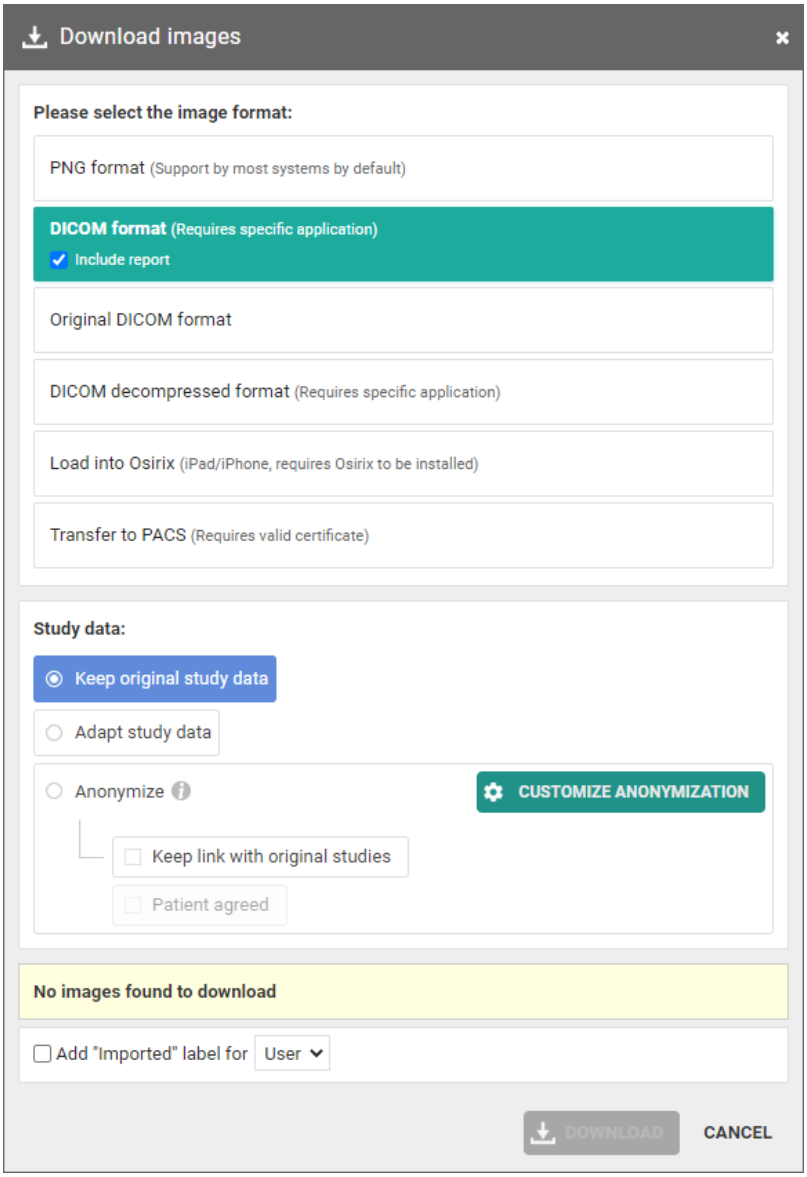
- load the images into your Osirix application (Mac only)
- send the images to your own PACS system

A detailed explanation about the various options is available under Downloading studies from the overview page (Page 181).



Warning:

If you wish to import the images into your own PACS, an import tool must first be installed by DH Healthcare GmbH.

Labels:

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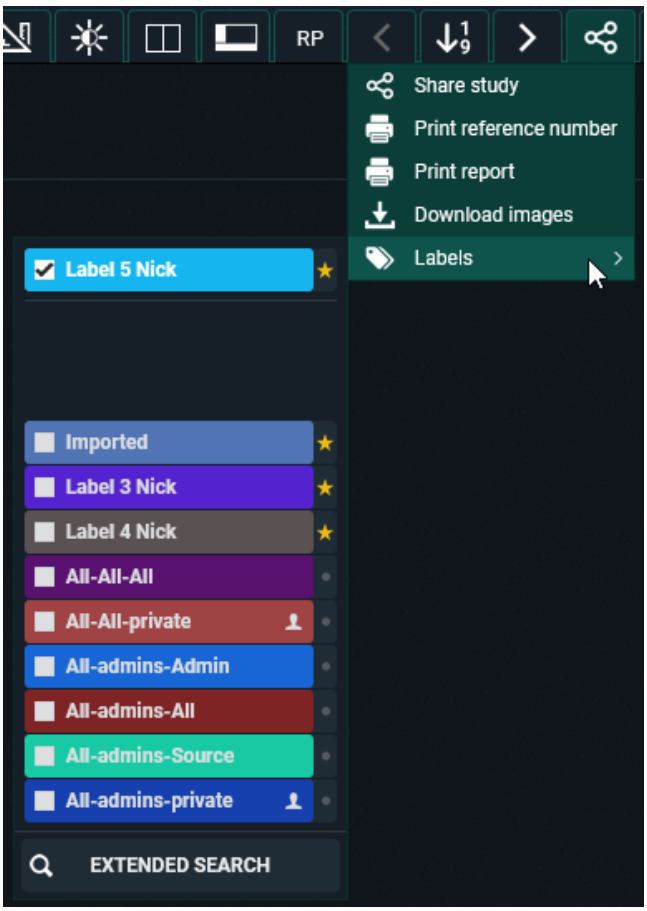
From this drop down, you can manage the labels for the study. The same way of working applies as for the overview page.

The full explanation on the usage of labels can be found here: Adding labels to studies (Page 195).



11.3.6 Administration

Accessing the study administration page

Important!

This function is only available if you are an administrator of a radiology service.

Click on the **Study administration** button to open the administration page.

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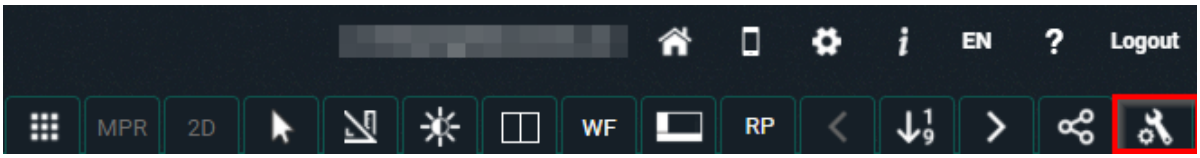
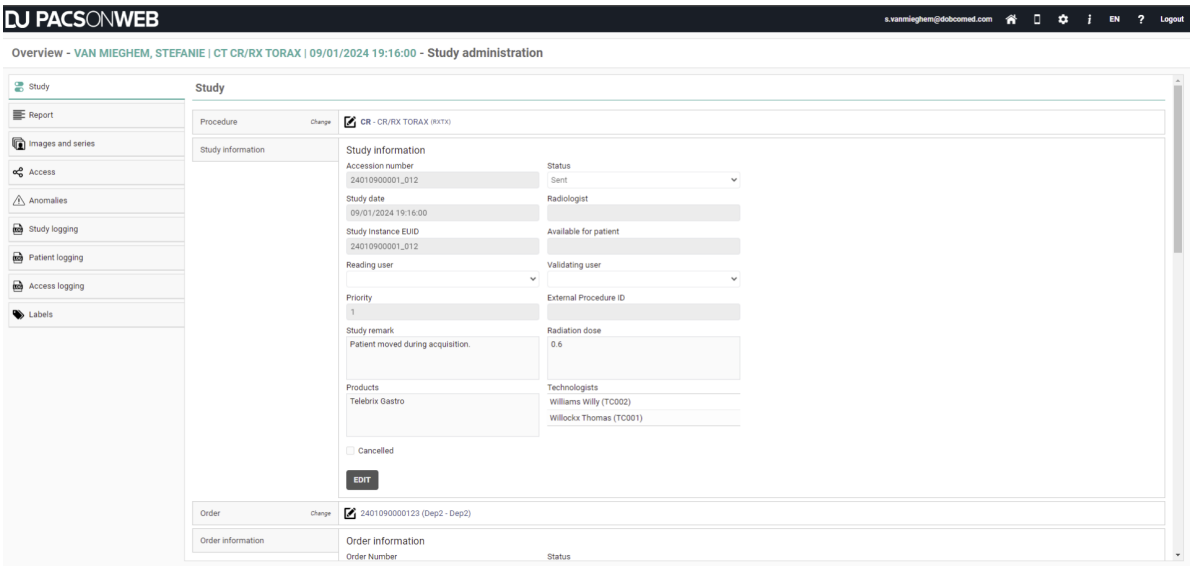


Via **Study administration** you have access to the patient and study metadata. Here you can make changes to the study/patient if necessary.

Overview of the Study administration:



Study administration tabs

Tabs	Description
Study	View and (partially) change the study and patient information.
Report	Consult the different report versions.
Images and series	Delete series, move series, mark series as private.
Access	View and (partially) change access settings.
Anomalies	View all anomalies that have been registered for the study and patient.

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Tabs	Description
Study Logging	Consult the logging on changes that have been made to the study.
Patient Logging	Consult the logging on changes that have been made to the patient.
Access Logging	Consult the logging on access to the study.
Labels	Consult / add / remove labels from a study.

11.3.6.1 Study information

Important!

Changing study information on DeepUnity PACSonWEB is in most cases a temporary solution. The information must be changed in the PACS and RIS system.

If not, it may occur that the initial information is synchronized and restored.

To consult the study information, go to the administration pages and select **Study**.

Depending on the section within the page, it is possible to consult or consult and modify the displayed information.

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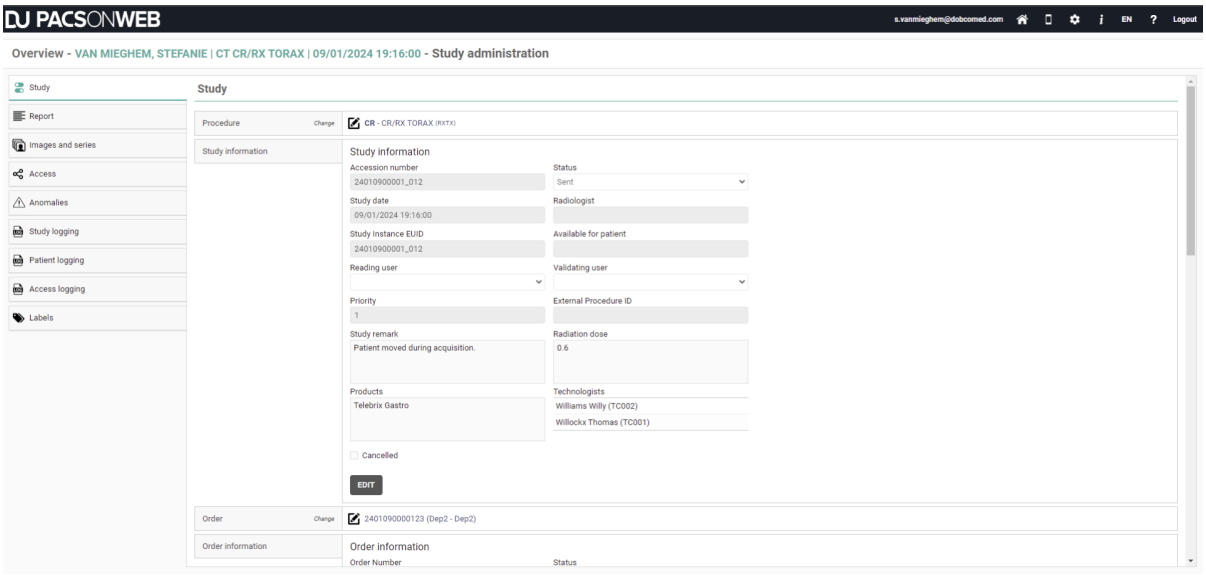
Overview of the Study administration

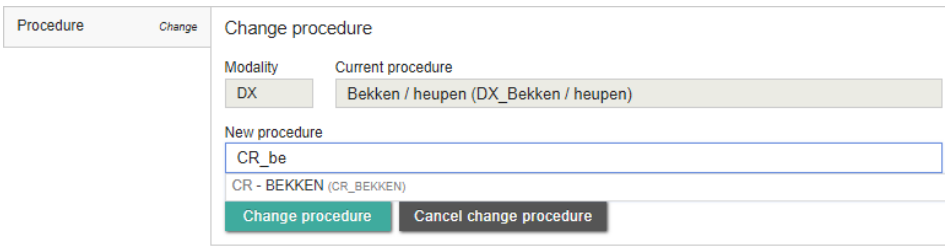


Procedure

To change the procedure, click the edit button

In the **New procedure** field, type the name of the new procedure, select the desired procedure and click **Change procedure**.

This will update the procedure in DeepUnity PACSonWEB.



Study information

To change the study information, click the **Edit** button at the bottom of the **Study information** panel.

The following fields are displayed:

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Study information fields

Field	Description
Accession number	-
Status	Status of the study (both the workflow status & Order status).
Study Date Time	-
Radiologist	Name of the report creator.
Study Instance EUID	-
Available for patient	When the report will be available for the patient. This is a Date Time field.
Reading user	Drop-down list of all users who have permission to create a report.
Validating user	Drop-down list of all users who have permission to validate a report.
Priority	Value between 1-100
External Procedure ID	-
Study remark	Values can be entered manually, or can be received via HL7.
Radiation dose	Values can be entered manually, or can be received via HL7.
Products	Values can be entered manually, or can be received via HL7.
Technologists	Values can be entered manually, or can be received via HL7. Technologists can only be added, if technologists are

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Field	Description
	known in the system, otherwise they will need to be send in via HL7.
AI status	Contains the current AI processing status, if sent to AI cube. (Cannot be edited)
AI findings	Contains AI findings, sent back from AI cube. (Cannot be edited)

If a patient needs to pay for access to their studies, you can manually indicate if the payment has been received.

If the "cancelled" checkbox is ticked, the study will only be accessible to members of the source admin group.

To save changes made to any of the fields, you will need to confirm that you want to update the study information by checking the following checkbox **Yes, I am sure I want to update the study information.**

This will update the study information in DeepUnity PACSonWEB.

Order

To change the Order, click **Change order** .

From this screen you can change the **Current order** to a **New order**.

You can look up the correct order in the system by clicking .

This will open the following look up screen, allowing you to search for order numbers registered in DeepUnity PACSonWEB, based on

- Order Number
- Performing Department
- Patient First Name
- Patient Last Name

Select the appropriate Order Number from the Search Results and click **Select**.

Check the option **Yes, I am sure I want to change the order linked to this study** and click **Change order** to update the Order in DeepUnity PACSonWEB.

Order Information

To maintain the Order and modify only the order information, click **Edit**.

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From this screen you can change the following fields:

- **Order Number**
- **Status** *(available, but not editable)*
- **Performing department**
- **Prescription date** *(This is a date/time field)*
- **Diagnostic question**
- **Clinical info**

If you have modified one or more fields, click the checkbox to confirm the changes.

Updating order information will result in changing all 'x-amount' studies linked to this order. **Yes, I am sure I want to change the order linked to this study** and click **Save** to register your modifications in DeepUnity PACSonWEB.

Visit information

In this section it is possible to edit the following fields:

- Visit number
- Point of Care
- Patient class
- Patient location

Confirm the changes you made by clicking the checkbox: **Yes, I am sure I want to update the visit information** and click **Save** to register your modifications in DeepUnity PACSonWEB.

Performing department

In this section it is possible to change the linked performing department and the Examination Room.

If you have modified one of these fields, check the option **Yes, I am sure I want to change the performing department linked to the study** and click **Change performing department**

Patient

If the study is listed with the wrong patient, you can change this under ‘Change or merge patient’. Click to open the following window:

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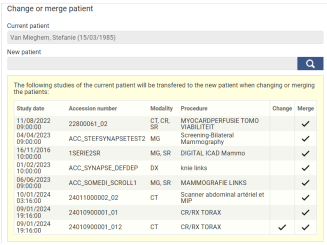


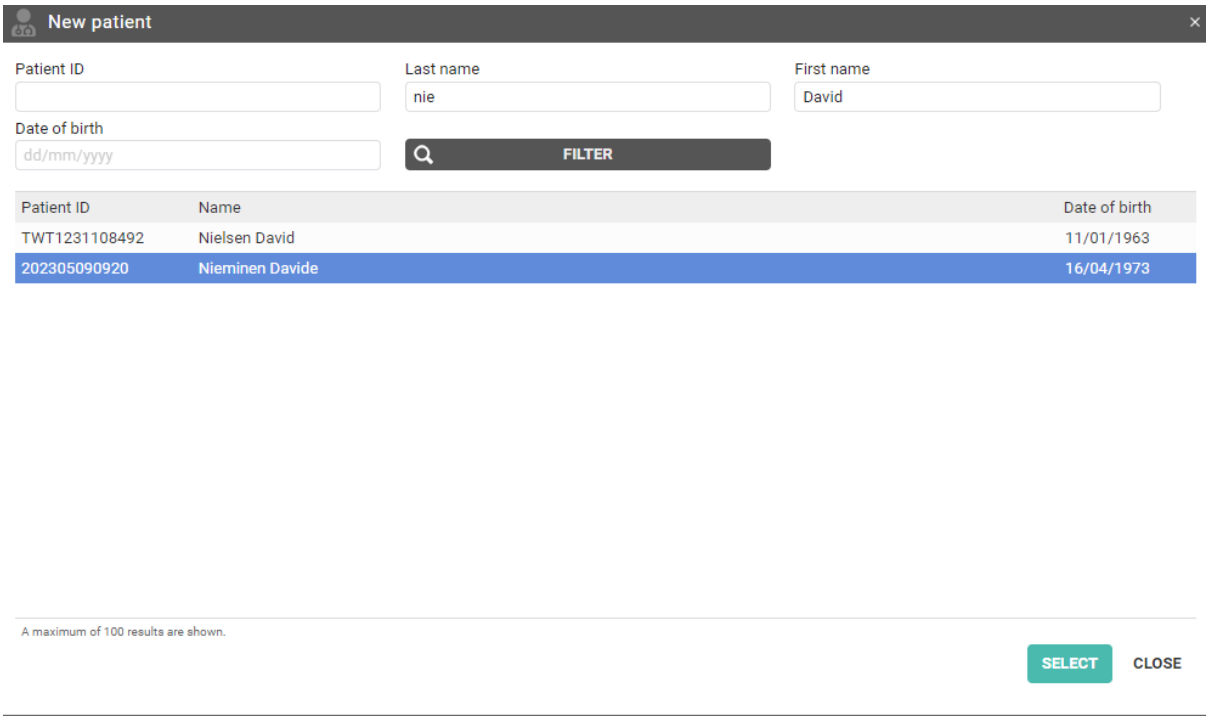
You can use to search for a patient who is already registered in DeepUnity PACSonWEB through another exam.

Within the pop-up, enter the search criteria and select **Filter**. The following search criteria can be used:

- Patient ID
- Last name
- First name
- Date of birth

You will now see an overview of the patients that meet your criteria.

Highlight the patient of interest and click **Select**.



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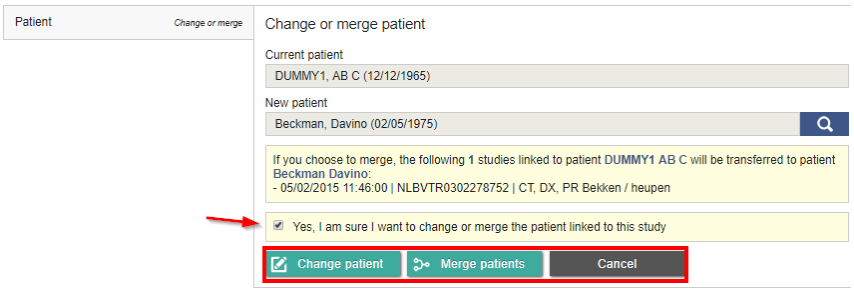
Note:

If you cannot find this patient, you will have to change the patient information under ‘Patient information’.

Before you can make any changes to the patient, you must check the box **Yes, I am sure I want to update the study information.**

You can now choose to change the current patient to the new patient or merge both patients.



When you click **Change patient** or **Merge patients**, the study’s patient information will be updated.

Important!

If you choose the change option, only this one study, will be linked to the newly selected patient.

Afterwards, both the initial patient and the selected patient will still exist in DeepUnity PACSonWEB.

If you choose the merge option, all studies, related to the initial patient will be linked to the newly selected patient.

Afterwards the initial patient will no longer exist.

Patient information

If you were unable to find the patient, you can change the patient information manually.

Select **Edit** to change the patient information.

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Patient Information Fields

Fields	Description
Last name	
First name	
Last Name at Birth	This can be entered manually or can be send in via HL7. These fields can be used for example by Ségur.
First Name at Birth	This can be entered manually or can be send in via HL7. These fields can be used for example by Ségur.
Date of birth	
Place of birth	This can be entered manually or can be send in via HL7. These fields can be used for example by Ségur.
Gender	
Mobile number	
Email	
Patient remark	This can be manually entered or can be send in via HL7.
Patient ID's	This is a table of all the different ID's known to the system. (The national number is listed here).

If you've changed one of the fields, click the checkbox **Yes, I am sure I want to update the study information** and then on **SAVE**.

The patient information has now been updated in DeepUnity PACSonWEB.

Requesting physician

If you wish to change the study's requesting physician, click

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Within this screen you can change the **Current physician** to a **New physician**.

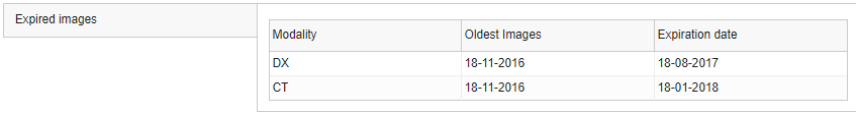
When you start typing in the **New physician** field, the corresponding names will be displayed.

Select the correct name and click **Change requesting physician** to update the requesting physician for this study.

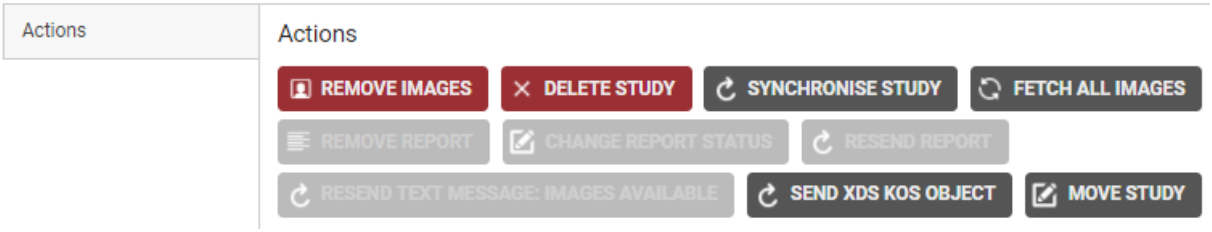
Expired images

This section gives an overview on the expiration time for the images per modality.

It is not possible to make modifications in this section.



Actions



You can use **Actions** to:

Description of Actions

Actions	Descriptions
Remove images	Delete the images from DeepUnity PACSonWEB.
Delete study	Delete the entire study from DeepUnity PACSonWEB.
Synchronise study	Synchronise the exam on DeepUnity PACSonWEB with the local PACS system. • Can only be used when images are sent using the PACS Push mechanism.

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Actions	Descriptions
	• **Optional:** Available if the radiology department has fetch enabled.
Fetch all images	Fetch all images from the local PACS system if not all images are available (anymore) through filtering or because the retention period has expired • **Optional**: Available if the radiology department has fetch activated.
Remove report	Delete the report from DeepUnity PACSonWEB.
Change report status	Change the status of the report to Draft, Preliminary or Validated. • This option is only available if a report is available. • This option will be disabled in case of a PDF report.
Resend report	This option will resend the report, this is however only possible in case a report is created or adapted in DeepUnity PACSonWEB and a link with the RIS system of the related source has been configured.
Resend text message: images available	This option will resend the sms, this is however only possible if the source sends a text message to the patient when images are available.
Send XDS KOS object	Is an option, configurable per source.
Move study	Possibility to move the content of this study to another study.

How to move a study

Click the **Move study** button.

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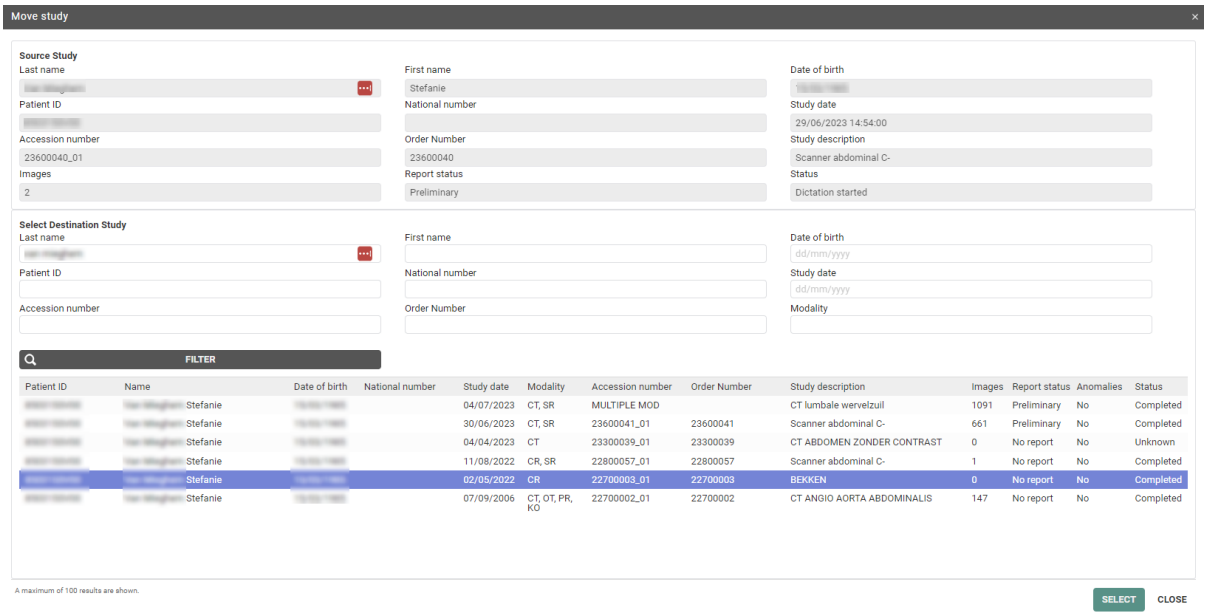

In the pop-up displayed, fill in the necessary search criteria in the **Select Destination Study** panel.

To look up the correct study, select the study from the list and click the **Select** button.

To delete the **Source study**, tick the box next to **Delete source study** and select the workflow status of the **Destination study** in the drop-down list.

The Destination study workflow status drop-down will by default have the same status as your selected Destination study, unless the status of the Destination study is lower than the Source study, for example:

- If the **Source study** had the status **Sent**, the Destination study workflow status drop-down will be **Sent**.
- If the **Source study** had status **Completed**, the Destination study workflow status drop-down will be **Completed**.

The last step is to confirm that you want to move the content of the study.

After clicking **CONFIRM**, a summarizing dialog is displayed. You can choose to open the selected study or, if it was not deleted, reload the current study.

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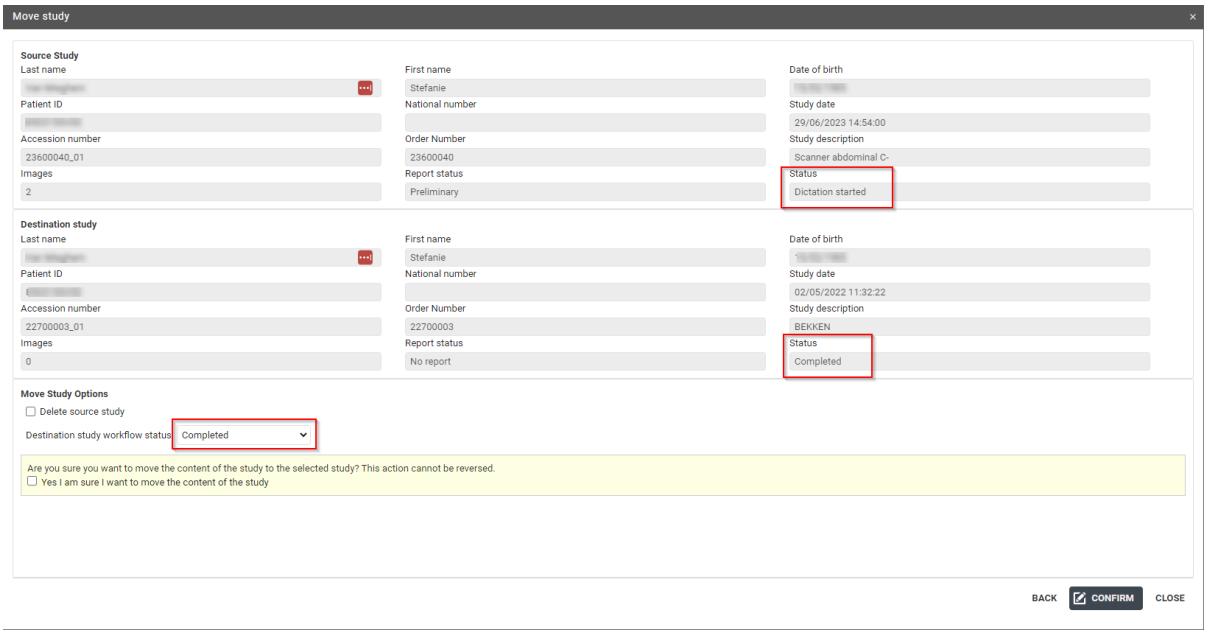


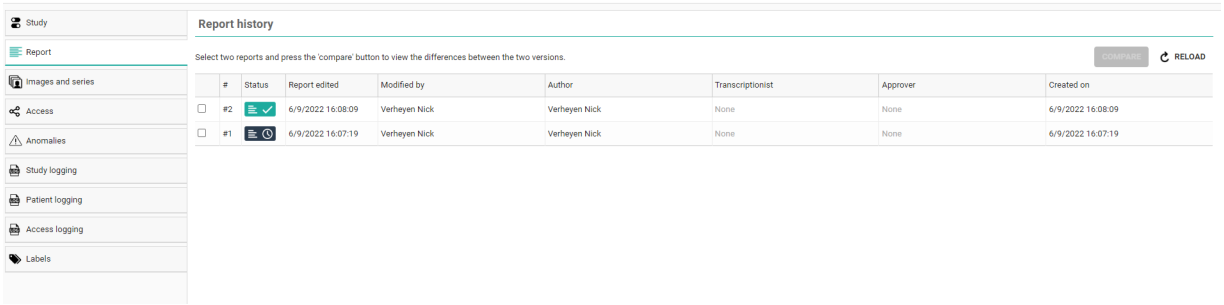
11.3.6.2 Report

The report tab contains all information about the report.

If there is more than 1 saved report, the versions can be compared to each other to see the differences between two versions.

In the different columns, the user can see the Author, Transcriptionist and the Approver of the report.

The creation date is shown in the last column.



Clicking on the line itself will display the report.

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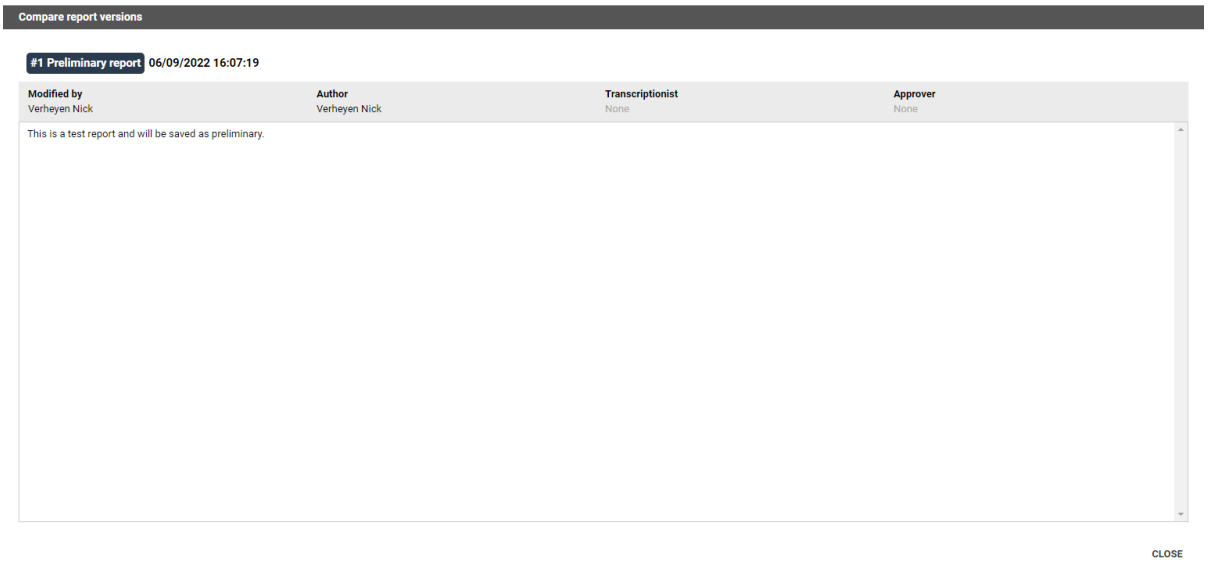
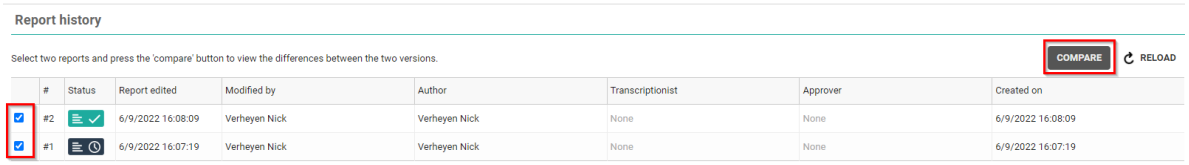
SSN: DOC-3947337

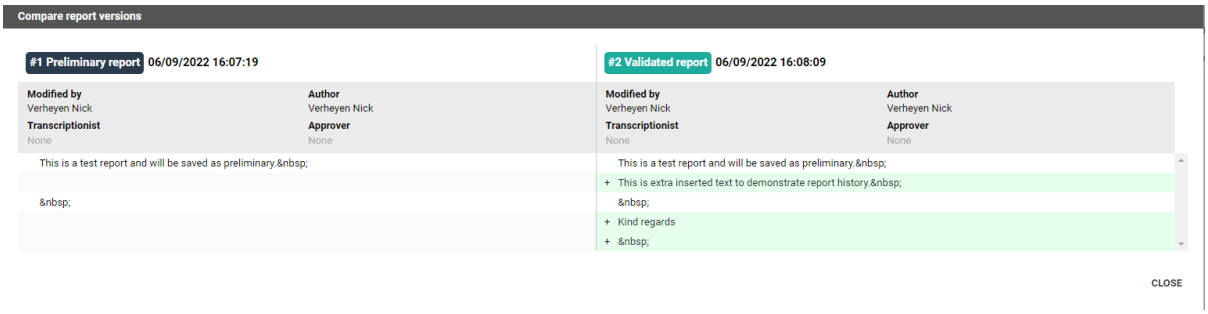


Compare report versions:

To compare 2 reports, enable the checkboxes and click **Compare.**



The reports are compared side by side, the changes will be shown in green.



11.3.6.3 Images and Series

Note:

If allowed by the source of a study, as a source admin, you can remove images or series from a study, create a new series or move images to another study.

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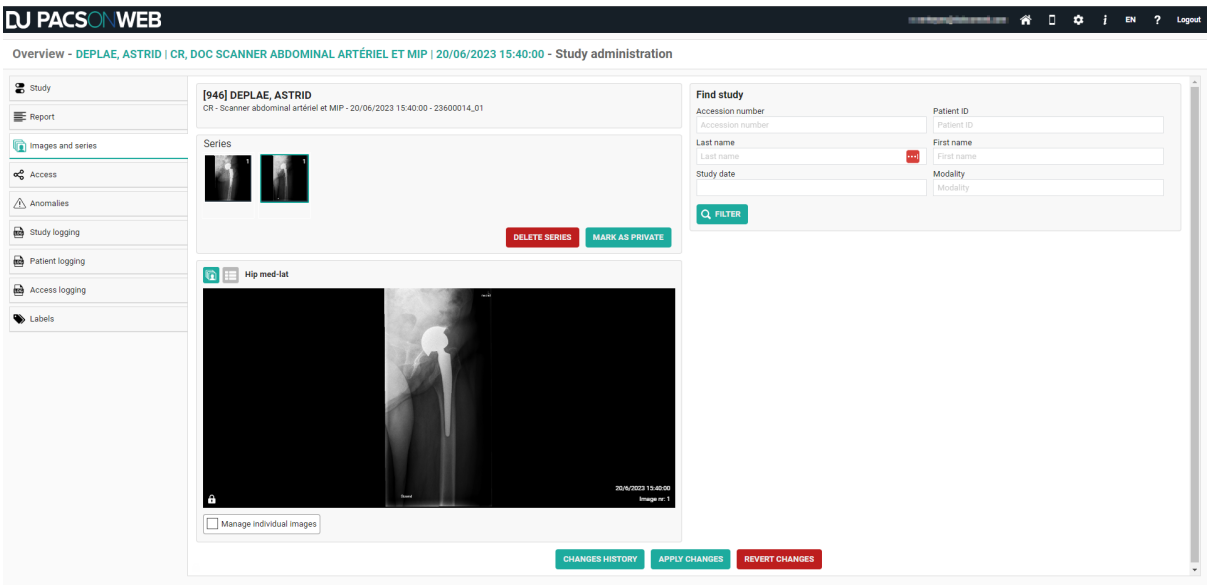
In order to modify the images and series of a study, go to "Study administration" and select 'Images and Series'.



1. Select a series and click DELETE SERIES to delete the entire series from the study.

   DICOM encapsulated PDF's can only be removed in this way since it is a DICOM instance.

   Other PDFs can be removed in the viewer (cf Series picker (Page 203) - Section Report, documents & Order information)

2. Select a series and select **Manage individual images** to remove or add a single image to the selected or a new series.

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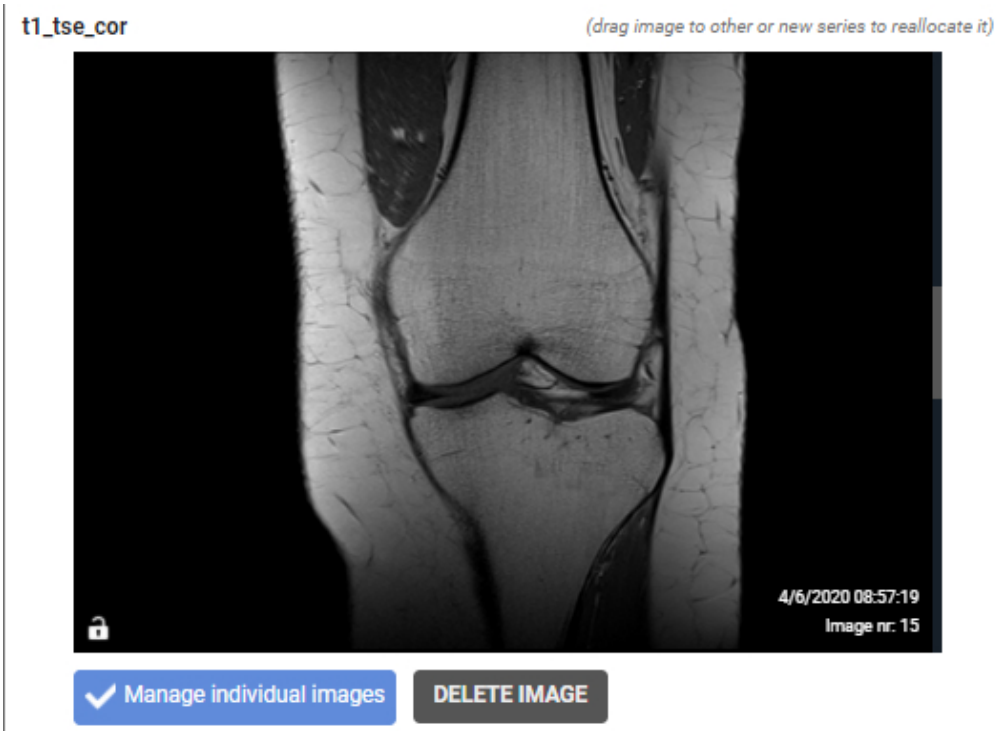

Add an image to a series:

You can add an image to a selected or new series by dragging it onto the desired series.

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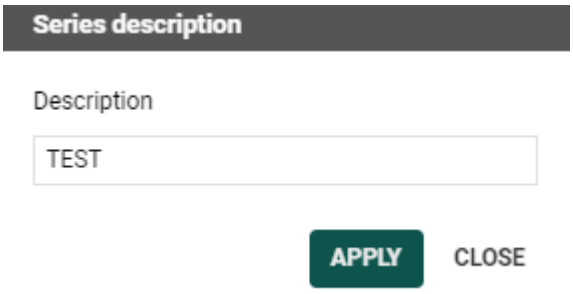
If you have created a new series, you need to manually enter the Series Description.



Remove an image from a series:

You can remove an image from a series by scrolling through the series to the image of interest and clicking Remove Image.

3. Marking series as private

   It is possible to mark series as private, making the series visible only to source administrators or users with the associated permission.

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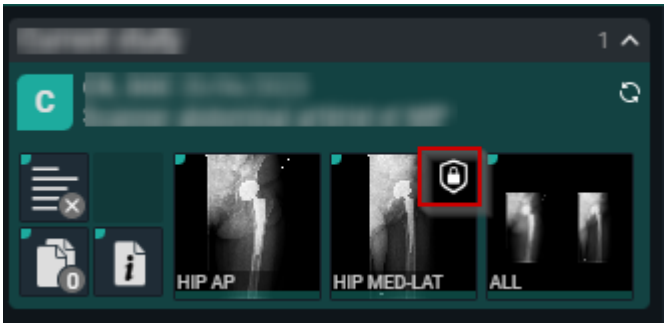
Marking a series as private, can be done by selecting the series and clicking on the MARK AS PRIVATE button.

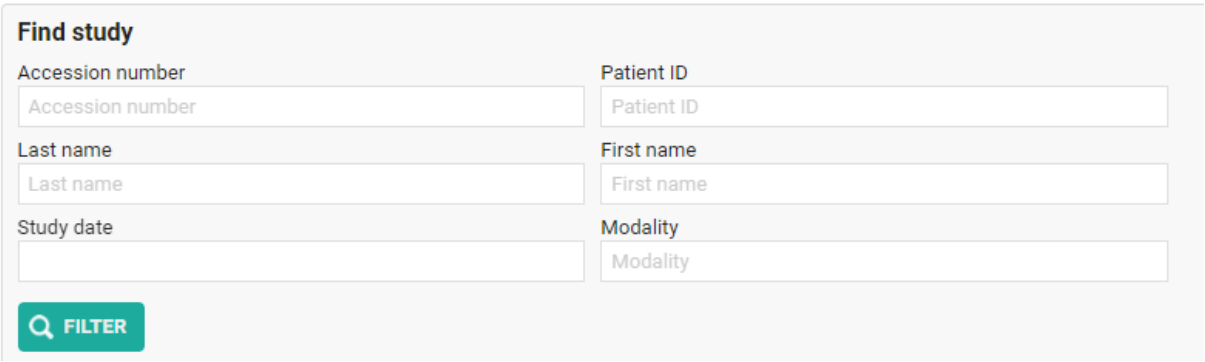
After marking a series as private, a lock icon will be displayed on the thumbnail.

Afterwards this is also visible in the series picker with a lock icon in the thumbnail.



You can undo this by selecting the private series and clicking MARK AS PUBLIC

4. You can move series or images from one study to another study by looking it up, based on:



Select the appropriate study from the resulting list.

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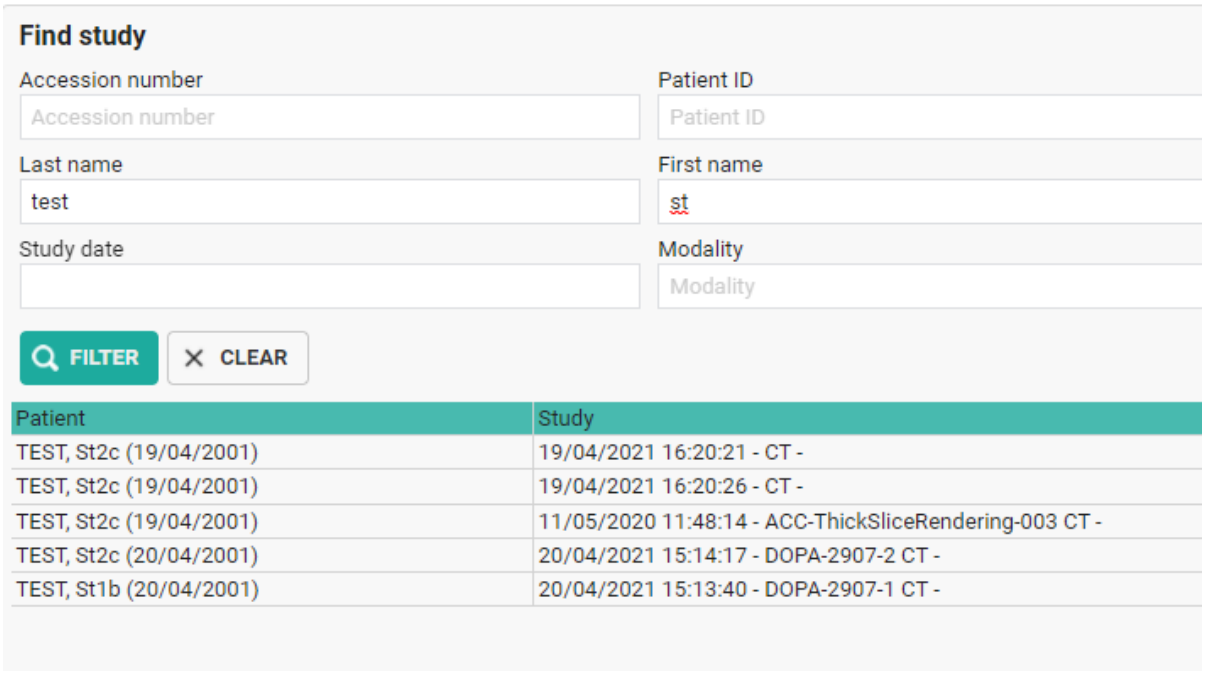

Select a series from the first study and click **MOVE SERIES** to move it to the second study.

To move a single image, select a series and tick **Manage individual images**, look up the image and drag it onto an existing or new series of the second study.

If you want to move **multiple images,** you can switch to the image list.

Select the images that need to be moved by holding the CTRL button and clicking the image lines. You can also select a range by holding the SHIFT button.

When the images are selected, drag them to the desired study and series.

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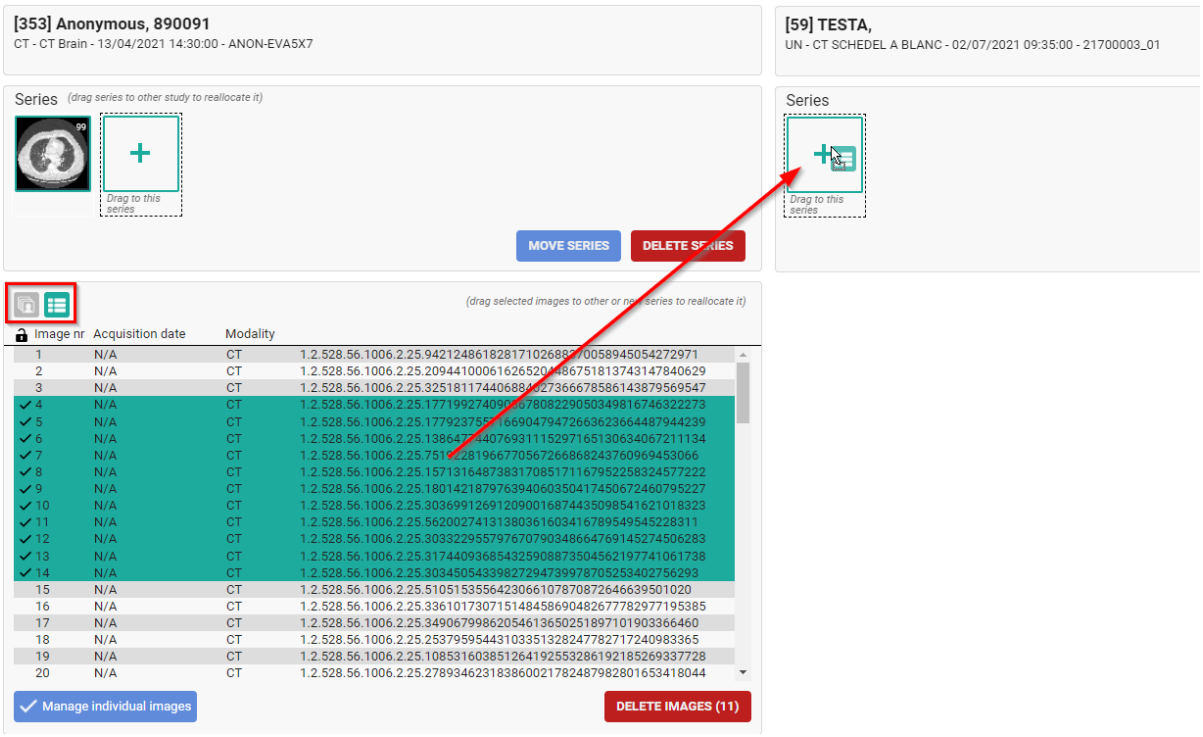
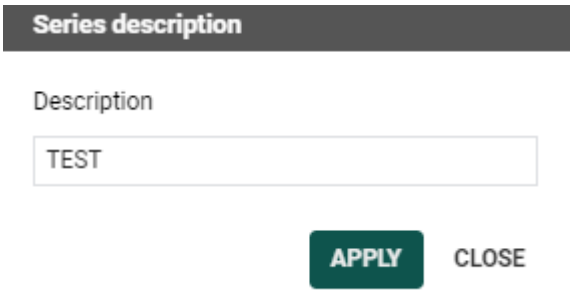


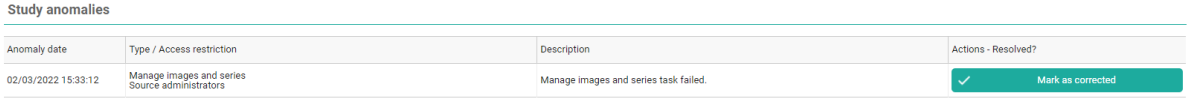
If you have created a new series, you need to manually enter the Series Description.



After you have made the modifications, you can choose to register or cancel them by clicking APPLY CHANGES or REVERT CHANGES.

Additional information on manipulations:

- Images and series cannot be moved when new images or series are still being received
- In case a move or delete operation fails, an anomaly will be created



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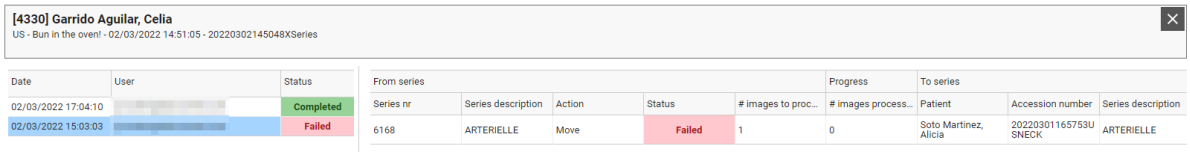
- By clicking CHANGES HISTORY you will get a detailed overview of all manipulations that have been done with the study.



11.3.6.4 Access to the study

From the 'Access' tab, you can check and modify the information related to:

- who has access to the exam
- in which ways the exam can be accessed
- when access to the exam was granted

All registrations of actual access to the exam is logged in Study logging (Page 267).

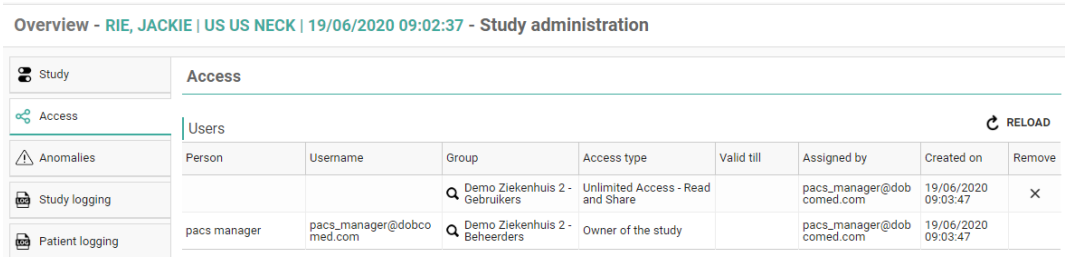
Users

In the 'Users' section is listed for which users and user groups, the exam is accessible from the explore page.

By clicking a groups name, you can consult the details for the group (members, address, contact information, ...)

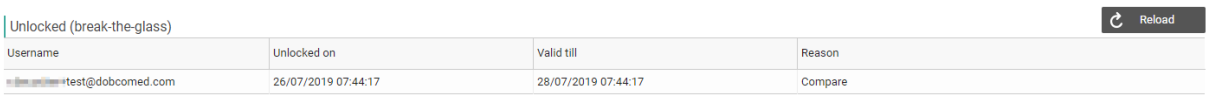
Furthermore, you can see what type of access a user has, until when the access is valid and when and by whom the access was granted.

A specific access can be withdraw by clicking the cross icon at the end of the line.



Unlocked (Break-the-glass)

This list contains all users that have unlocked the exam for access, when and for what reason.



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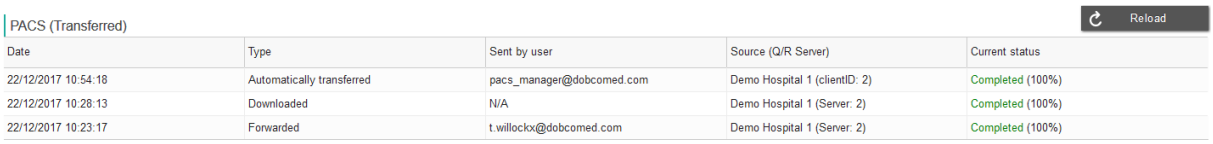
PACS (Transferred)

This list contains all actions on forwarding or downloading the exam to a local PACS system.

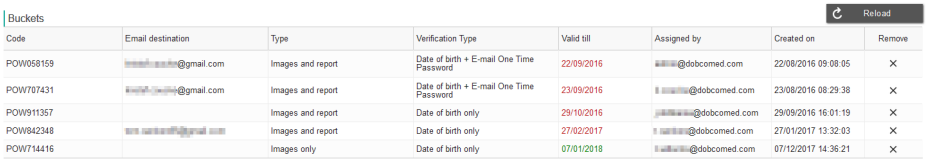

PACS (Transferred)

Reload

Date	Type	Sent by user	Source (Q/R Server)	Current status
22/12/2017 10:54:18	Automatically transferred	pacs_manager@dobcomed.com	Demo Hospital 1 (clientID: 2)	Completed (100%)
22/12/2017 10:28:13	Downloaded	N/A	Demo Hospital 1 (Server: 2)	Completed (100%)
22/12/2017 10:23:17	Forwarded	t.willockx@dobcomed.com	Demo Hospital 1 (Server: 2)	Completed (100%)

Buckets

This list contains all buckets to which it belongs and all corresponding details.


Buckets

Reload

Code	Email destination	Type	Verification Type	Valid till	Assigned by	Created on	Remove
POW058159	[redacted]@gmail.com	Images and report	Date of birth + E-mail One Time Password	22/09/2016	[redacted]@dobcomed.com	22/08/2016 09:08:05	✕
POW707431	[redacted]@gmail.com	Images and report	Date of birth + E-mail One Time Password	23/09/2016	[redacted]@dobcomed.com	23/08/2016 08:29:38	✕
POW911357		Images and report	Date of birth only	29/10/2016	[redacted]@dobcomed.com	29/09/2016 16:01:19	✕
POW842348	[redacted]	Images and report	Date of birth only	27/02/2017	[redacted]@dobcomed.com	27/01/2017 13:32:03	✕
POW714416		Images only	Date of birth only	07/01/2018	[redacted]@dobcomed.com	07/12/2017 14:36:21	✕

Access to a bucket can be revoked by clicking the cross icon at the end of the line.

When bucket access is withdrawn, you have the possibility to remove the exam from the bucket REMOVE STUDY FROM BUCKET or to remove the entire bucket REMOVE FULL BUCKET

Reference number

This list contains all reference numbers that can be used to obtain access to the exam through the patient login.

Access through a specific reference number can be withdrawn by clicking the cross icon at the end of the line.

From the list, it can be seen when each reference number was generated and from when until when it can be used, as allowed by the source.

In case the "Valid from" and "Valid to" date is not registered, there is no date restriction on the use of the reference number.

In case the radiology department requires the patient to pay for access to the study, access can be secured with an additional Pincode, provided to the patient upon payment.

This table lists the registered Pincode for each reference number and the number of failed attempts to enter the Pincode.

A radiology department can impose a minimum complexity for its reference numbers. In case a reference number does not fulfill this requirement, it is marked with an icon and cannot be used to access the study.

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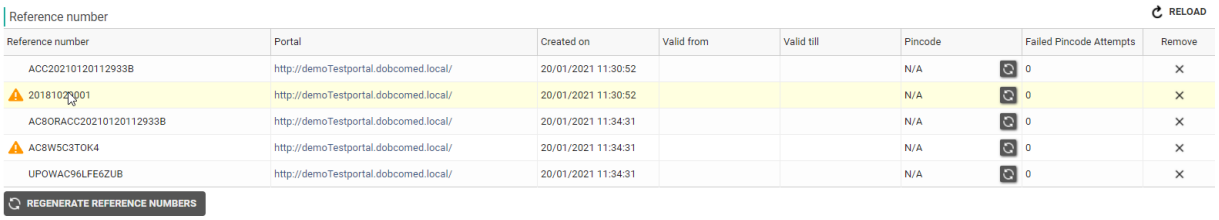

The button 'Regenerate reference numbers' allows you to add the reference numbers again, according to the configuration of the sending radiology department.

RSW Status

It's possible to send the study to RSW again by clicking on the Send button at the end of the line:

Confirm your request by clicking SEND.

11.3.6.5 Anomalies

In case a study on DeepUnity PACSonWEB deviates from the corresponding study on the local PACS system, an anomaly will be registered. In this case, the anomaly is clearly indicated within the study page (DeepUnity PACSonWEB study page (Page 198)).

When opening the study administration pages for a study that has an anomaly registered, the anomalies tab will be displayed automatically and the label will be marked in orange.

Warning:

The data of each listed anomaly are the data at the moment the anomaly was registered.

If patient or study data have been modified after the registration of the anomaly, these modifications will NOT be taken into account in the anomaly.

Anomalies on study level

The following anomalies will be reported:

- national number in DICOM files differs from HL7 information
- date of birth in DICOM images differs from HL7 information
- no or incorrect date of birth registered

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- number of images in DeepUnity PACSonWEB differs from the number of images in the local PACS (taking into account any applied filtering)
- national number already registered with another patient through DICOM
- image or HL7 message received with the same study instance EUID or accession number but with other patient ID
- study for patient without ID is changed to a patient with ID via DICOM or HL7
- incompatibility with CvKO. (scroll to bottom of the page for more explanation)
- studies of different patients have been merged
- failed move or delete operation of image or series

For each anomaly, all relevant information is displayed in the overview.

From the overview, the related exam can be opened by clicking the study link.

Anomalies on patient level

The following anomalies will be reported:

- Multiple internal patient IDs have been registered for a single patient
- Received national number already linked to another patient
- Date of birth differs from date of birth that was registered with a previous exam
- National number already registered with another patient through HL7
- Patient without ID from DICOM (scroll to bottom of the page for more explanation)
- Patient without name from DICOM: a patient name is generated ("UNK_"+ [source abbreviation]+unique number) and used (scroll to bottom of the page for more explanation)

For each registered anomaly, the following information is shown:

- date and time when the anomaly was registered
- the anomaly type + the required access level of a user to be able to open the study
- a description of the anomaly
- the possible corrective measures

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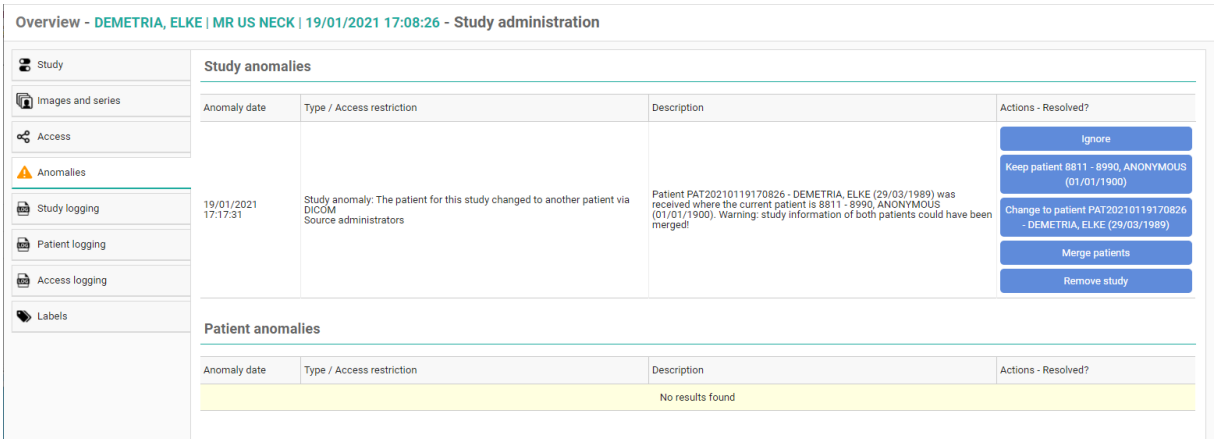
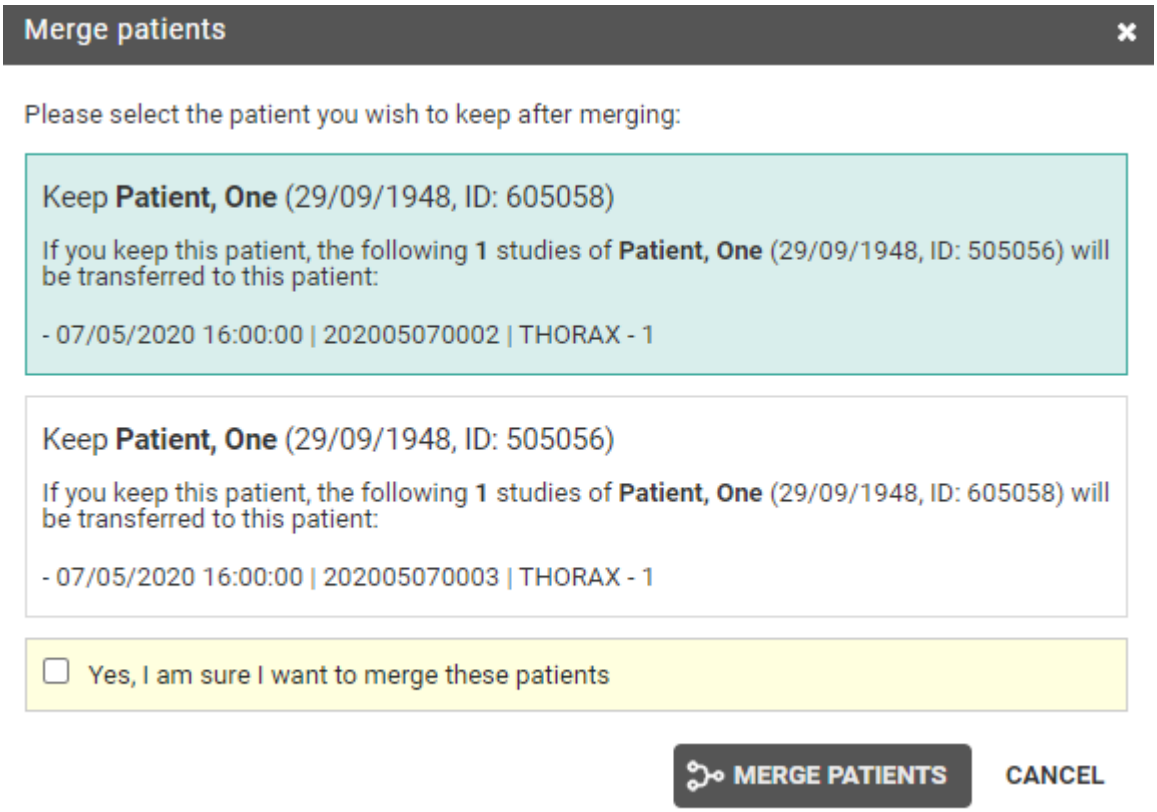


In case a national number was registered for two different patients, it will be possible to assign this to the first patient, the second patient or to merge both patients.

For the latter option, the following screen is displayed to perform the merge in a controlled way:



Once a solution has been selected, it will be marked in green. When hovering the cursor over the label, it is displayed by whom and when the selected solution was applied.

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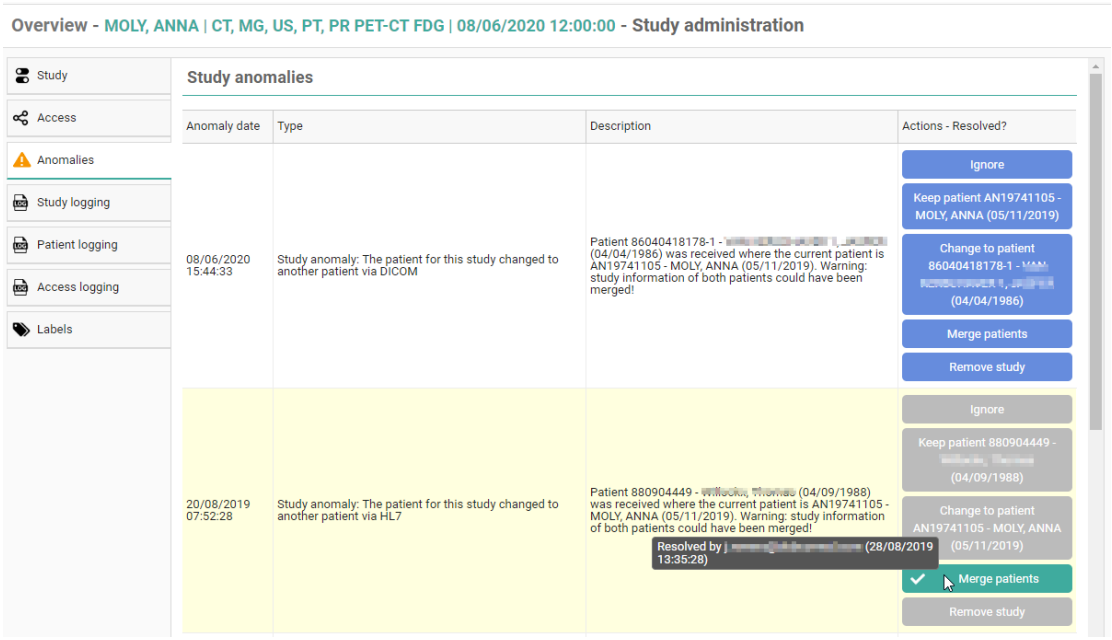
In case all registered anomalies have been marked as solved, the notification will no longer be displayed on the study page and the label 'Anomalies' on the study administration pages will no longer be marked in orange.



Study anomaly for patient without ID or name from DICOM

After fixing the study click on "Ignore" in the action description.

Only source admins can access the studies with these anomalies.

Study anomaly for incompatibility with CvKO

When DICOM files are received with DICOM tags that do no meet the requirements, 2 possible actions are possible to fix the anomaly.

Possible actions:

- Ignore: result is that nothing will happen and the anomaly will be resolved.
- Mark as corrected: a dialog is shown to send the corrected images to DU POW and share the study manually with CvKO.

All modifications with regard to anomalies on study level are registered in 'Study Logging' (Study logging (Page 267)).

All modifications with regard to anomalies on patient level are registered in 'Patient Logging' (Patient logging (Page 268)).

11.3.6.6 Study logging

You can see who changed what with regard to the study data using study logging.

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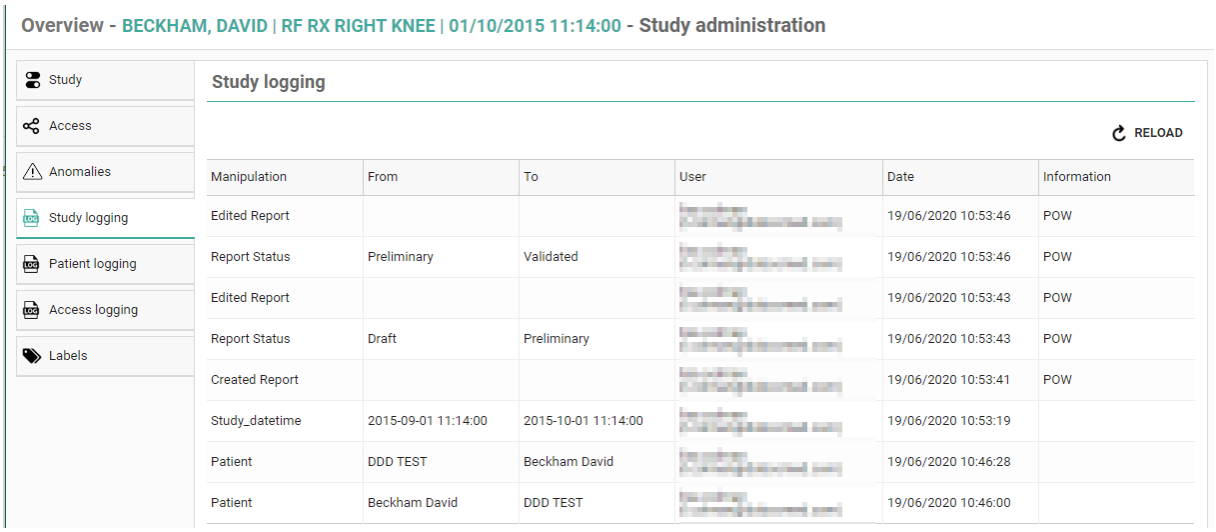
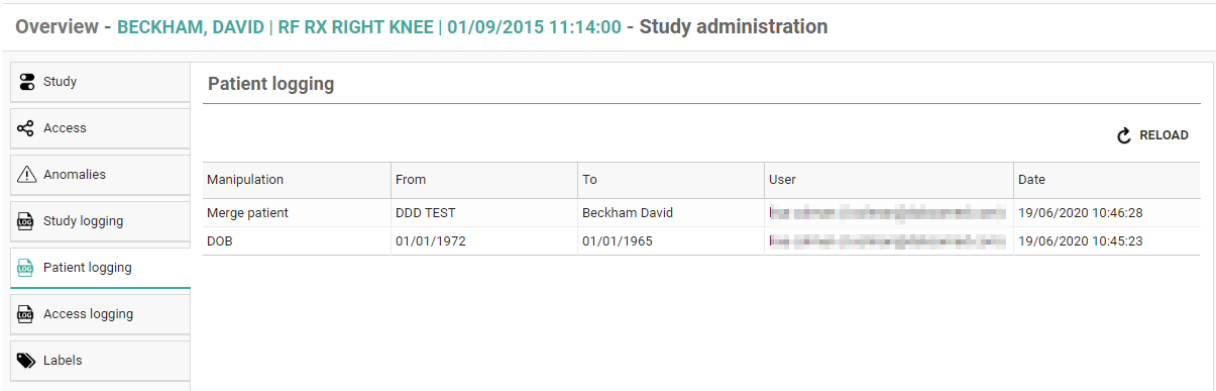


11.3.6.7 Patient logging

You can see who changed which patient data using patient logging.



11.3.6.8 Access logging

For all types of access and in case images have been downloaded, it is registered

- how the study was accessed
- when the study was accessed / downloaded
- from what IP the study has been accessed / downloaded

For downloads, it is also registered in what format the study has been downloaded (PNG, DICOM, ...)

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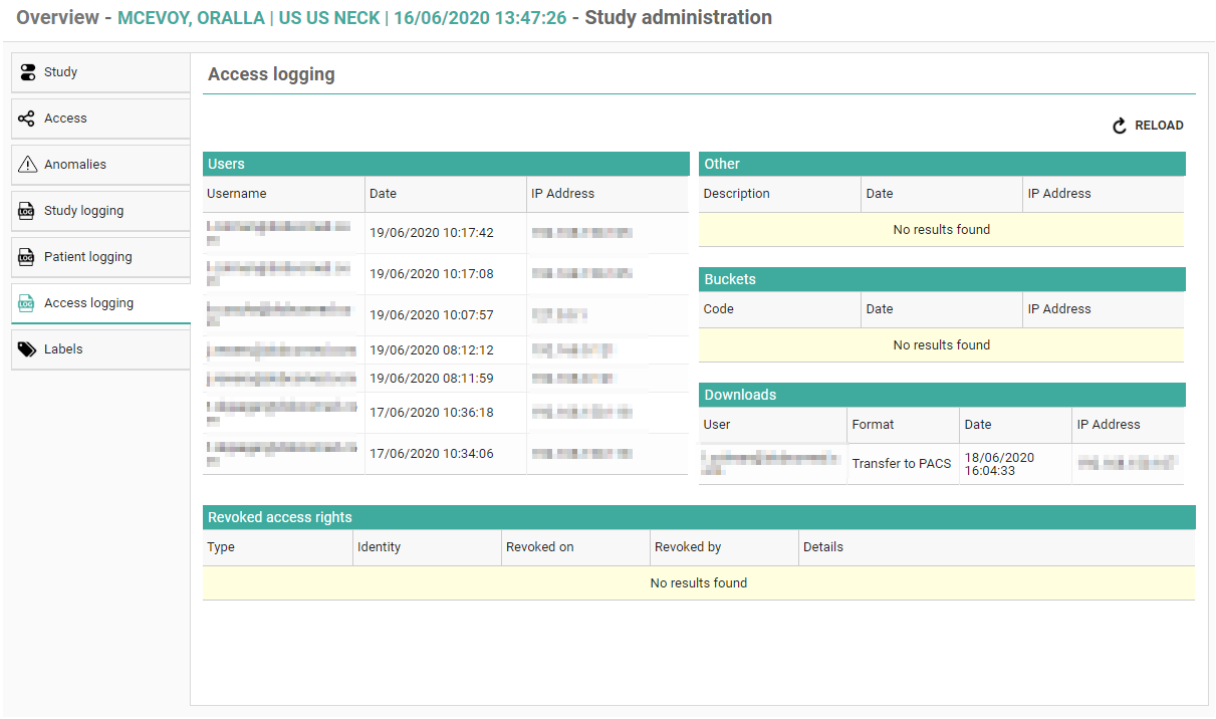
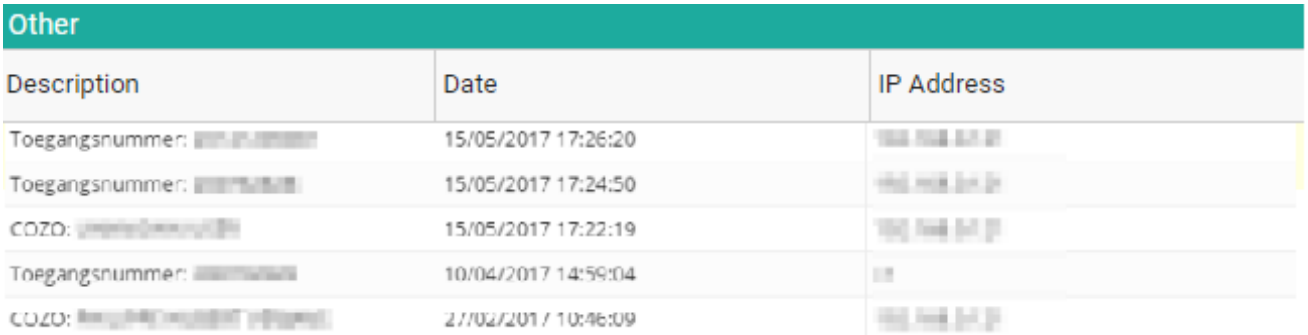


Note:

Buckets means that the study has been shared with a recipient without an account, he can open the study with a DU POW code.

For Belgium, all access through the COZO portal is registered within the "Other" overview.



11.3.6.9 Labels

From the tab Labels, the following information is available:

- Name and description of added labels
- Date/time when the label was added to the study

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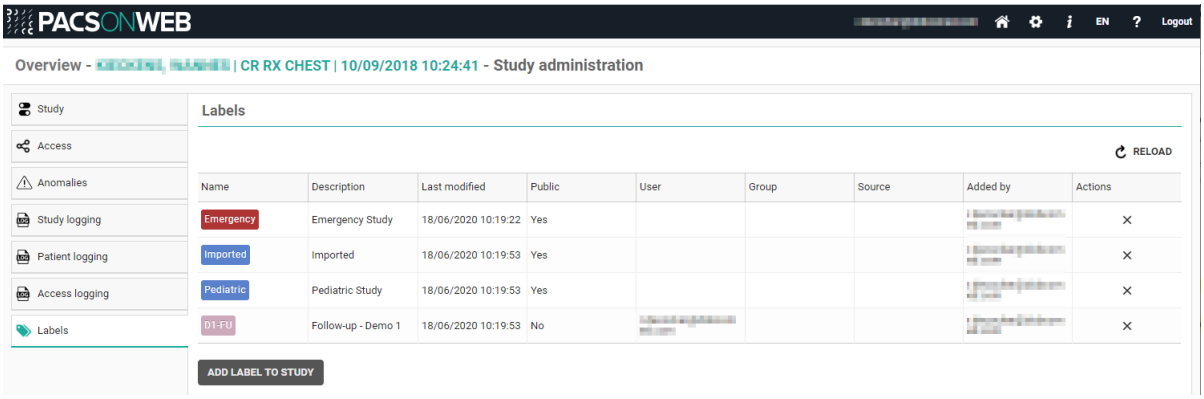
- To whom the label is visible
- Who added the label

From this page it is also possible to add or remove labels to the study **ADD LABEL TO STUDY**.



11.3.7 MPR and related tools

DeepUnity PACSonWEB contains the following advanced image tools for multi-slice series:

- Multi Planar Reconstruction
- Maximum Intensity Projection
- Minimal Intensity Projection
- Multi Projection Volume Reconstruction

Important!

MPR as supplement

All diagnosis and medical decisions based on MPR generated images (MPR, MIP, MinIP, MPVR) should always be double checked with the original series.

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Important!

MPR accuracy and resolution

The accuracy of MPR generated images depends on the quality of the original series (pixel spacing, slice thickness ...).

The images are calculated, based on the data available in the original series.

Gaps of pixel- data will be calculated to show a smooth image.

It will remain the user's responsibility to keep in mind the slice thickness and pixel spacing from the original series.

In case the slice thickness is larger than the pixel spacing, overlap between slices is not taken into account.

The used pixel spacing is calculated based on the image location of the original images

The user should be aware of lossy data visualization while judging and diagnosing a patient.

The user should also be aware that series that lost pixel- data while compressing or have an inappropriate slice thickness are not suitable for proper MPR generation.

Important!

MIP, MinIP and MPVR calculations

While using MIP, MinIP and MPVR calculations, only one pixel is shown for the whole thickness of the slice. The user should know that only selective data is shown based on these calculations, and that it is his responsibility to double check the data with the original series.

Warning:

These functionalities are not supported on mobile devices.

The tools can only be activated for images of the following modality type:

- CT
- MR
- NM
- PT / PET
- ST / SPECT

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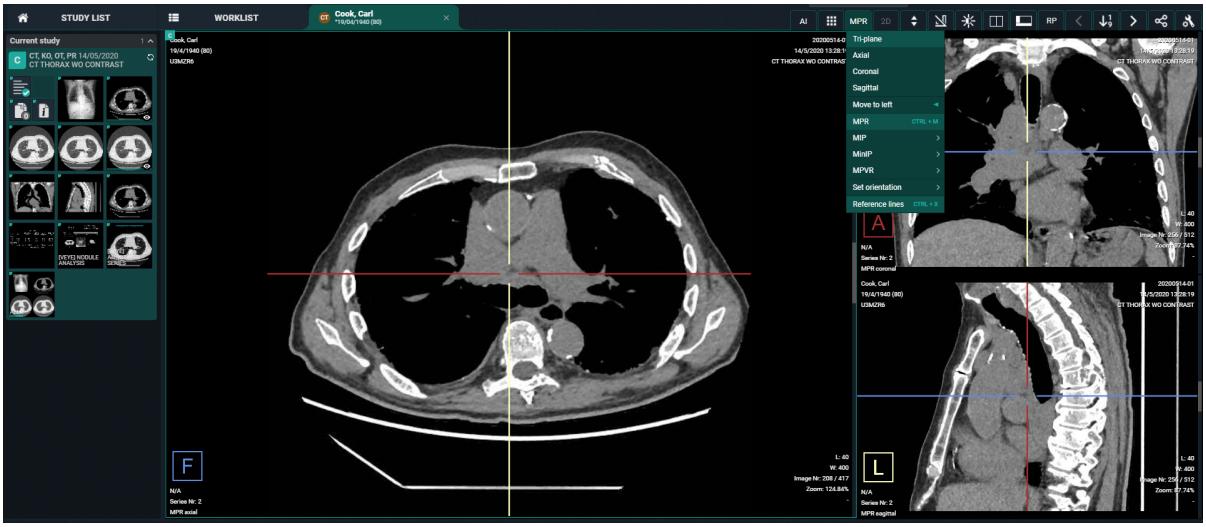
If a viewport with such a series is selected, the button "MPR" is available from the toolbar. When clicking the button, the complete list of MPR functionalities is displayed.



The "MPR" menu is also available from a right mouse click on the image.

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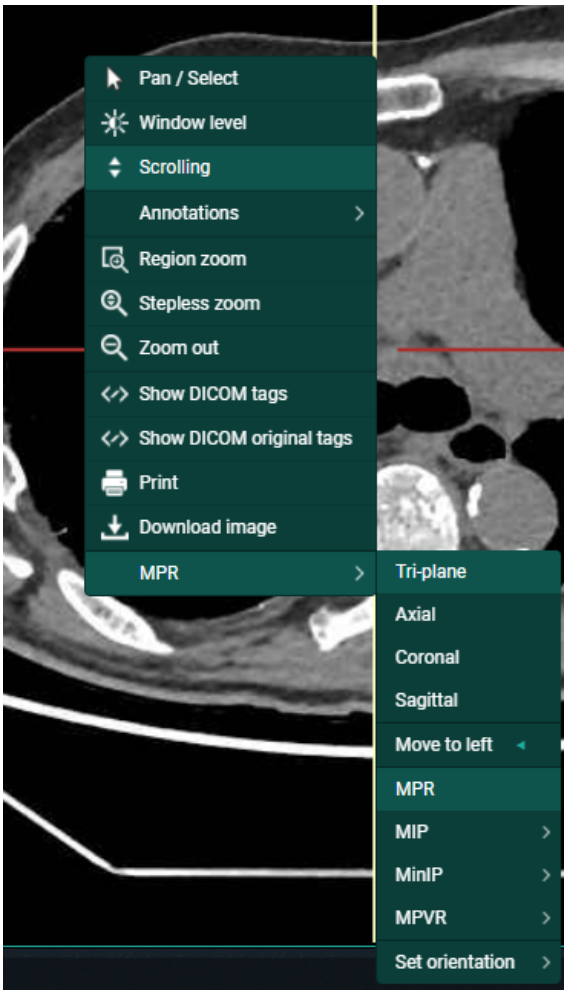

For ease of use, you can use the following short cuts:

Activate / Deactivate MPR	CTRL + M
Show / Hide reference lines	CTRL + X
In case MPR is active: **Reset MPR** to original orientations, reset zoom factor and window level	SPACEBAR
Move viewport to left	Left arrow key

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In case an image series is selected that does not support MPR, the button is grayed out in the toolbar and the option "MPR" is not listed in the context menu when performing a right mouse click on the image.

In case the MPR can not be created due to insufficient memory, the following notification will be displayed.

MPR

Cannot create MPR

The MPR volume cannot be created due to insufficient memory. Please retry later. If the problem persists, please contact your system administrator or DeepUnity PACSonWEB support.

Warning:

In order to be able to generate usable MPR data the related image series must comply with each of the following conditions:

- distance between each set of consecutive slices is equal
- series consists of 10 slices or more
- series consists of 10000 slices or less
- spacing between slices is max. 10 mm
- all images within the series have the exact same orientation
- source frames are monochrome
- series must have 16-bit images

If a condition is not fulfilled an appropriate warning message will be displayed.

11.3.7.1 Available Views

The axes for MPR are considered as follows:

- X-axis = Right to Left (R to L)
- Y-axis = Anterior to Posterior (A to P)
- Z-axis = Feet to Head (F to H)

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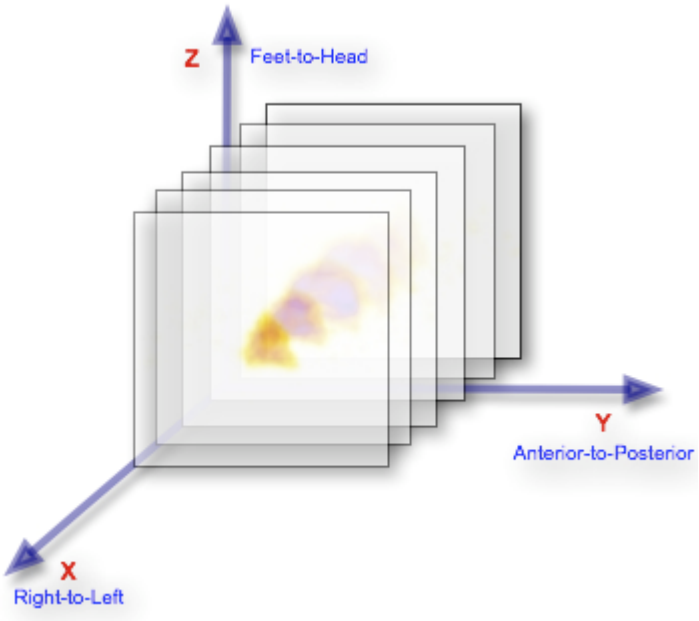

When activating MPR on an image series, the following views are available:

- Axial: slices perpendicular to the Z-axis
- Sagittal: slices perpendicular to the X-axis
- Coronal: slices perpendicular to the Y-axis
- Tri-plane: overview of these 3 views

In case MPR is activated and no specific view (axial, sagittal, coronal) is selected, the Tri-plane view will be displayed.

Each of the reference lines can be rotated.

This can be done by hovering over a reference line and drag when the rotate icon is shown.

Default behavior is that the reference lines are kept in a 90° angle from each other. By pressing and holding the **Ctrl button** the reference lines can be rotated independently.

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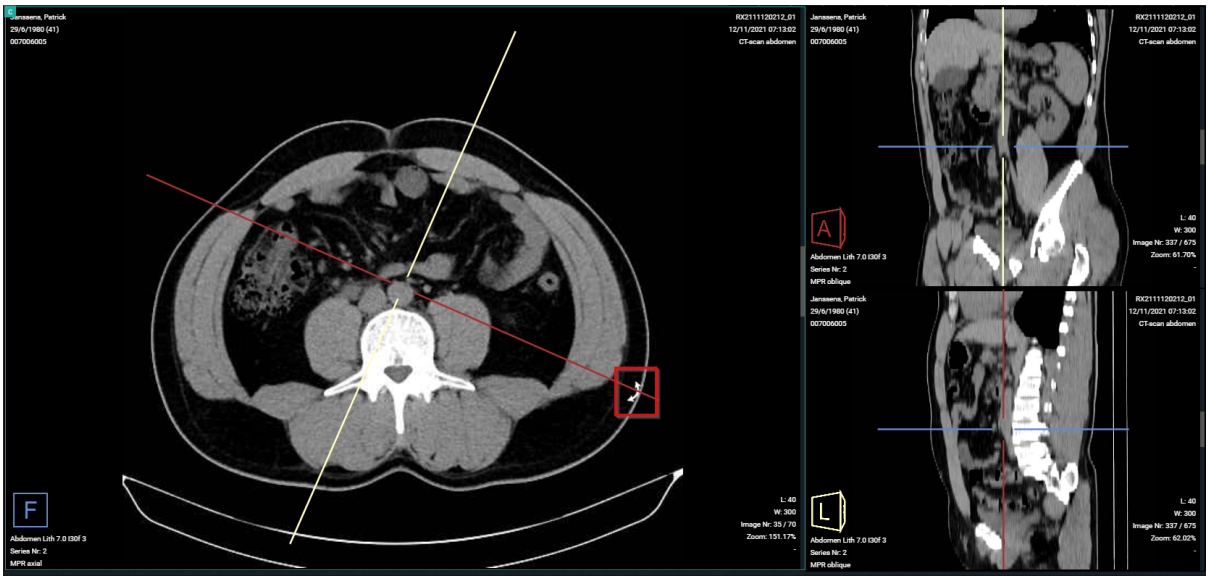

Each quadrant has an indication in the bottom left corner that indicates:

- the orientation of the volume with indicators R, L, A, P, H, F (cf description of the axes)
- the series the MPR images originate from
- the name of the view

To display a single view in the viewport, you must select the desired view from the MPR menu.

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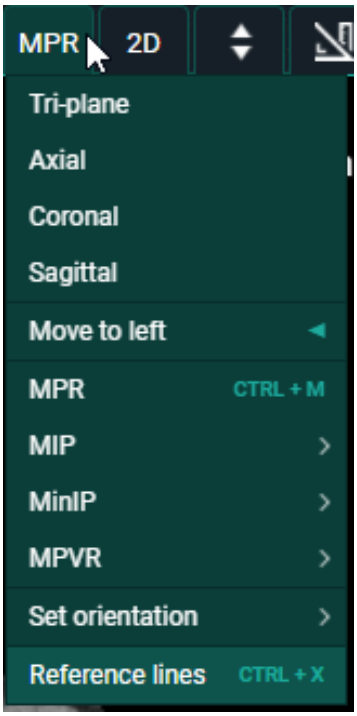

11.3.7.2 MIP - MINIP - MPVR

DeepUnity PACSonWEB also offers the following modes, related to MPR:

- MIP: Maximum Intensity Projection

  Used to display the slices of the volume in a maximum intensity projection render mode.

  In this mode, each pixel on the screen is the maximum density found along a line perpendicular to the selected plane within the selected plane thickness.

- MINIP: Minimum Intensity Projection

  Used to display the image in a minimum intensity projection render mode.

  In this mode, each pixel on the screen is the minimum density found along a line perpendicular to the selected plane within the selected plane thickness.

- MPVR: Multi-Projection Volume Reconstruction

  Used to display the slices of the volume in an average intensity projection render mode.

  In this mode, each pixel on the screen is the average density found along a line perpendicular to the selected plane within the selected plane thickness.

For all three modes the following plane thicknesses are available:

- 3 mm
- 6 mm

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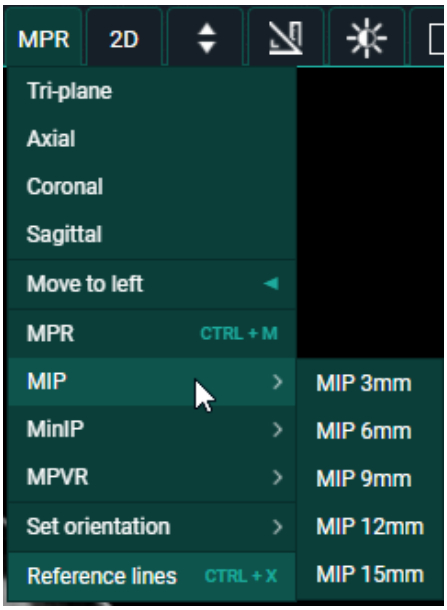
- 9 mm
- 12 mm
- 15 mm

Such mode can be activated from the MPR menu and is automatically applied to the entire selected view (Tri-plane axial, sagittal, coronal).

If another view is selected, the selected mode is still applied. The mode remains highlighted in the MPR menu so it can be consulted if needed.



When activated MIP, MinIP and MPVR functionality can be turned off from the MPR menu in the toolbar by clicking "Disable thick slices".

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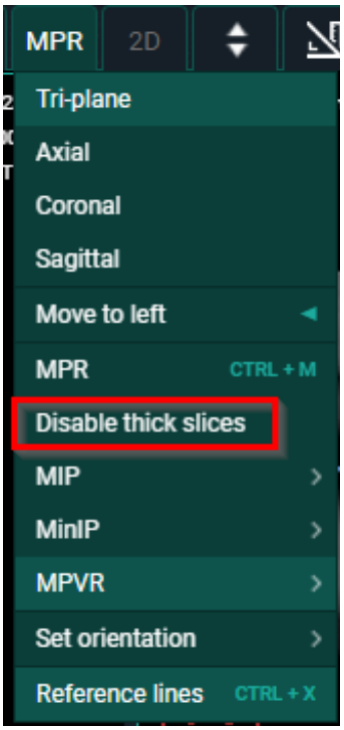

11.3.7.3 User interactions

In the Tri-plane view, reference lines are displayed on the axial, sagittal and coronal view. When a reference line is rotated, the other views are adjusted accordingly.

Following user interactions are possible within a generated MPR series (and similar for MIP, MINIP, MPVR) :

1. Single oblique rotation

By hovering over a reference line, the cursor will change into a rotating icon.

Hold down the left mouse button and drag the reference line to the desired location to create an oblique view.

By default the reference lines will stay in a 90° angle.

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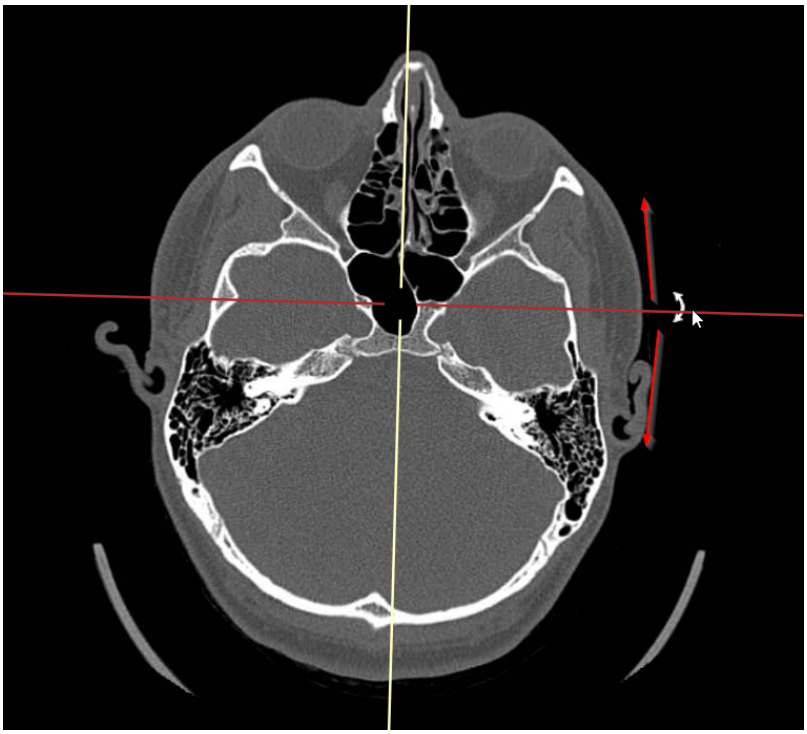

2. Double oblique rotations

In case, when rotating in the single oblique view, additionally the Ctrl-key is pressed, only the selected reference line will move further.

The reference lines will therefore no longer be perpendicular to each other resulting in a double oblique view.

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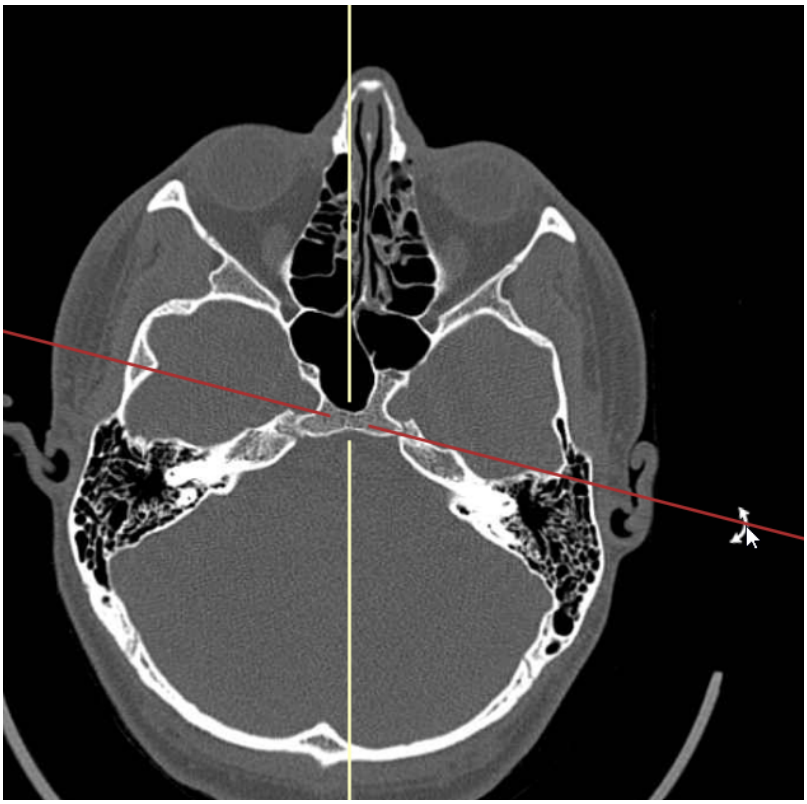

Warning:

For usability reasons, rotations can only performed about one axis at the time.

After performing e.g. a rotation about the X-axis, you must release and hold the left mouse button to be able to perform a rotation about the Y-axis.

From the axial, sagittal or coronal view it is possible to change the displayed slice of the oblique view by selecting the intersection on the two reference lines, holding the left mouse button and moving the mouse.

This also allows to reposition the intersection to select another center point for rotating the reference lines.

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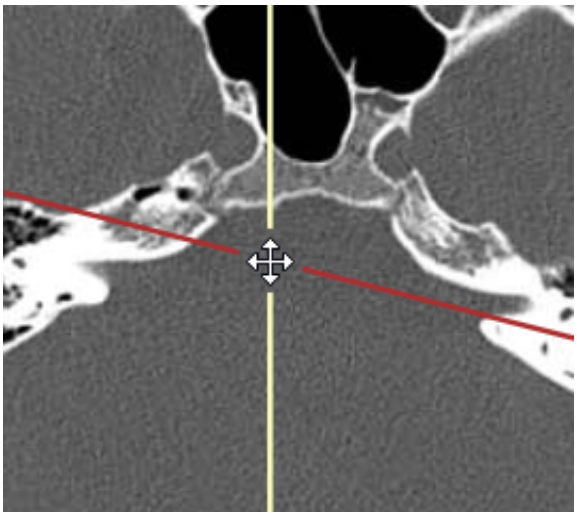
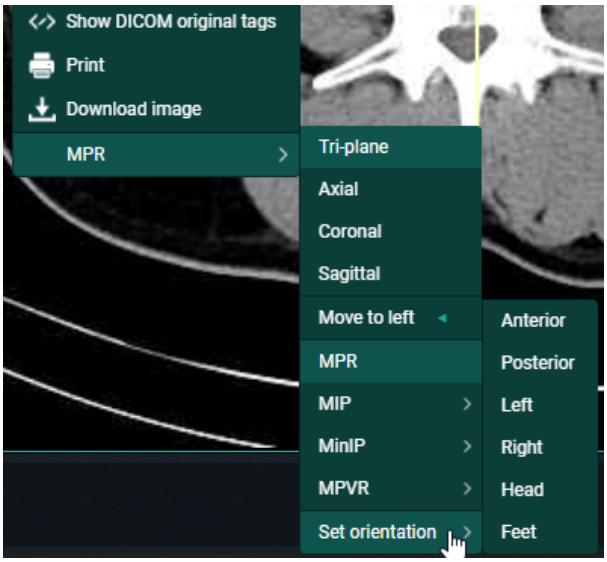


3. Set Orientation

You can set the orientation in any of the three views using the "Set Orientation" option from the MPR menu (accessible with right mouse click).

The possible options are: Left, Right, Anterior, Posterior, Head or Feet.



11.3.8 Open study in external app

You can open a study from DeepUnity PACSonWEB in another application with the appropriate context by clicking: **Open study in external app**.

To make use of such links, please contact the DeepUnity PACSonWEB Service Desk.

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11.4 Image screen

This is where the images (and the report) are displayed.

When a series contains multiple images, you can scroll through the images using the scroll wheel, the arrow keys or, after selecting scrolling in the menu, by holding the left mouse button and moving the mouse up and down.

In case you have activated the setting "Right click for function switch" in User settings (Page 95) > My account (Page 96) you can switch between the following functionalities with short clicks on the right mouse button:

- Window Level
- Scrolling
- Stepless zoom
- Pan

If you hold down the right mouse button for 1 second or longer, the extended context menu will be displayed.

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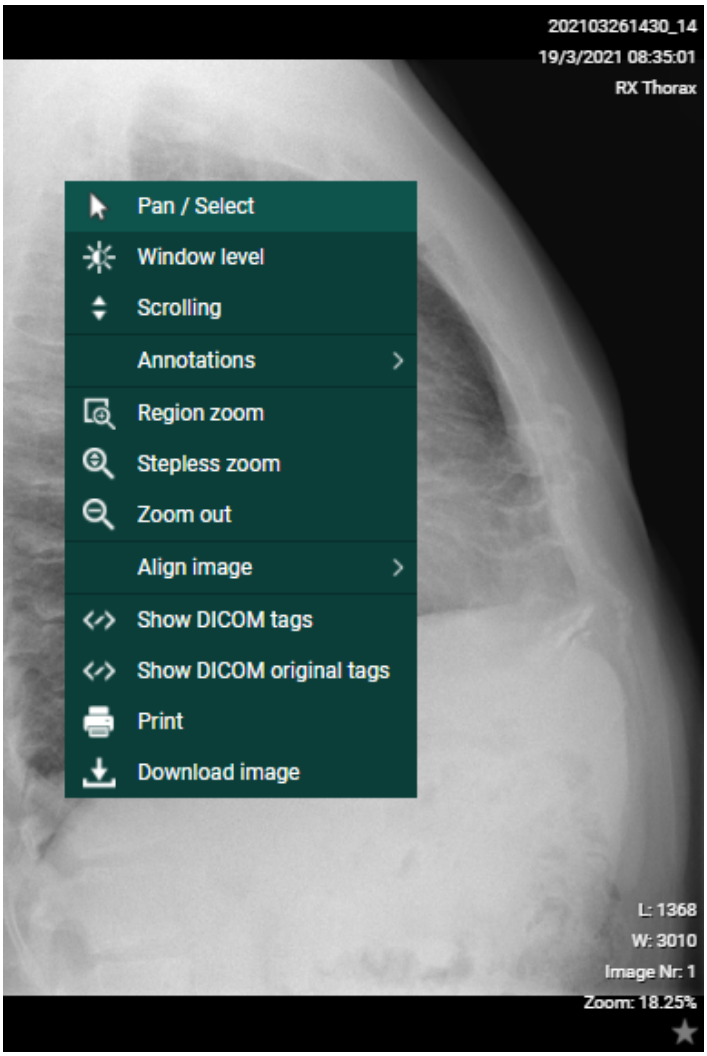

Orientational reference indicators

In the top toolbar, you can activate the Overlays from the Visible Elements menu which will display useful information on the patient, the study, the images and the orientational reference indicators on the images.

The following letters are used to indicate the referential orientation:

- H: Head
- F: Feet
- A: Anterior
- P: Posterior
- L: Left
- R: Right

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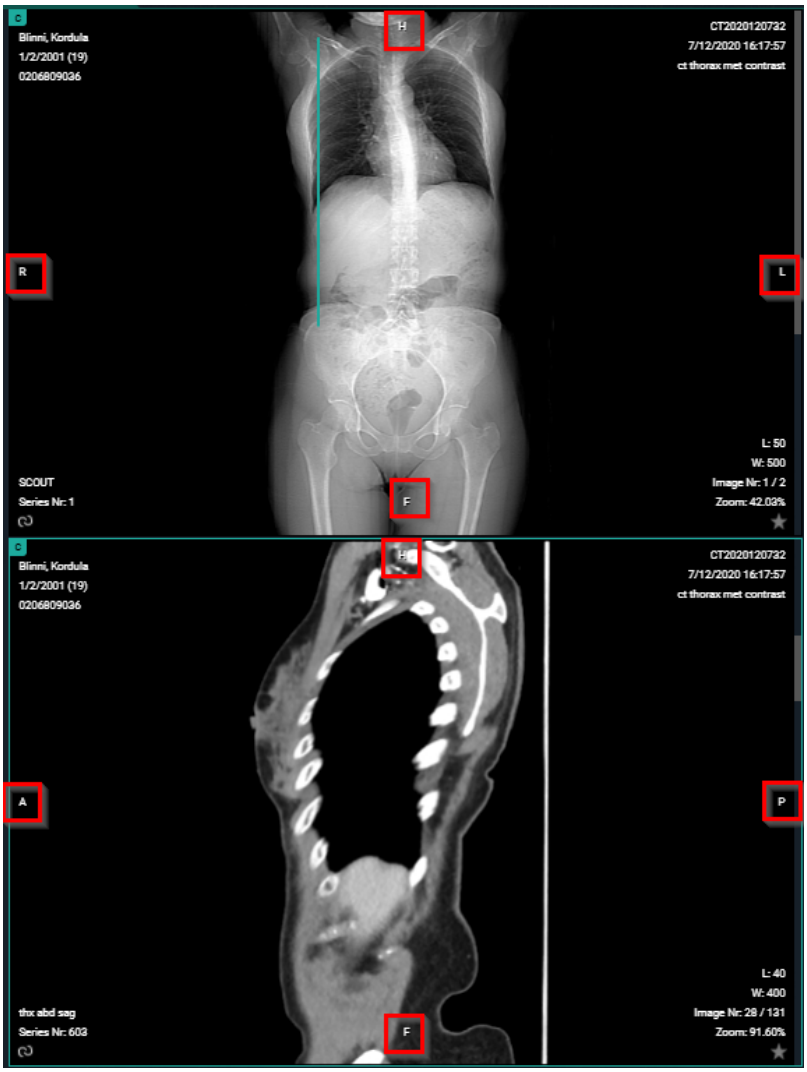

Scale ruler:

The scale ruler is displayed at the bottom in every viewport, to indicate the scale of the width of the image.

Important!

If pixel spacing for rows and columns are different, the scale only applies to horizontal distances.

Also when rotating the image, the scale still applies to the horizontal distances of the original image.

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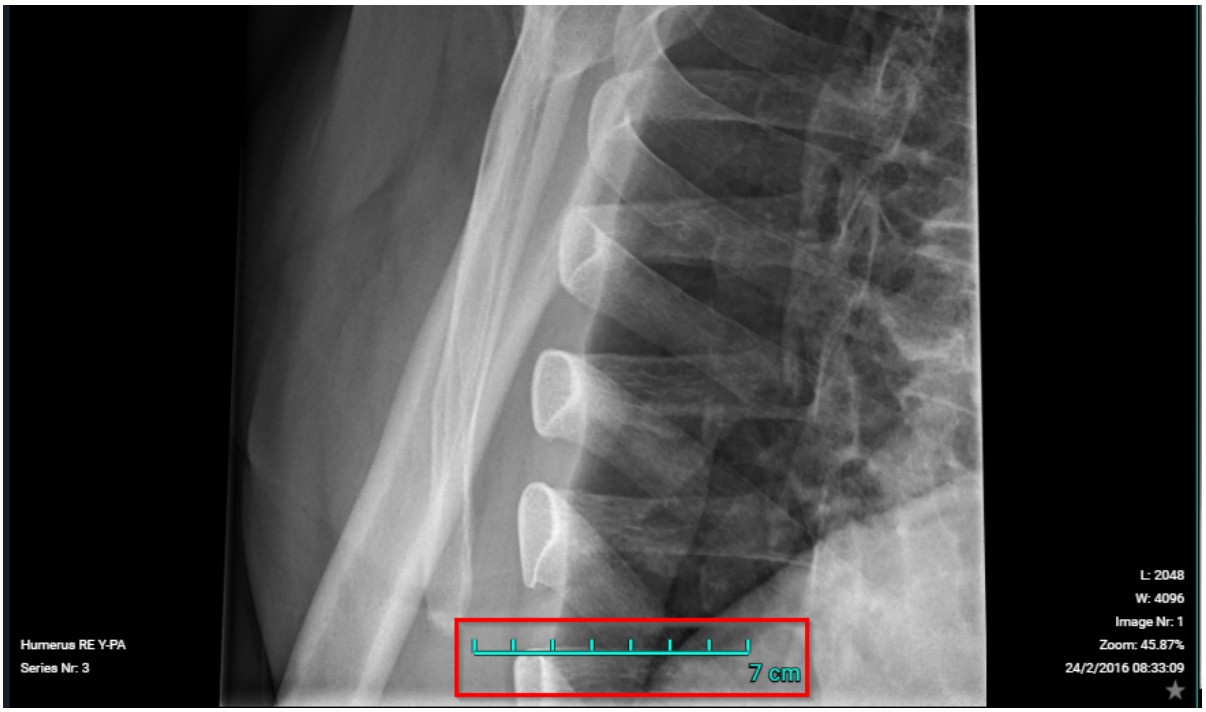

Default mouse actions:

The default mouse actions are listed below and depend on the modality type.

For both actions (left and middle mouse button), it means clicking the button, holding it and moving the mouse around.

Mouse button	Modalities	Action
Left mouse button	CT/MR/PT	Scrolling
Left mouse button	Other	Pan
Middle mouse button	Other	Scrolling

Note:

"Other" means every modality that is not specified as an action.

Tip:

The mouse actions can be changed for every modality type to personal preferences (See Preferences (Page 99)).

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Image editing tools:

Using the image editing tools (see Toolbar (Page 220)) you can zoom in on/zoom out of the image, rotate the image, perform measurements, change contrast, etc.

You can also right-click the mouse for a menu with the most-often used commands:

- **Pan/Select**: Use Pan to drag a zoomed-in image (See Image functions (Page 223))
- **Window level**: Use Window Level to modify the brightness and contrast of the selected image (See Other image editing tools (Page 233))
- **Scrolling**: Use to scroll through the images
- **Annotations**: Tools to make annotations on the selected image (See Annotations (Page 226))
  - **Ruler**
  - **Line**
  - **Circle**
  - **Line**
  - **Angle**
  - **Cobb angle**
  - **Center edge angle**
  - **Vertical height**
  - **ROI-rectangle**
  - **ROI-ellipse**
  - **ROI-polygon**
  - **Arrow**
  - **Length loss**
  - **Length ratio**
  - **Text**
  - **Spine labels**
- **Region zoom**, **Stepless zoom**, **Zoom out**: Tools for zooming on the selected image (See Image functions (Page 223))
- **Align image**
  - **Align left**
  - **Align top**
  - **Align right**
  - **Align bottom**
  - **Align center**

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- **Show DICOM tags**: Display the DICOM tags of the selected image
- **Show DICOM original tags**: Display the original DICOM tags of the selected image (only available to administrators of the study)
- **Print**: Print the selected image
- **Download image**: Download the selected image in PNG format

You can view an image in full-screen mode by double-clicking on the image. Double-clicking the image again will take it back to its original size.

Tip:

Within the study page, the following shortcuts can be used:

CTRL + left mouse button clicked + dragging image to another view port: duplication of image in second view port

SHIFT + left mouse button clicked + dragging image to another view port: switching images between view ports

SHIFT + scroll forward: zoom in

SHIFT + scroll backward: zoom out

CTRL + scroll: tiling within the selected view port

Left mouse button clicked + scroll: fast select between the following functionalities:

- Window Level
- Stepless Zoom
- Pan

ESCAPE button: restore the default action

ONLY for series containing multiple images:

Hold down the mouse wheel + move the mouse up and down: scroll through the series.

Attention: the speed for scrolling is adaptive. Depending on the velocity used when moving the mouse back and forth, the scrolling will be faster or slower (non linear).

The same remark holds when scrolling through a series on a mobile device (tablet or smartphone).

Anomaly:

In case an anomaly was registered for an exam with respect to the exam on the local PACS system a notification is displayed on top of the page.

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When hoovering over the notification, a label with a more detailed explanation on the anomaly is displayed.

If you are logged on as a user with administrative rights on the study, it is possible to click the label to navigate directly to the section "Anomalies" of the administration page (Anomalies (Page 264)).

Image retention:

When placing the cursor over the clock icon, a pop-up is shown, displaying the retention time for the different series.

Linking series:

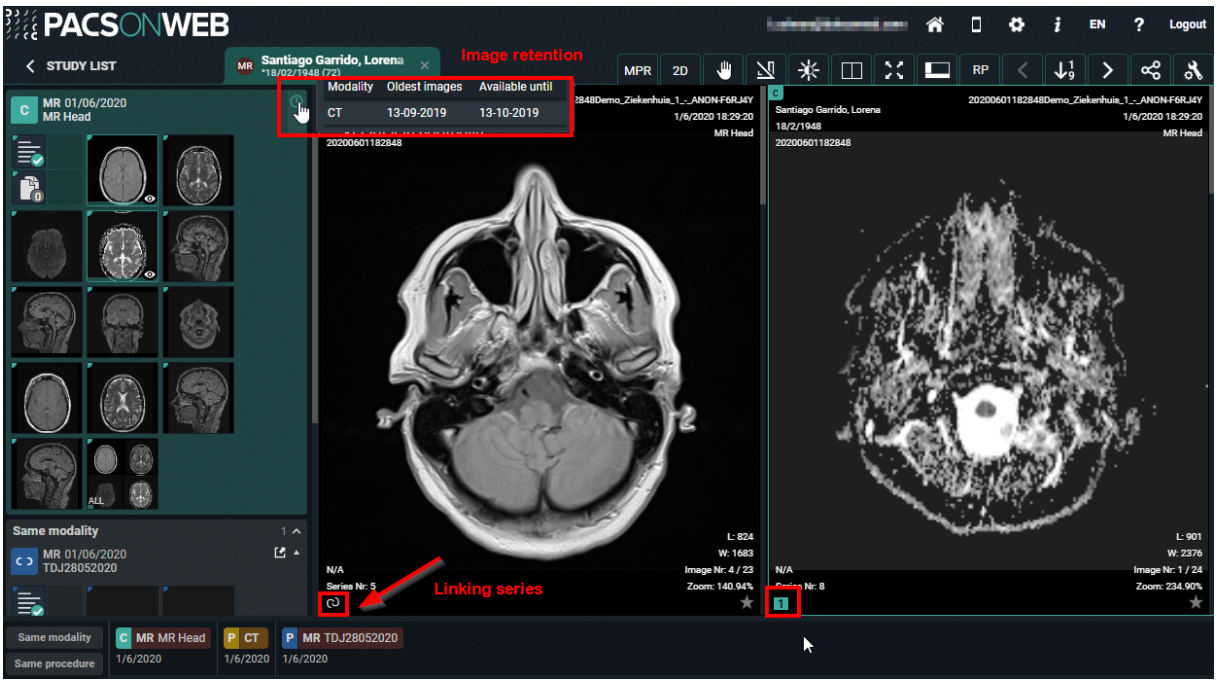
In case two viewports display image series with the same table position, the series are linked automatically.

In case two series are linked, it can be seen as the shackle icons of both series on the bottom left and scrolling through both series occurs simultaneously.

You can unlink the series by clicking the shackle icons to scroll through the series separately.

Important!

Automatic or manual linking of series is not possible in case one of the series is an MPR.



When the DICOM tag **(0020,0032) image position (patient)** is missing, you will not be able to link this series.

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The 'link' icon is disabled and the following tooltip is provided: 'No image position information provided, no linking possible.'

Volume registration:

Volume registration is the automatic anatomical linking between **2 studies.**

Prerequisites:

- Registration is only possible between 2 studies
- Only for CT/MR/SPECT/PET
- Both volumes should be available in the cloud
- Minimum number of 10 slices
- Maximum spacing between slices of 10mm
- All slices need to have the same orientation

Workflow:

Click on registration icon (wand icon as displayed in the screenshot) of series A and series B.

The icon is only visible if the series is a volumetric series which meets the requirements.

Once both the icons are clicked, DU POW will start with the Volume Registration. Following toast message is shown to indicate that DU POW is busy with the registration: "Creating volume registration..."

When the registration is finished: "The volume registration is ready."

Once the registration is finished, all the series affected by the registration will now have a grey R icon.

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Clicking the R icon will **remove** the registration.

Adjusting the linking

When the registration is not perfectly correct, the user can easily adjust the registration to the correct slice of the series.

Press and hold the ALT key to scroll in the series that needs to be adjusted. Scroll to the correct location and release the ALT key.

After releasing the ALT key the series will scroll in sync again.

Important!

The Volume Registration will not be 100% correct in every scenario. It is still the users' responsibility to verify the outcome of the tool and make corrections if needed.

Key image:

Administrators of a study on DeepUnity PACSonWEB have the possibility to create a new series with ‘key images’.

You can add an image to this series, by make it visible in the viewer and clicking the star icon in the bottom right corner of the image which will make it turn yellow.

When reloading or reopening the study, the newly created series on key images will be available in the series picker for everyone who has access to the study.

You can remove images that have been marked as key images from the series by de-selecting the star icon. Images on which publicly available annotations have been made, are automatically marked as key image.

You can open an image from the key image series in the original series by clicking at the bottom of the image.

Changed images in study view:

When a study has been opened and in the background a modification has occurred (new images added / images removed), the user is notified by

- a toast message, displayed at the bottom right of the screen
- an indication in the series picker

Both provide the possibility to reload the study to display the up-to-date situation.

The toast message: "Images changed for this study. Please reload study. **RELOAD STUDY**"

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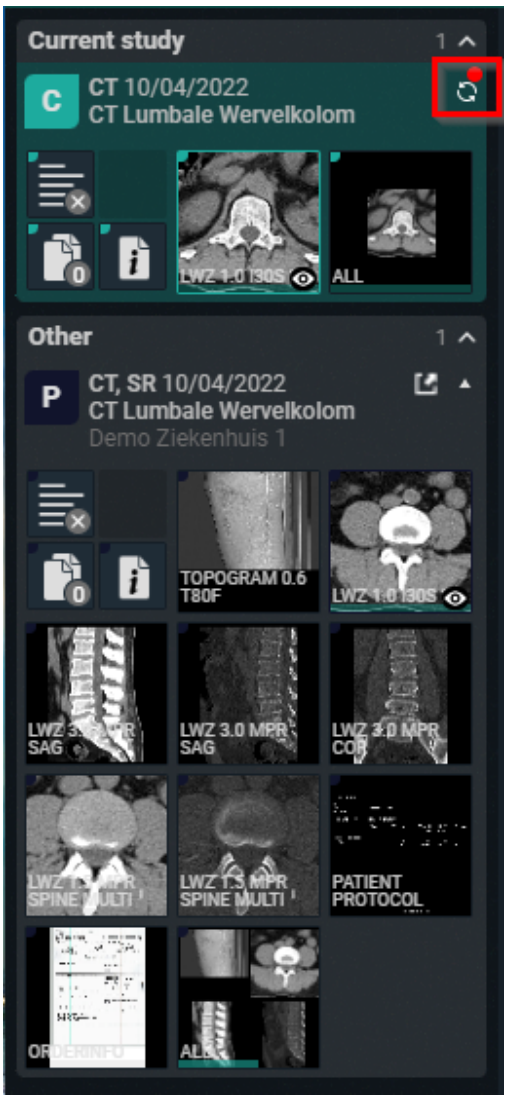
The indication in the series picker:



11.4.1 CAD markers

DeepUnity PACSonWEB supports displaying CAD annotations of two different manufacturers in the DeepUnity PACSonWEB viewer: iCAD and ScreenPoint Medical.

In case a study contains an CAD structured report, it is possible to display the CAD markers in the image screen.

The user has to have the permissions to edit the report in order to have access to the CAD markers.

The study opens by default with the markers hidden. They can be made visible by clicking the CAD markers description, displayed in the top center of the image.

In the image overlay the number of iCAD findings is displayed.

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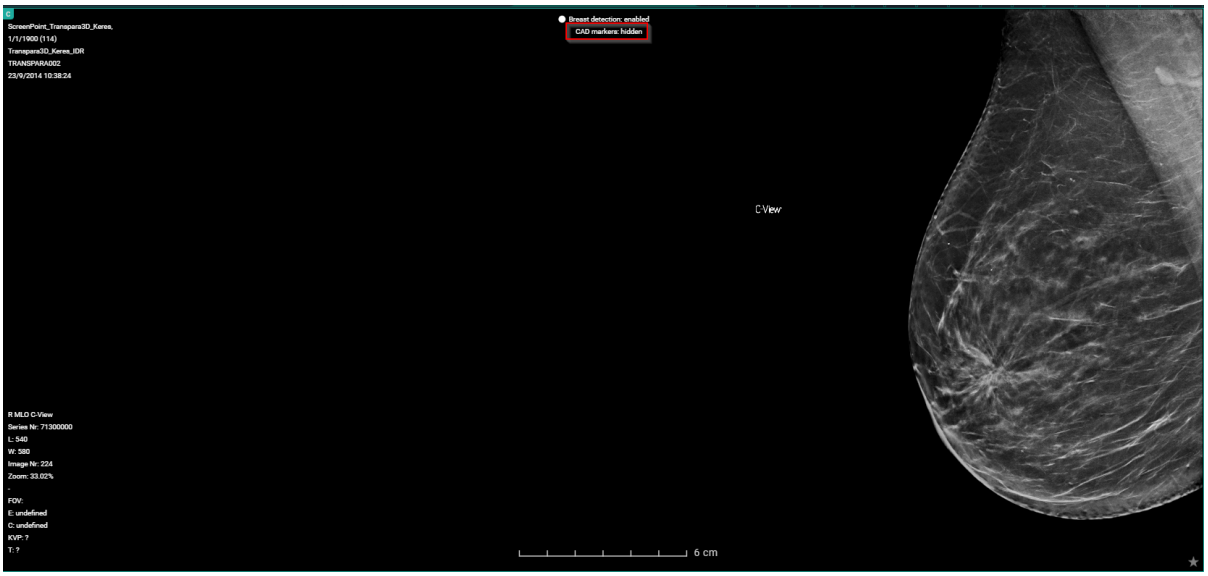
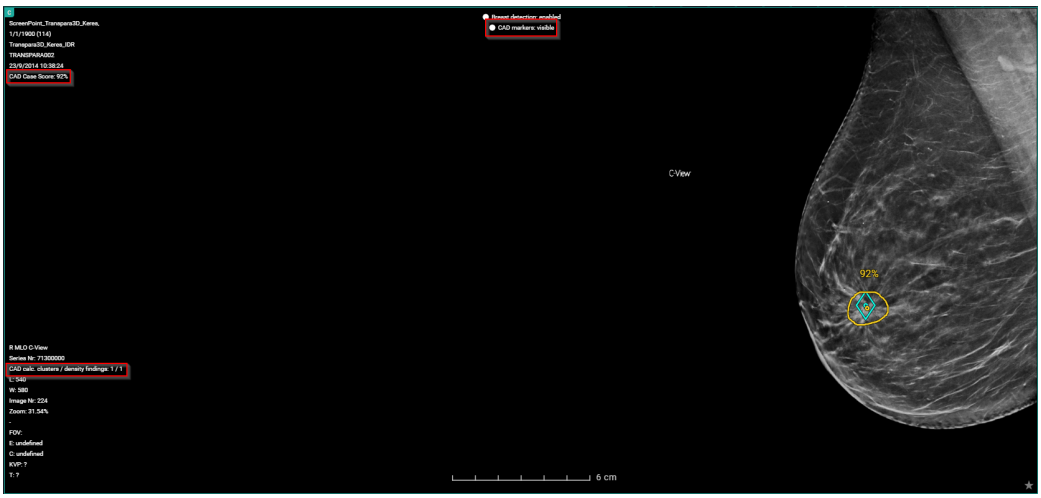


The CAD Case score, number of densities and calcifications is displayed in the overlay.



iCAD report tools

When iCAD annotations are being shown, the report tools are also displayed.

These report tools allow you to individually toggle the visibility of the density findings or the calcification cluster findings.

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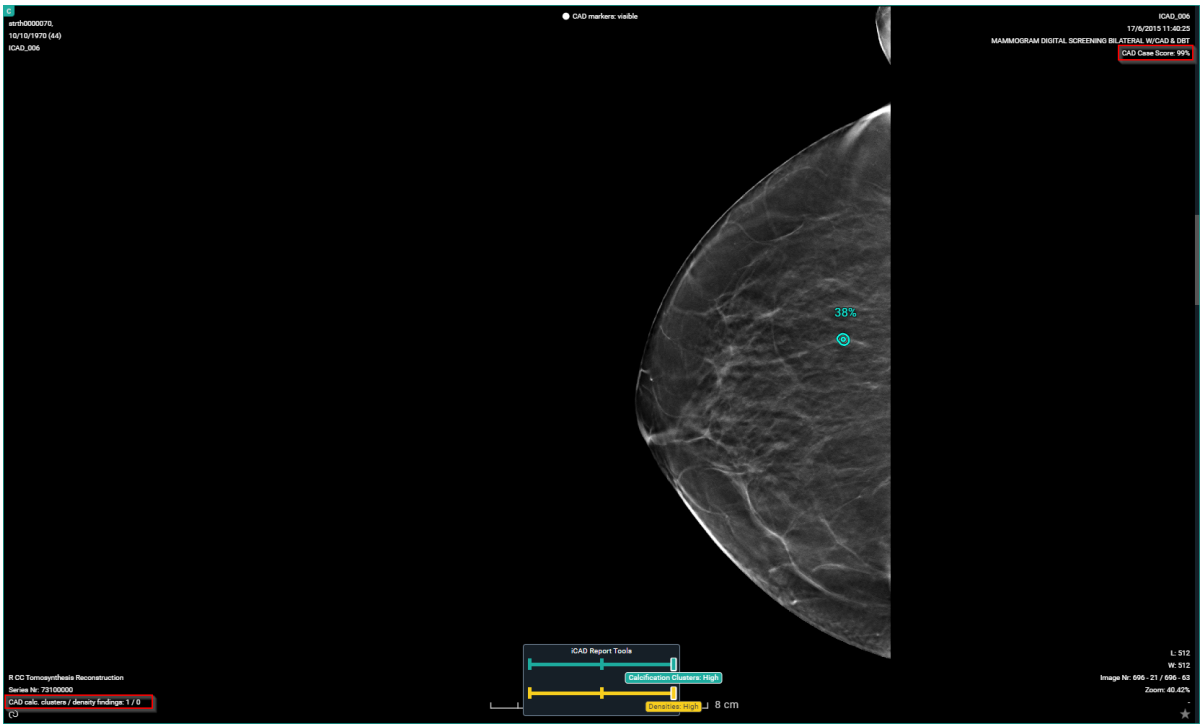

11.5 Report display

Tip:

When logged as a patient, the report will only be accessible if permitted by the radiology department.

When logged on with a DeepUnity PACSonWEB account, the report will always be accessible as soon as it is available.

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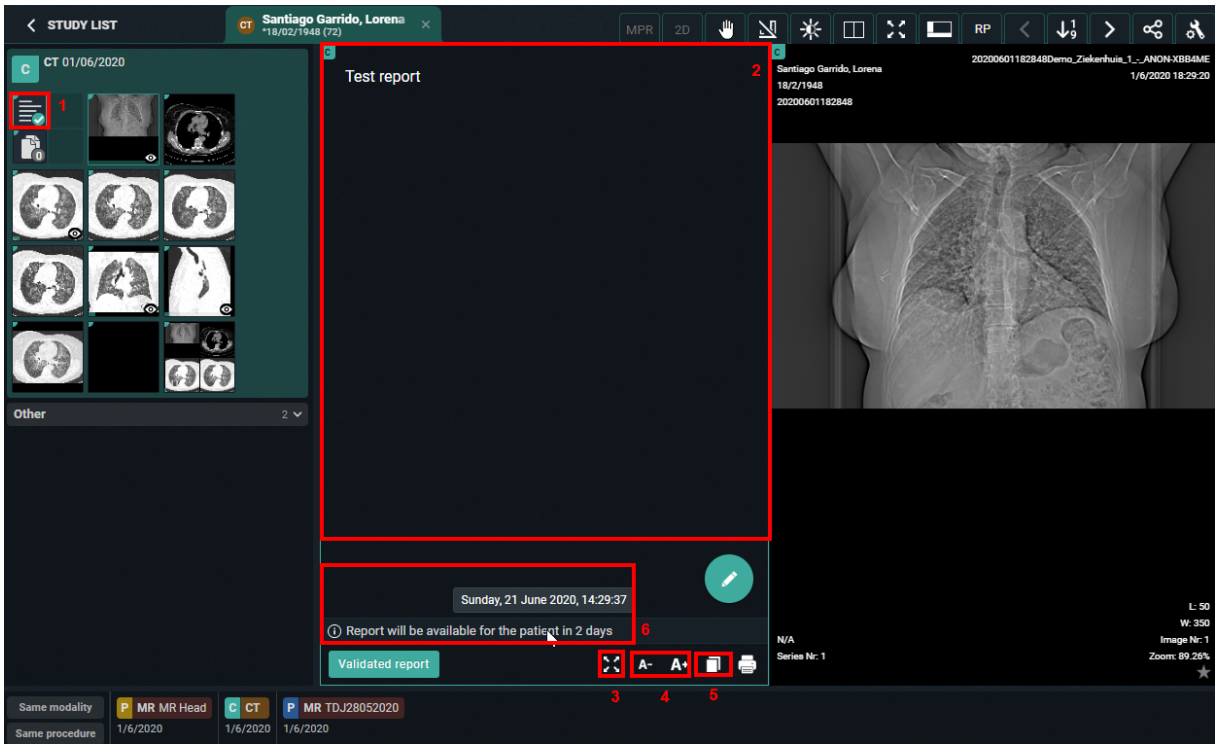
Warning:

A radiology department can opt to apply a delay of x days before the report is made accessible to the patient.

As long as this delay hasn't expired, a message will be displayed to notify that the report is not available to the patient.

When logged on with a doctor's account it is displayed at the bottom of the report when the report will become available to the patient (round up).

By hovering over the number in the message, the exact time when the report will become available to the patient, will be displayed.



(1) When opening a study for which the report is available, the report icon will be displayed as the first series within the series picker

(2) When opening a study for which the report is available, the report will be displayed by default within the first view port

(3) display the report full screen

(4) decreasing or increasing the font size of the report

(5) copy the report to the clipboard

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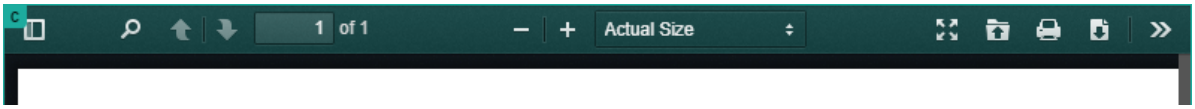
(6) Details on moment when the report will be available to the patient (optional)

Note:

If the report was sent in PDF format, you can zoom in, print, download ... by using the buttons in the top toolbar.



If you are an administrator of a study, you can create or modify the report by clicking the pencil icon.

This is not possible in case the report was sent in PDF format.

Once the report has been completed, it should be verified and saved from the browser window.

A report can be saved as:

- Draft
- Preliminary
- Validated

In case a draft report exists and the reported is edited and cleared, it will be marked as without report.

In case a report has been saved as preliminary or validated, it is not possible to revert to status draft or without report.

Depending on the advanced configuration for your radiology department, it can be that:

- It is not possible to save a report as preliminary.
- It is not possible to save a report as validated.
- It is not possible to modify a report that has been marked validated.

For further questions, please contact your internal DeepUnity PACSonWEB admin or DH Healthcare GmbH.

Important!

A draft report will only be visible for users that can edit reports; not for users that have read-only access to the exam.

Once a report has been set to edit mode, it will be locked for any concurrent users to prevent two persons working on the same report at the same time.

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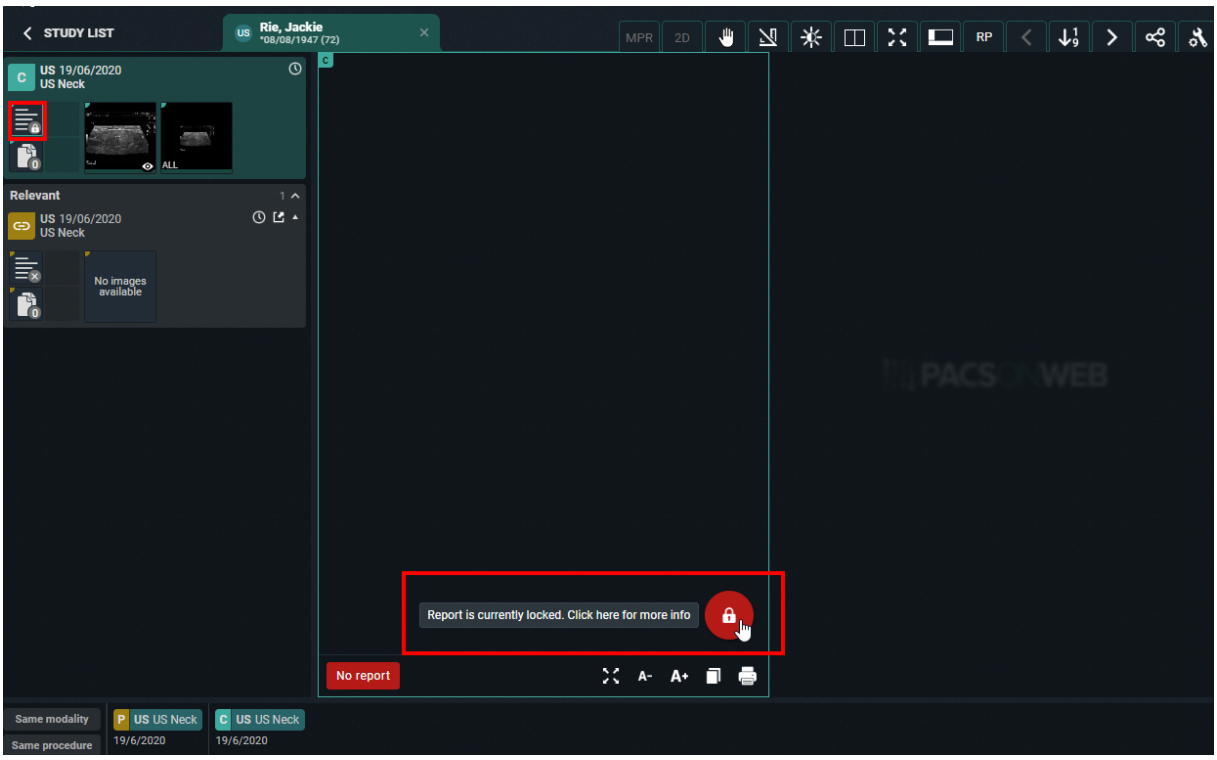
This is indicated by a lock icon in the series picker and the report window.



By clicking the lock icon, more information is given on who is editing the report at the time.

11.5.1 Rich reporting

If a user has the setting RichReportingEnabled enabled, a rich reporting editor becomes available.

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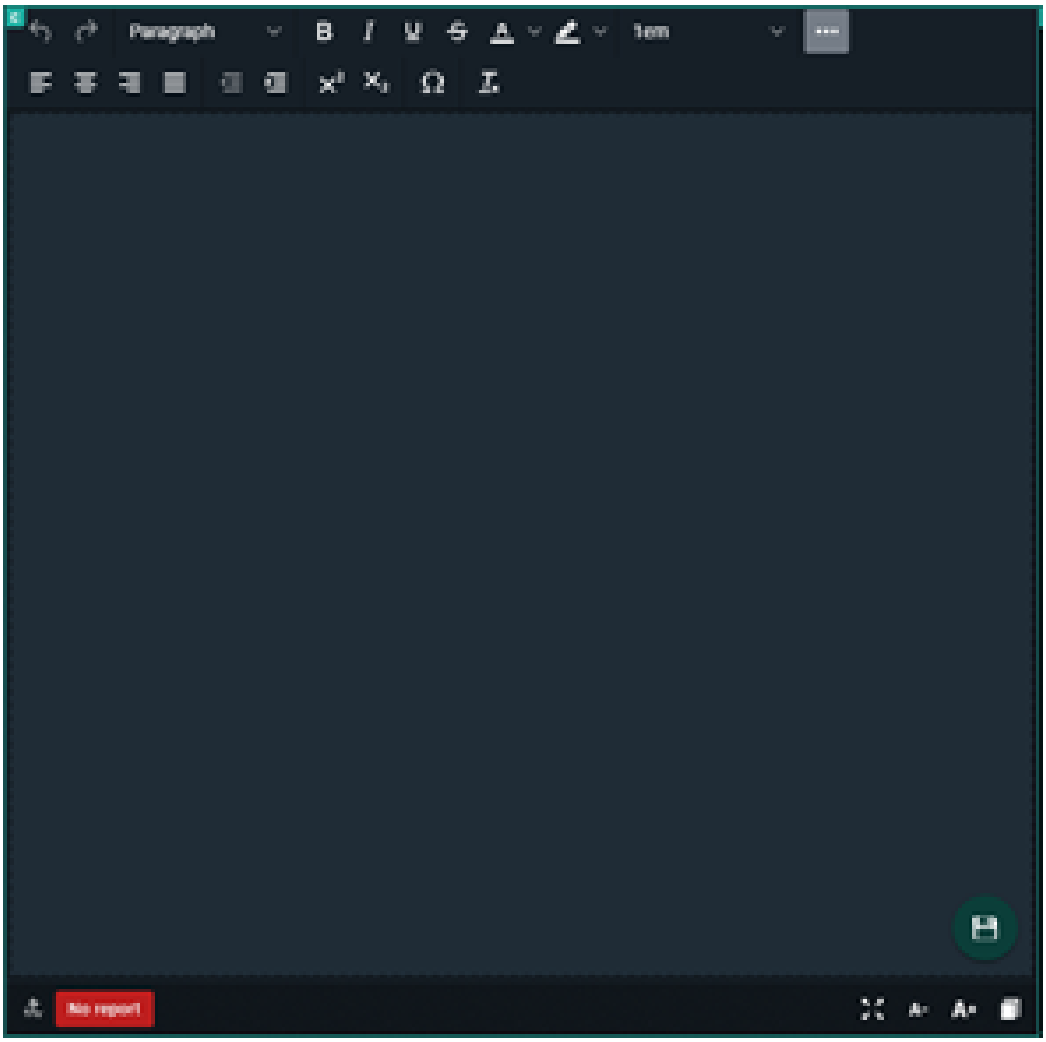

Rich text editor tools

A toolbox is available where the following markups and actions can be added to the report:

- Basic
  - Bold/ Italic/ Underline
  - Strikethrough
  - Text - and background color
  - Font size
  - Sub script and super script
- Header styles
- Text alignment
- Indention

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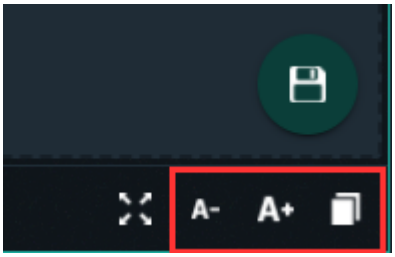
- Insert symbol
- Clear formatting
- Undo/redo

At the bottom of the page the following functions are available:

- Decrease font size
- Increase font size
- Copy to clipboard



The copy to clipboard functionality copies the text with markup.

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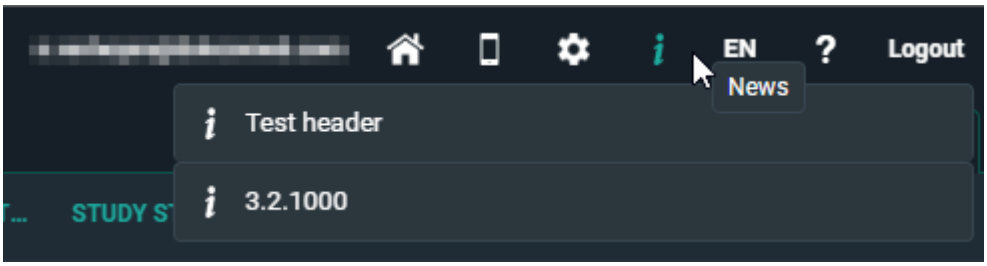
Notifications within DeepUnity PACSonWEB

12

General notifications regarding DeepUnity PACSonWEB are indicated via the information icon i at the top right of each page.

- The information icon displays the number of unread notifications in red
  - After viewing notifications, the information icon is still available but no notification is displayed.
- To display the notifications in a drop-down list, hover over the icon.



  - Click on a notification from the drop-down list to view a separate page with all available notifications.

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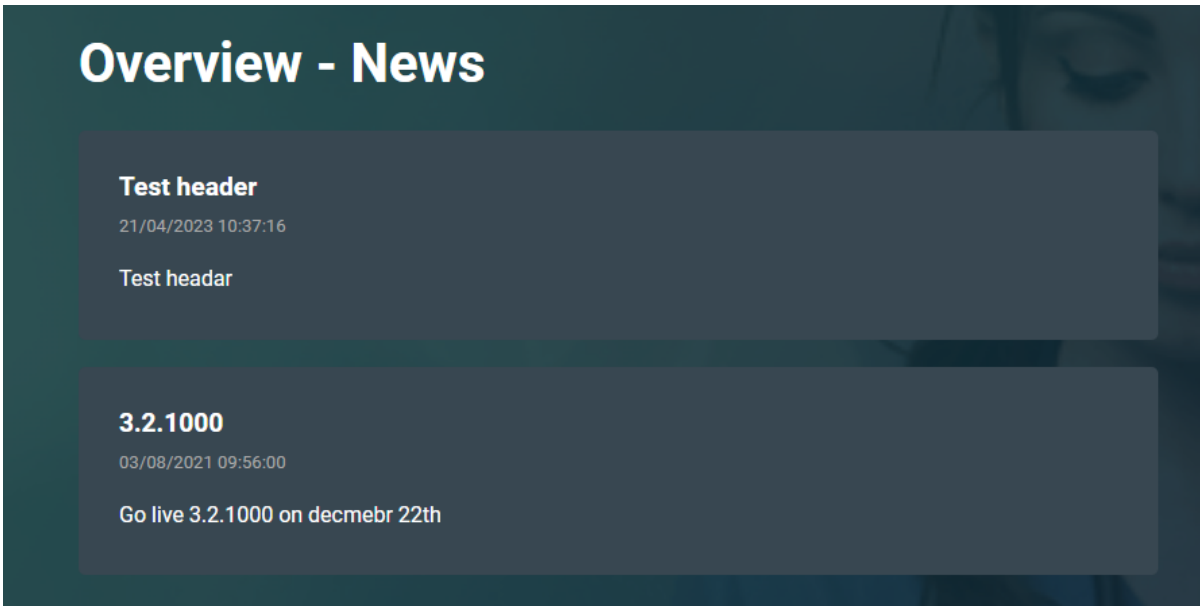

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Home Reading

13

Important!

The app can be used to dictate reports within DeepUnity PACSonWEB but is not a medical device in itself and therefore has no CE marking.

This is an optional feature within DeepUnity PACSonWEB. Please contact DH Healthcare GmbH for more information.

Note:

- The Authenticator app has been merged with the Home Reading app.
- The Home Reading app is still available separately.

Download the Home Reading app

If your device does not meet the technical requirements, it will not be possible to install the app.

iOS

Available on the App Store

In the Apple Store, look for "DeepUnity PACSonWEB" and click "Install".

Requirement: iOS 10 or higher

Android

GET IT ON Google Play

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In the Google Play Store, look for "DeepUnity PACSonWEB HomeReading" and click "Install".

Requirement: Android 4.4 - 8.0 (x86, x64, ARM, ARMv7-A, ARM64v8-A,)

DeepUnity PACSonWEB Home Reading provides a radiologist with a simple way of producing a (preliminary) study report outside the walls of a hospital.

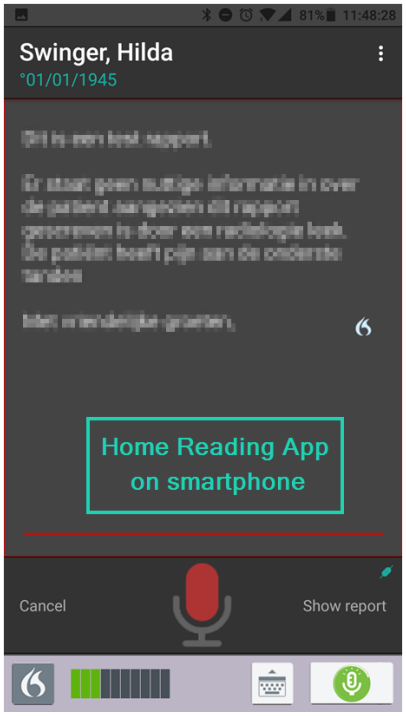
The physician can link a smartphone to a DeepUnity PACSonWEB session and dictate a report through the Home Reading app with integrated speech recognition, while examining the images on a computer or tablet.

The dictated text on the Home Reading app is synchronized in real time with the report on the study page in the browser session.

After verification, the physician can save the report as draft, preliminary or validated report from within the browser.

In case the RIS from the hospital supports incoming ORU, a message can be sent from DeepUnity PACSonWEB to update the internal information systems.

Depending on the desired setup the message will be sent, depending on the related status: draft, preliminary, validated.



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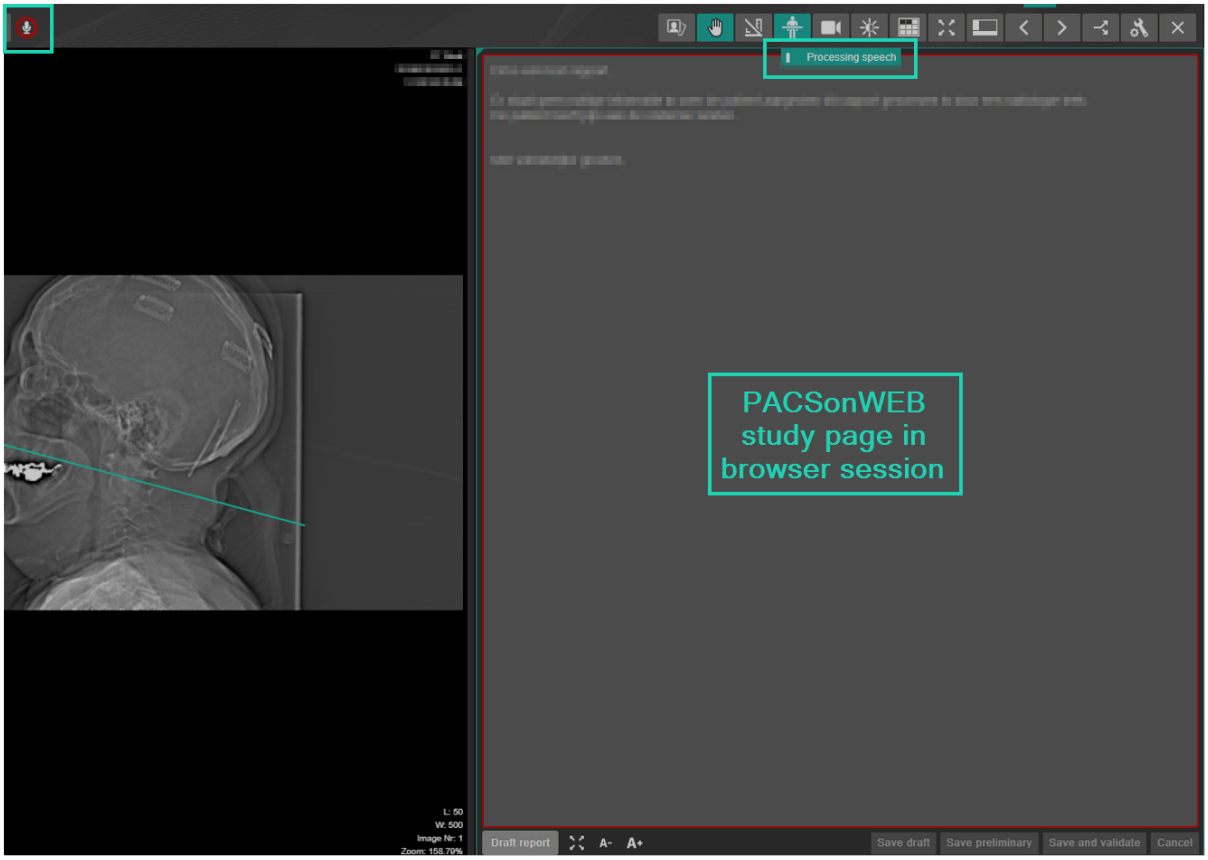

13.1 Pairing the Home Reading App

In order to create a report through Home Reading, a link needs to be established between the DeepUnity PACSonWEB browser session on the computer or tablet and the Home Reading app on the user smartphone.

In order to establish such a link (or pair), log on to DeepUnity PACSonWEB on your computer or tablet with your account.

In case Home Reading has been enabled for your DeepUnity PACSonWEB account, the home reading icon will be available from the top toolbar.

By clicking the Home Reading icon, a QR code will be displayed to pair your smart phone.

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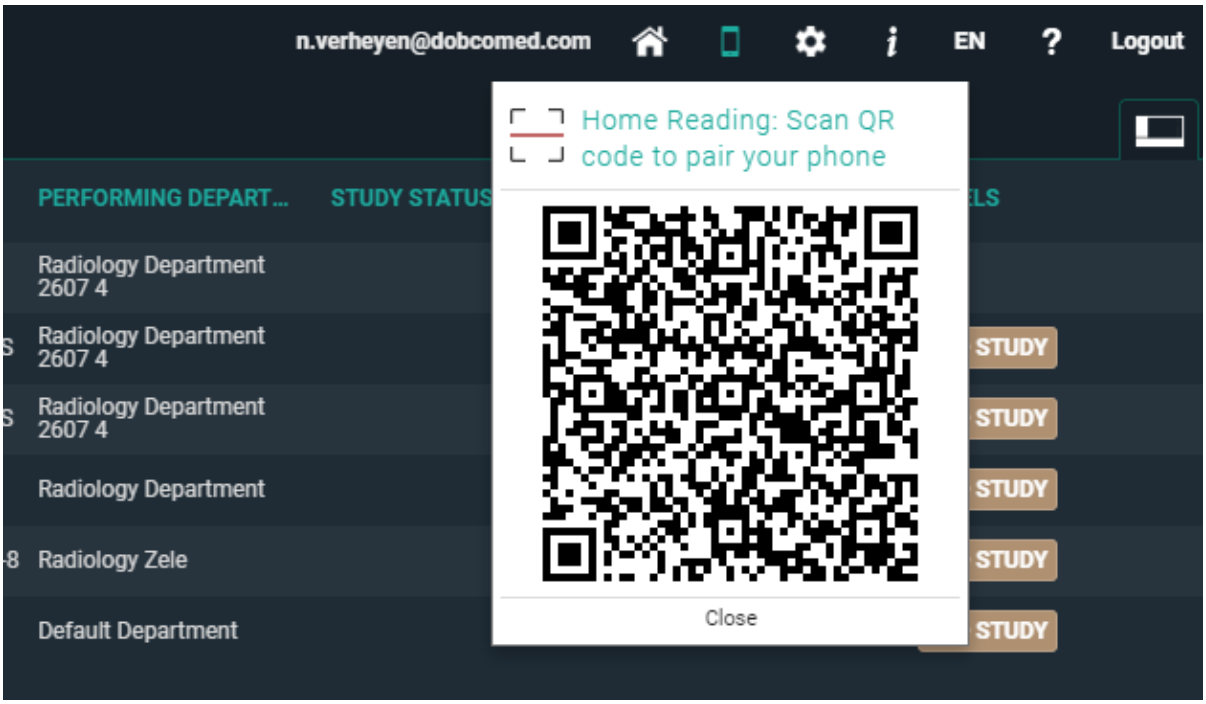
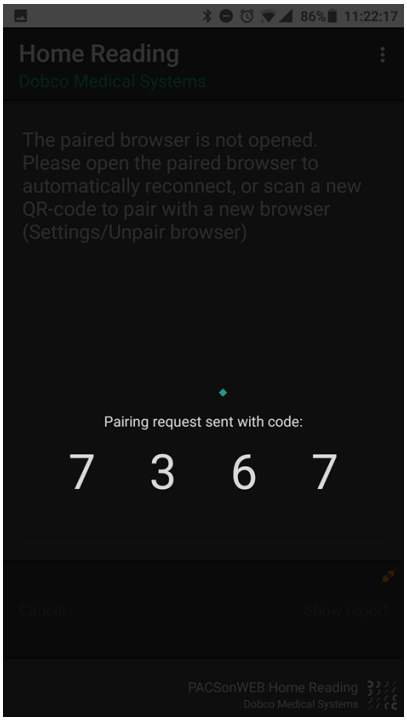


From your smart phone, start the Home Reading app, tap "Read QR code".

When the QR code is scanned, the app will send a paring request, with an arbitrary PIN code to the browser.



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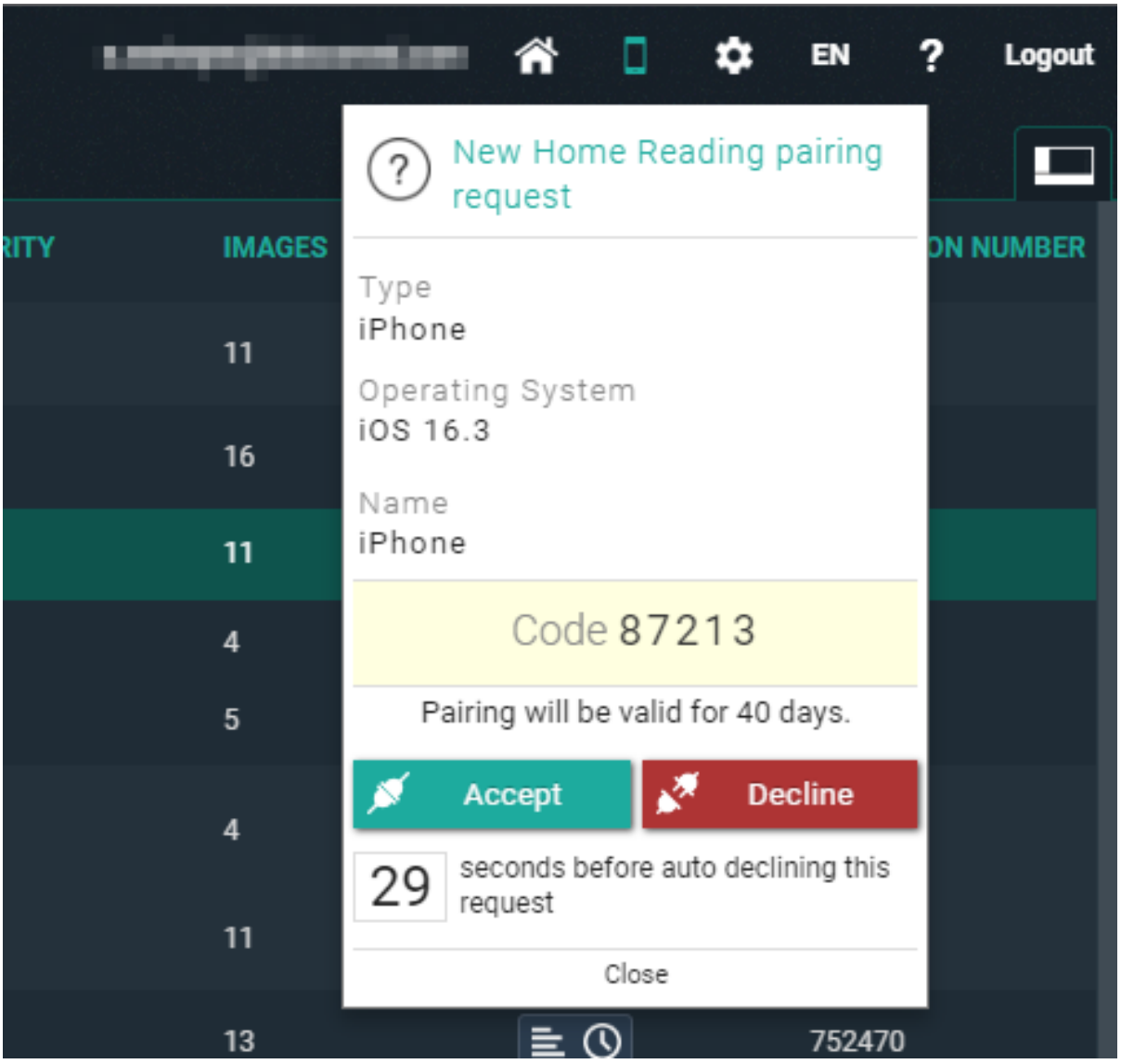
Within the browser session, a notification is displayed on the pairing request, specifying the device that is used (Type, OS and device name) and the PIN code, sent from the pairing request.

If the PIN corresponds to the PIN from your smart phone, click "Accept" within 30 seconds.



In case the pairing was declined or was not accepted in time, the following message appears on the smartphone:

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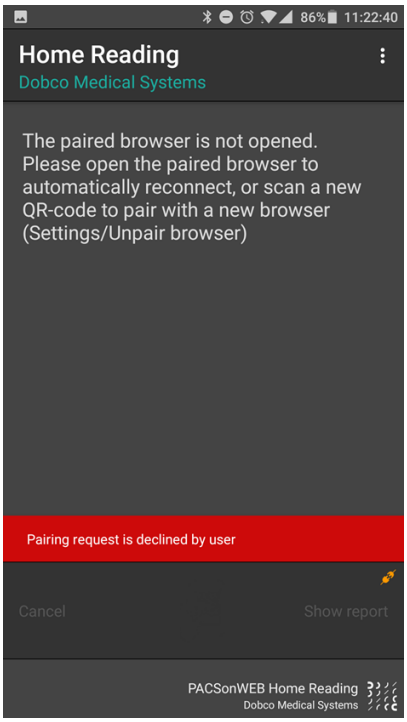
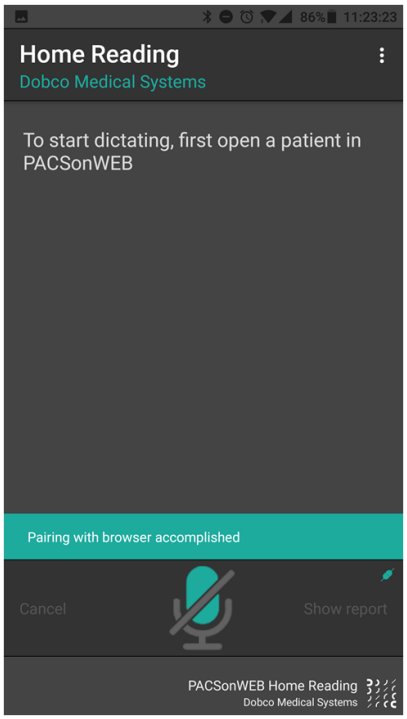


In case the pairing was successful, the following message is displayed within the app and the browser:



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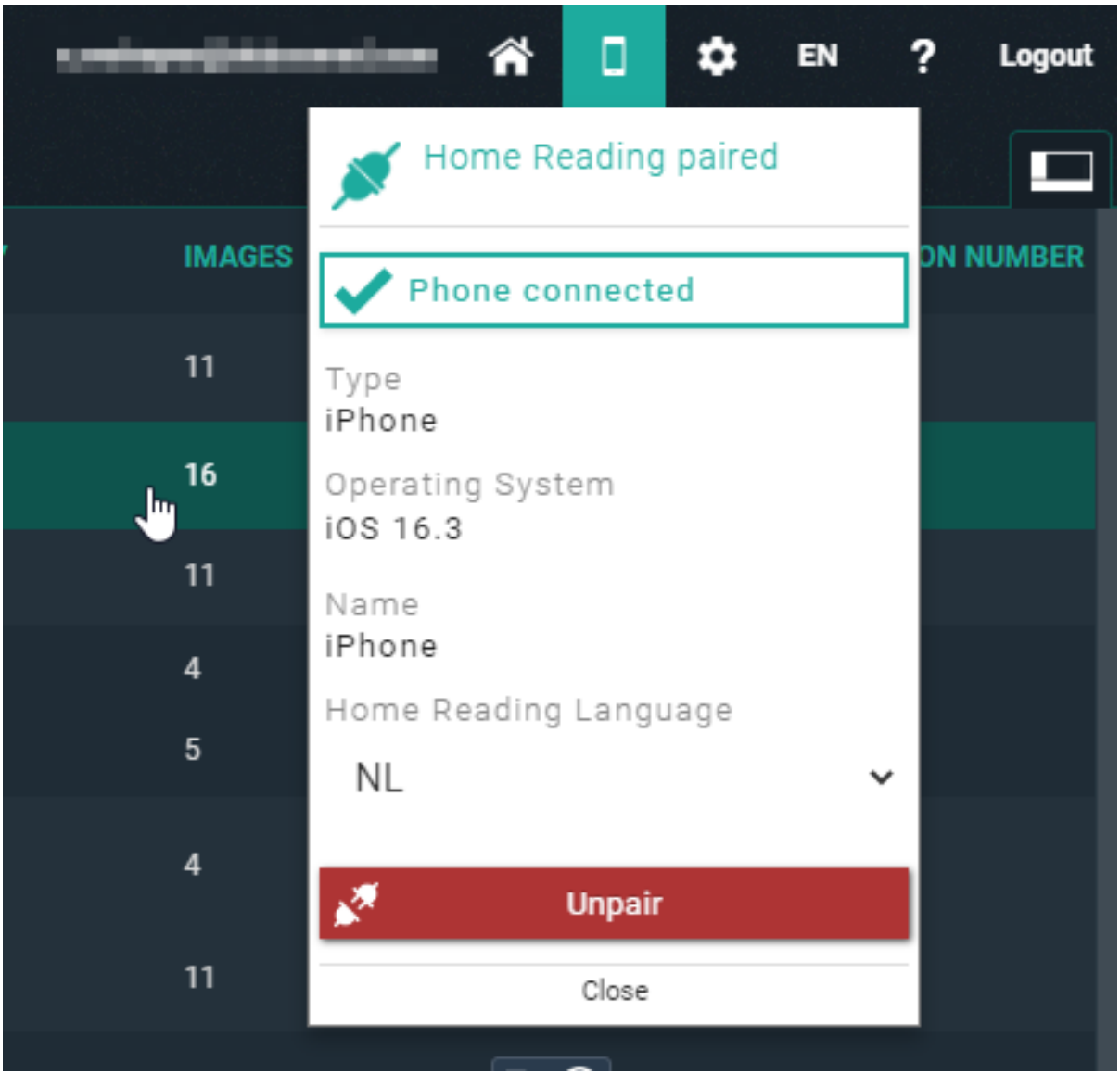

The pairing status is indicated by the color of the Home Reading icon.

- White / black: the browser is not paired to a smartphone
- Orange: the browser has been paired with a smartphone but the phone is not available
- Green: the browser is paired with a smartphone and can be used for dictation

Note:

By default the pairing remains valid for 40 days. After this period the pairing needs to be set up again.

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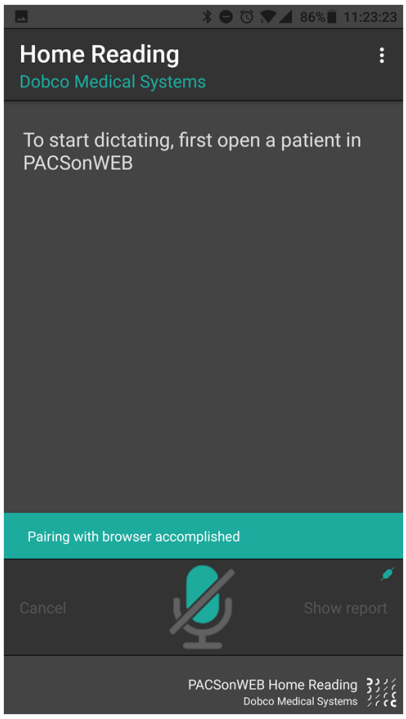
13.2 Creating a report through Home Reading

Once a smartphone was paired successfully, the app displays the following notification on the screen:

"To start dictating, first open a patient in DeepUnity PACSonWEB"



Navigate within the browser session on the computer or tablet to the study of interest.

For verification purposes, the patient name and date of birth are displayed on the smartphone.

In this example, an exam from patient Swinger, Hilda has been opened on the linked browser session.

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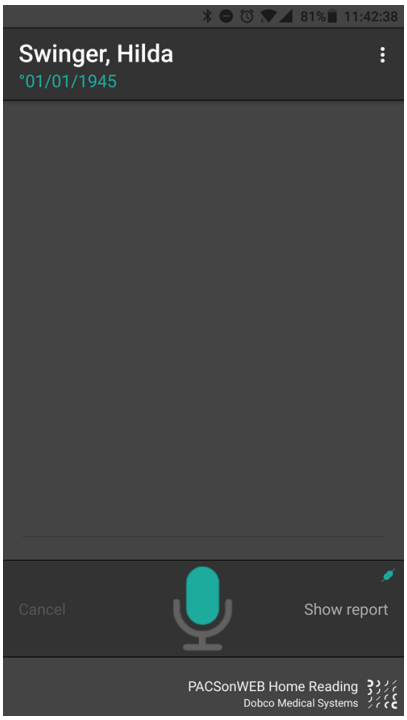

Tap the microphone icon on the Home Reading app or in the browser to start creating a report through voice recognition.

Tip:

If the report is not yet displayed in the browser, click on 'Show report' in the app or open the report in the browser from the series picker.

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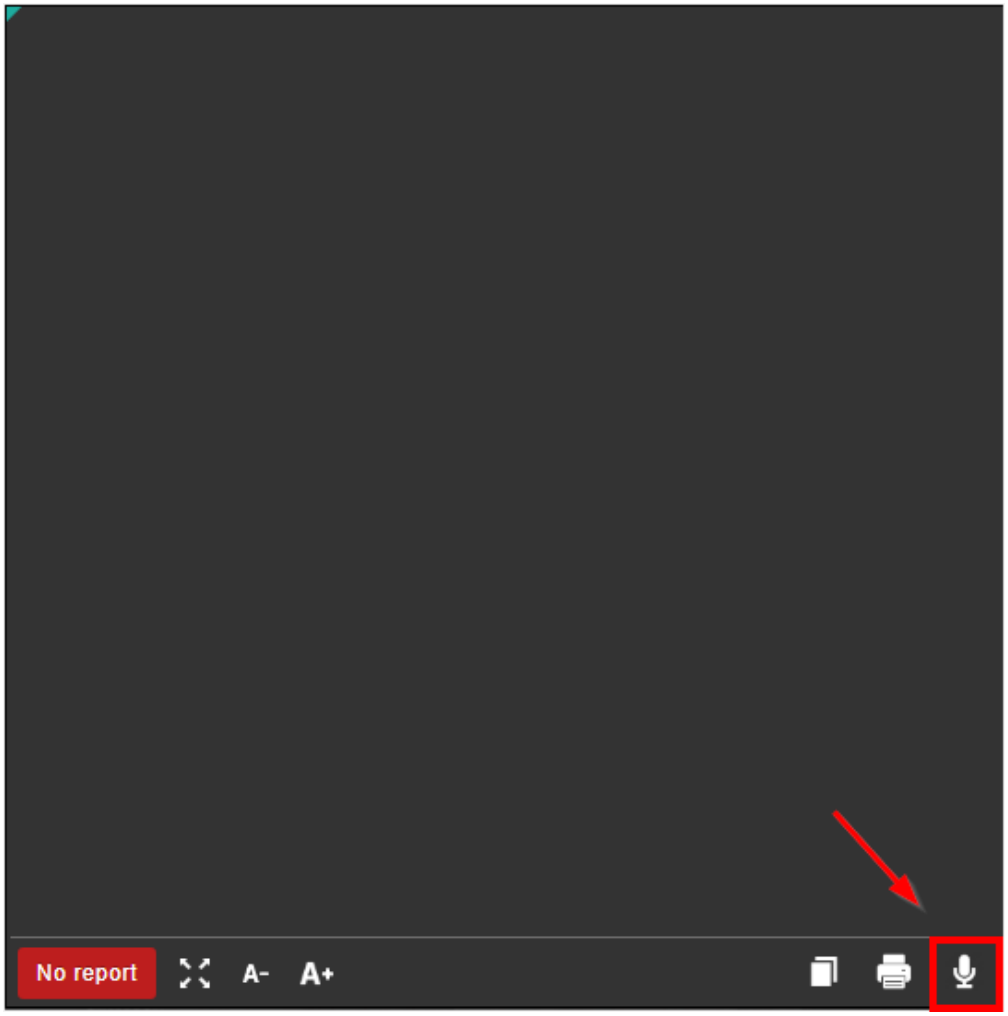

The microphone icon will turn red once voice recognition has been activated.

The dictated text will appear on both the Home Reading app and the browser window.

Important!

In case the microphone does not detect any speech for 20 seconds, speech recognition is deactivated.

If this occurs, the user is notified through a system sound.

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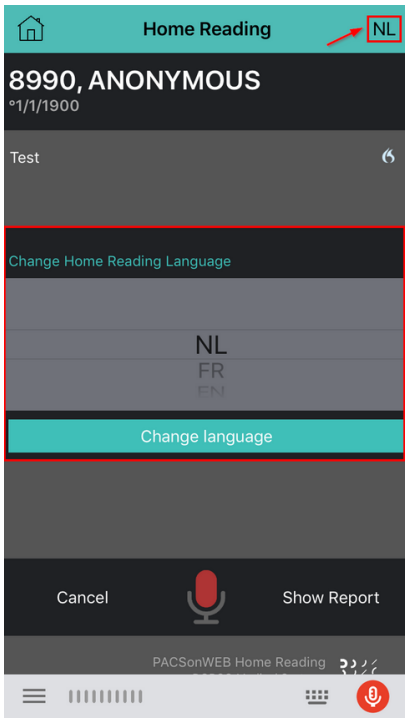
Tip:

If you are using the combined Home Reading and Authenticator app, you have the possibility to change the language during dictation.

To do this, tap the language in the top right corner of the app:



Once the report has been completed, it should be verified and saved from the browser window.

A report can be saved as:

- Draft
- Preliminary
- Validated

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Important!

In case a draft report exists and the reported is edited and cleared, it will be marked as without report.

In case a report has been saved as preliminary or validated, it is not possible to revert to status draft or without report.

Depending on the advanced configuration for your radiology department, it can be that:

- It is not possible to save a report as preliminary.
- It is not possible to save a report as validated.
- It is not possible to modify a report that has been marked validated.

For further questions, please contact your internal DeepUnity PACSonWEB admin or DH Healthcare GmbH.

A draft report will only be visible for users that can edit reports; not for users that have read-only access to the exam.

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Important!

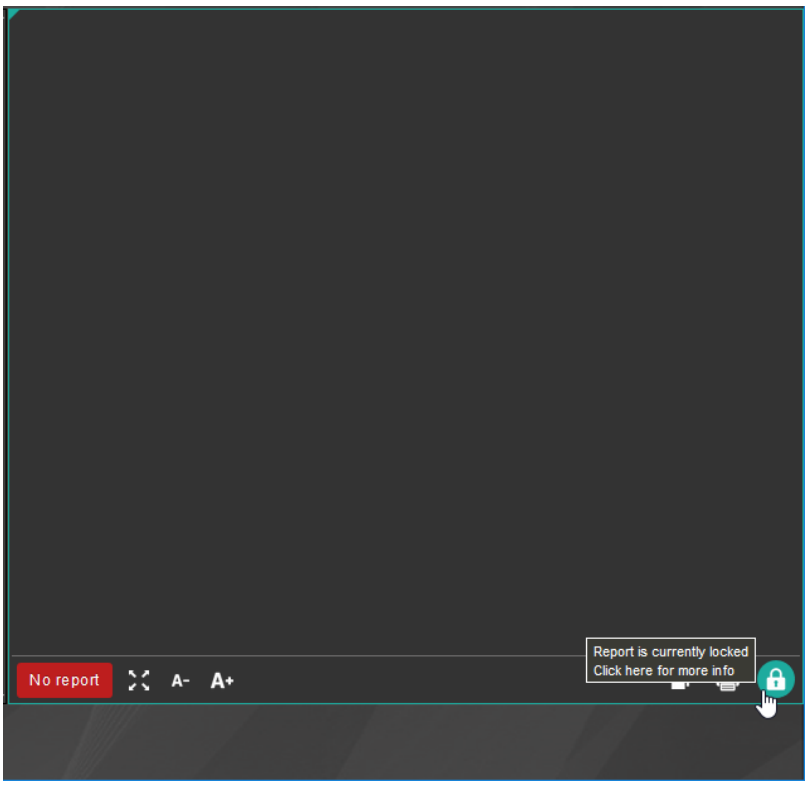
Disclaimer

The recognized text is not always 100% correct.

It is the responsibility of the radiologist to verify the correctness of the report before validation.

Once a report has been set to edit mode, it will be locked for any concurrent users to prevent two persons working on the same report at the same time.

This is indicated by a lock icon in the series picker and the report window.



By clicking the lock icon, more information is given on who is editing the report at the time.

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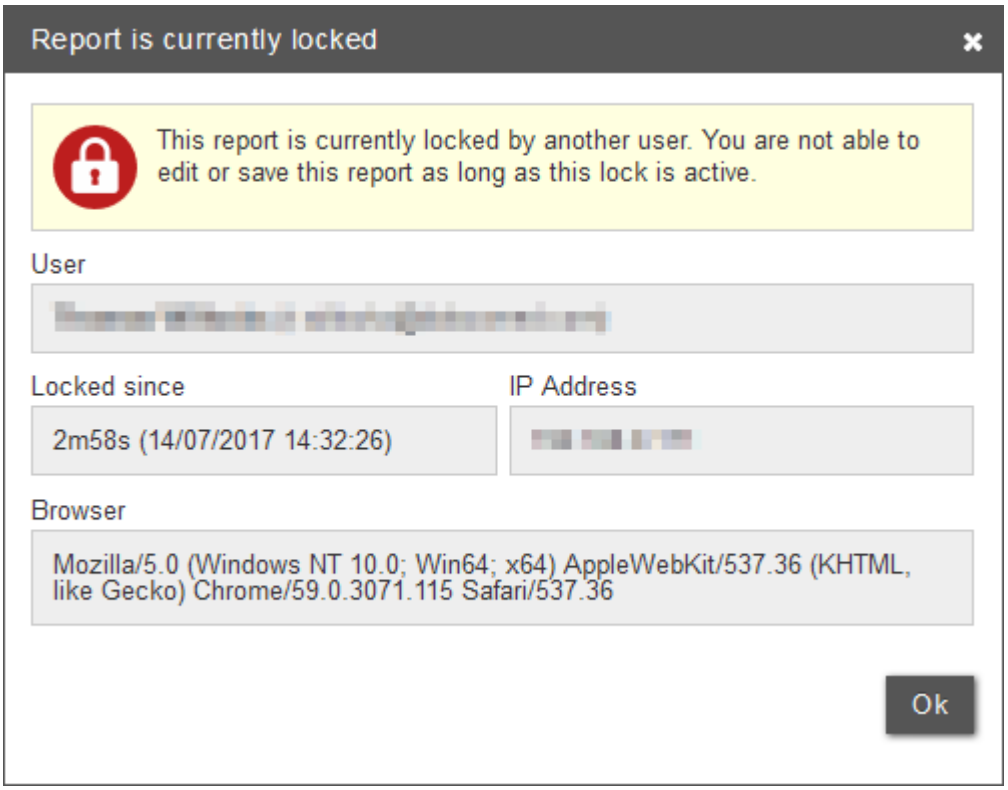

13.3 Unpairing the Home Reading app

It is necessary to unpair your device from your browser session in case you want to:

- stop creating reports
- pair another device with your current browser
- pair your current device with another browser

This can be done

- from within the app by clicking the three dots in the top right corner and tapping **Unpair browser**

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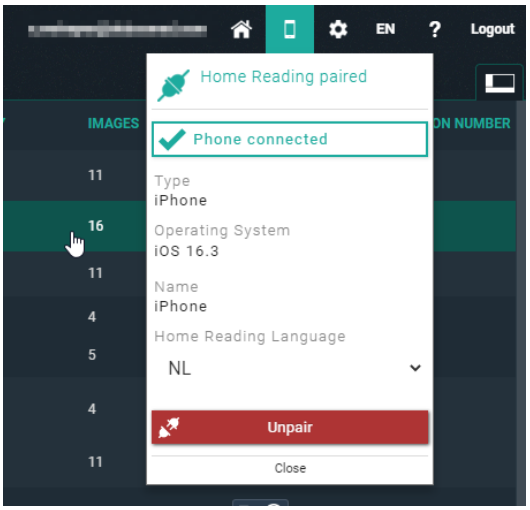
- from within the browser by clicking the Home Reading icon and clicking Unpair



A notification will be displayed on your Home Reading app. Tap **YES** to confirm that you want to unpair your device.

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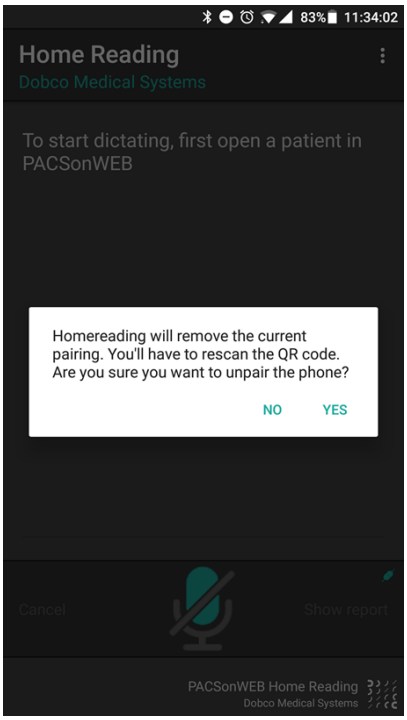

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DeepUnity PACSonWEB worklist

14

DeepUnity PACSonWEB offers the possibility to use worklists for optimal workflow support when dictating reports.

Users who have the required access rights, can access the work list screen by clicking the "Worklist" tab next to the study list.

14.1 Worklist configuration

Predefined worklists

For every source or the group of sources (for Cross-Source Worklists) there are 4 predefined worklists:

- **All for source**: This worklist contains all studies for the source (or group).
- **All my reviews**: This worklist contains all studies on status **Pending second validation** where the Validating user is the current logged in user.
- **All my unread**: This worklist contains all unread studies for which the logged in user is marked as "Reading user".
- **All unread**: This worklist contains all unread studies for this source (or group).

Predefined worklists cannot be deleted or customized. If changes are made to a predefined worklist, an orange triangle icon wil appear at the bottom of the page to indicate that changes have been made to the default of the worklist.

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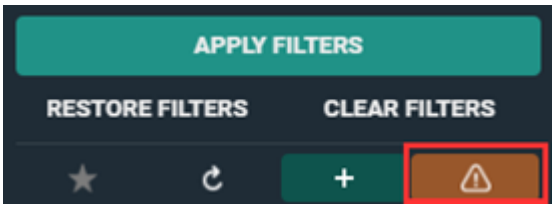
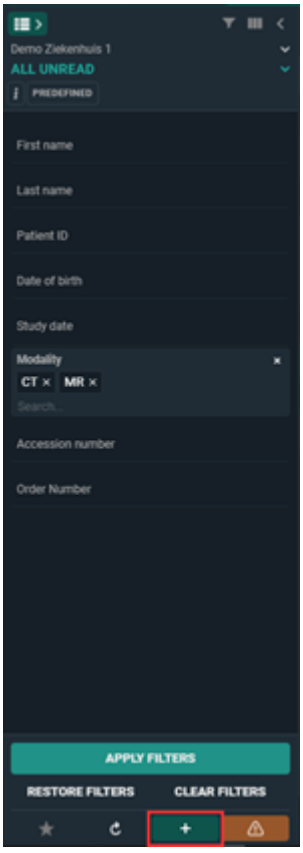


Saving as a new worklist

To save changes made to a predefined worklist from the drop-down menu in the filters panel.

1. Select one of the predefined worklists and add extra filters to create the desired worklist.
2. Enter criteria into the filters field according to the changes you want to configure in the new worklist.
   a. For example, set a specific modality.
3. Click the plus icon + to **save as new worklist**.



4. In the **Create new worklist** dialog, provide the following information:
   a. **Name**: The name of your worklist.

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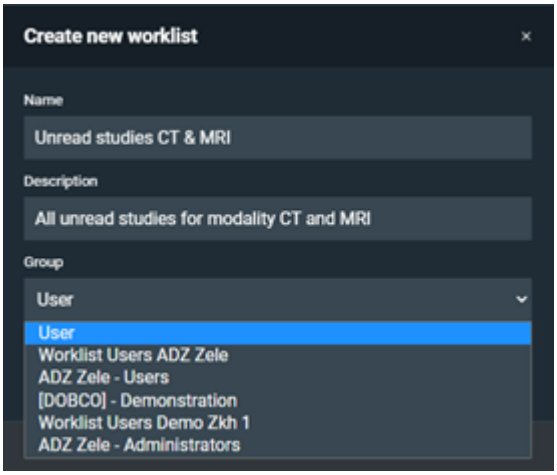
b. **Description**: Description for the worklist.
c. **Group**: Saves the worklist on a user or group level.



5. Click **Save**.

The new worklist is saved in the worklist drop-down, along with the predefined worklists.

You can make changes to the saved worklist by updating the filter fields according to your desired changes and clicking **Save worklist**.

Important!

To save the worklist for a group, the user must be a group admin.

Filtering and sorting studies in the worklist

Filters make it easier to find an order in your worklist. To improve your search results, enter the desired criteria into the filter fields.

- Study date can be used as a relative date/ time period.
  - This means, for example, when selecting "last 7 days", this will be automatically updated the next day.
- By default, the orders in the worklist are sorted first by priority and second by study date (oldest to newest).
  - To use sorting filters, click the description of the column.
  - To use more than one sorting hold the **SHIFT** key and select the desired column. The numbers will display the sorting ranking.

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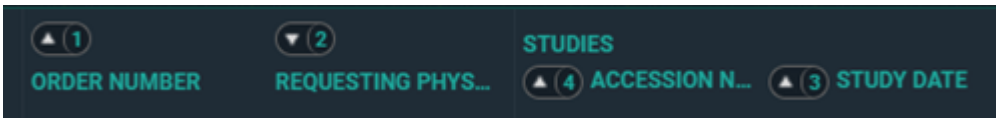

Customization of columns and filters

The predefined worklists have a default set of columns and filters. Column and filter settings can be configured according to personal preferences.

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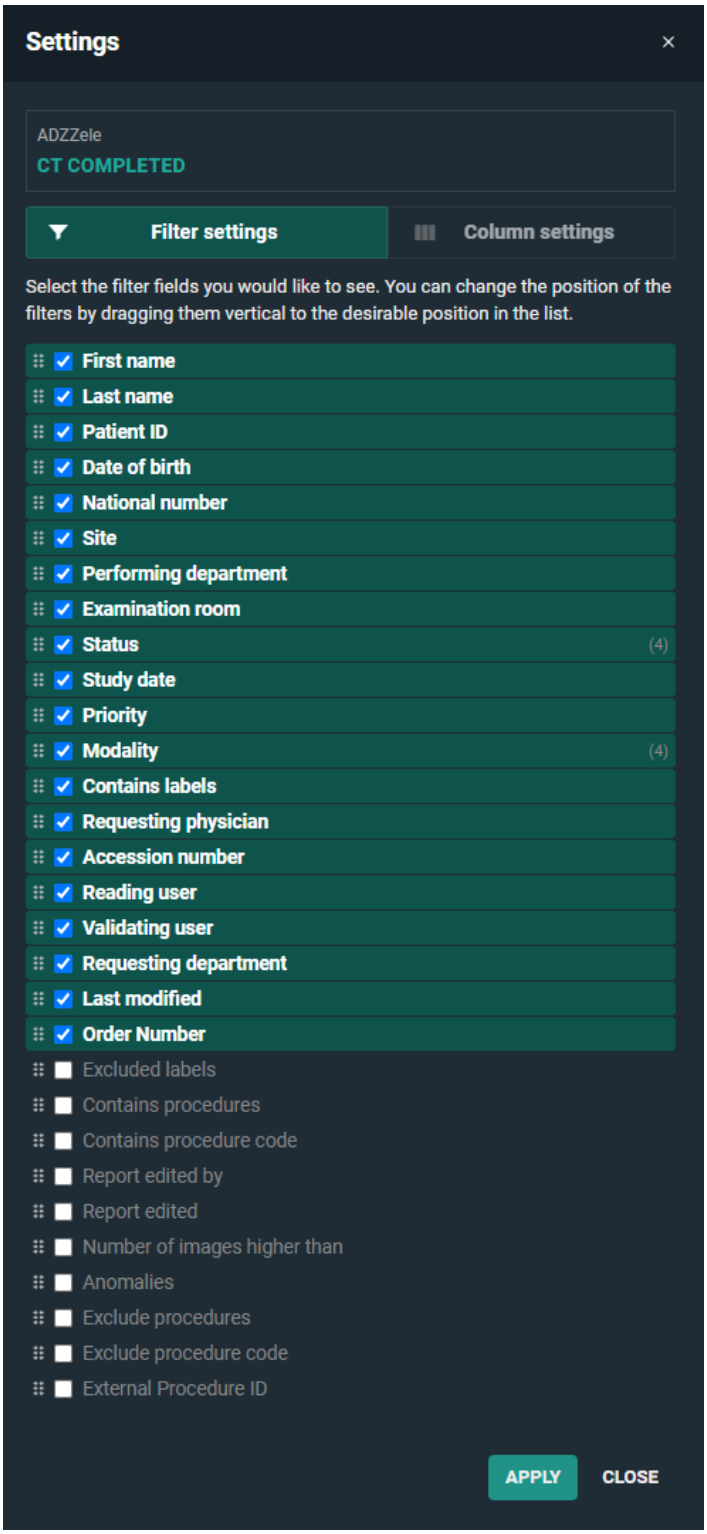

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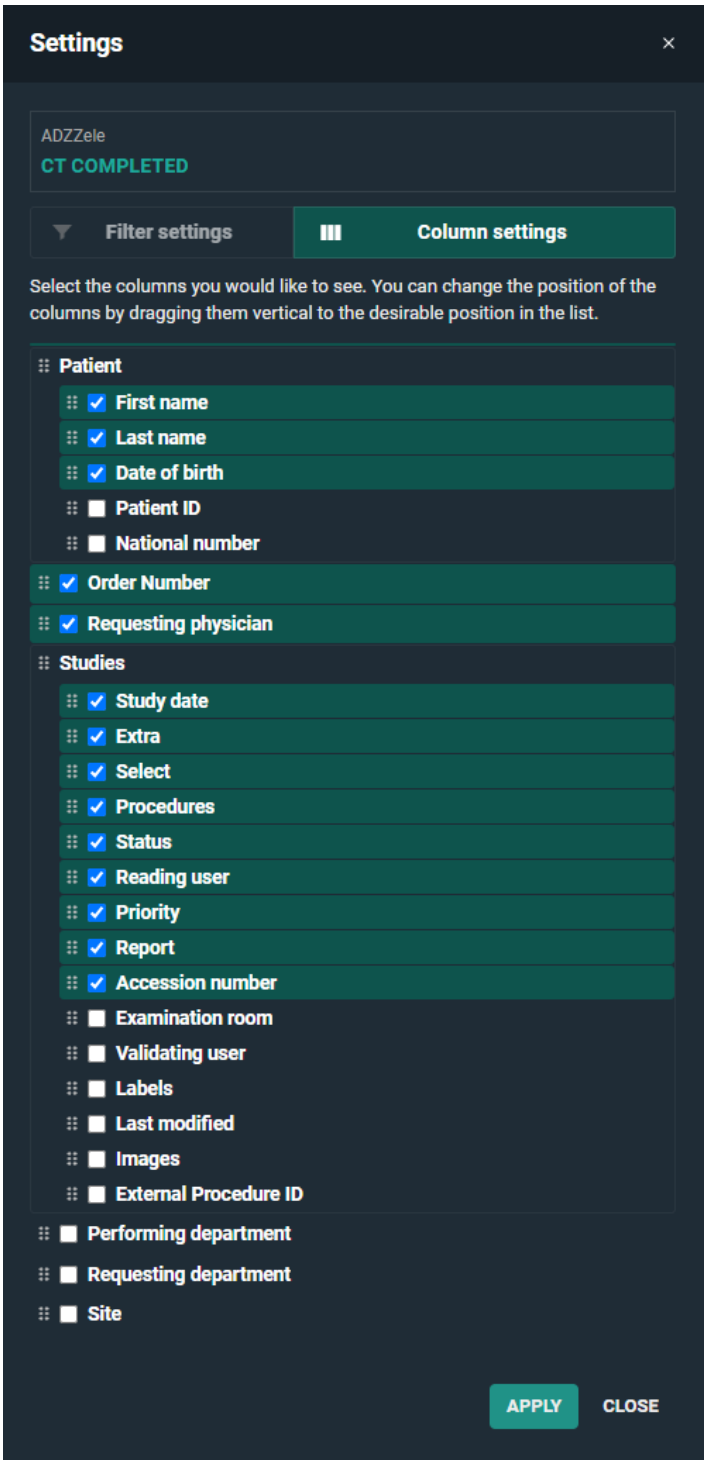
SSN: DOC-3947337



To change the settings:

1. Click on the column settings or filter settings icon.
2. Select or deselect the fields you want to display or hide.

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Note:

Columns and filters are displayed in the worklist in the order in which they appear in the settings list. To change the order in which they appear in the worklist, select a field and drag it to a new position in the settings list.

3. Click **Apply**.

The fields available in the filter and column settings are listed in the table below.

Filter settings fields	Column settings fields

• Accession number
• Anomalies
• Contains labels
• Contains procedures
• Contains procedure code
• Date of birth
• Examination room
• Exclude procedures
• Exclude procedure code
• Excluded labels
• External Procedure ID
• First name
• First Name at Birth
• Last modified
• Last name
• Last Name at Birth
• Modality
• National number
• Number of images higher than
• Order Number
• Patient ID
• Performing department
• Place of birth
	• Order Number
	• Patient
	  ○ Date of birth
	  ○ First name
	  ○ First Name at Birth
	  ○ Last name
	  ○ Last Name at Birth
	  ○ National Number
	  ○ Patient ID
	  ○ Place of birth
	• Performing department
	• Requesting department
	• Requesting Physician
	• Site
	• Studies
	  ○ Accession number
	  ○ Examination room
	  ○ External Procedure ID
	  ○ Extra
	  ○ Images
	  ○ Labels
	  ○ Last modified
	  ○ Priority

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Filter settings fields	Column settings fields
• Priority • Reading user • Report edited • Report edited by • Requesting department • Requesting physician • Site • Status • Study date • Validating user • AI Status • Findings	○ Procedures ○ Reading user ○ Report ○ Select ○ Status ○ Study date ○ Validating user ○ AI Status ○ Findings ○ Source

The icon, displayed in the Report column, differs according to the report status:

- Draft report
- Preliminary report
- Validated report
- Auto saved report

The **Extra** column can contain icons for the following statuses:

- Anomalies
- Messages (confirmed/unconfirmed)
- Filtered study
- Canceled study
- Locked
- Reserved

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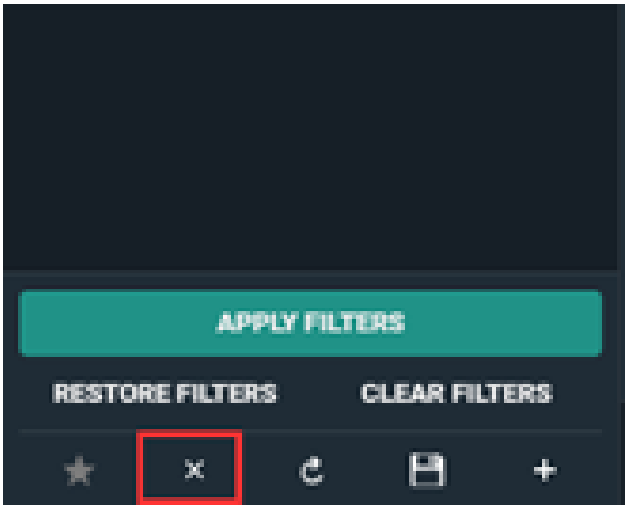
Note:

A worklist can also be configured based on the filter **Anomalies**. However, the Anomalies filter is only accessible for source admins.

Deleting a worklist



To delete a worklist:

1. Click on the ✕ icon.
2. In the dialog, click **Delete**.

Caution:

Deleting a worklist cannot be undone.

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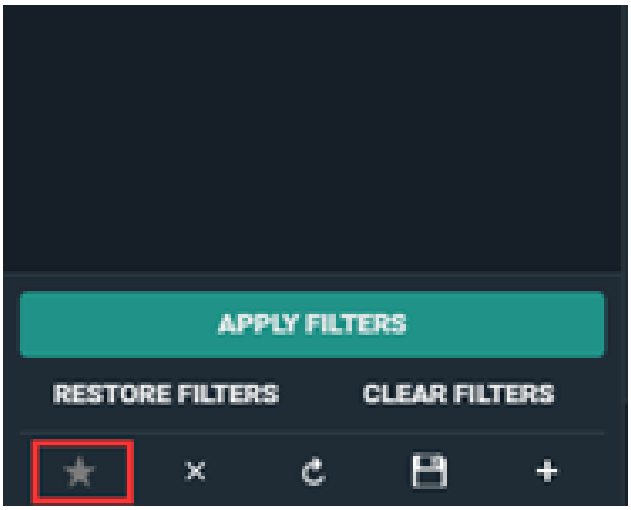
Default worklist



To make a worklist your default worklist click on the ★ star icon.

When opening DU POW, the worklist marked as default will be opened.

Dashboard

The Dashboard contains shortcuts of your personal selection of worklists. The purpose of these shortcuts is to have an overview of the counts in the worklist without the need to open the worklist.

The count refreshes automatically.

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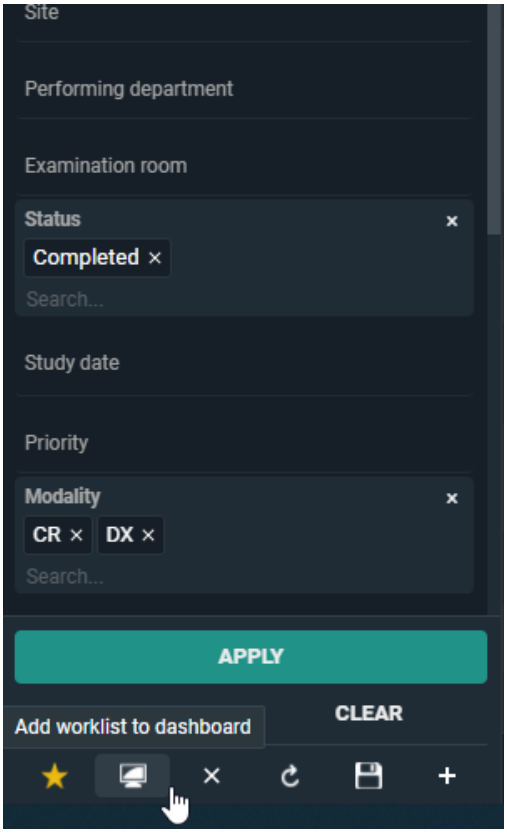
Adding a worklist to your dashboard



To add a worklist to your dashboard:

1. Select the worklist you want to add to your dashboard.
2. Click on the dashboard icon.
3. In the following dialog:
   a. Enter an abbreviation for the shortcut (limited to 3 characters).
   a. Enter the medium and high threshold. These numbers will determine in which color the shortcut icon will be shown: grey, orange or red.
   b. Click **Add worklist to dashboard**.

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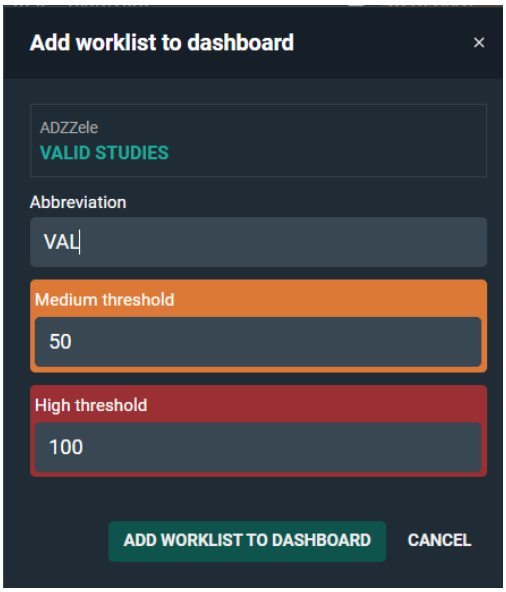
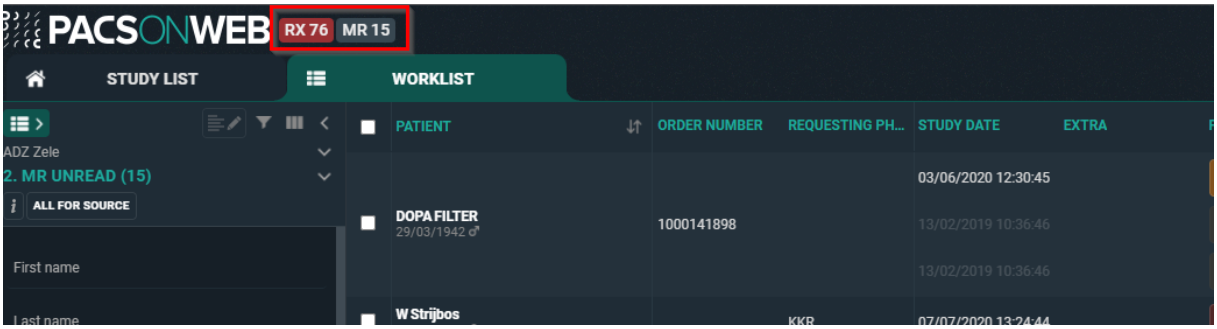


The shortcut icon will be displayed in the dashboard next to the DeepUnity PACSonWEB logo.

- Clicking on this icon will open the worklist.



Editing/removing a shortcut from the dashboard

You can edit or remove a worklist from your dashboard by opening the related worklist, either by selecting it from your list of worklists or by clicking the related icon in the dashboard.

To open the configuration window:

1. Click the dashboard icon .

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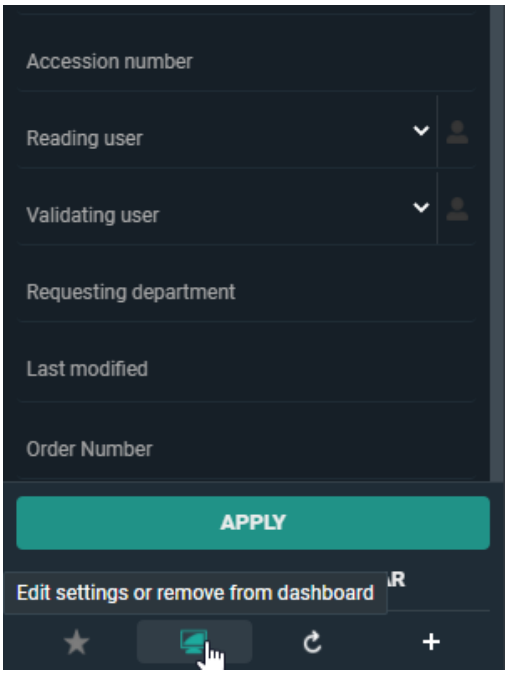
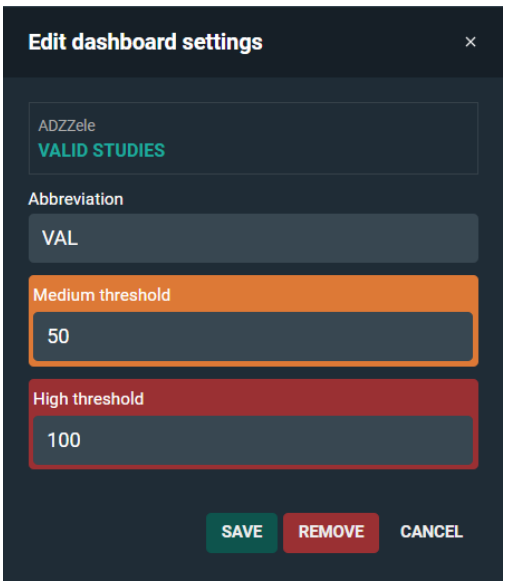


2. From this window you have two options:
   - Edit and click **Save** to save the changes to your settings.
   - Click **Remove** to remove the shortcut from the dashboard.



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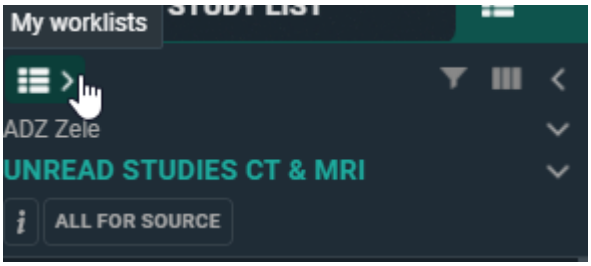
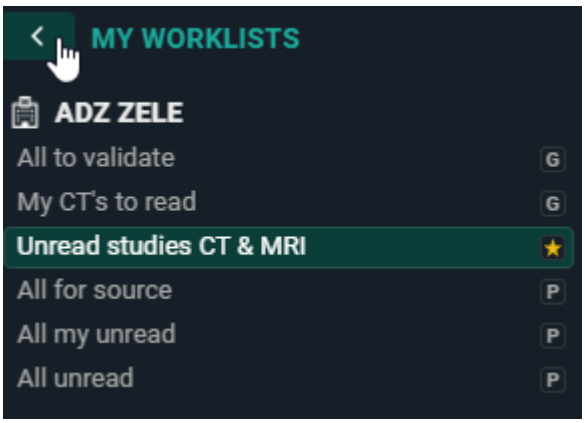
Overview Worklists



You can see an overview of all worklists available to you by clicking the **My Worklists** icon at the top left of the filters panel.

- Predefined worklists are indicated with a 'P'.
- Worklists with a 'G' are available to a group you belong to.
- The default worklist is indicated with a yellow star icon.



14.2 Worklist page functions

1. Study reservation

When multiple radiologists are working within the same worklist, it is useful to reserve studies before reporting them to make it clear to all radiologists who is going to make the report for which study.

Study reservations can be made by selecting one or more studies with the select box and clicking the "Reserve" button in the right bottom corner.

By default the reservation period is set to 90 minutes, unless a different value has been registered for the related source. After that the reservation expires.

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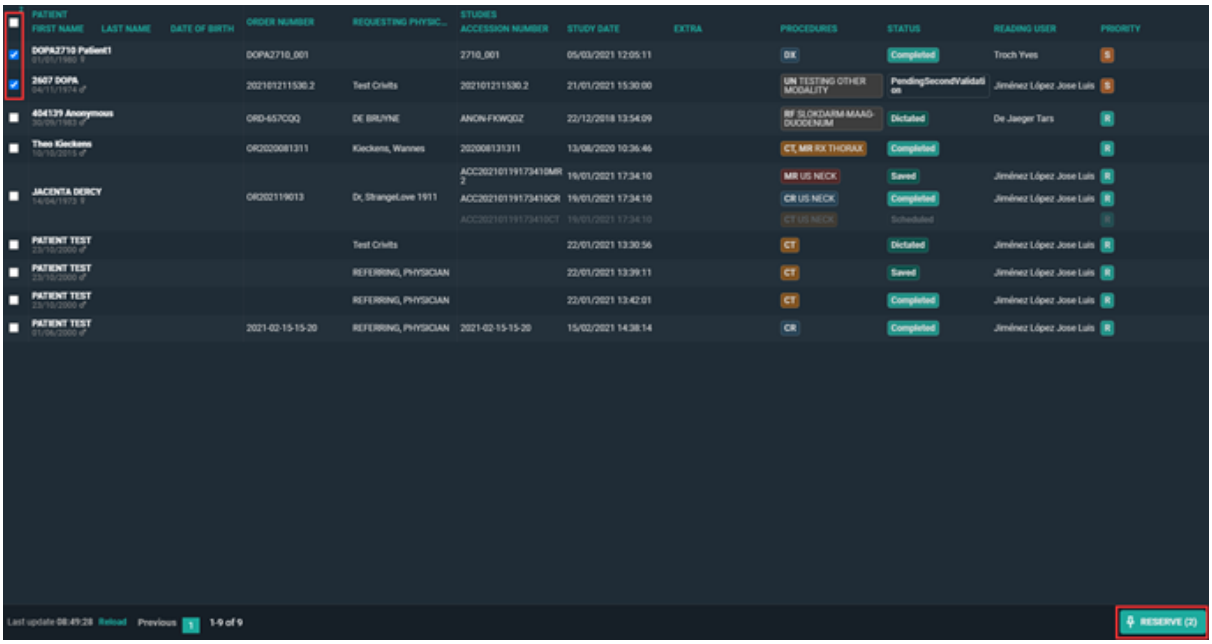
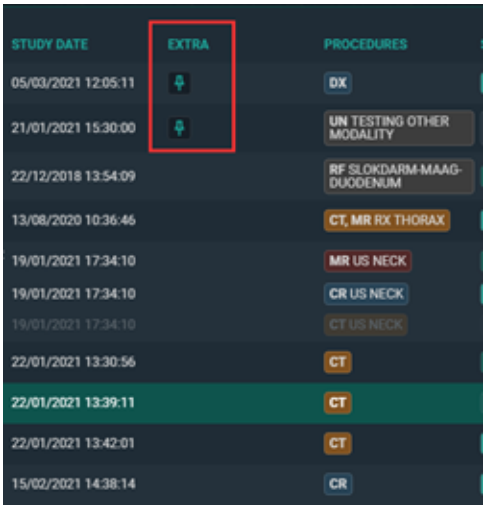
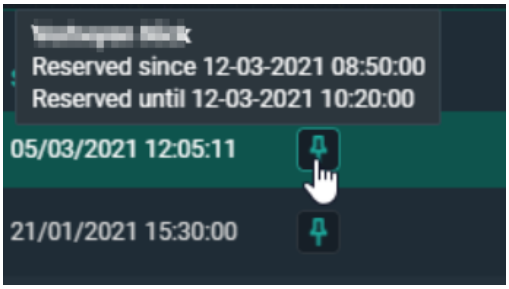


If a study has been reserved, this will be indicated with a pin icon in the **Extra** column.

When hovering over the pin icon you can see the details on the reservation.





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Another user who is working in the same worklist will see the same icon in a red color to indicate that the study is reserved.

If a user wants to reserve a study which is already reserved by another user, he/she is prompted with the following warning:

Attention One or more studies is reserved by another user, do you wish to take over the reservation? YES, **CLOSE**

2. Unreserve study

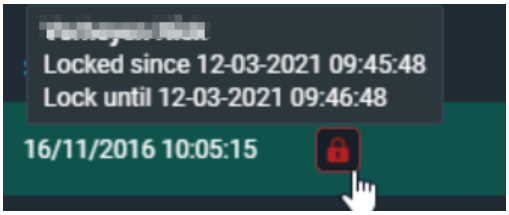
To unreserve a study the same steps have to be followed. Select the reserved studies with the checkbox which you want to unreserve.

Click on **clear reservations** in the right bottom corner.

3. Study locking

When a radiologist starts making a report this is indicated for other users with a lock icon in the **Extra** column.

When hovering over the study lock icon, it is indicated who is dictating the report. The report is locked as long as it is in edit mode. The lock until time is updated every minute.



The user can open the study to look at the images but it will not be possible put the report in edit mode.

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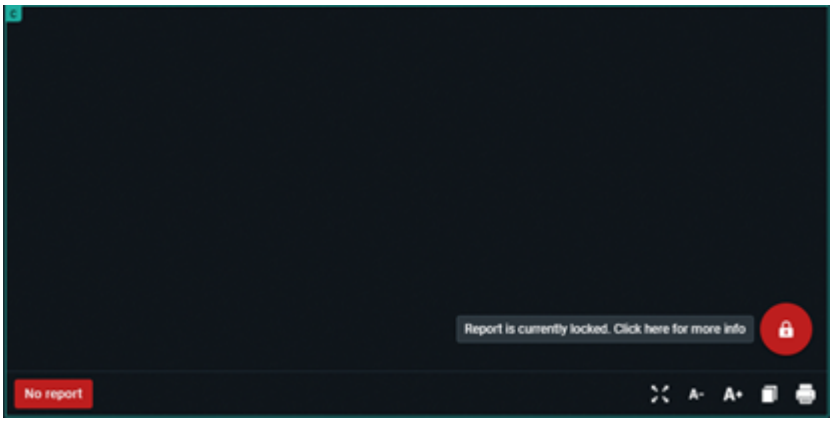


Once the report has been saved or cancelled, other users will be able to edit the report again.

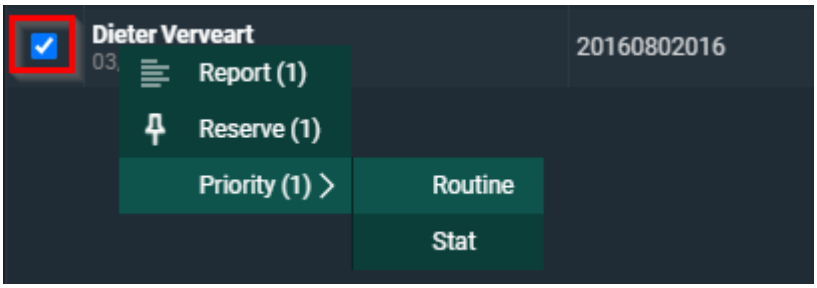
4. Change study priority

The study priority can be changed in the worklist overview.

Select the study by ticking the checkbox, right mouse click on the study gives you 3 options. One of them is changing the priority to Stat or Routine.

Note:

This functionality requires a permission that needs to be active for the user.



5. Labels

From the Worklist page you have the possibility to link labels to studies in a similar way as can be done from the Overview page.

The full explanation on how to manage labels can be found here: Adding labels to studies (Page 195).

The linked labels are displayed in the column "Labels" if this column has been made visible for your overview.

If not, how to make it visible, is explained here: Worklist configuration (Page 318).

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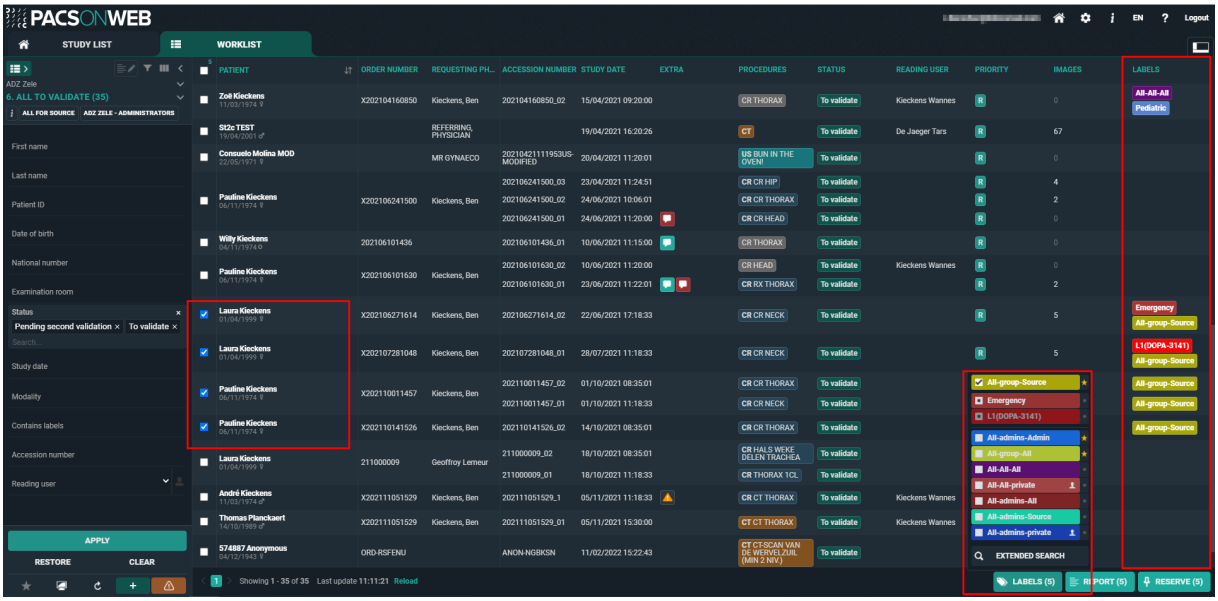


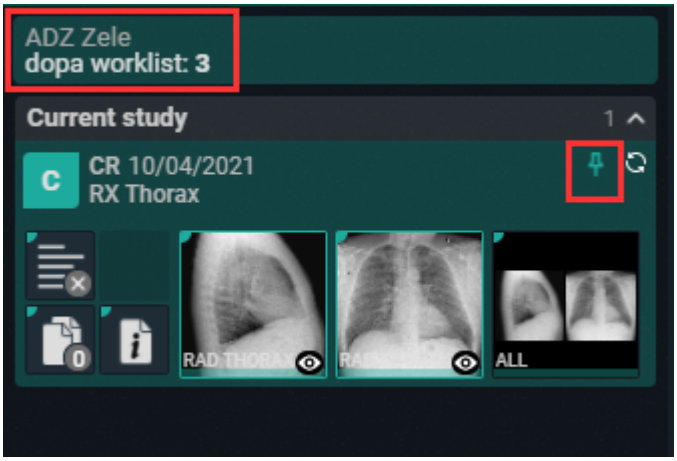
14.3 Reading workflow

1. Opening study from worklist

When a study is opened from a worklist, it is indicated to which source the study belongs.

The name of the worklist is also displayed, followed by the number of studies in that list.

If the study is reserved, this will also be indicated with the pin icon.



2. Opening studies from selection

The selection boxes for selecting studies can be shown on order or study level.

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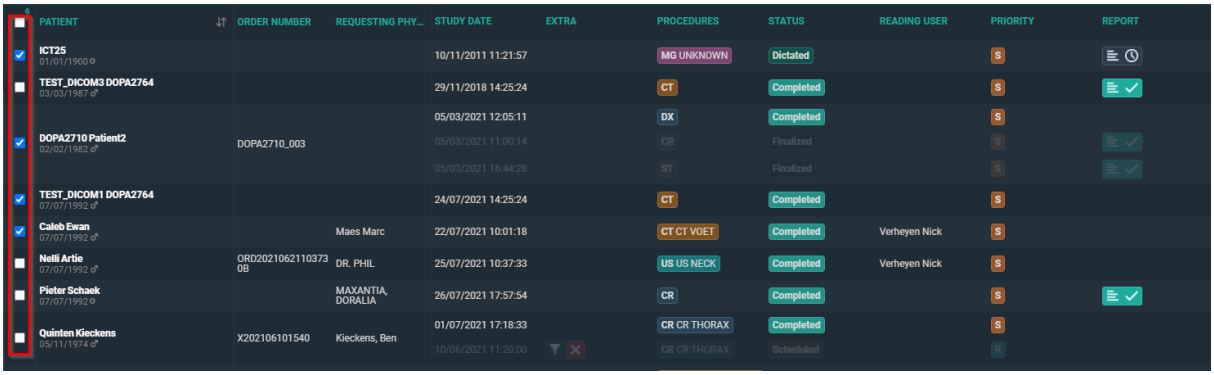
This is managed by a setting, linked to the source of the study.

Selection on Order level



Selection on Study level

A specific study can also be selected by clicking on the procedure description label.

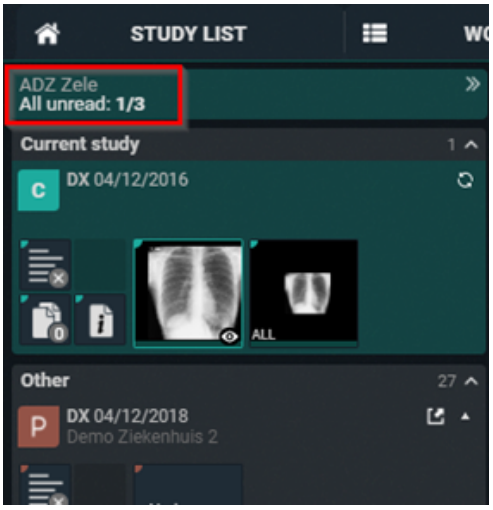
This can be useful for an order with multiple studies where the user wants to open a specific study.

3. Bulk reporting

Select the studies you want to create a report for by enabling the checkboxes as shown in the examples above.

Click on the REPORT button in the bottom right or right mouse click to start reporting the selected studies.

The total number of selected studies is shown in the series picker:



When the last study of the selection is reported, the user is redirected back to the worklist page.

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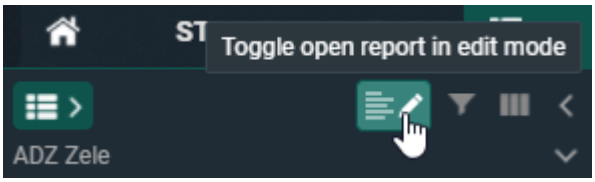
4. Creating a report and study status update

When opening a study, the user can choose to automatically open the report in edit mode or manually activate edit mode. This option does not apply to validated reports, which must be edited manually.

4.1 Automatically

Highlight the option shown below.



Important!

This option needs to be enabled **and saved for the worklist**.

4.2 Manually

Click on the pencil icon or shortcut F2 to directly activate the speechmike in record mode.

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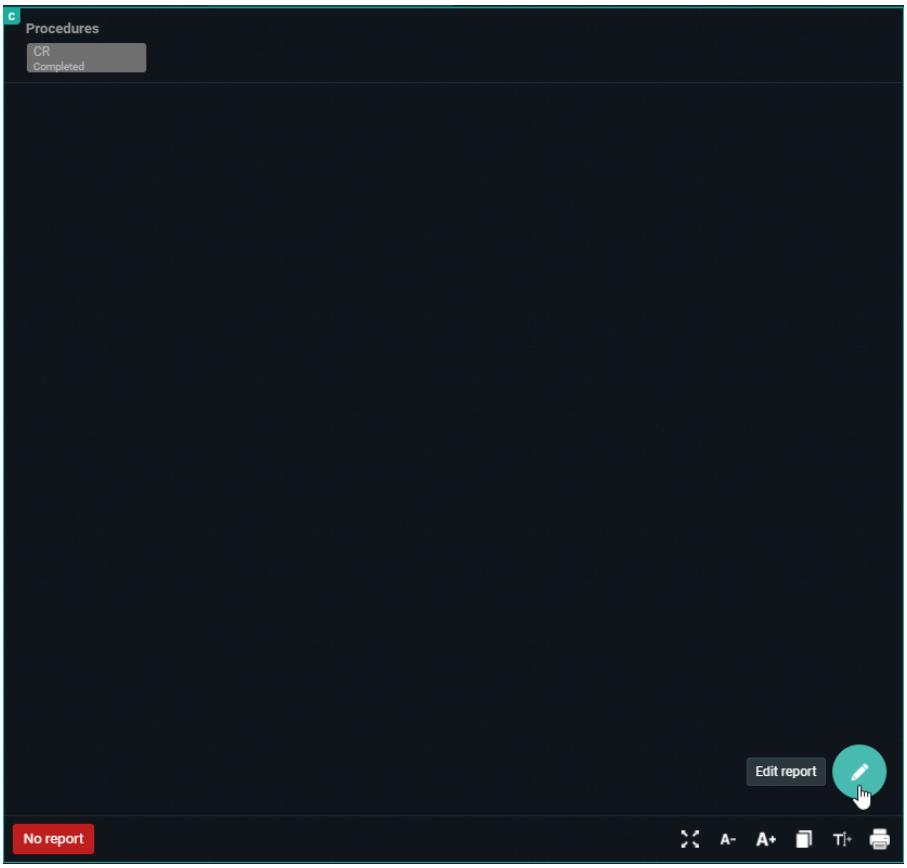

The user can now start making the report.

Text blocks can help to speed up the workflow. These are preconfigured blocks of text that can be inserted and modified afterwards.

See Text blocks (Page 115) for more information on how to create and insert text blocks.

4.3 Report hyperlinks

The user can create hyperlinks from images and add them to the report text.

When Rich Reporting (Page 297) is used, the hyperlink will be clickable. If you are using plain text or the report is sent out via HL7 or printed, the hyperlink will be converted to plain text.

Adding a hyperlink to a report

Adding an image hyperlink to the report can be done in **three ways**.

First, select the image in the viewport:

1. Right-click and select the option **Add image to report**
2. CTRL + drag & drop the image
3. CTRL + C *(to copy the image)* and CTRL + V *(to paste the image)*

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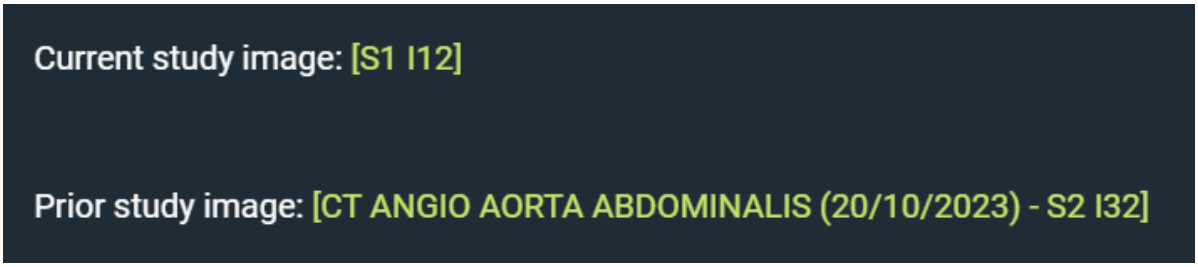
All three methods will add the hyperlink to the image at the cursor position.

Display format of hyperlinks

The display format of hyperlinks is not configurable and the format differs for Current study and Prior study. For each format, *S = Series and I = Image*

Current study:[S+SeriesNumber I+ImageNumber]

Prior study:[Procedure name (study date) - S+SeriesNumber I+ImageNumber]



Navigating to a linked image

To navigate to the linked image, simply click on the hyperlink within an editable or non-editable report while working within DeepUnity PACSonWEB.

If the hyperlink was converted to plain text, you will need to manually navigate to the image.

Clicking on the hyperlink will navigate you to the correct image in any of the available image viewports.

Image display location

- If an image viewport was active previously, the last active image viewport will be used.
- If no image viewport was active previously, the first available viewport will be used.
- If the previous active viewport is no longer visible, the image will be displayed in the 1st available non-report viewport
- If the report is full screen, the image will be opened in the report viewport as it is the only viewport available.

Report references an unavailable image

If an image, series or study referenced in a report has since been removed, a dialog box will appear when the hyperlink is clicked, warning the user that the image could not be loaded.

For example: If the series is no longer found in the study, the following message is displayed: **"This image could not be loaded because the series was not found."**

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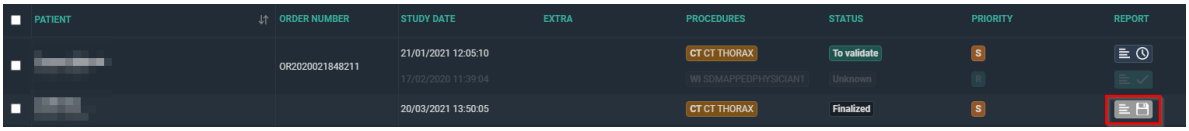
4.4 Auto saved reports:

Every 30 seconds an automatic auto save of the report is made. This means that when the connection is lost for some reason, there will be an auto saved version of the report.

If there is an auto saved report for a study, this will be shown in the worklist.

The icon is only visible for the user who created the auto saved version of the report. Other users will not see the icon in their worklist.



This functionality can lead to 2 scenarios:

1. Opening a study with an auto saved report which the logged in user created.
2. Opening a study with an auto saved report which the logged in user did not create.

Scenario 1:

If the user opens an auto saved report, the following warning is shown:

"DeepUnity PACSonWEB has recovered a previous version of the report that you created on [dd/mm/yyyy] 00:00. Do you wish to restore this auto-saved report version?"

RESTORE AUTO-SAVE: opens the last auto saved version.

START FROM PREVIOUS SAVED VERSION: in case there was already a saved report (preliminary/draft), this version will be used.

Scenario 2:

If the user opens a study where there is an auto saved report created by another user, the following warning is shown:

"DeepUnity PACSonWEB has recovered a previous version of the report that [User] created on [dd/mm/yyyy] 00:00. If you wish to continue with this report, the auto-saved report version will be deleted. Are you sure?"

Note that the username who created the report is shown in the warning.

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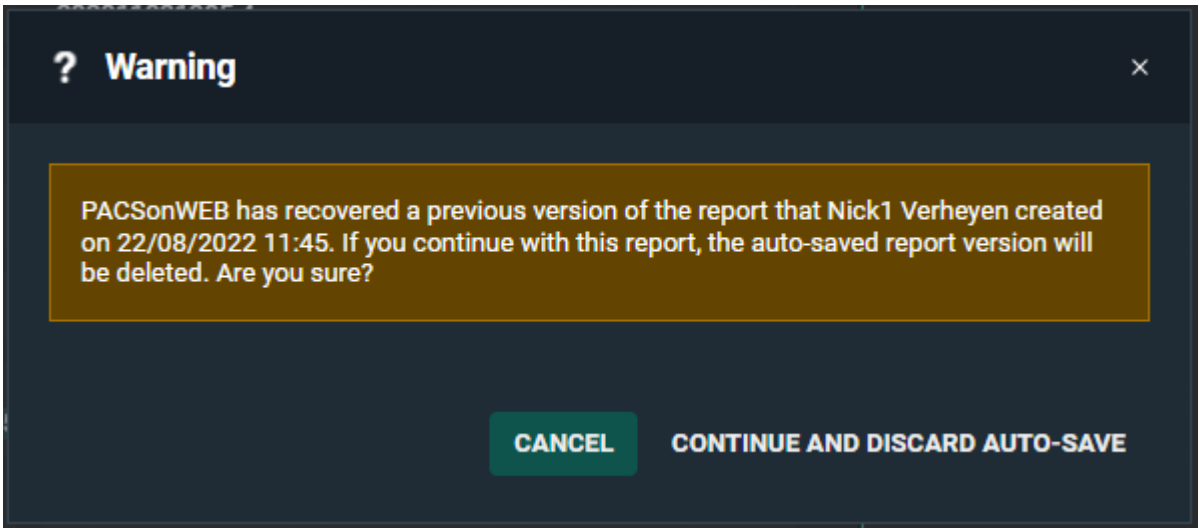

CANCEL: the report is cancelled.

CONTINUE AND DISCARD AUTO-SAVE: the auto-save will be deleted and new report is started.

4.5 Saving the report

When the user has finished creating the report, the following actions are available:

- Save and validate (Shortkey: F8)
- Send for correction (Shortkey: F7)
- Save as "Preliminary" (Shortkeys: CTRL + F8)
- Save as "Draft" (Shortkeys: ALT + F8)
- Cancel

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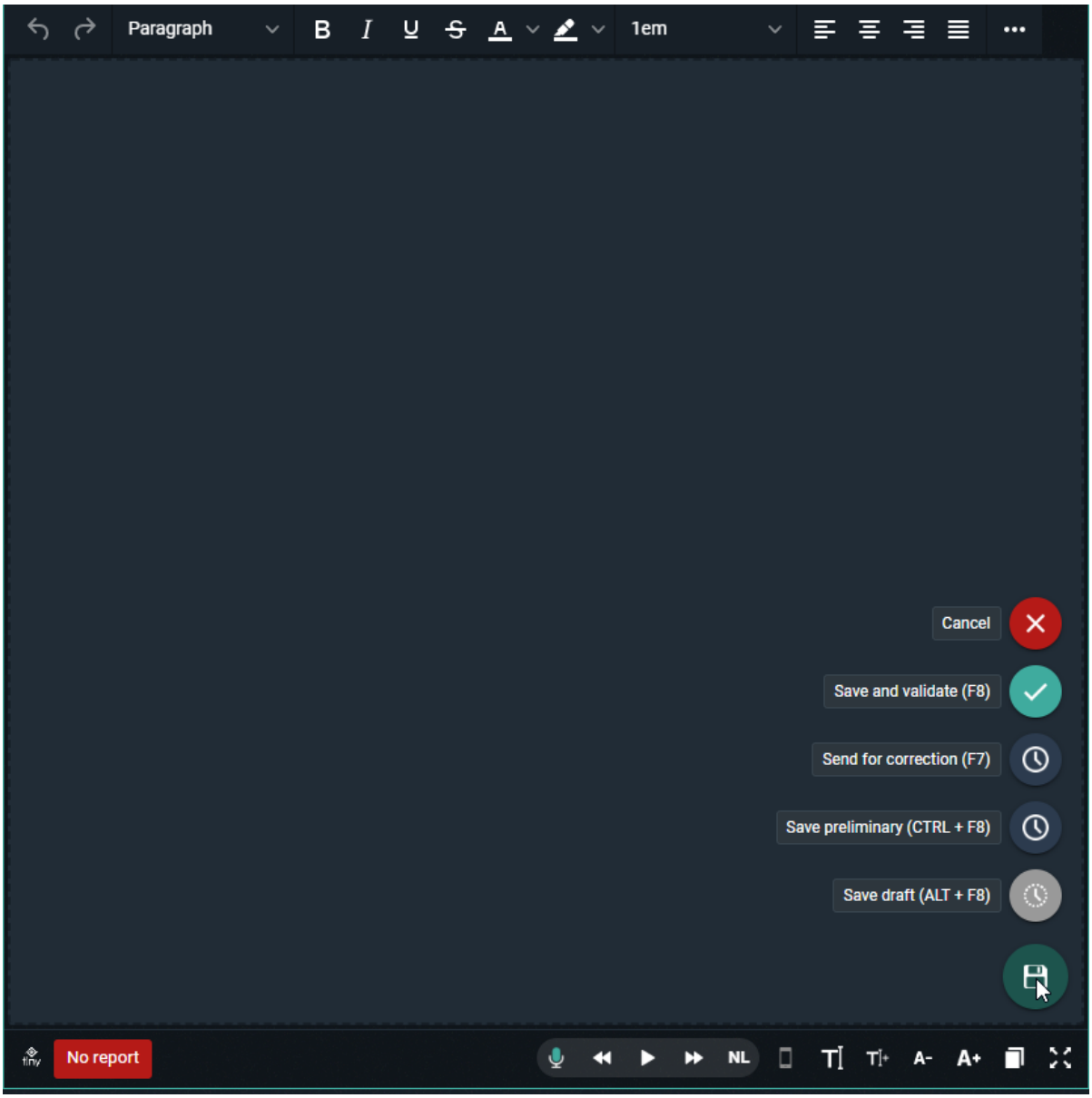

The study status is updated in line with the chosen action:

- Save and validate: status **Finalized**
- Send for correction: status **Pending report correction**
- Save as "Preliminary": status **To Validate**
- Save as "Draft": status **Dictated**
- Cancel: no change in status

In the worklist the status is displayed in the column Status.

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Depending on user preference one of the following actions will occur after saving a report:

- Return to worklist
- Move to next study (studies that are reserved or locked are skipped)
- Stay in current study

This can be defined for each user, in the user settings under tab preferences (See Preferences (Page 99))

Note:

This icon is only visible when opening the study from the worklist.

5. Workflow icon

The Workflow menu is accessible from the top toolbar in the viewer through the icon "WF".

When **not** in report editing mode, you have the possibility to:

- Skip study (shortkey F9)
- Change the status of the study
- Change the status of the study and go to the next study
- Change the priority of the study (permission required)

The status change will be visible in the Status column of the worklist.

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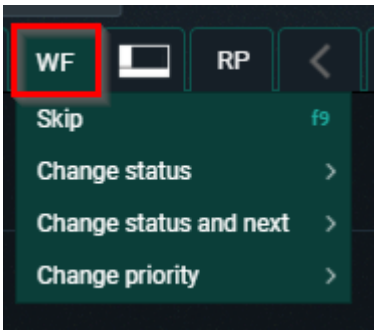
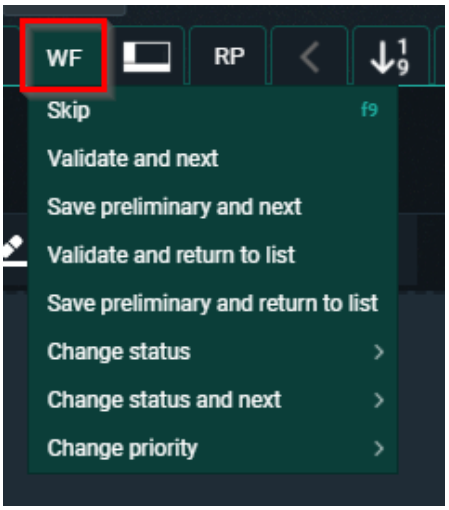


When **in** report editing mode, the following options are available:

- Skip study (shortkey F9)
- Validate the report and move to the next study
- Save the report as preliminary and move to the next study
- Validate the report and return to the worklist
- Save the report as preliminary and return to the worklist
- Change the status of the study
- Change the status of the study and go to the next study
- Change the priority of the study (permission required)



Note:

This icon is only visible when opening the study from the worklist.

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14.3.1 RSDK

DeepUnity PACSonWEB supports **RSDK speech recognition** and **RSDK Atlas Engine**. These paid features can only be activated by your local DeepUnity PACSonWEB service partner. Once activated, additional functionalities become available when editing a report.

Important!

To enable the RSDK Atlas engine, contact your local DeepUnity PACSonWEB service partner for assistance with activating an additional User Option and setting Rsdkatlas = true.

Using RSDK

Voice input indication

The colored bar beneath the microphone icon indicates the user's speaking volume.

Optimal voice input

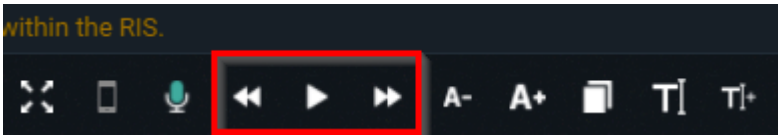
Color indication

- Blue = Too low
- Green = Optimal
- Yellow = Acceptable
- Orange = High
- Red = Too high

If the voice input reaches orange, a message prompts the user to lower their volume for better recognition.

How to use the features

The dictated text can be played back using specific buttons in the report editor or their corresponding shortcuts.



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Button	Functionality	Action	Shortcut
	Play	Click	ALT+F1
	Stop	Click	ALT+F1
	• Return 1 word • Rewind a ratio of 10 words / second	• Click • Click and hold	ALT+F11
	• Skip 1 word • Fast forward a ratio of 10 words / second	• Click • Click and hold	ALT+F12

Tip:

If you are using a multimedia keyboard, you can also use the corresponding play buttons on your keyboard.

The play features can also be controlled using a foot pedal, by configuring the following key combinations:

Functionality	Shortcut
Play / Stop	ALT+F1
Start / stop fast forwarding	CTRL + ALT + F12
Start / stop rewinding	CTRL + ALT + F11

SpeechMike button configuration

The SpeechMike buttons can be mapped on the shortcut keys page of DeepUnity PACSonWEB (see the following page: Personal configuration shortcut keys (Page 106)). By default, the following buttons are mapped:

- **Record Button**: This button is mapped to the toggle recording functionality. Press it once to start recording and press it again to stop.
- **Play/Stop Button**: This button is mapped to the toggle playback functionality. Press it once to start playback and press it again to stop.

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- **Forward Button**: This button is mapped to the fast forward functionality. Hold it down to fast forward through playback.
- **Rewind Button**: This button is mapped to the rewind functionality. Hold it down to rewind through playback.

  Any button can be linked to any shortcut, e.g:, the F2 button on the SpeechMike could be mapped to the edit report functionality.

Supported devices

Dictation microphones	Foot controls
Philips SpeechMike Premium LFH3500	Philips ACC2310
Philips SpeechMike Premium LFH3510	Philips ACC2320
Philips SpeechMike Premium LFH3520	Philips ACC2330
Philips SpeechMike Premium LFH3600	
Philips SpeechMike Premium LFH3610	
Philips SpeechMike Premium Touch SMP3700	
Philips SpeechMike Premium Touch SMP3710	
Philips SpeechMike Premium Touch SMP3720	
Philips SpeechMike Premium Touch SMP3800	
Philips SpeechMike Premium Touch SMP3810	
Philips SpeechMike Premium Air SMP4000	
Philips SpeechMike Premium Air SMP4010	

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Dictation microphones	Foot controls
Philips SpeechOne PSM6000	
Nuance PowerMic III	
Nuance PowerMic 4	

(source: https://github.com/GoogleChromeLabs/dictation_support)

Multi-monitor application

In the multi-monitor application, all of the above topics work without any configuration.

The SpeechMike buttons also work when the application is not focused, e.g: when the user is working in another external application (Syngo.via), the user can still use the SpeechMike buttons.

Browser configuration

The SpeechMike buttons will not work in the browser without configuration.

The SpeechMike buttons can be used in Chrome, but additional configuration is required.

Contact DH Healthcare GmbH Support to configure this functionality.

Synchronous playback

- **Select a word or phrase and press play**: The audio for the selected text will play and stop at the end.
- **Place the cursor at a certain location in the text and press play**: The audio will play from the cursor position until the end of the text.
- **Click stop during playback**: The audio will stop, and the cursor will be placed at the corresponding spot in the text.

Saving of report audio

The report audio is saved in the background for performance reasons.

The report audio is saved in the background for performance reasons. If saving is still in progress when closing the browser tab, a warning message will appear. If you close the tab before saving is complete, audio files will be lost.

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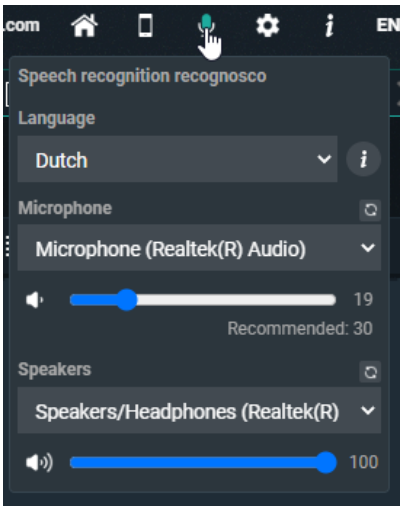
Tip:

For optimal recognition, it is recommended that you set the microphone recording volume in the Windows sound settings to a low level (e.g.: SpeechMike: 15) to minimize background noise.

Audio configuration

Modify the audio configuration from within DeepUnity PACSonWEB by hovering over the microphone icon.



To configure your audio:

1. Select the language (if more than 1 is available).
2. Select the input device.
3. Adjust the input volume (first slider).

   This option is only available when using the Multi Monitor Application and non-SpeechMike devices. The setting is saved with the combination of 'User + input device'.
4. Select the output device (for playback).
5. Adjust the audio volume (second slider).

   This setting is saved in a cookie and will be remembered for this computer.

Voice commands

When using Recognosco speech the following types of voice commands can be used:

- Formatting commands (Bold, Italic, Underline)

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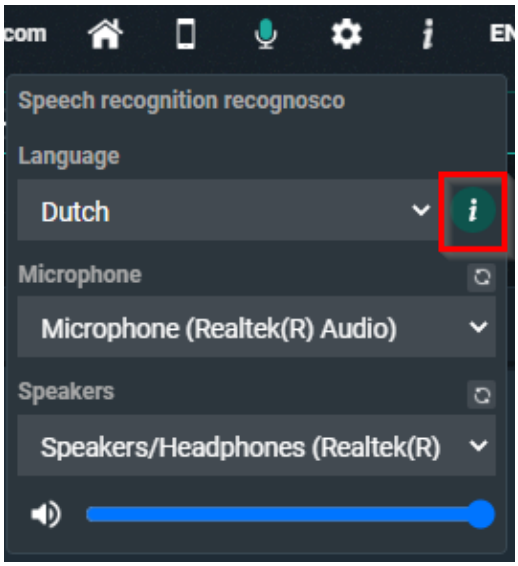
- Selection commands
- Navigation commands
- Correction commands
- Microphone commands
- Bullet list commands

Click the ***i*** icon next to the language in the audio configuration for an overview of all possible voice commands.



Available voice commands:

- microphone off
- (go to) beginning of report
- (go to) beginning of document
- (go to) end of report
- (go to) end of document
- (go to) beginning of line
- (go to) end of line
- select line
- select sentence
- select paragraph
- select all
- select everything
- cut text

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- copy text
- paste text
- delete that
- scratch that
- make bold
- underline
- italicize
- start bullet list
- end bullet list
- all caps
- title
  - The 'title' voice command will activate the Heading 1 formatting as configured in Preferences (Page 99) section Reporting.

Disclaimer

Important!

The recognized text is not always 100% accurate. It is the responsibility of the radiologist to verify the correctness of the report before validation.

For help on dictation, see section Dictation Help RSDK (Page 351) in the user manual or visit the help page of RSDK https://recognosco.com/help-support.

14.3.1.1 Dictation Help RSDK

Numbers

Cardinal Numbers

To make this appear	Say this ...
five	five
12	twelve
34	thirty four

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To make this appear	Say this ...
122	(one) hundred (and) twenty two
535	five hundred (and) thirty five
2,211	two thousand two hundred (and) eleven
338,945	three hundred (and) thirty eight thousand nine hundred (and) forty five
241,305,060	two hundred (and) forty one million three hundred (and) five thousand (and) sixty

Note:

Whole numbers from 0 through 9 are spelled out, but are written in digits if occurring in certain contexts (for examples see sections "Numeral Affixes", "Ratio", "Dictating 'by'", "Number Range", "Words triggering cardinal numbers as digits", "Date, Time & Currency" and "Medical Terms"). Cardinal numbers greater than (and equal to) 10 are generally written as digits.

Ordinal Numbers

To make this appear	Say this ...
first	first
fifth	fifth
12th	twelfth
56th	fifty sixth

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Note:

Ordinal numbers from 0th through 9th are spelled out, but are written in digits if occuring in certain contexts (for examples see section "Words triggering ordinal numbers as digits"). Ordinal numbers greater than (and equal to) 10th are generally written as digits.

Decimal Numbers

To make this appear	Say this ...
3.75	three point seventy five
37.23	thirty seven point twenty three
4.359	four point three five nine

Fractions

To make this appear	Say this ...
1/2	one half
1/3	one third
2/3	two thirds
1/4	one quarter
3/4	three quarters
1 1/2	one and a half
2 1/3	two and a third
7 2/3	seven and two thirds
10 1/4	ten and a quarter

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Numeral Affixes

To make this appear	Say this ...
+2	plus two
-2.5	minus two point five
-2.5	negative two point five
+/-182	plus (or) minus one hundred eighty two
2+	two plus
2.5-	two point five minus
2.5-	two point five negative
182+/-	one hundred eighty two plus (or) minus
< 2	less than sign two
> 4	greater than sign four
= 5	equals five
3 + 3	three plus three
5 > 3	five greater than sign three

Roman Numerals

To make this appear	Say this ...
III	Roman number three
III	Roman numeral three
VI	Roman number six

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To make this appear	Say this ...
VI	Roman numeral six
XX	Roman number twenty
XX	Roman numeral twenty
X	Roman ten

Ratio

To make this appear	Say this ...
1:5	one to five
1:250	one to two hundred (and) fifty
3:1	three to one

Dictating "by"

To make this appear	Say this ...
4 x 4	four by four
4 x 4	four times four
3 x 4 cm	three by four centimeters
3 x 4 mg	three times four milligrams
5 mm x 3 cm	five millimeters by three centimeters
2.5 x 3 x 4 cm	two point five by three by four centimeters

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Number Range

To make this appear	Say this ...
3-4	three to four
150-200	one hundred (and) fifty to two hundred

Words triggering cardinal numbers as digits

To make this appear	Say this ...
appendix 2 and 5	appendix two and five
chapters 8-9	chapters eight to nine
part 9	part nine
supplement 6	supplement six
volume 7-8	volume seven to eight
column 3	column three
parts II or IV	parts Roman number two or Roman number four
chapters 2, 3 and 4	chapters two comma three and four
Dublin 1	Dublin one
Dublin 6W	Dublin six W

Words triggering ordinal numbers as digits

To make this appear	Say this ...
1st birthday	first birthday
2nd centile	second centile

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To make this appear	Say this ...
3rd course	third course
4th cycle	fourth cycle
5th day	fifth day
6th degree	sixth degree
5th finger	fifth finger
7th floor	seventh floor
8th grade	eighth grade
9th month	ninth month
1st nerve	first nerve
2nd percentile	second percentile
3rd pregnancy	third pregnancy
4th rib	fourth rib
5th stage	fifth stage
2nd toe	second toe
6th trial	sixth trial
5th week	fifth week
6th year	sixth year

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Spelling of Numbers

To make this appear	Say this ...
022156680215	zero double two one five double six eight zero two one five
02215–6680215	zero double two one five dash double six eight zero two one five
44–17D	forty four dash seventeen D
18962–16HM	one eight nine six two dash sixteen H M

Numbering

To make this appear	Say this ...
1.	number one
2.	number two
3.	number three
A.	(letter) A period
B.	(letter) B period
C.	(letter) C period

Date, Time & Currency

Date

To make this appear	Say this ...
4 July 2002	fourth (of) July two thousand two
04/07/2002	fourth (of) seventh two thousand two

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To make this appear	Say this ...
04/07/08	(zero) four (slash) (zero) seven (slash) zero eight
04/07	(zero) four (slash) (zero) seven
December 3, 2000	December third two thousand
December 2000	December two thousand
31/12/2005 - 05/01/2006	thirty one (slash) twelve (slash) two thousand five to (zero) five (slash) (zero) one (slash) two thousand six
31/12 - 05/01	thirty one slash twelve to zero five slash zero one
31 December - 5 January	(the) thirty first (of) December to (the) fifth (of) January
December 09 to January 10	December zero nine to January ten
April to May 09	April to May zero nine

Time

To make this appear	Say this ...
at 09:45	at zero nine forty five
3:30 p.m.	three thirty P M
6 o'clock	six o'clock
2:00 a.m.	two A M
0200 hours	zero two hundred hours
10:50-11:30	ten fifty to eleven thirty

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To make this appear	Say this ...
12:00-12:50 p.m.	twelve to twelve fifty p.m.
10:50 a.m. - 12:30 p.m.	ten fifty a.m. to twelve thirty p.m.

Decades

To make this appear	Say this ...
the 70s	the seventies
1960s	nineteen sixties
1980s	nineteen hundred eighties

Age

To make this appear	Say this ...
2-day-old	two day old
5-week-old	five week old
3-month-old	three month old
10-year-old	ten year old

Currency

To make this appear	Say this ...
£35	pound thirty five
£35	thirty five pound sterling
£35.10	pound thirty five point ten
£35.10	thirty five pound and ten pence
£35.00	thirty five pound and zero pence

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To make this appear	Say this ...
GBP 35	thirty five British pound
IEP 3 billion	three billion Irish pound
CHF 3.50	three Swiss franc and fifty centimes
NOK 35.29	thirty five Norwegian crown and twenty nine øre
$13.09	dollar thirteen point zero nine
USD 13.09	thirteen point zero nine US dollar
USD 13.09	thirteen point zero nine American dollar
AUD 13.09	thirteen point zero nine Australian dollar
€3-4	three to four euro
€3 to €4	three euro to four euro
€3.00-4.50	three point zero to four point fifty euro
€3-4 million	three to four million euro
¥3-4 million	three to four million yen
JPY 3-4 million	three to four million Japanese yen

Medical Terms

Units

To make this appear	Say this ...
3 mg	three milligrams

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To make this appear	Say this ...
10 mEq	ten milliequivalent
10 µmol/L	ten micromole per litre
-5 °C	minus five degrees Celsius
5%	five percent

For a full alphabetical list of units see section "Punctuation marks and special characters > List of units".

Blood Count

To make this appear	Say this ...
Hb 14.2	H B fourteen point two
ALT 195	A L T (one) hundred (and) ninety five
albumin 40	albumin forty
CRP 6	C R P six
U&Es	U and Es
SO2 93%	S O two ninety three percent
amylase = 157	amylase equals (one) hundred (and) fifty seven

Hyphenated Phrases

To make this appear	Say this ...
a 2-week course	a two week course
a 2-mm diameter	a two millimeter diameter

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Times

To make this appear	Say this ...
x3	times three
x5-6 daily	times five to six daily
3 times	three times
5-6 times	five to six times

Scales

To make this appear	Say this ...
7/9	seven out of nine
7/9	seven over nine
6-7/10	six to seven out of ten
6-7/10	six to seven over ten
19/28	nineteen out of twenty eight
19/28	nineteen over twenty eight

Snellen Fractions

To make this appear	Say this ...
6/6	six six
6/6	six (slash/over) six
6/6-2	six six minus two
6/6-2	six (slash/over) six minus two
6/9+3	six nine plus three

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To make this appear	Say this ...
6/9+3	six (slash/over) nine plus three
6/18	six eighteen
6/18	six (slash/over) eighteen

Cardio-thoracic Ratio

To make this appear	Say this ...
CTR 140/285	CTR (one) hundred (and) forty over two hundred (and) eighty five
CTR 140:285	CTR (one) hundred (and) forty to two hundred (and) eighty five

Dosage

To make this appear	Say this ...
q.4 h.	Q four H
q.24 h.	Q twenty four hours

Blood Pressure

To make this appear	Say this ...
120/90	(one) hundred (and) twenty over ninety
240/40 mmHg	two hundred (and) forty over forty M M H G
110-120 over 90-80 mmHg	(one) hundred (and) ten to (one) hundred (and) twenty over ninety to eighty millimeters of mercury

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French Scale

To make this appear	Say this ...
5-French	five French
#24-French	number twenty four French

Numbers and letters

To make this appear	Say this ...
A2	A two
G44	G forty four
5b	five B
30e	thirty E

Suture Size

To make this appear	Say this ...
2-0	two (to) zero
5-0	five (to) zero
11-0	eleven (to) zero

Stages

To make this appear	Say this ...
Stage I	stage (Roman) one
Stage I-II	stage (Roman) one to (Roman) two
Stage IIa	stage (Roman) two A
Salter-Harris Type II fracture	Salter-Harris type (Roman) two fracture

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To make this appear	Say this ...
Type II Salter-Harris fracture	type (Roman) two Salter-Harris fracture

Gravida

To make this appear	Say this ...
gravida 2	gravida two
gravida 5, para 4	gravida five (comma) para four
para 2+1	para two plus one
abortus 3	abortus three
TPAL 1-0-1	T P A L one zero one
para 1-2-0-1	para one two zero one

Apgar Scores

To make this appear	Say this ...
Apgars 8 at 1 and 9 at 5 minutes	Apgars eight at one and nine at five minutes
Apgar scores were 8 at 1 minute and 9 at 5 minutes	Apgar scores were eight at one minute and nine at five minutes

Vertebrae

To make this appear	Say this ...
T12	T twelve
L3/L4	L three four
L3/L4	L three L four
L3/L4	L three (forward) slash L four

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To make this appear	Say this ...
C1-C5	C one to C five

V1-V9

To make this appear	Say this ...
V1 through V5	V one through V five
V1 - V5	V one to V five

BI-RADS

To make this appear	Say this ...
BI-RADS 5	BI-RADS five
BI-RADS 0	BI-RADS zero

TNM Staging

To make this appear	Say this ...
T1N0M0	T one N zero M zero
T0N1M1	T zero N one M one
TXNX	T X N X
pT4a	P T four A
pT2cN1MX	P T two C N one M X

Cluster of Differentiation

To make this appear	Say this ...
CD121	C D one hundred twenty one
CD73a	C D seventy three A

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Teeth

To make this appear	Say this ...
LL1	L L one
UR8	U R eight
LR2	L R two
UL4	U L four

Block Keys

To make this appear	Say this ...
block A	block A
block 1A	block one A
blocks 1A-1D	blocks one A to one D
blocks 1A, 1B and 1C	blocks one A COMMA one B and one C

Query Sign

To make this appear	Say this ...
chest pain ? cause	chest pain query sign cause
diagnosis would be ?? demyelination	diagnosis would be query sign query sign demyelination

Punctuation marks and special characters

Whitespace characters

To make this appear	Say this ...
Insert a new line in the document	New line

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To make this appear	Say this ...
Insert a new paragraph in the document	New paragraph; Next paragraph; Paragraph
Insert a tab	Tabulator; Tabulator key; Tab key

Punctuation marks

To make this appear	Say this ...
.	Full-stop; Stop; Period; Dot; Point
!	Exclamation mark; Exclamation point
?	Question mark; Question point; Query sign
,	Comma
:	Colon
;	Semicolon

Dash

To make this appear	Say this ...
–	Dash; Dash sign; En dash; En dash sign
—	Em dash; Em dash sign
--	Double dash; Double dash sign

Signs

To make this appear	Say this ...
-	Hyphen; To *(with numbers)*
'	Apostrophe; Apostrophe sign

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To make this appear	Say this ...
's	Apostrophe S; Apostrophe S sign
_	Underscore; Underscore sign
`	Back quote; Grave accent
&	And sign; Ampersand; Ampersand sign
/	Slash; Forward slash; Forward stroke
\	Backslash
//	Double slash
~	Tilde; Tilde sign
^	Caret; Caret sign; Circumflex; Circumflex sign
@	At sign; At symbol
...	Dot dot dot; Ellipsis sign
#	Number sign; Hash sign; Sharp sign
%	Percent sign; Percentage sign
‰	Per mille; Per mille sign
°	Degree sign; Degree symbol

Quotes

To make this appear	Say this ...
'	Open single quote(s); Begin single quote(s)

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To make this appear	Say this ...
'	Close single quote(s); End single quote(s)
"	Open quote(s); Begin quote(s); Open double quote(s); Begin double quote(s); Open inverted comma(s); Begin inverted comma(s)
"	Close quote(s); End quote(s); Close double quote(s); End double quote(s); Close inverted comma(s); End inverted comma(s)
«	Open angle quote(s); Begin angle quote(s); Open guillemet(s); Begin guillemet(s)
»	Close angle quote(s); End angle quote(s); Close guillemet(s); End guillemet(s)

Brackets

To make this appear	Say this ...
(	Bracket(s); Open bracket(s); Left bracket(s); Parenthesis; Open parenthesis; Left parenthesis; Open paren; Left paren
)	Close bracket(s); Right bracket(s); Close parenthesis; Right parenthesis; Close paren; Right paren
[	Square bracket(s); Open square bracket(s); Left square bracket(s)
]	Close square bracket(s); Right square bracket(s)

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To make this appear	Say this ...
{	Brace(s); Curly brace(s); Curly bracket(s); Open brace(s); Open curly brace(s); Open curly bracket(s); Left brace(s); Left curly brace(s); Left curly bracket(s)
}	Close brace(s); Close curly brace(s); Close curly bracket(s); Right brace(s); Right curly brace(s); Right curly bracket(s)
‹	Angle bracket(s); Open angle bracket(s); Left angle bracket(s)
›	Close angle bracket(s); Right angle bracket(s)

Mathematical Signs

To make this appear	Say this ...
<	Less than sign
>	Greater than sign
=	Equal sign; Equality sign
+	Plus sign; Plus
-	Minus sign
+/-	Plus or minus sign; Plus minus sign; Plus or minus
*	Asterisk
×	Multiplication sign; Times sign
÷	Division sign

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To make this appear	Say this ...
|	Vertical bar; Pipe sign
¬	Logical not sign; Logical not symbol
ƒ	Function sign
µ	Micro sign
¼	Quarter sign
½	Half sign
¾	Three quarters sign
¹	Superscript one sign
²	Superscript two sign
³	Superscript three sign

Currency

To make this appear	Say this ...
€	Euro sign
£	Pound sterling sign; Pound sign
$	Dollar sign
¢	Cent sign
¥	Yen sign
¤	Currency sign

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Others

To make this appear	Say this ...
©	Copyright sign
®	Registered sign; Registered trademark sign; Registered symbol; Registered trademark symbol
™	Trademark sign; Trademark symbol
¶	Paragraph sign; Paragraph mark
§	Section sign; Sectional symbol
•	Bullet point
†	Dagger sign; Cross sign
‡	Double dagger sign; Double cross sign
ª	Feminine ordinal indicator
º	Masculine ordinal indicator
¡	Inverted exclamation mark; Inverted exclamation point
¿	Inverted question mark; Inverted question point
´	Acute accent
·	Middle dot; Interpunct; Interpoint; Centred dot
¸	Cedilla sign
¨	Umlaut sign

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To make this appear	Say this ...
¯	Macron sign
¦	Broken bar sign

List of units

To make this appear	Say this ...
%	percent
/min	per minute
°	degree; degrees; degrees sign
°C	degree Celsius; degree centigrade; degrees Celsius; degrees centigrade
°F	degree Fahrenheit; degrees Fahrenheit
µA	microampere; microamperes
µg	microgram; micrograms
µL	microliter; microliters
µm	micrometer; micrometers
µmol	micromole; micromoles
µs	microsecond; microseconds
µV	microvolt; microvolts
µW	microwatt; microwatts
‰	‰\per-mille-sign
A	ampere; amperes

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To make this appear	Say this ...
acre	acre
acres	acres
ampoule	ampoule
ampoules	ampoules
atm	atmosphere; atmospheres
bar	bar
bars	bar
beat/min	beat per minute
beats/min	beats per minute
biopsies	biopsies
biopsy	biopsy
bit	bit
bits	bits
block	block
blocks	blocks
bottle	bottle
bottles	bottles
box	box
boxes	boxes

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To make this appear	Say this ...
bpd	barrel per day; barrels per day; barrel a day; barrels a day; B P D
bpm	B P M
Bq	becquerel; becquerels
C	coulomb; coulomb
cal	calorie; calories
can	can
cans	cans
capsule	capsule
capsules	capsules
cassette	cassette
cassettes	cassettes
cc	CC
cd	candela; candelas
cGy	centigray; centigrays
cigar	cigar
cigarette	cigarette
cigarettes	cigarettes
cigars	cigars
cL	centiliter; centiliters

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To make this appear	Say this ...
cm	centimeter; centimeters
cm^2	square centimeter; square centimeters; centimeter squared; centimeters squared
cm^3	cubic centimeter; cubic centimeters
core	core
cores	cores
cup	cup
cups	cups
cycle	cycle
cycles	cycles
day	day
days	days
dB	decibel; decibels
dL	deciliter; deciliters
dm	decimeter; decimeter
dm^2	square decimeter; square decimeters; decimeter squared; decimeters squared
dm^3	cubic decimeter; cubic decimeters
drop	drop
drops	drops

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To make this appear	Say this ...
Eq	equivalent; equivalents
feet	feet
fL	femtolitre; femtolitres
foot	foot
fragment	fragment
fragments	fragments
g	gram; grams
gauge	gauge
GBq	gigabecquerel; gigabecquerels
GHz	gigahertz
glass	glass
glasses	glasses
grain	grain
grains	grains
Gy	gray; grays
h	hour; hours
ha	hectare; hectares
hour	hour
hours	hours

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To make this appear	Say this ...
HU	Hounsfield unit; Hounsfield unit
Hz	hertz
inch	inch
inches	inches
inhalation	inhalation
inhalations	inhalations
injection	injection
injections	injections
IU	international unit; international unit
J	joule; joule
K	kelvin; kelvins
kA	kiloampere; kiloamperes
kBq	kilobecquerel; kilobecquerel
kcal	kilocalorie; kilocalorie
kg	kilogram; kilogram
kHz	kilohertz
kJ	kilojoule; kilojoule
km	kilometre; kilometre
km^2	square kilometre; square kilometres; kilometre square; kilometres square

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To make this appear	Say this ...
km^3	cubic kilometre; cubic kilometres
kmol	kilomole; kilomoles
kPa	kilopascal; kilopascals
kV	kilovolt; kilovolts
kW	kilowatt; kilowatts
L	litre; litres
lesion	lesion
lesions	lesions
lymph node	lymph node
lymph nodes	lymph nodes
m	metre; metres
m^2	square metre; square metres; metre squared; metres squared
m^3	cubic metre; cubic metres
mA	milliampere; milliamperes
mbar	millibar; millibar
MBq	megabecquerel; megabecquerels
mCi	millicurie; millicuries
mEq	milliequivalent; milliequivalents
mg	milligram; milligrams

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To make this appear	Say this ...
mGy	milligray; milligrays
mGycm	milligray centimetre; milligrays centimetre
mHz	millihertz
MHz	megahertz
mile	mile
miles	miles
min	minute
minute	minute
minutes	minutes
mIU	million international unit; million international units
mJ	millijoule; millijoules
mL	millilitre; millilitres
mm	millimetre; millimetres
mm^2	square millimetre; square millimetres; millimetre squared; millimetres squared
mm^3	cubic millimetre; cubic millimetres
mmHg	millimetre of mercury; millimetres of mercury
mmol	millimole; millimoles

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To make this appear	Say this ...
mol	mole; moles
month	month
months	months
mph	mile per hour; miles per hour
ms	millisecond; milliseconds
mSv	millisievert
mU	million unit; million units
mV	millivolt; millivolts
mW	milliwatt; milliwatts
MW	megawatt; megawatts
N	newton; newtons
needle	needle
ng	nanogram; nanograms
night	night
nm	nanometre; nanometres
nmol	nanomole; nanomoles
node	node
nodes	nodes
ns	nanosecond; nanoseconds

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To make this appear	Say this ...
ounce	ounce
Pa	pascal; pascals
pack	pack
packet	packet
packets	packets
packs	packs
pg	picogram; picograms
piece	piece
pieces	pieces
pill	pill
pills	pills
pint	pint
pints	pints
pmol	picomole; picomoles
portion	portion
portions	portions
pound	pound
pounds	pounds
psi	pounds per square inch

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To make this appear	Say this ...
puff	puff
puffs	puffs
rod	rod
rods	rods
rpm	revolution per minute; revolutions per minute; R P M
sec	second
second	second
seconds	seconds
section	section
sections	sections
slice	slice
slices	slices
slide	slide
slides	slides
specimen	specimen
specimens	specimens
spray	spray
sprays	sprays
sq ft	square foot; square feet

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To make this appear	Say this ...
sq in	square inch; square inches
sq mi	square mile; square miles
sq rd	square rod; square rods
sq yd	square yard; square yards
stitch	stitch
stitches	stitches
stone	stone
t	ton; tons
tablespoon	tablespoon
tablespoons	tablespoons
tablet	tablet
tablets	tablets
teaspoon	teaspoon
teaspoons	teaspoons
unit	unit
units	units
V	volt; volts
W	watt; watts
week	week

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To make this appear	Say this ...
weeks	weeks
yard	yard
yards	yards
year	year
years	years

Lexical References

Dictionaries

As a reference we used the following dictionaries:

Oxford Dictionary of English, Third Edition, 2010

Longman Pronunciation Dictionary, Third Edition, 2008

Michael Swan: Practical English Usage. Oxford University Press, 3rd edition 2012

Concise Medical Dictionary. Oxford University Press, 7th Edition, 2007

Illustrated Medical Dictionary. The British Medical Association, 2nd edition 2007

New Guide to Medicines and Drugs. The British Medical Association, 7th edition revised and updated 2007

Commands

Formatting commands

The following table shows commands to work with text during dictation. Words in *italic* font indicate that you can say many different things in place of the example word or phrase and get useful results.

To make this appear	Say this ...
Insert the literal word for the next command (for example, you can insert the word "comma" instead of the punctuation mark)	Literal *word*

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To make this appear	Say this ...
Insert the numeral form of a number	Numeral *number*
Don't insert a space before the next word	Delete space
Capitalize the first letter of the word	Caps *word*
Capitalize all the letters of the word	All caps *word*
Make all the letters in the word lowercase	No caps *word*

TextBlock and navigation commands (Frontend recognition only)

To make this appear	Say this ...
Navigate to the next anchor	next section; next field; next
Navigate to the previous anchor	previous section; previous field; previous
Navigate to an anchor directly	*anchor name*; go to*anchor name*; jump to *anchor name*
Navigate to the beginning of the report	(go to) beginning of report; (go to) beginning of document
Navigate to the end of the report	(go to) end of report; (go to) end of document
Navigate to the beginning of the line	(go to) beginning of line
Navigate to the end of the line	(go to) end of line
Navigate to the beginning of the section	(go to) beginning of section; (go to) beginning of field
Navigate to the end of the section	(go to) end of section; (go to) end of field

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To make this appear	Say this ...
Insert a TextBlock	insert *TextBlock name*

Correction commands (Frontend recognition only)

To make this appear	Say this ...
Select dictated text	select *text*
Resolve ambiguities of select command in case of multiple appearances throughout the report	*OK* or *number* to confirm selection; *Cancel* to cancel selection
Select current line, i.e. the text between new lines before and after the text cursor is selected.	select line
Select current paragraph, i.e. the text between paragraphs before and after the text cursor is selected.	select paragraph
Select the current sentence	select sentence
Select the content of the edit control. **Note:** In case of a multi edit control use case, only the text of the active edit control is selected.	select all
Cut the text of the current selection and add it to the clipboard	cut text
Copy the text of the current selection and add it to the clipboard	copy text
Paste the text at the current position	paste text

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To make this appear	Say this ...
Delete selected text or last speech result **Note:** If triggered on a text selection: the selected text will be deleted **Note:** If triggered without a text selection: the last speech result will be removed (note: any speech command or manual editing will invalidate the last speech result buffer and the command will not trigger any action)	delete that; scratch that

14.3.2 Transcriptionist workflow

DeepUnity PACSonWEB supports a transcriptionist workflow, allowing a transcriptionist to verify and correct the registered report, based on the sound recording of the report.

To listen to the audio of the report dictated by the radiologist RSDK speech needs to be enabled for the radiologist and the transcriptionist.

Workflow:

When saving a report, the radiologist can start the transcription workflow by using the option "Send for correction".

The study status will be set to "Pending report correction".

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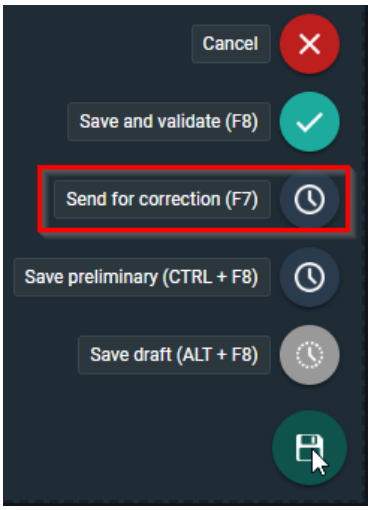
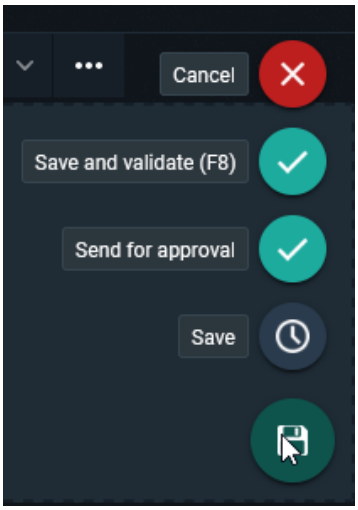


A transcriptionist can now open the study and listen to the audio of the report and correct any errors in the report.

The transcriptionist has the following options to save the report:

- Save and validate
- Send for approval
- Save



By clicking "Save and validate", the report is saved and validated on behalf of the radiologist. Study status is set to "Finalized".

Note:

this requires an additional permission for the transcriptionist.

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When using "Send for approval", the report is saved and sent back to the radiologist for validation. Study status is set to "To Validate".

In case the "Save" option is used, changes are saved and the transcriptionist can finish the report later. Study status remains "Pending report correction"

14.3.3 Resident - Supervisor workflow

DeepUnity PACSonWEB supports a Resident - Supervisor workflow, allowing a supervisor to validate the report of a resident.

A resident in DU POW is defined as a user who can edit a report, but not validate it.

This workflow can also be used as a co-author workflow between radiologists.

Resident workflow

The resident creates a report and sends it for review to the supervisor.

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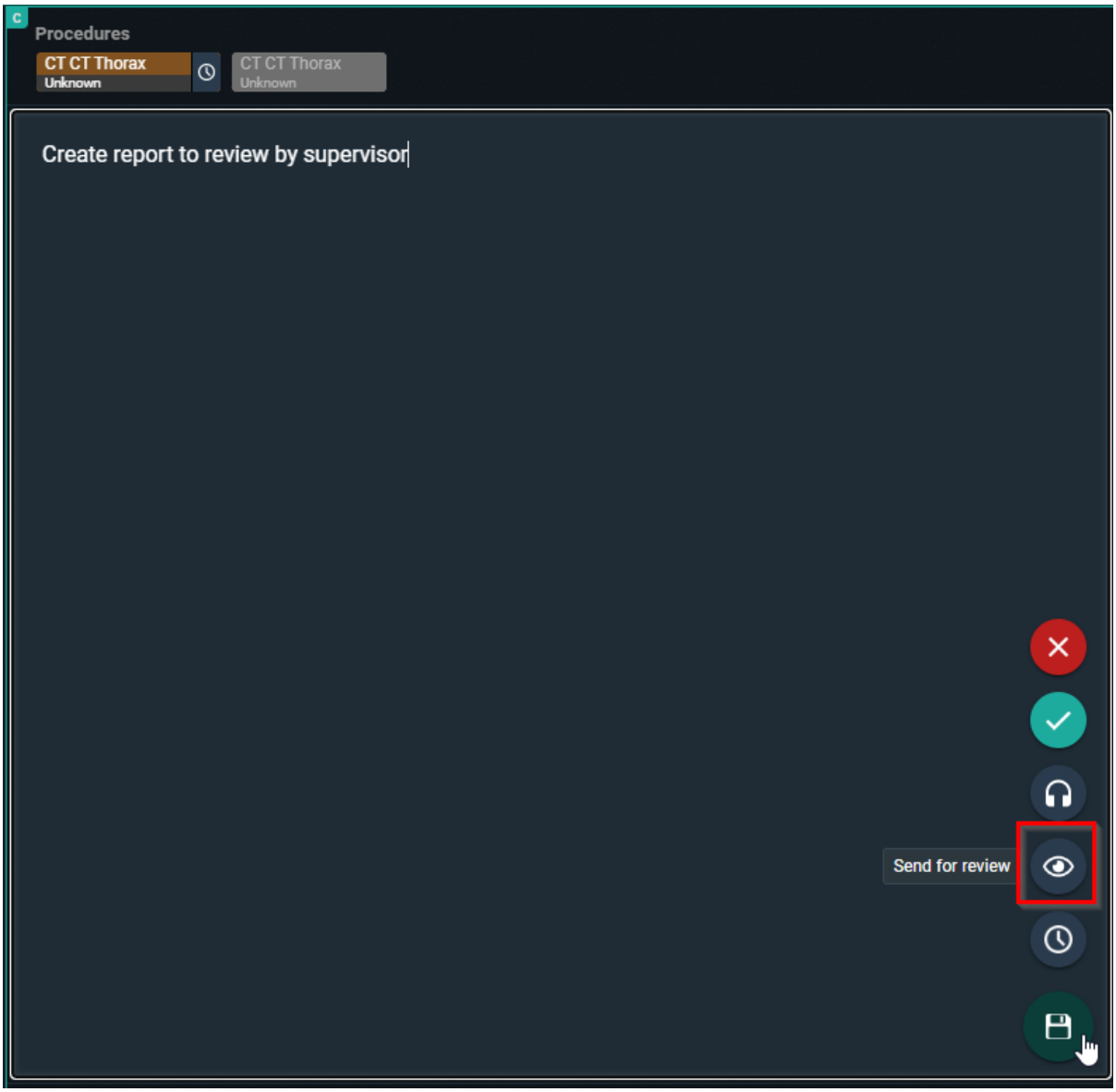

When clicked on send for review, the supervisor needs to be selected (this requires a correct external user mapping).

Optional a message can be added to give extra information.

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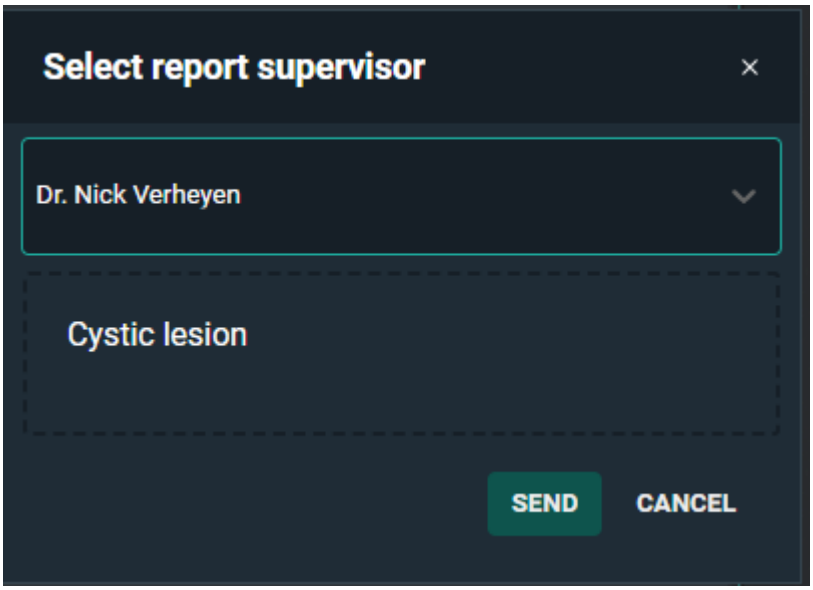
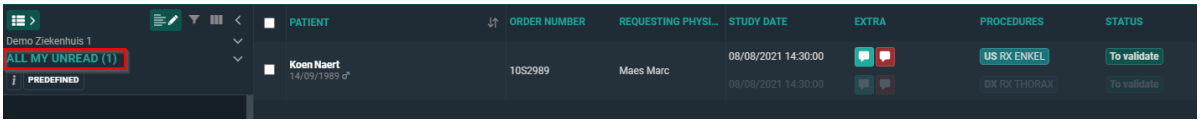


The workflow can end here for the resident if the supervisor validates the report.

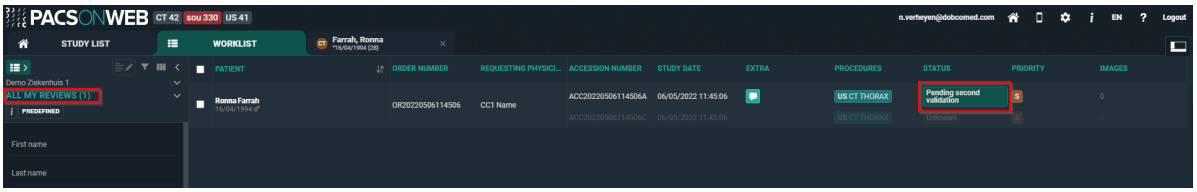
However, if the Supervisor chooses to send it back to the author (explained in Supervisor workflow), the resident finds the study in the All my Unread worklist.



The same workflow as above can be followed again until the report is validated.

Supervisor workflow:

The study is shown in the in the "My Reviews" worklist of the supervisor. The status of the study will be: Pending second validation.



To correct the report the resident made, open the study and open the report (if not automatically opened).

When the corrections have been made, the supervisor has following options:

- Save and validate: Status Finalized
- Back to author (Resident): Status To Validate
- Send for review (Another radiologist): Status Pending second validation
- Save preliminary: Status To Validate

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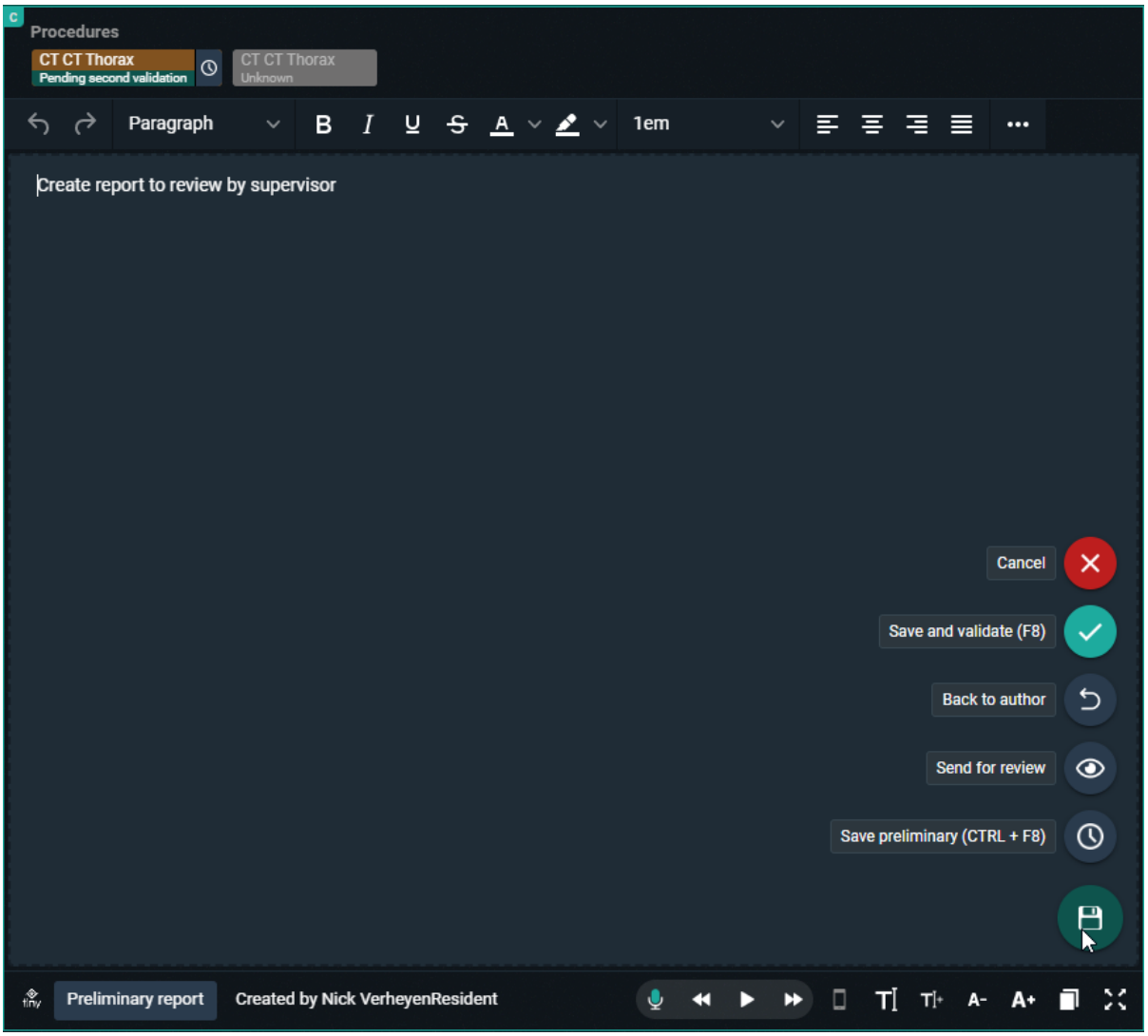
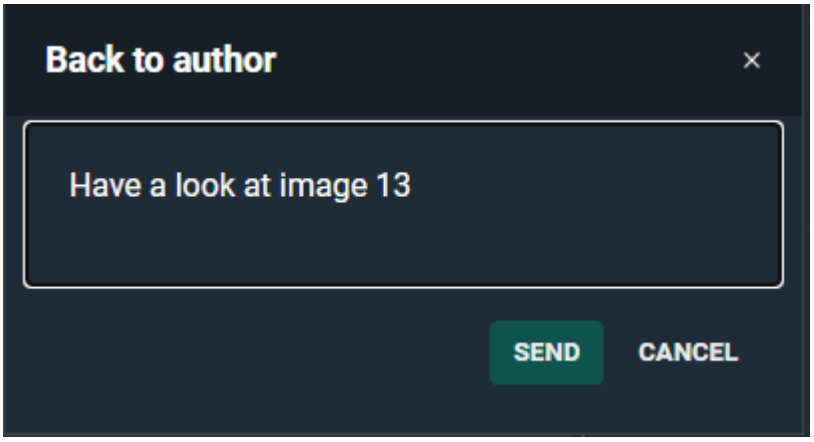


If back to author is selected, the supervisor can give an optional message to indicate why he is sending the report back.



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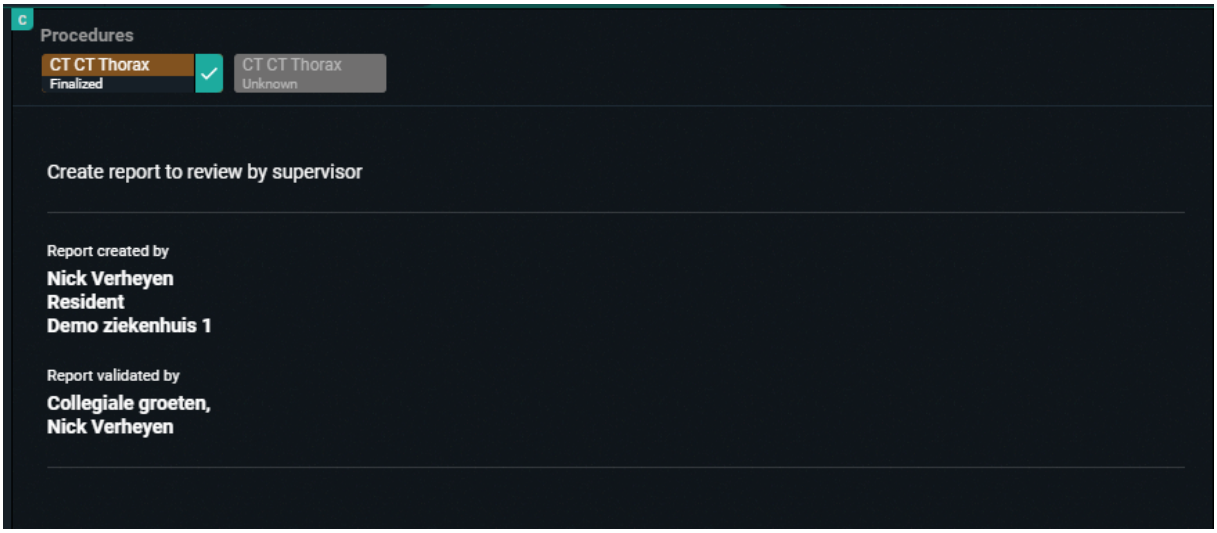
The resident needs to correct the report again and than has to follow the same workflow as mentioned in the Resident workflow again.

This is done until the report is validated by a Supervisor.

When the report is validated, both signatures (if configured) will be added to the report.



14.4 Multi-procedure reporting

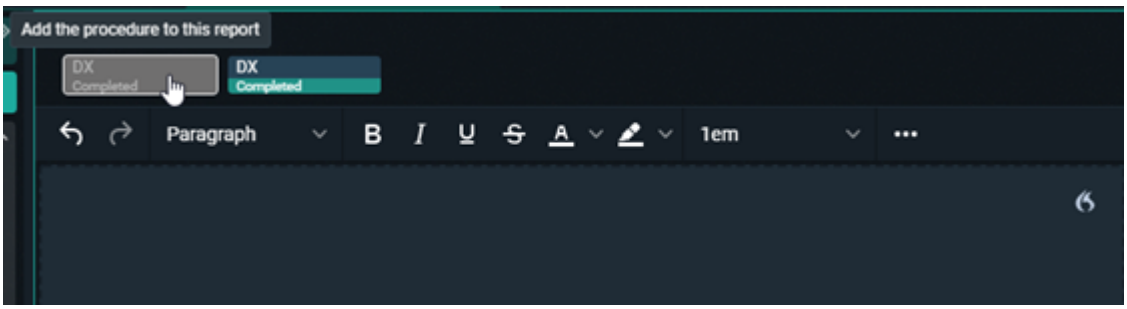
Multi procedure reporting is creating 1 report for an order with more than 1 procedure.

Only procedures in the same order and don't have a report can be added.

There are 3 possible ways to work with multi-procedure reporting. The actual behaviour is defined by a setting, configured for the source.

1) Single study

The report will only be linked to the selected procedure. It is possible to link procedures manually to the report by highlighting the procedure description.



2) All from order

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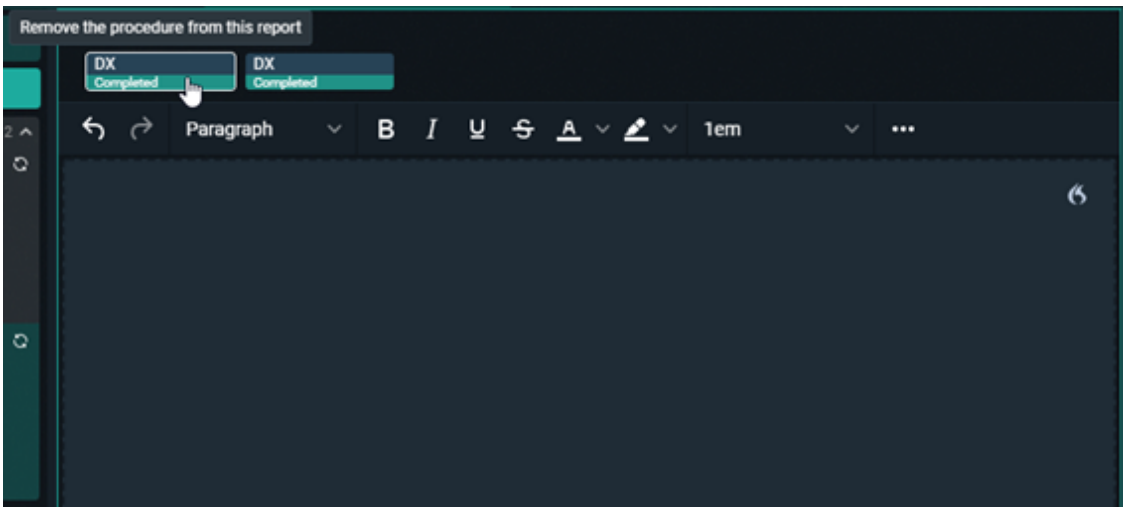
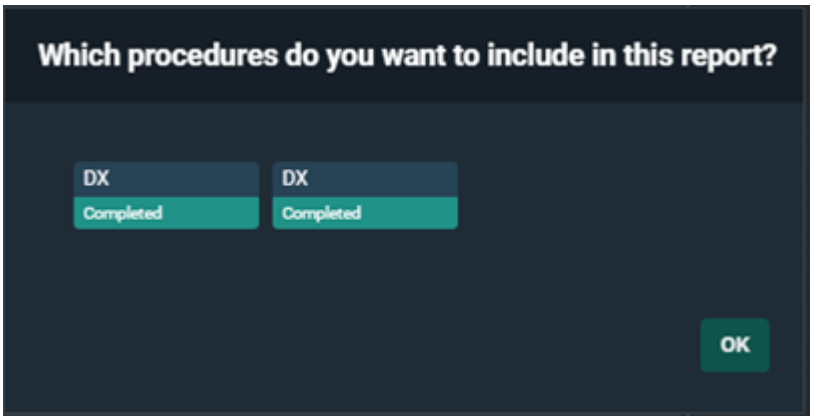
The report will automatically be linked to all studies from the order. It is still possible to remove them from the report by deselecting the procedure description.



3) Pop – up window

A pop-up window appears to select the procedures that you want to include in the report.



Warning:

Procedures can only be added and removed when the report is in edit mode.

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PACS Administrator

15

About the general management pages

The **General management pages**:

- Allow specific **Source Management** topics to be outsourced to dedicated DH Healthcare GmbH partners or PACS Admins from a hospital.
- Allow the control of
  - DICOM devices (Page 399)
  - Sites, departments and examination rooms (Page 407)

Access to the **DICOM Devices** and **Sites, departments & examination rooms** management pages can be granted through the appropriate permissions and can be customized for individual users.

The available tabs and sources in the general management header are all dynamically displayed based on your permissions as a user.

Navigating to DICOM devices or Sites, Departments and Examination rooms

To access the **DICOM Devices** or the **Sites, departments & examination rooms** pages:

1. Go to your study list.
2. Select **Tools**.

   You will see **DICOM Devices** and **Sites, departments & examination rooms** in the list if you have the appropriate permissions.
3. Select the desired page.

   Selecting **DICOM Devices** or **Sites, departments & examination rooms** from the list will take you to the General management page where you can configure the DICOM Devices or Sites, Departments and Examination rooms.

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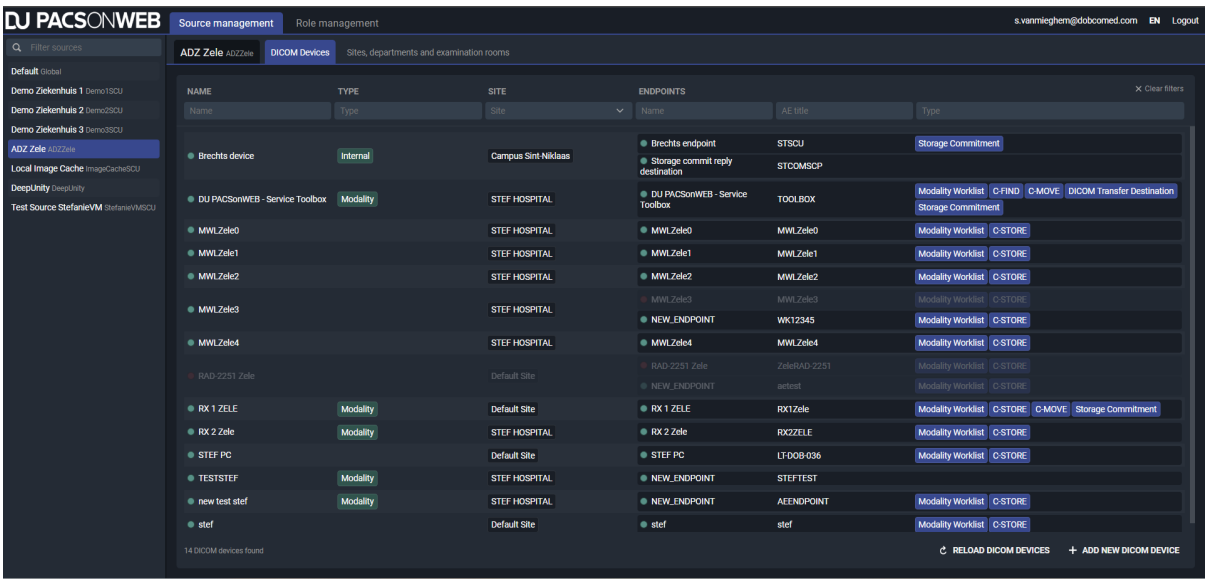
15.1 DICOM devices

DICOM Devices Overview

The DICOM Devices screen is used to add, edit and delete DICOM Devices.



Filter: If you have access to multiple sources, a filter panel is displayed. You can filter on the different sources that you have access to. If you only have access to 1 source, the panel will not be displayed.

DICOM Devices: A list of DICOM Devices that are available for the selected source are displayed. The selected source and the source that will be configured is clearly displayed to the left of the **DICOM Devices** tab.

Filter Criteria:

- **Name**: Free text field that allows you to filter your DICOM Devices by name.
- **Type**: A predefined multi-select list that if configured, allows you to filter by type. Type is an optional field.
- **Site**: A single select drop-down that displays all sites linked to the selected source.
- **Endpoints**:
  - **Endpoint name** Free text field that allows you to filter by the name of the configured endpoint

> **Note:**
>
> A DICOM Device can have multiple endpoints linked.

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- **Endpoint AE Title**: Free text field that allows you to filter by the AE title of a particular endpoint.
- **Endpoint Type**: Predefined, multi-select drop-down list that allows you to filter by the configurable endpoint type.

The number of DICOM devices found according to the search parameters will be shown at the bottom of the list.

To clear any filter criteria that you no longer want, click the **x** to the right of the value. To clear all applied filters and display all available DICOM devices, click the **Clear filters** button.

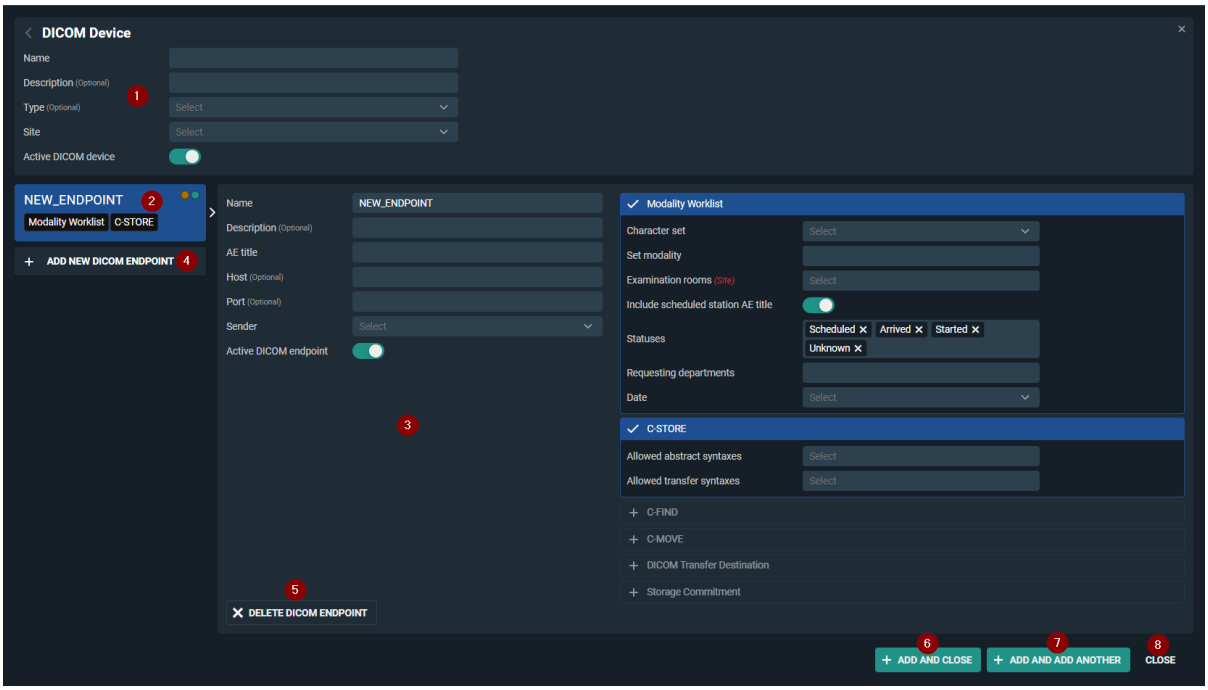
If you are configuring with multiple users at once, it might be useful to check the latest status of this list. To do so, click **Reload DICOM devices**.

To add a new DICOM Device, click **Add new DICOM Device**. This will open a new screen to create a new DICOM device.

List overview: Active vs. inactive DICOM Device

- Active DICOM Device and DICOM endpoints are marked with a green circle.
- Inactive DICOM Device and DICOM endpoints are marked with a red circle and greyed out.

Add a new DICOM Device



1. **DICOM device information:** Enter all information for the DICOM device *(Modality)* to be configured.

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- **Name**: Mandatory field to identify your DICOM device.
- **Description**: Optional field to add additional information.

  Type: Optional field to link the DICOM Device to a specific type from the predefined list. Options are: Internal, Workstation, Media creation, Post-Processing, PACS, VNA, Information System and Modality.

  Site: Single select drop-down list to define the site to which your DICOM device is linked. All sites linked to your source are listed here.

  Note:

  From the moment you select a site, you will be given a link to open the Sites management screen *(if you have the appropriate permissions)*.

- **Active DICOM Device**: This is enabled by default. You can disable it if, for example, you are configuring a modality that is not yet live, but you want to it to be available.

  Note:

  If you try to save without filling in the mandatory fields, they will be highlighted in red and an error message will be displayed. This applies to all mandatory fields on this screen.

2. **DICOM Endpoint:** This displays the endpoint name and different endpoint types.
   - This panel is an informative panel and cannot be edited.
   - By default, an endpoint is opened to be configured with the default name, NEW_ENDPOINT.
   - **Modality worklist & C-Store** endpoints are enabled automatically.
   - There are 3 types of indications possible for a DICOM endpoint
     - **Orange circle:** Unsaved changes on the endpoint.
     - **Green circle:** Active endpoint indication.
     - **Red circle:** Inactive endpoint indication.

     An endpoint may have multiple indications.
3. **DICOM Endpoint information:** Add the detailed information for the selected DICOM endpoint.
   - Active (enabled) DICOM endpoints are uncollapsed and marked in blue.
     - If the endpoint type is not enabled, the endpoint type is collapsed and greyed out.

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- Clicking on a greyed out endpoint type will enable the endpoint type..
- All fields can be edited.

> **Note:**
>
> Change the name to something meaningful so you can easily find your endpoints.

- Fields are mandatory unless indicated as (Optional). If mandatory fields are left blank, saving the DICOM Device will result in errors.

Endpoint types

> **Note:**
>
> Some fields are not mandatory until you select a specific endpoint type. For example, Host and Port become mandatory if you enable DICOM Transfer Destination for this endpoint.

- **Name:** Mandatory field to identify your endpoint. NEW_ENDPOINT is filled in automatically, but change the name to something that makes sense and is easy to find again.
- **Description:** Optional field to add additional information.
- **AE Title:** AE Title of the modality/DICOM Device.
  - This will be used to link received images to this specific DICOM Device. If images are received by an unknown AE Title, the association will be denied.
  - The AE Title has to be unique on source level.
- **Host:** This is the hostname or IP address of your modality/DICOM Device. This information is needed as part of the Routes DU POW is using to distribute images. Needed for e.g. C-Move and DICOM Transfer.
- **Port:** The port the DICOM Device/Modality will be using to open the connection between DeepUnity PACSonWEB and itself. This information is needed as part of the Routes DeepUnity PACSonWEB is using to distribute images. Needed for e.g. C-Move and/or DICOM Transfer.
- **Sender:** Contains a drop-down with Senders that are configured to be used for DICOM Devices.
  - The Sender is part of the Routes that is used in DeepUnity PACSonWEB to distribute images on.
  - This dropdown will **only** contain senders that are registered as "Linked DICOM Endpoints" *(this is been done by authorised DH Healthcare GmbH personnel)*.

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- Selecting a sender via the drop-down enables the sender to receive images originating from this AE title.
- You can safely select any of the available senders (if multiple exist).*If you are unsure, please contact DH Healthcare GmbH to help you select the correct one.*

4. **Add new DICOM Endpoint**: Add an additional new DICOM endpoint for this DICOM Device. *E.g. if a the Modality cannot use the same AE Title for different actions, e.g. DWML versus C-MOVE.*
5. **Delete DICOM Endpoint** To delete this specific endpoint, click **Delete DICOM Endpoint**.
6. **Add and close** To add the DICOM Device and DICOM endpoints, close the screen and return to the DICOM Devices list, click **Add and close**.
7. **Add and add another** To save this DICOM device and DICOM endpoints and immediately create another one without navigating away from this screen, click **Add and add another**.
8. **Close** To close the screen and return to the DICOM Device list, click **Close**. You will be notified if you click close with unsaved changes.

DICOM Endpoints

- **Modality worklist**

  You can configure the following options:

  - **Character set**: Single select drop-down with predefined values
    - When a modality makes a request to DeepUnity PACSonWEB, the character set defines which encoding will be used on the response. If the request from the modality does not specify a character set, the character set provided by the modality is used. If the stored modality does not have a character set specified, ISO 2022 IR6 will be used as the default.
  - **Set modality**: Free text field
    - This option will update the DICOM tag modality with the defined value.
      - E.g. If you have a MWL Query that passes different modalities, CT, MR, US, ... and you have CR defined in Set Modality, we will overwrite the modality DICOM tag with CR for all studies.
  - **Examination rooms**:
    - This list will be populated based on the site linked to your DICOM Device.
    - Ability to link the Modality to a certain examination rooms.
  - **Include scheduled station AE title**: Toggle
    - By default enabled. If this is set, the AE title of the calling endpoint will be included in the MWL Response dataset.

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- **Statuses**: Multi-select drop-down list
  - This setting is important if DeepUnity PACSonWEB provides the DICOM Modality Worklist (DMWL). The modality can store a list of selected study statuses. When the modality makes a DMWL request to DeepUnity PACSonWEB, the response will only contain studies whose status is in the list stored by the modality, regardless of whether the studies have images or not.
  - When the status of a study is changed to a status stored for the modality, the study will be present in the DMWL response when a new request is made.
  - By default, the statuses **Scheduled, Arrived, Started and Unknown** are added to a new endpoint.
    - You can add more if needed. This is a predefined list of all the statuses available in DeepUnity PACSonWEB: *(Unknown, Cancelled, Scheduled, Arrived, Started, Sending, Sent, Completed, DictationStarted, Saved, Dictated, PendingReportCorrection, ToValidate, PendingSecondValidation, Finalized)*
- **Requesting department**: Free fill in field
  - This field allows you to filter your Modality Worklist by requesting department.
- **Date**: Single select drop-down list
  - This field allows you to filter your Modality Worklist based on predefined date ranges.

- **C-Store**

  You can configure the following options: *(Not filled in by default)*
  - **Allowed abstract syntaxes**: A multi-select list from which one or more allowed abstract syntaxes can be selected.
  - **Allowed transfer syntaxes**: A multi-select list from which one or more allowed transfer syntaxes can be selected.
- **C-Find**

  You can configure the following options: *(Not enabled by default)*
  - **Allow affinity domains**: C-Find will return results from Sources included in the linked Affinity Domains.

Note:

Affinity Domains need to be setup in the Source Management pages on Sender level. (Please contact DH Healthcare GmbH to do this, if needed)

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- Affinity domains contains a list of one or more affinity domains and defines the scope of the C-Find.
- **Allow proxy**:

  Note:

  Proxy needs to be setup in the Source Management pages. (Please contact DH Healthcare GmbH to do this, if needed)

  - The source that will be queried for studies will not be the Source to which the client is linked, but the Source that matches the calling AE of the C-Find request.
  - The proxy setting cannot be combined with the federated query settings.
  - The proxy does not require a patient to exist in the Source of the client *(Patient consent does not have to be set on source level).*
- **Return studies without images**
  - C-Find will return studies without images. This makes it possible to return empty studies with C-Find.

- **C-Move**

  You can configure the following options:

  - **Allow affinity domains**: C-Move of the studies will be allowed over affinity domains. *(Not enabled by default)*

    Note:

    Affinity domains need to be setup in the Source Management pages on Sender level. (Please contact DH Healthcare GmbH to do this, if needed)

    - Affinity domains contain a list of one or more affinity domains and define the scope of the C-Move.
    - Query to other affinity domains will:
      - Use the National Number to find matching patient records in other sources.
      - Will only return results if the patient exist in the Source of the client *(Patient consent needs to be set on source level. Please contact DH Healthcare GmbH to do this, if needed).*
    - **Allow proxy**: *(Not enabled by default)*

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Note:

Proxy needs to be set up in the Source Management pages. (Please contact DH Healthcare GmbH to do this, if needed)

- The source that will be queried for studies will not be the Source where the client is linked too, but the Source matching the calling AE of the C-Move request.
- The proxy setting cannot be combined with the federated query settings.
- The proxy does not require a patient to exist in the Source of the client nor patient consent has to be set.

- **Is a destination**: *(Enabled by default)*
  - This means your DICOM Device can be used as a destination for C-Move.
- **Calling AE title**:
  - Placeholder is set to DeepUnity PACSonWEB by default. Enter a different value to change the placeholder.
  - This is the AE Title that DeepUnity PACSonWEB will use for C-STORE.
- **Preferred transfer syntax** Predefined, single select drop-down list to select a transfer syntax.

- **DICOM Transfer Destination**
  - **Calling AE title**
    - Placeholder is set to DeepUnity PACSonWEB by default. Enter a different value to change the placeholder.
    - This is the AE Title that DeepUnity PACSonWEB will use for C-STORE.
- **Storage Commitment**
  - **Send reply to**
    - By default we will select the current endpoint as reply option. However, you can select any other endpoint as the storage commitment reply.
  - **Calling AE title**
    - Placeholder is by default set to DeepUnity PACSonWEB. If this needs to be changed, fill in another value, if this is still the case, you can leave it as is.

Edit an existing DICOM Device

If DICOM Devices/Endpoints are already configured, you can simply click on any existing entry in the list and this will automatically open the edit screen.

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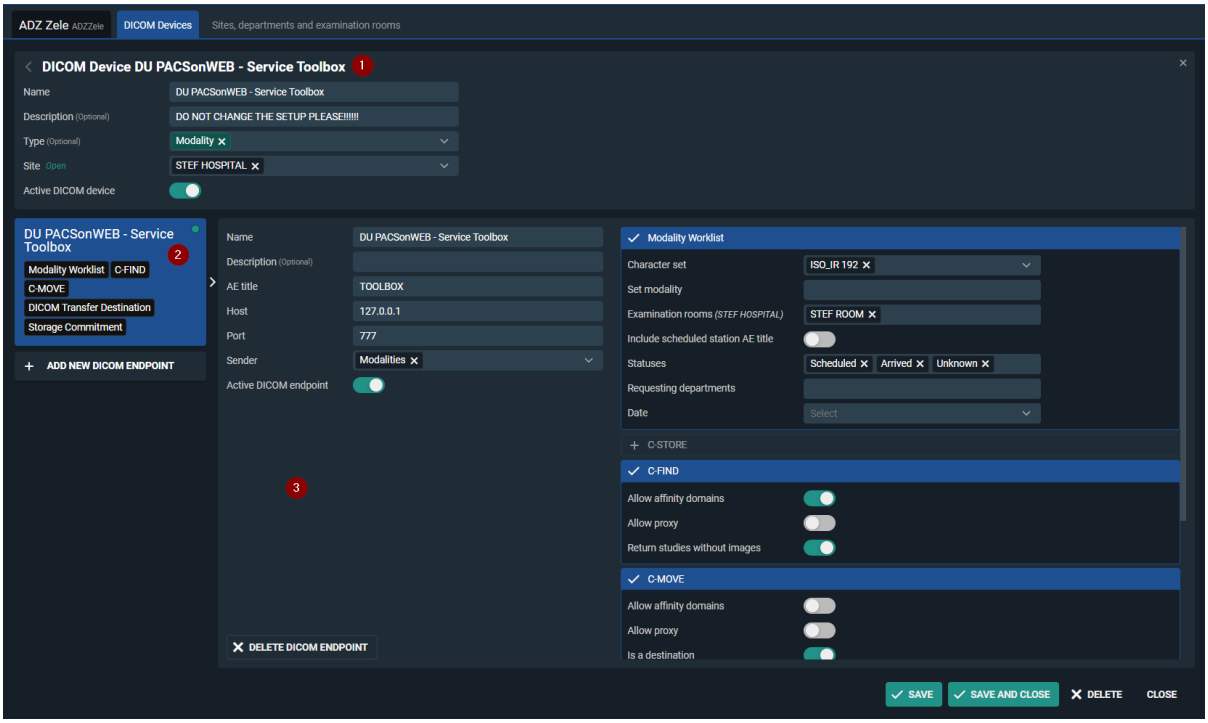
The 1st endpoint associated with this DICOM device is automatically opened. If you have more than one, you can select a specific endpoint by clicking on it.

All details of the selected DICOM device and endpoints are displayed.



1. DICOM Device information containing all relevant information about your DICOM Device. All fields can be updated if necessary.

   Site is a single select field, if you select another site from the drop-down it will replace the currently selected site.
2. DICOM endpoint with the name and all the different endpoint types. This cannot be edited.
3. All detailed information about the selected DICOM Endpoint. All fields can be edited.

15.2 Sites, departments and examination rooms

Sites, departments and examination rooms overview

From the **Source management** page it is possible to manage the **Sites, Departments and Examination rooms** of a source.

Access to this tab is determined by your permissions. If you do not have the permission to manage departments for a source, this tab will not be visible to you. If you require access, please contact DH Healthcare GmbH to grant the necessary permissions.

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Note:

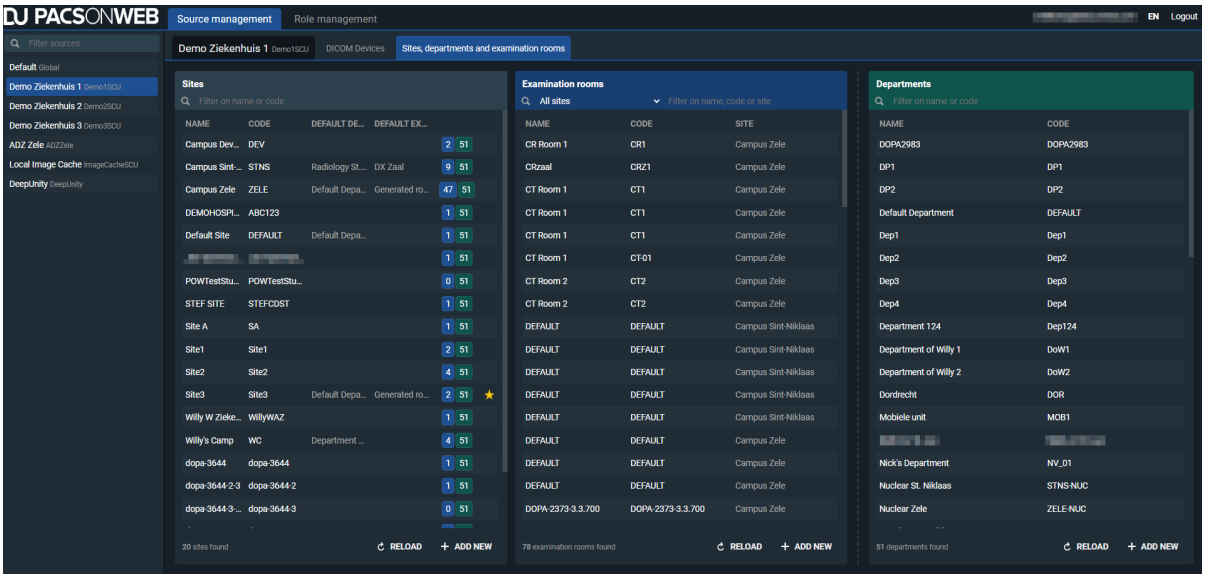
If you only have access to one source, it will be automatically selected and the source name label will be displayed. If you have access to more than one source, you can select the source you want to configure in the left panel.

At the bottom of each column are the following:

- The **Reload** button.
- The **add new** button.
- The number of sites, examination rooms or departments found. If a filter has been applied, this will be indicated.

Clicking on a site, examination room or department from the list in the **Sites**, **Examination rooms** or **Departments** columns will replace the list overview with a detailed information screen for that selection.

- Only the column from which you made a selection will display the detailed information screen.



Sites and examination rooms are physical locations and will always be linked to each other.

A department is most often a general name that will be used across different sites. For example, radiology, cardiology and neurology.

- Example: *A source can have multiple sites. Those sites can have multiple examination rooms. The departments can be shared across the different sites.*

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Sites

You can filter sites by name or code.

The **Name**, **Code**, **Default department** and **Default examination room** linked to the site is displayed.

The number of sites found is displayed at the bottom of the column.

Selecting a site will automatically filter the examination rooms column for that site, and the number of examinations room found for that site will be displayed at the bottom of the examination rooms column. The department column will remain unchanged.

Configuring a site

You can set a site as the default site for a source. The default site is indicated by the ★ favorites icon in the list.

Each list is sorted by **Name**.

Adding a new site

To add a new site:

1. Click the **Add New** button in the site column.
2. Enter the relevant information for the site (**Name**, **Code**, **Default department**).
3. Enter the relevant information for the examination room (**Name** and **Code**).
4. Click the **Add New** button.

> **Note:**
>
> Before you can successfully add your site and examination rooms, all fields for both site and examination room must be filled in. If a mandatory field is left blank, an error message will be displayed.

5. Click **Save and close**.

If you select a site from the list, in the information panel, the default status is indicated.

- The default site is indicated by the label **is default site**.
- All other sites not set at the default will have the button **set as default site**.

A source can have only 1 default site. Clicking on **set as default site** will override the previously defined site.

Editing a site

To edit a site:

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1. Select a site.
2. Make your changes to the available fields:
   - Name (mandatory field)
   - Code (manfatory field)
     - Must be unique on source level.
   - Default department (mandatory field)
   - Default examination room (mandatory field)
     - Only the rooms linked to this site will be displayed in the drop-down list.
   - **This is the default Site for the following WCF Clients** (Optional field)
   - **This is the default Site for the following QR Servers** (Optional field)
   - **SET AS DEFAULT** (Site, optional setting)

Note:

Similar to the list overview, you can see which departments and examination rooms are linked to this site. This information cannot be edited within the site pane. However, clicking on a linked department or examination room will open it in the respective column, where it can be edited and saved.

3. Click **Save and close**.

Deleting a site

To delete a site:

1. Select the site for deletion.
2. Click **Delete**.

There are built-in restrictions for deleting a site. A site cannot be deleted if:

- It is linked to one or more examination rooms that have linked studies.

Note:

Deleting a site that has one or more examination rooms with no linked studies will delete the linked examination rooms.

- It is defined as the default for the current source.
- It is defined as the default site for one or more WCF clients.
- It is defined as the default site for one or more QR Servers.

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Departments

In the departments column, you can filter by **name** or **code**.

The list is sorted by name and displays both the name and code of the department.

Adding a department

To add a new department:

1. Click the **Add New** button in the department column.
2. Enter the relevant information for the department:
   a. **Name**
   b. **Code**

   Note:

   The department code must be unique on the source level.

   c. **HcParty** (used for Cozo permissions).
3. Click the **Add New** button.

   Note:

   Before you can successfully add a department, all fields must be filled in. If a mandatory field is left blank, an error message will be displayed.

4. Click **Save and close**.

Editing a department

To edit a department:

1. Select the department.
2. Make your changes to the available fields:
   - Name (mandatory field)
   - Code (mandatory field)
   - HcParty (*Used for Cozo permissions)*
   - Default department for WCF clients *(Filtered drop-down based on source)*
   - Default department for QR servers *(Filtered drop-down based on source)*

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Note:

Each field can be set or changed.

3. Click **Save and close**.

Note:

When editing a department, the logic will check if the Code is unique on source level.

Deleting a department

To delete a department:

1. Select the department.
2. Click **Delete**.

Deleting a department has some built-in restrictions. A department cannot be deleted if:

- It is already linked to an order as performing department.
- It is defined as the default department for one or more sites.
- It is defined as the default department for one or more WCF clients.
- It is defined as the default department for one or more QR Servers.

Examination rooms

In the examinations column, you can filter by **name**, **code** or **site** using a drop-down list or a free text field.

The list is sorted by name.

Adding an examination room

Note:

Previously, an examination room was linked to a department. An **examination room is now linked to a site.**

To add a new examination room:

1. Click the **Add New** button in the examination room column.
2. Enter the relevant information for the examination room:
   a. **Name**

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b. **Code**

> **Note:**
>
> The examination room code must be unique on the source level.

c. **Site**

3. Click the **Add New** button.

> **Note:**
>
> Before you can successfully add your examination room, all fields must be filled in. If a mandatory field is left blank, an error message will be displayed.

4. Click **Save and close**.

Editing an examination room

To edit an examination room:

1. Select an examination room.
2. Make your changes to the available fields:
   - Name (mandatory field)
   - Code (mandatory field)
   - HcParty (*Used for Cozo permissions)*
   - Default department for WCF clients *(Filtered drop-down based on source)*
   - Default department for QR servers *(Filtered drop-down based on source)*

> **Note:**
>
> Each field can be set or changed.

3. Click **Save and close**.

Deleting an examination room

To delete an examination room:

1. Select an examination room.
2. Click **Delete**.

Deleting an examination room has some built-in restrictions. An examination room cannot be deleted if:

- It is already linked to a study.

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- It is defined as the default examination room of a site

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Multi Monitor application

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The Multi Monitor application provides support for the use of multiple screens for viewing images via DeepUnity PACSonWEB.

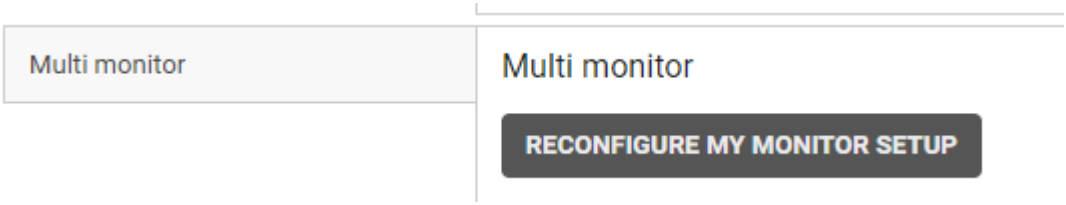
It also supports integrations with external apps and viewers.

This allows you to maintain your DeepUnity PACSonWEB workflow but at the same time use the study data in other supported applications.

When starting the application for the first time, a wizard appears to perform the monitor configuration.

The full explanation on how to perform the configuration is given here: Multi Monitor configuration (Page 415).

In case you want to change your configuration at a later moment in time, open the user settings via the cogwheel and click on: **Reconfigure my monitor setup**.



16.1 Multi Monitor configuration

Perform the following steps to configure your monitor setup:

1. Select your diagnostic monitors

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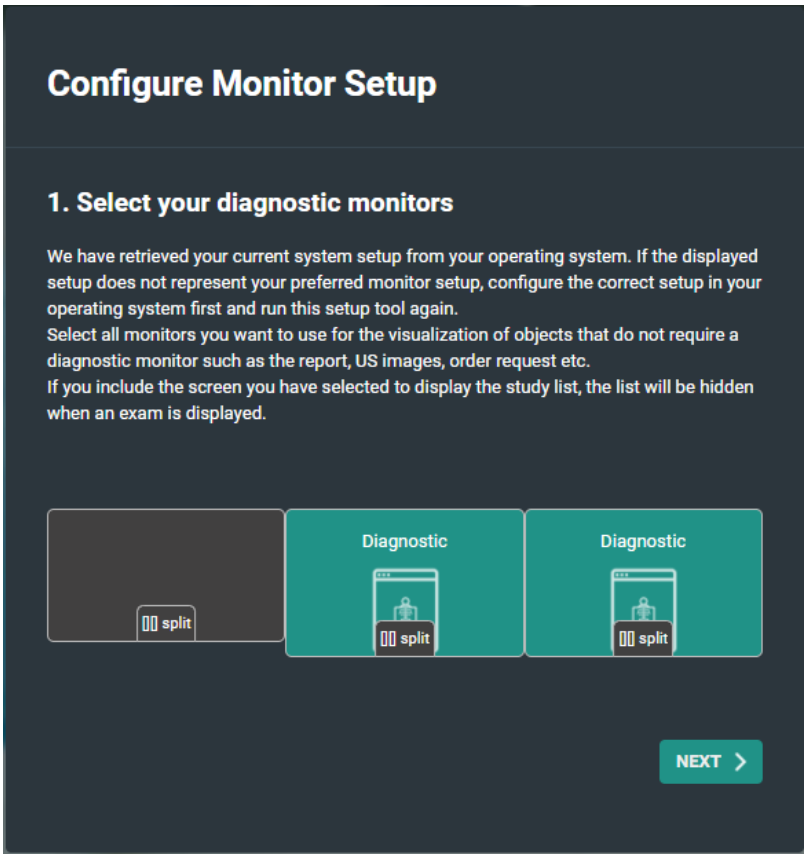

a. Click a monitor to select / deselect it as a diagnostic monitor.
b. Click **Split** to divide a large screen in two virtual separate monitors. Click **Merge** to undo this.

2. Select the location of the study tab

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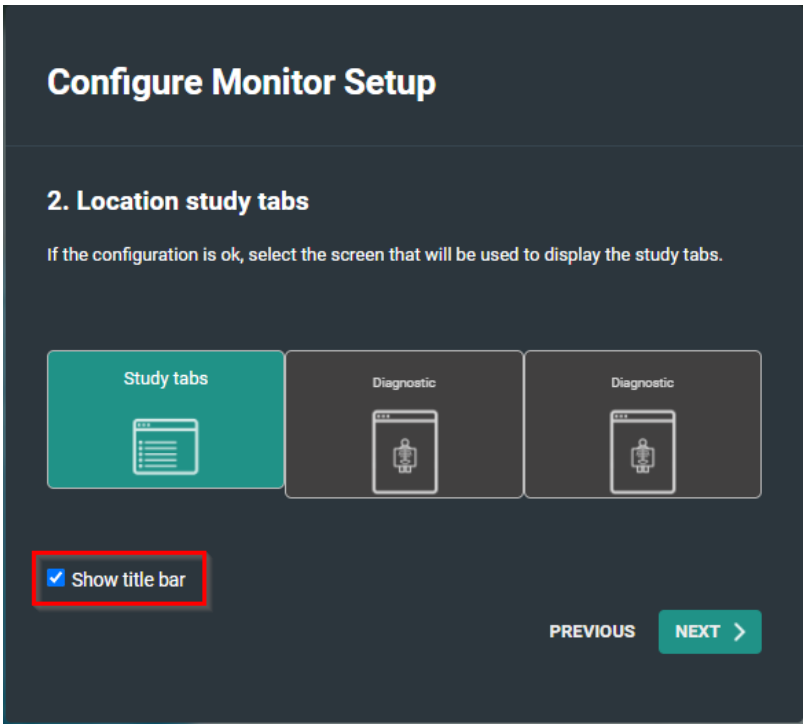
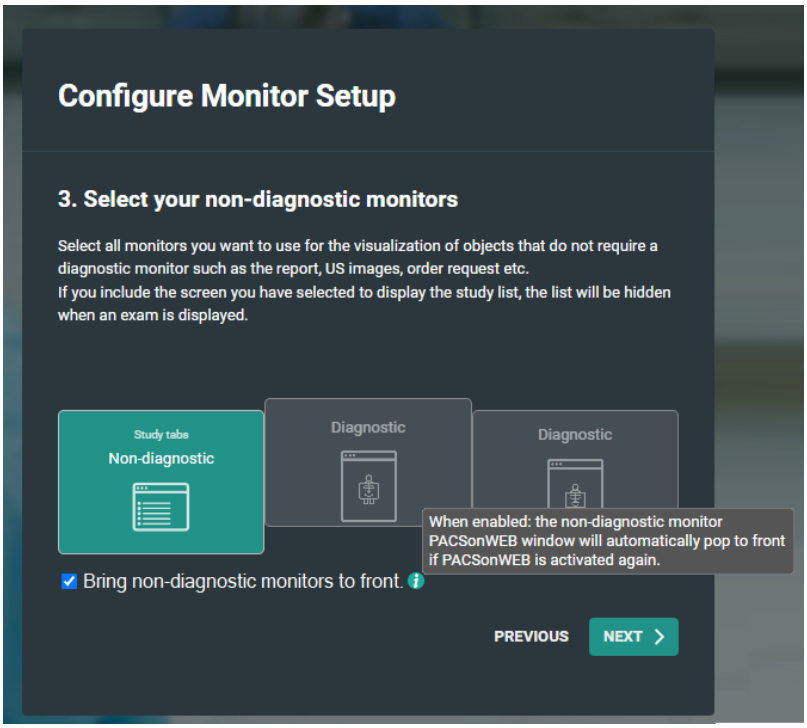


- Show title bar is selected by default.

  If you choose to deselect it, it can always be manually turned on by clicking on the **Visible elements** icon and selecting **Title bar** from the drop-down list.

3. Select the non-diagnostic monitor



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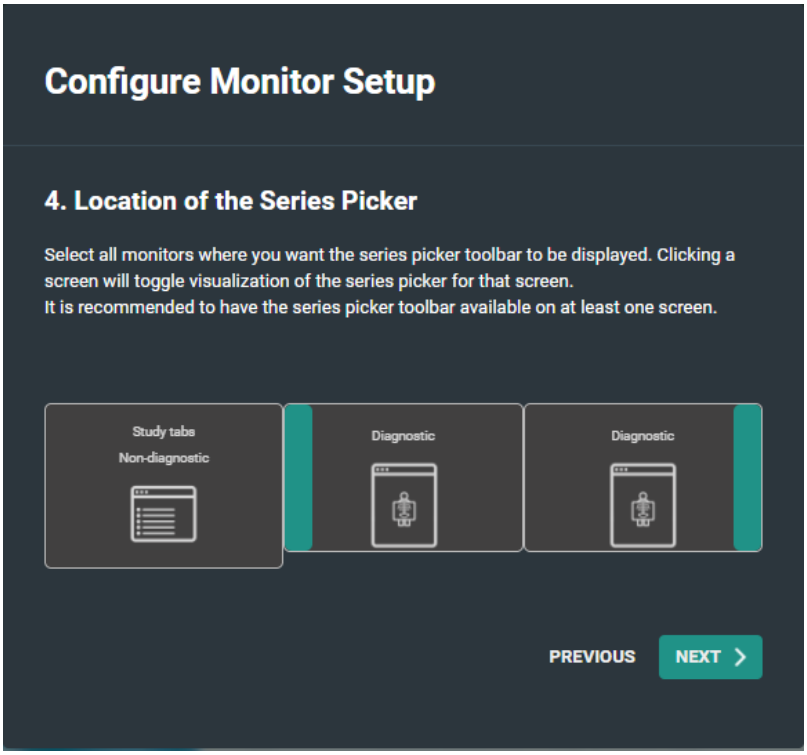
In this step you have the option to bring the non-diagnostic monitor to front or not.

By default this is checked, so the default behavior does not change.

Note:

If in step 1, you selected only one monitor as non-diagnostic, this configuration step will be skipped.

4. Select location of series picker(s)



- You can modify the location of the series picker by clicking the monitor.

  The series picker will be displayed subsequently on the selected screen on the left side, the right side or not at all.

5. Location of patient history bar

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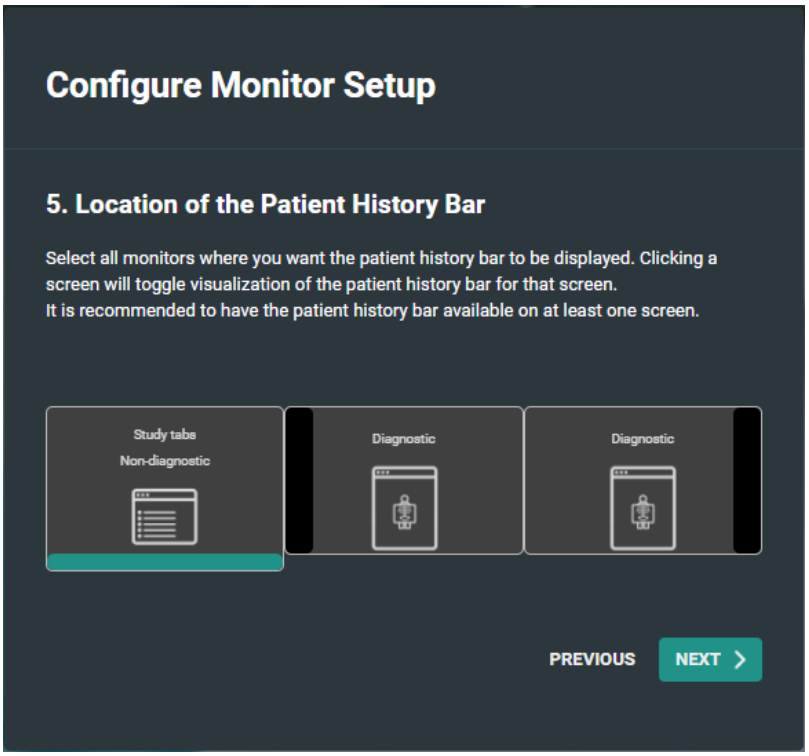

You can either display or hide the series picker at the bottom of the screen by clicking on a the monitor.

6. Confirm the monitor configuration

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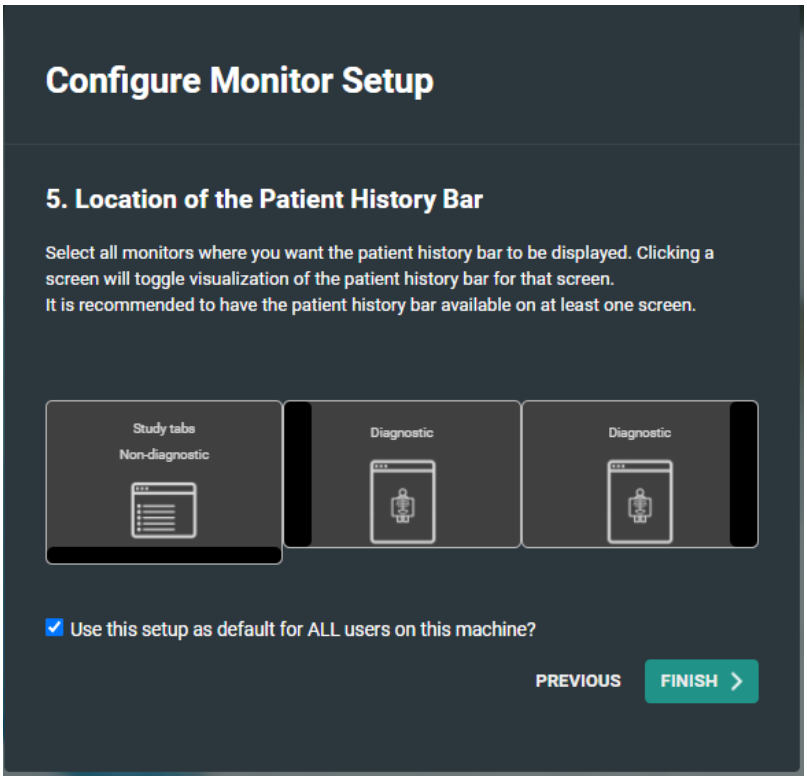

a. Click **Finish** to confirm your monitor configuration.

By default the checkbox to use this configuration for all users is enabled.

If other people using the same workstation in a different configuration you should disable this option.

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Version and remote assistance

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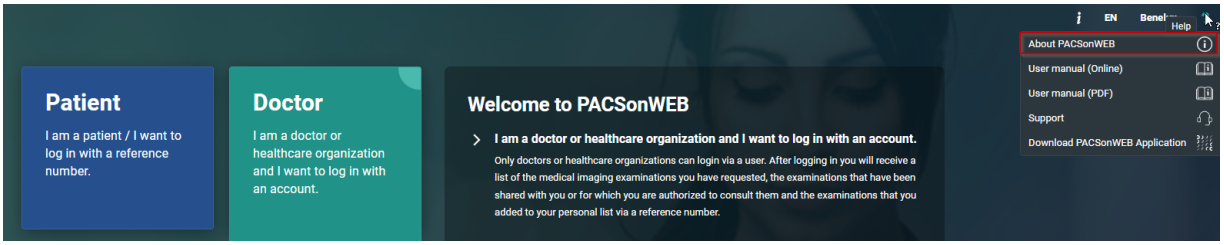
The label of DeepUnity PACSonWEB can be displayed by clicking on 'About DeepUnity PACSonWEB' from the Help menu ? on the top right of the screen.



Within this screen the following information is displayed:

(1) Link to our support page with frequently asked questions and answers

(2) All information with respect to the manufacturer of DeepUnity PACSonWEB

(3) All information with respect to the actual version of DeepUnity PACSonWEB and the corresponding release date

(4) All information with respect to the manual for DeepUnity PACSonWEB and the latest revision date

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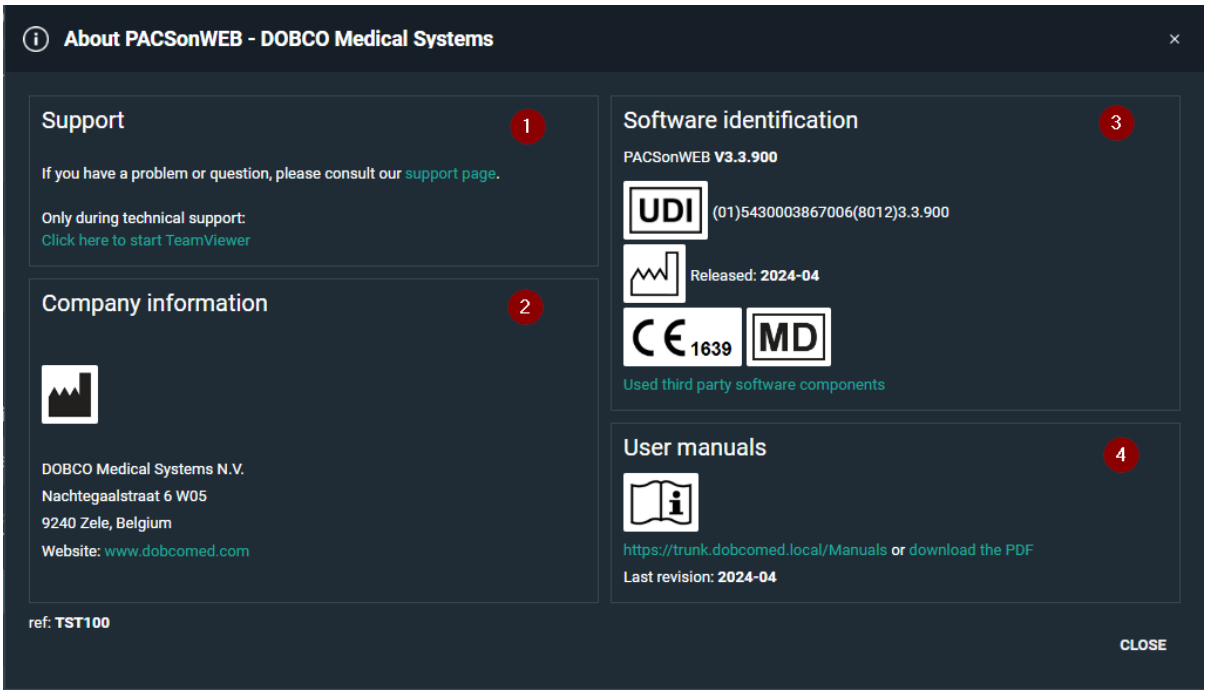

Note:

In this screenshot the version number is v3.3.900

From the Help menu, you can also

- consult the online user manual
- download the user manual in PDF format
- consult the support page (see below)
- download the DeepUnity PACSonWEB application for multimonitor support

If you experience an issue when using DeepUnity PACSonWEB, you can consult our 'Support page'.

This page lists the most frequently asked questions and answers.

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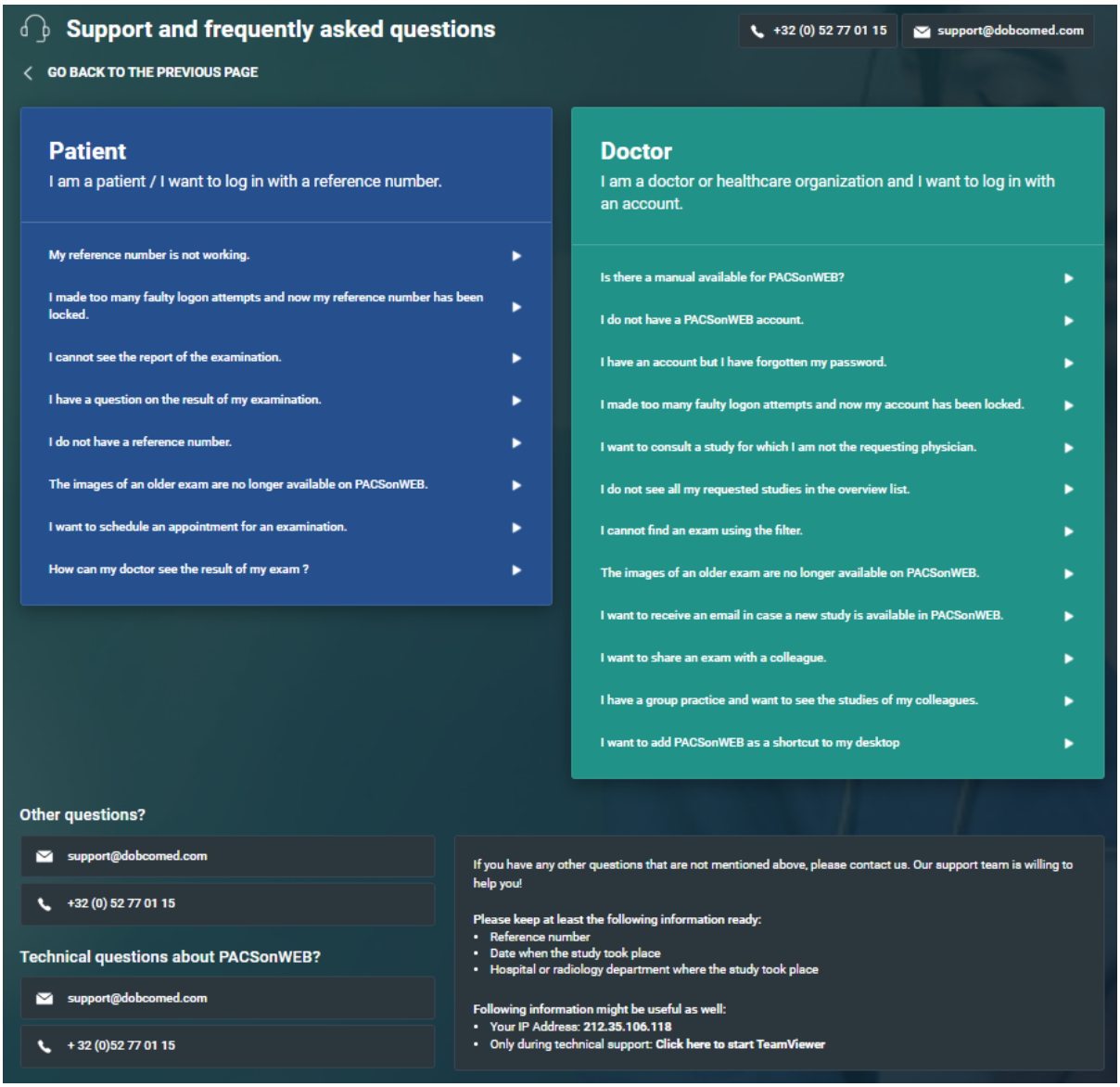

If the answer to your question is not listed, you can let one of our service desk agents control your pc remotely.

Select “Click here to start teamviewer” at the bottom at the section “Other questions or issues?” at the bottom of support page and pass your Team Viewer ID to the support agent.

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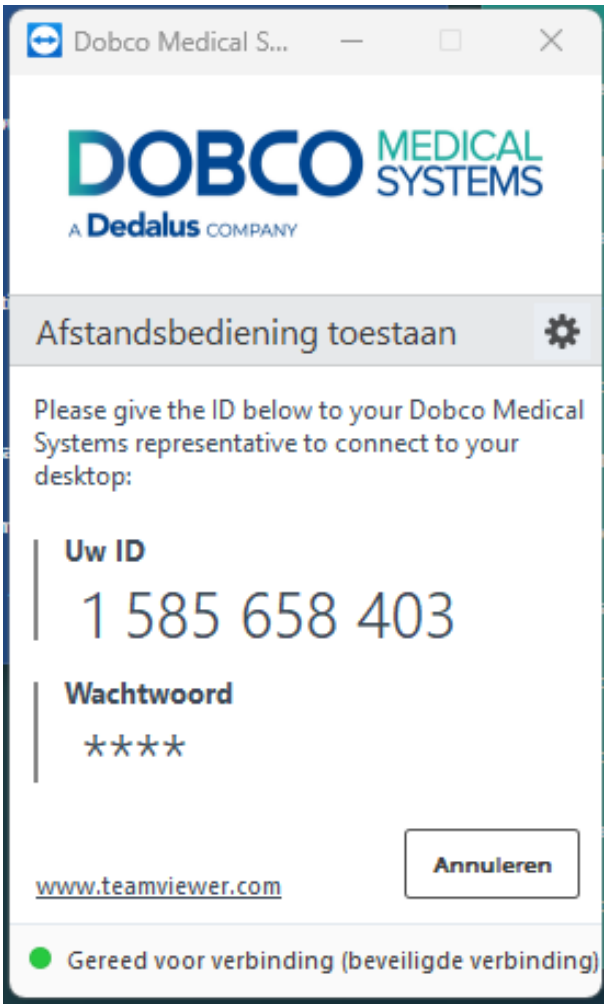

17.1 Release notes

17.1.1 Release notes version 3.4.100 (January 2025)

Component	Release Note
Login	FIX: The DeepUnity PACSonWEB authenticator app not working properly, requiring to manually enter the one-time password when logging in.
Login	FIX: Active directory user cannot login if the user login domain has different

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	letter case than active directory configuration.
Download	FIX: DICOM transfer task progress is set to 100% when WCF client is offline.
WCF	FIX: WCF Client does not send any response to the application that sent a C-Move request if the C-Move destination can't be reached.
WCF	FIX: The DICOM Router always returns C-Move 'success' status to the application sending the C-Move request, independent from the result of the sub-operations.
DICOM Processor	FIX: Sending images to DeepUnity PACSonWEB fails if a very large order number is sent, and order-number-based security codes are configured.
Login	FIX: Token with query criteria cannot be used in combination with Microsoft Entra ID.
Studies	FIX: Target study time defaults to 00:00:00 when searching for studies (for moving images/series) in the study administration.
Reports	FIX: Buttons to finalize report not visible when reporting on a mobile phone.
WCF	FIX: If setting 'ReportDictationStatusExport=true' is used in combination with bulk reporting, status update ORU messages can be sent without report content.

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Download	FIX: DICOM transfer task is set to 'Completed' even when the DICOM destination is not listening or the DICOM association is rejected.
Global	Introducing DeepUnity PACSonWEB Core as the non-medical device variant for countries where DeepUnity PACSonWEB is not (yet) registered as a medical device.
DICOM Processor	FIX: Documents (shown in the documents tab) originating from DICOM encapsulated PDFs are labeled 'Unknown'.
Upload portal	Add a comment when uploading a study through the DeepUnity PACSonWEB upload portal. This comment will be visible in the study info panel.
Reports	FIX: Report availability time (when report is not yet available for a login via reference number) is shown in UTC time rather than local/browser time.
Reports	FIX: Print report fails for multi-procedure report, if one of the linked studies has been deleted.
Upload portal	FIX: Upload portal cannot be launched from the multi-monitor app.
WCF	In outbound ORU messages, the name and physician number of the requesting physician are sent. Other physician identifiers are not yet included.
Image Viewing and Manipulation	FIX: Dragging the density measurement tool on the image, while full image data

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	is still loading, can result in an error ('Cannot find central directory').
Image Viewing and Manipulation	FIX: When scrolling through a series very quickly after saving an annotation, it can happen that saving the annotation fails.
Global	General conditions of use, including the GDPR notification, are now translated into all supported languages.
DICOM Processor	FIX: US multiframe (TomTec) images do not get processed.
Download	FIX: The character set conversion is only done for DICOM fields which are stored in the database (e.g. patient name). The other DICOM fields are not updated (e.g. institution address). In case these other fields contain special characters, they are not properly visualized.
Global	Improved communication of planned maintenance to end users.
Studies	FIX: Incorrect study logging when adding an order number to a study without an order number.
Reports	FIX: When copy pasting text from a PDF report, the white spaces are omitted.
Upload portal	In the upload portal, the upload code is now valid for 96 hours (4 days) instead of 48 hours.
AI-Cube	Introducing the DeepUnity AI Cube: a cloud AI marketplace fully integrated with DeepUnity PACSonWEB, for fully automated AI orchestration, processing

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	and results handling. The AI processing status and resulting findings can be visualized in the worklist, and worklist priority can be increased based on specific findings. AI results can be hidden for certain users.
Management	FIX: Patient changes in study administration page cannot be saved when gender is NULL.
Upload portal	FIX: System default labels (e.g. Uploaded, Imported) are not translated to the user interface language.
Share	FIX: User first name in Italian user activation mail is incorrect.
Worklist	FIX: If report creation/editing is canceled, study status stays on 'Dictation started' (if this status is used).
Manage Templates	FIX: Inconsistent date/time formatting in the print report template.
Download	An offline DICOM viewer can be included when downloading images in DICOM format. This feature is only available in Germany, Austria, Switzerland, France and Brazil.
Multi-Monitor	New branding and logos for the multi-monitor app and mobile app.
Login	FIX: Custom login page logo added via URL, not showing in FAQ page.
Worklist	FIX: Wrong display of study date when cycling through months in the study date filter.

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Manage Templates	New data fields for the PrintReport template: site name, accession number, requesting and performing department, place of birth, birth first and last name.
Multi-Monitor	FIX: Multi-monitor app crashes when opening user settings while a study is open.
Image Viewing and Manipulation	FIX: Incomplete display of iCAD mammo findings when CAD reports for both 2D and 3D/DBT images are available.
Viewer	FIX: If the inclination of two series differs too much, volumetric linking (registration) will not be done, but no user feedback is provided.
MPR	FIX: 'Show DICOM tags' on an MPR viewport does not work.
Reports	FIX: In the multi-monitor app, the Ñ character can't be used for voice commands in text blocks.
MPR	Multi-planar reconstructions (MPRs) can now also be created for multiframes.
Viewer	New keyboard shortcuts are available to (i) load next or previous series within the active viewport, (ii) flip the image horizontal or vertical, (iii) toggle the display of the series picker, and (iv) rotate the image.
Studies	For frontend integrations with DeepUnity PACSonWEB, URL calls can now include the accession number to open a study directly in the browser.

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Login	Too many failed login attempts from a single user will no longer result in the lockout of the entire customer (for trusted IPs).
Token Based Interfaces	A user can stay logged into DeepUnity PACSonWEB when accessing patients/ studies through the EMR Gateway.
WCF	Documents (e.g. scanned request forms) can be deleted through ORM inbound messages.
Reports	IARA integration (Latin America only): Spanish language is added for speech recognition.
Reports	Report macros (text blocks) can now contain fill-in fields, for more structured reports. Voice commands, keyboard shortcuts or speechmike buttons can be used to navigate between these fields.
DICOM Processor	Update of the DeepUnity PACSonWEB DICOM conformance statement with detailed description on the use of private DICOM tags.
Viewer	FIX: No user-friendly error when the study fetch mechanism times out.
Explore	In the task progress overview page, it is now possible to filter on source, and see the source for each relevant task.
Login	FIX: Unable to load images with error 'Missing IDP Token' after user email address is updated.

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Management,Studies	Departments will no longer be duplicated when they are related to multiple sites.
Studies	FIX: In the Study Administration, newlines in certain text fields are displayed as .
Reports	When the toggle "open report in edit mode" is enabled in the worklist, it will no longer put already validated reports back in edit mode.
Viewer	In order not to obscure the image thumbnails in the series picker, the text of the series descriptions is now truncated to a single line, with a tooltip displaying the full series description.
Explore	Next to the usual patient name, the birth first and last name of the patient is now available in both the study list and worklist. Place of birth is added as well.
DICOM Processor	If images are resent to DeepUnity PACSonWEB with a changed series description, the new series description will be adopted.
Management	Private study labels (owned by one user) are no longer shown to other users in the study list and worklist filters. Also, other users are no longer able to remove such private labels.
Reports	Support for Atlas, the new and improved speech recognition engine from Recognosco.
Management	A new user interface to configure and manage the DICOM communication

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	with all DICOM endpoints (modalities, workstations, archives, ...).
Viewer	To improve the readability of the user interface on high resolution displays, it is now possible to define a scaling factor for the diagnostic monitors.
DICOM Processor	Key images identified in a local PACS, and communicated to DeepUnity PACSonWEB as DICOM KOS Documents, are processed and will display as key images within the viewer as well.
Worklist	Ability to define cross-source worklists, primarily to support teleradiology workflows. These worklists concatenate all relevant studies or orders from a group of sources/customers.
Patients	When changing or merging patients in the study administration, search on patient ID is now possible, and multiple date of birth formats are now supported.
Local Image Cache	The Local Image Cache (LIC) service can now only be used by an authenticated DeepUnity PACSonWEB user.
Global	No more support for outdated internet browsers such as Microsoft Internet Explorer 11 and others

17.1.2 Release notes version 3.3.900 (April 2024)

Component	**Release Note**

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Login	Microsoft Entra ID (formerly known as Azure AD) is now supported for cloud-based identity management.
DICOM Processor	Labels can be auto-created based on specific DICOM tag values, for example to label studies with particular AI results.
WCF	Report deletion can be communicated to PACSonWEB via HL7 ORU. Reports deleted within PACSonWEB can trigger an outbound HL7 ORU communication as well.
WCF	Character set encoding can now be configured for each modality, to be used in the DICOM modality worklist (DMWL) query.
Login	User passwords are now encrypted with the SHA-512 hashing algorithm (replacing SHA-1).
WCF	The PACSonWEB DICOM Modality Worklist (DMWL) can now be filtered based on study status.
Viewer	New keyboard shortcuts for creating key images, toggling demographic overlays, and switching MPR planes in full-screen mode.
Worklist	External procedure ID is now available in the worklist, as an additional column and filter.
Reports	FIX: error message when starting bulk dictation.
Download, Share	The patient national number will be updated in the DICOM header when

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	exporting/sharing/downloading the DICOM data.
Viewer	XC series are no longer automatically split into individual images.
Reports	FIX: Report version are not correctly numbered in the study administration page.
Global	Proper handling of time zone differences, and consistent storage of all date/time in UTC format.
Reports	New properties (patient ID, national number, ...) are available in the PrintReport template.
Reports	New reports without content will no longer be auto-saved.
Global	Ségur compliance: support for birth names, place of birth, and INS national number (NIR/NIA).
Image Viewing and Manipulation	If series cannot be linked, the link button will now be disabled, and users are informed why linking is not available.
Reports	Support for Brazilian Portuguese speech recognition (based on IARA Health technology) for reporting.
Worklist	FIX: 'current user' worklist filter is not filled dynamically based on logged-in user.
Viewer	FIX: bold and underline formatting not always applied in the report editor.

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DICOM Processor	Study with only 1 image will always be retrieved from cloud even if available in local image cache.
Studies	FIX: no detailed information in study logging (study administration) when moving images or series.
Viewer	FIX: images deleted through IOCM show up as expired images.
Token Based Interfaces	FIX: in rare cases, CoZo fetches the patient national number from the field 'LOCAL', and the patient local ID from the field 'ID-Patient' in KMEHR message.
Reports	FIX: reports created in PACSonWEB are not sent out if the study has no accession number, without informing the user. Reason for failure is not mentioned in failed export task.
Token Based Interfaces	EMR users can open a patient or study in PACSonWEB through a new token integration.
User Settings	FIX: it is not possible to remove default shortcut keys for actions that have multiple shortcut keys.
Global	Significant improvement in performance to go from a reported study to the next study in the cycle list (bulk reporting workflow).
DICOM Processor	FIX: study info (e.g. study description) received from HL7 ORM is overwritten by DICOM metadata.

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Explore	FIX: when configuring source rules, typing in the search box to find a DICOM tag was not working anymore.
Reports	Image hyperlinks can be added into the report.
Reports	New technologist field: can be populated through HL7 ORM/ORU, visible in study information panel, editable in study administration, and available in the printReport template.
Multi-Monitor	FIX: error on logout in multi-monitor app.
Viewer	FIX: missing and incorrect Spanish translations of some UI elements.
WCF	FIX: DICOM modality worklist (DMWL) Patient ID wildcard search does not return the correct patient ID.
Image Viewing and Manipulation	FIX: window/level issue when VOI LUT function is in sharedFunctionalGroupSequence.
Reports	FIX: previous filter value still shown when searching for a text block.
User Settings	FIX: incorrect display of certain characters in graphic signature confirmation dialog.
WCF	FIX: unnecessary logging of revoked access when requesting physician on inbound ORM stays the same.
Reports	FIX: signature text and image not correctly populated in the PrintReport

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	template when the report author equals the report approver.
Login	FIX: user receives OTP code even if none is required.
Multi-Monitor	FIX: study available on local image cache cannot be viewed before an image is processed.
Multi-Monitor	Improvements to the multi-monitor app desktop integrations: more capabilities to determine windows behavior (minimize, maximize), ability to auto-start the reporting, and auto-close the study tab after reporting.
Image Viewing and Manipulation	FIX: pixel intensity (density) measurements may fail if image height is much larger than image width.
DICOM Processor	FIX: old files are still available on local image cache, when files from deleted study are resent to PACSonWEB.
DICOM Processor	FIX: the study list still shows the modality types for images that have been moved to another study.
DICOM Processor	Improved performance of the incoming image (DICOM) processors on the cloud platform.
	Added German, Spanish, Italian and Portuguese translations to the PACSonWEB mobile app.
	Smith & Nephew broker: DICOM files can now be sorted chronologically based on instance number.

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17.1.3 Release notes version 3.3.800 (Decemeber 2023)

Project Plan	Release Note
EMR Gateway	FIX: EMR gateway link with patient national number doesn't work
Sources	New filter capabilities in the management pages, for client config settings, user settings and source detail settings.
Viewer	FIX: an issue was fixed where reference lines and series linking did not work properly for multi-frame datasets.
Image Viewing and Manipulation	FIX: an issue was fixed where inverting a full-screen mammography image could result in a black screen.
DICOM Processor	FIX: an issue was fixed where IOCM messages containing allot of referenced SOP instances could not be processed.
Reports	FIX: If using the pop-up for selecting the procedures for a multi-procedure report this results if one of the studies is locked.
Reports	FIX: an issue was fixed where a Spanish voice command could not be used to insert a text block into the report.
Reports	FIX: an issue was fixed where the report could not be edited after visiting the study administration page.
Home Reading App	The PACSonWEB app is now available on the most recent Android releases.

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Viewer	FIX: an issue was fixed where attachments/documents could not be uploaded if the filename extension was in uppercase.
Multi-Monitor	Ctrl+Shift+M in Multi-monitor app now triggers a clean restart of the app.
Reports	FIX: Optional pop-up when starting a report for an order with multi-procedure was shown twice.
MPR	FIX: an issue was fixed where different slices within an MPR volume had different window/level settings applied, resulting in large brightness/contrast variations throughout the volume.
Home Reading App	FIX: Home reading crashes when pairing while report is already in edit mode
Viewer	FIX: Give decent message to user when document does not open in viewer because a new version was send since opening the study.
WCF	FIX: an issue was fixed where inbound HL7 text fragments could be truncated in case they contained special characters.
Viewer	FIX: an issue has been fixed where certain images could not be displayed if the window width and center had "NaN" values in the DICOM tags.
Reports	FIX: an issue was fixed where an error would occur when switching between speech recognition languages.

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Access	Additional logging is now available on study access revocation.
Reports	Improved workflow when cycling multiple studies to report.
Worklist	Sorting the worklist based on the Status column now uses the underlying priority for each status, rather than sorting alphabetically.
Studies	When moving a source study to a destination study, the actual workflow status of both studies are now displayed. Before initiating the move, the user can choose what should be the resulting workflow status for the destination study.
Multi-Monitor	FIX: an issue was fixed where an error was displayed after logging out of the multi-monitor app.
Reports	FIX: an issue was fixed where users received error notifications in case their login session had expired.
Studies	FIX: an issue was fixed where patient anomalies (for patients without studies) where not visible by default in the anomalies overview.
Reports	Series panel state is maintained when reloading a study while editing a multi-procedure report.
Reports	FIX: an issue has been fixed where reports would not be exported if the client is temporarily offline.

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Local Image Cache	FIX: Custom DICOM tags in study overlay could have different values when loaded from local image cache.
Studies	FIX: an issue has been fixed where trying to move images/series to an empty study (in the study administration page) fails
Token Based Interfaces	Belgium: additional CoZo user profiles (midwife, pharmacist in hospital, pharmacist clinical biologist, physiotherapist) now have access to imaging results in PACSonWEB.
Multi-Monitor	FIX: an issue was fixed where the settings in the multi-monitor app configuration wizard were not maintained when running this wizard again.
WCF	The study remark field, communicated through HL7 ORM/ORU, may now contain up to 2048 characters (previously limited to 256 characters).
Reports	FIX: an issue was fixed where speech recognition did not initialize when there are multiple text blocks with the same code.
Reports	Clearer messages to inform patients if the report is not yet available.
Studies	FIX: an issue was fixed where a PDF report would be deleted after changing the report status in the study administration page.

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WCF	FIX: the study remark will no longer be deleted when a new HL7 ORU/ORM is sent in without a study remark.
Global	The global data protection policy, privacy policy and cookie policy were updated, to bring them in line with Dedalus global policies.
Image Viewing and Manipulation	FIX: an issue was fixed where scrolling through breast tomosynthesis series was very slow when breast shape detection was enabled.
Local Image Cache	FIX: an issue was fixed where scrolling through multi-frame tomosynthesis series had low performance due to unnecessary loading of pixel data.
Image Viewing and Manipulation	FIX: an issue was fixed where mammography images, when retrieved from the local image cache, could be displayed with an incorrect default window/level setting .
Reports	The user notification (popup message) and behavior have been improved when reloading a study during reporting.
Reports	New user settings are introduced to finetune the behavior when finishing a report.
Management	FIX: an issue has been fixed where opening the user settings was very slow.
Login	FIX: an issue has been solved where the customer-specific support page was not accessible anymore from the

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	customer-specific PACSonWEB landing page.
Viewer	FIX: an issue has been fixed where (active directory) users without a last name got error messages when logging into the viewer. Last name is now mandatory for all (AD) users, and clear error messages are presented to the user.
Reports	FIX: Transcriptionist got error when finalizing a report because author was cleared by backend integration.
Reports	New multi-line text fields to register radiation dose and administered products are available. These fields can be populated through incoming HL7 ORM/ORU, or filled in / edited manually in the study administration pages. They can also be added to the report print template.
Viewer	FIX: an issue has been resolved where an incorrect patient date of birth could be displayed, when the client was in a different time zone than the web server.
Explore	FIX: an issue has been fixed where the user interface goes blank if a PACS overlay search result contains patients without a name
WCF	PACSonWEB DICOM Modality Worklist (DMWL) will now also return OtherPatientID, when it's queried as part of an MWL request.
Reports	FIX: an issue was fixed where a warning was displayed (Mapping not found)

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	when a transcriptionist validates a report for the default radiologist.
Reports	SpeechMike buttons can now be configured to trigger keyboard shortcut actions. When using the PACSonWEB multi-monitor app, the SpeechMike buttons will continue to work even when the app does not have focus (e.g. while reviewing images in a 3rd party tool).
WCF	When receiving HL7 messages for existing studies without department, site and/or examination room information, this data will no longer be reverted to default values if this data was already known from prior messages.
DICOM Processor	If PACSonWEB receives HL7 ORM messages with unknown procedure code/description and/or modality, these values will now be copied from the associated DICOM files.
Reports	A signature image can be uploaded for each user, and included in the report.
Download	FIX: an issue has been fixed where querying the worklist based on patient last name (during Transfer to PACS) did not return the correct results.
Viewer	Certain image series within a study can be marked as private (either manually or automatically), and access to such series can be restricted through user/ role permissions.

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Viewer	FIX: an issue has been fixed where annotations created in Syngo.via did not display correctly in PACSonWEB.
Management	Portal URLs will no longer be prefixed with "http://", also in the templates when sharing a study or printing a report.
AI-Cube	AI Cube is a new PACSonWEB component, which connects with cloud-based AI providers. This allows to have studies, which are sent to PACSonWEB, automatically processed by certain AI algorithms, and results are made available back in PACSonWEB.
Global	It is now possible to review and modify cookie settings.
DICOM Processor	DICOM libraries were updated to the latest Fellow Oak DICOM version 5.0
Login	FIX: an issue has been fixed where one-time passwords (OTPs) were being sent unnecessarily to active-directory (AD) users.
Studies	A new upload portal, which allows to upload medical imaging studies (DICOM) to PACSonWEB using the web browser.
DICOM Processor	Support for the LINEAR_EXACT VOI LUT function, for correct rendering of certain MRI series.
Viewer	New filter buttons in the series picker make it easier to find relevant prior studies in the patient history.

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Token Based Interfaces	Exams which are filtered (not published to PACSonWEB) will no longer show up in CoZo.

17.1.4 Release notes version 3.3.700 (23/05/2023)

Viewer	FIX: an issue was fixed where images would not be displayed in Safari after upgrading to iOS 16.4
MPR	MPR image quality has been improved, and MPR rendering speed has been increased.
Explore	FIX: an issue was fixed where loading the study list / explore page was very slow (or even timed out) when no filters are applied
DICOM Processor	FIX: an issue was fixed where certain images encoded as a private SOP class UID were not visible in the viewer.
MPR	FIX: an issue has been fixed where cloud icons would be shown for certain images. This happened when MPR was initiated while some images were still loading.
Client Configs	A character set can now be defined, which is used in all queries from PACSonWEB to the local PACS. When the query includes special characters, these will no longer be replaced with wildcards, hence the query results will be more accurate.
Viewer	FIX: Flashing images when scrolling through RX images

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Login	The PACSonWEB default login page has been restyled according to the Deep Unity style guide, including an update to the logo.
Explore	FIX: an issue has been fixed where the anomalies department filter did not work for source administrators.
Viewer	FIX: an issue has been fixed where window/levelling high-resolution images on diagnostic displays was unresponsive.
Reports	FIX: an issue has been fixed where RSDK (speech recognition) would not work anymore after reloading a study.
Reports	FIX: Report reviewer dropdown selection not shown correctly in the multi-monitor app.
Viewer	The user will now be notified (and asked to close some study tabs) when exceeding the memory usage of the multi-monitor app.
DICOM Processor	FIX: an issue was fixed where an IOCM rejection note would not be processed for all frames within a multi-frame image.
WCF	C-FIND queries for unsupported SOP classes will now be rejected, instead of not returning any data.
Viewer	FIX: an issue has been fixed where the wrong DICOM tag was used to determine the laterality of multi-frame DBT series.

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Login	FIX: an issue has been fixed where the new user account activation with strong authentication (one-time password) via email was not working.
Reports	FIX: An issue has been fixed where text blocks could no longer be inserted automatically in new reports.
Global	User manuals (online and PDF versions) are now available on the PACSonWEB portal itself, instead of a public Confluence page.
Viewer	Scrolling through Digital Breast Tomosynthesis (DBT) image stacks is now smoother, as the breast detection algorithm no longer runs by default on each image.
Reports	It is now possible to configure the audio recording input level for non-SpeechMike dictation devices in the multi-monitor app.
Multi-Monitor	For desktop integrations using the multi-monitor app, it is possible to use only patient-level context (patient ID or national number) when calling the app API. The study list will then display a filtered list of all studies for the called patient.
Multi-Monitor	The on-top behavior of the multi-monitor application can now be configured. The new setting will determine whether the non-diagnostic monitor comes on top of other windows
Worklist	FIX: an issue has been fixed where procedures codes would no longer be

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	displayed in the worklist filter settings, after saving the worklist
Viewer	Images (such as mammography images) can now be automatically flipped horizontally or vertically through the reading protocol.
Viewer	ScreenPoint Transpara mammography CAD markers (calcifications, soft tissue lesions, and overall exam score) are now supported for display in the viewer, both for 2D/FFDM and 3D/DBT exams.
Viewer	A new keyboard shortcut was added to publish annotations.
Download	The 'Transfer to PACS' workflow has been significantly improved: it's easier to access the functionality, the user interface has been redesigned and optimized, studies can be transferred in bulk, and default settings can be configured.
Viewer	The default projection mode, when activating the thick slice (2D) function, is now maximum intensity projection (MIP) instead of average intensity projection (MPVR).
Viewer	FIX: an issue has been fixed where a relevant prior study was not automatically shown in an auto-compare reading protocol, in case of multi-procedure reporting.
Multi-Monitor	A native desktop integration with Myrian (Intrasense) is available in the PACSonWEB multi-monitor app.

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Viewer	The metric 'time to first image display' has been improved, especially for larger studies with lots of images. Also pre-loading is introduced to further improve this metric.
WCF	When a new patient national number is sent to PACSonWEB through an ADT update, this will no longer trigger an anomaly (as long as that number is unique).
Patients	The displayed message, to inform the patient when their report is not (yet) available, is now more clearly defined to avoid confusion.
MPR	Users will now be notified if there is insufficient memory available to create an MPR volume. Also, the memory required for MPR will be released as soon as the study is closed, to avoid insufficient memory as much as possible.
Multi-Monitor	It is now possible to pass image- or series-level context in an integration script. This allows to share a specific image or series with a 3rd party application integrated in the PACSonWEB multi-monitor app.
PACS Push	FIX: An issue has been fixed where PACSonWEB would continue to try and sync a study (via C-MOVE) when the local PACS stops responding, even when the study is fully synchronized.
Viewer	Multi-value DICOM tags can now be used in the definition of reading protocols. So if a DICOM tags contains

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	multiple values (e.g. ImageType), any of those values can trigger a specific reading protocol.
Manage Templates	FIX: incorrect link to manual in password expiration mails.
Reports	Report signature(s) is/are now automatically added to the exported report (for ORU outbound interface).
Login	FIX: An issue was fixed where the user manual on the French login page was not available as PDF.
Explore	A permission is now available to define which user groups have access to the PACS overlay (query local PACS) feature.
Access	FIX: an issue was fixed where unreported studies were already available to patients when logging in through CoZo

17.1.5 Release notes version 3.3.606 (22/02/2023)

Report	FIX: RSDK speech recognition not working for Spanish (ES_ES)
WCF	FIX: Access not correctly changed when changing requesting physician for multi-procedure order.
WCF	FIX: ORU not correctly processed for DICOM based study with order nr. that also exist for none default department.

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17.1.6 Release notes version 3.3.605 (13/02/2023)

DICOM Processor	When images of a merged study were resend with a different accession nr. but that accession nr. doe snot match an HL7 based study. The split of study was not correctly updated with the DICOM meta data.

17.1.7 Release notes version 3.3.604 (15/12/2022)

Hotfix is to solve issues in PACSonWEB backend, hence no end user release note is created.

17.1.8 Release notes version 3.3.603 (14/12/2022)

DICOM Processor	FIX: When two studies are merged on same accession number a study is not split off again if one of the studies is resend same study instance UID and different accession nr.

17.1.9 Release notes version 3.3.602 (23/11/2022)

Viewer	FIX: Radiologist need to restart multi-monitor app after out-off memory error
DICOM Router	FIX: Client Router queue clean-up can be slow for heavy load customers

17.1.10 Release notes version 3.3.601 (04/11/2022)

Reports	FIX: 'copy to clipboard'-button report panel is not working anymore.
Viewer	FIX: Image can not be viewed when using Safari 14 or Firefox 92. (Works fine as of Safari 15 and Firefox 93)

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Multi-Monitor	FIX: PACSonWEB multi-monitor app crashes when a StreamDeck is connected
Multi-Monitor	FIX: PACSonWEB viewer turns black in multi-monitor app if 5GB memory usage is exceeded.
Reports	FIX: Transcriptionist gets (non-blocking) access restriction error when editing report.
Reports	FIX: Warning that speech volume for RSDK speech recognition is to high is shown to often.
Viewer	FIX: When using 150% zooming in windows display settings, Window leveling is not always immediately applied on high resolution images.
Viewer	Performance improvement: faster meta-data retrieval, so that we can start loading images sooner after opening a study.

17.1.11 Release notes version 3.3.600 (18/10/2022)

Viewer	Tomographic (CT/MRI) series from two different studies can automatically be synchronized, based on a registration algorithm. Correcting the offset between linked series can be done much faster.
Reports	Reports are now saved automatically, and can be recovered after losing the server connection or accidentally interrupting the reporting workflow.

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DICOM Processor	DICOM files larger than 2 GB are now supported.
Explore	More advanced search / filter capabilities are now available in the task progress overview screen.
Studies	FIX: An issue has been fixed where the fetch button was sometimes unavailable for expired studies.
Management	Additional logging on system operator (global admin) activities, to comply with HDS (France) regulations.
Manage Templates	Patient first name and last name can now both be added (as two individual fields) to print templates.
WCF	If the source allows multiple internal patient IDs, 'old' patient IDs will now be remembered after merging to a 'new' patient ID. If, after such merge, incoming data (HL7/DICOM) still uses an 'old' patient ID, this will no longer trigger an anomaly.
Reports	The reporting workflow within PACSonWEB now supports multiple report contributors. A radiology resident may send a report to a supervisor, or a senior radiologist sends a report to a colleague for review. Also, different report versions and the version history can now be displayed in the study administration page.
Download	FIX: An issue has been fixed where transfer tasks would sometimes remain in progress without completing.

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Worklist	Specific procedures or procedure codes can be excluded from a worklist.
Image Viewing and Manipulation	The image rendering performance has been improved, and interference with simultaneous speech recognition is no longer an issue. IMPORTANT: PACSonWEB 3.3.600 is not backwards compatible with multi-monitor app for 3.3.500! Upgrading to the latest version of the multi-monitor app is required.
Token Based Interfaces	Specific performing departments can now be included/excluded for publication to CoZo/RWS. Publishing of studies to CoZo/RSW can also be delayed for 1 to 7 days.
Management	FIX: An issue has been fixed where multiple duplicate rooms or departments are be displayed in the worklist filters.
Viewer	The readability of the series descriptions in the series picker has been improved.
Login	In Norway, Target365 is now supported as SMS gateway provider.
Explore	The "Performing department" field can now be used as a filter and displayed as a column in the study list tab.
User Settings	Keyboard shortcuts are now available for all annotations.
Reports	There is a new user setting to define if a beep should be played when starting or stopping speech recognition. Also, the report panel will now automatically

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	scroll down when dictating a large amount of text.
Reports	In the study list, the 'Radiologist' field now shows the name of the doctor who last changed or validated the report in PACSonWEB. Also, the 'Reading user' and 'Validating user' fields will be populated for reports sent to PACSonWEB.
Download	Studies - which are added manually to the study list - can automatically be listed and selected. Any reference number or DU POW number can be used to filter the study list.
WCF	An external procedure ID on study level is now supported, so that exported reports combining multiple procedures can be associated with different unique study level IDs.
Access	FIX: An issue has been fixed where original requesting physicians may still has access to a study when requesting physician for that study is changed.
Studies	FIX: An issue has been fixed where anomalies could not be resolved because of different date/time formatting.
Reports	When dictating a report, the recording volume level is now visualized with colors in the report panel. If the recording level is too high, the user will be alerted and advised to change their audio settings.

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Reports	Reports exported as DICOM structured reports (DICOM SR) now contain all the required metadata to allow import in other PACS systems.
Share	A label can now be automatically attached to one or more studies, when sharing them, or printing a reference number for them.
Studies	FIX: An issue has been fixed where there are redundant entries in the patient logging for unchanged values.
Reports	To avoid losing unsaved report text, a popup confirmation will now be presented to the user when closing the browser (tab) or navigating to a different web page (user settings, study administration) while editing a report.
Reports	When using speech recognition, additional guidelines are provided on how to dictate numbers, dates and times, medical terms, and more.
Studies	FIX: An issue has been fixed where moving images from one study to another would sometimes fail.
Studies	FIX: Error in study administration tab 'images and series' if moving images to a new series in exiting study and moving that newly created series to another study in one go.
Reports	Block undesired translation of report text by the browser plug-ins.
WCF	When report creation (and dictation) is started in PACSonWEB, a study status update ('Dictation started') can be sent

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	out via HL7 ORU. This allows to inform external (RIS/reporting) systems that reporting has started, and avoid double reporting in another system.
Login	When printing a reference number, a QR code can be included. Scan the QR code to go directly to the correct URL, with the reference number already filled in.
Global	The TeamViewer application that can be downloaded from the support page has been upgraded.
Login	FIX: An issue has been fixed where active directory users that login via itsme are sometimes asked to reset their password.
Image Viewing and Manipulation	FIX: An issue with irregular scrolling through CT image series has been fixed.
Reports	FIX: An issue has been fixed where 'null' was displayed as radiologist name when exporting a report.
Image Viewing and Manipulation	The default scrolling method for 2D reformats (e.g. MIP) is now 'Not Grouped'.
Explore	FIX: An issue has been fixed where the number of images in the Local Image Cache was displayed incorrectly in the study list after sorting the list by clicking the headers.
Worklist	The worklist refresh rate can now be configured (default = every 5 minutes).
Worklist	The performance of worklist queries has been improved.

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Viewer	FIX: An issue has been fixed where false 'study changed' notifications was shown for unchanged studies.
User Settings	FIX: An issue has been fixed where opening the user settings could take allot of time.
MPR	FIX: An issue has been fixed where the MPR screen layout changed unnecessarily.
Download	Exported annotations (angle, arrow) now also provide fall back representation for external PACS system that do not support Compound Graphic Sequence.
WCF	FIX: An issue has been fixed where ISO_IR 100 character set was used instead of requested encoding in Modality Worklist response.
MPR	FIX: An issue has been fixed where coronal and sagittal MPR views could be displayed upside-down when image number do not match orientation.
WCF	The performance of processing large (> 1 GB) files has been improved.
Global	Support for the Brazilian Portuguese language.
Global	When PACSonWEB is not to be used for diagnostic use in a certain country because of pending regulatory requirement, several notifications about this restriction are added in the user interface.

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WCF	FIX: An issue has been fixed where availability of incoming images were available in PACSonWEB can be delayed by parallel C-Move requests.
Reports	FIX: An issue has been fixed where SpeechMike buttons stop responding.
Image Viewing and Manipulation	FIX: An issue has been fixed where XA/RF images containing a redundant VOI LUT table were display incorrectly.
PACS Push	FIX: An issue has been fixed where whitelisted studies would not get retrieved from PACS.

17.1.12 Release notes version 3.3.503 (13/07/2022)

Viewer	FIX: Improve performance for rendering multi-frame with embedded overlay.
DICOM Router	FIX: Avoid degrading performance in uploading DICOM images by reducing memory usage to and .NET garbage collection.
WCF	FIX: Annotations on multi-frame are not correctly send out.
Viewer	FIX: Performance improvement in image retrieval by reducing number intermediate images rendered during zooming.
Viewer	Exclude canceled studies from auto compare.
Reports	FIX: Use ORU configuration of author/ approver when transcriptionist approves on behalf of

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Global	Add swiss representative in about box for swiss environments
Download	FIX: Downloads of multi-frame results in invalid ZIP file

17.1.13 Release notes version 3.3.502 (14/06/2022)

Share	Users linked to an admin group cannot use the share functionality anymore
Studies - study administration	Not possible for a source admin to edit the patient data in study administration
Token based interfaces - Cozo	It is impossible to open images using Cozo with Internet Explorer 11. Using login physician or patient has no issues.

17.1.14 Release Notes Version 3.3.501 (13/06/2022)

Only fix in backend processing => no public release note required

17.1.15 Release notes version 3.3.500 (14/06/2022)

Global	In case of opt-in, we'll collect anonymous usage information to further improve the application based on real life information
DICOM Processor	IOCM inbound support:* 1113037 (Patient Safety) and 1113038 (Incorrect Entry) -> persistent delete* 1113039 (Date Retention) -> purge until resend
Studies	Filter on performing department in anomalies overview
Viewer	Notify if new images arrived on open study (if activated for source)

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Image Viewing and Manipulation	New annotation: Polygon ROI density tool
User Settings	FIX: Auto compare menu in user settings is now correctly displayed
DICOM Router	FIX: respect requested character set in CFind Response
Explore	Improve usability of labels* define favorites* Label/un-label studies in a list
Users	User can define his own window level presets in addition to the source defaults
WCF	Use files in local image cache for C-Move response
Reports	Receive notification as requesting/CC physician when report is available and/or when images are available
MPR	MPR can be reset using a keyboard shortcut
MPR	Usability improvements for MPR:* tri-plane view* rotate cross hair or individual axis* cycle views* easy reset
Viewer	ESC restores the default left mouse button operation
User Settings	Users can customize their keyboard shortcuts
Viewer	Images available in Local Image Cache are also visualised in order information viewport

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Worklist	Filter on minimal number of images in the worklist
Image Viewing and Manipulation	Standard Deviation added as value for ROI annotation
Reports	Report consisting of only empty lines and/or whitespaces is handled as an empty report
Image Viewing and Manipulation	FIX: Endpoints behave correctly while drawing ROI ellipse
Reports	FIX: Rich text editor can be used on Safari browser
WCF	WCF client accepts DICOM Files without StudyTime, setting it to 00:00:00
Multi-Monitor	Notification in multi monitor app if the update link is not accessible.
Global	FIX: correction in German mail templates
User Settings	Apply increased report font in text block editor
Reports	RSDK improvement:* Switch Language* Modify playback volume* Performance logging
Viewer	Possibility to delete DICOM encapsulated PDF document in the study administration
Image Viewing and Manipulation	Save presentation state for rotated or flipped images

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Viewer	Maintain scroll position and image manipulation when series is shown in multiple steps in the reading protocol
Multi-Monitor	Option to hide/show title bar on study tabs monitor to have same image proportions in case of a RIS driven workflow
Viewer	Allow copying of values from study info viewport fields
Viewer	For users with setting "multiple tabs" configured, open study in series picker will open an new study tab.
Reports	Setting to give user reporting permission for a department without being a source administrator
Viewer	Shortcut for ROI – ellipse (E)
Reports	Additional report formatting:* Bullet list* Header styles (configurable per user)* Voice commands for formatting
Login	OTP via mail can be resent via mail or sms
Download	Export the following annotations as GSPS:Ruler , Line, Angle, ROI- rectangle, RIO –elpise, Arrow, Text
Explore	FIX: Study information no longer hidden after the user gains access using Break-The-Glass
WCF	Patient level CFind queries to PACSonWEB now supports wildcards (* and ?) for all supported fields

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WCF	Multiple instances, series, studies can now be moved in a single C-Move request
Worklist	FIX: Worklist can now be sorted on report
Reports	FIX: Selecting a word by double click now also works in IE11
Reports	FIX: user can now create and validate report with home reading in case RSDK is also configured
Reports	FIX: Microphone access no longer requested for transcriptionist
Viewer	FIX: Series linking for curved planner reconstructions (CPR vs. MPR) is now done correctly
Reports	Possibility to allow a transcriptionist to validate a report on behalf of the radiologist
Share	FIX: Custom template is now used when printing reference number from PACS overlay
Worklist	FIX: Column images in worklist now displays the number of images available in the Local Image Cache
Viewer	FIX: Correction for scrolling behaviour when switching viewports in multi-monitor app
Login	Block login with DU POW code only having canceled studies instead of showing empty list

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Studies	FIX: Give correct error message when adding an invalid national number in the study administration
Explore	FIX: Use search string of 4 characters, including Include special characters in PACS overlay
Image Viewing and Manipulation	Length ratio: inverse ratio now additionaly shown between brackets
Viewer	FIX: Rapid switching between tabs while study is loading causes series picker to load incompletely
Viewer	FIX: Scroll performance remains optimal when viewer is kept open for a long time
Token Based Interfaces	FIX: solved issue for access by patient using RSW
Worklist	Possibility to filter on unresolved anomalies in the worklist
Viewer	Tolerance on differences in orientation for automatic linking increased to 15°
Reports	Optimization for latency warning when using RSDK
Reports	Reduce space between report body and signature
Studies	FIX: Source rules now also applied to tags that occur in a DICOM sequence
Reports	FIX: RSDK – Speech session for long reports remain open until audio is saved

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Reports	FIX: Text blocks are no longer added with wrong language identifier that made them usable with RSDK
Viewer	Disable switching procedures via tabs in series picker if there is an unsaved report to avoid losing report content
Viewer	Allow to disable pointer lock for a (VDI) user

17.1.16 Release notes version 3.3.405 (18/03/2022)

Reports	FIX: When using RSDK, saving audio "never finishes" for large reports.
WCF	FIX: WCF clients go to 100% CPU when trying to recover from lost connections.

17.1.17 Release notes version 3.3.404 (04/03/2022)

Reports	Allow using shortcut to save report also if report viewport doe snot have focus. Avoid loosing report when turning on shortcuts for external reporting in set-up for which it's not intended.
Reports	FIX: space inserted in front of '.' when suing RSDK speech recognition
Reports	FIX: Can't save report created with Home reading is RSDK speech recognition is also configured for user.
Reports	FIX: Shortcut to save a report (F8, Ctrl-F8) only work when report has focus

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Study administration	Add anomaly for studies were moving large studies fails after user already left the study administration.
Local Image Cache	Make user Local image cache clean-up continues if some files it's attempting to clean-up are removed already.
WCF	MWL - return a value for Code Meaning (0008,0104)
Worklist	FIX: AD user with group mappings fails to access worklist.

17.1.18 Release notes version 3.3.403 (04/02/2022)

Reports	RSDK speech recognition: performance improvements
Reports	RSDK speech recognition - FIX: Edit report keeps loading when study is opened from open study button in series picker
Reports	RSDK speech recognition - FIX: Words are added in the wrong order with RSDK speech
Reports	RSDK speech recognition - FIX: Speech recognition stops recording
Reports	RSDK speech recognition - FIX: After insert text block with voice command cursor is on start of report
Reports	FIX: Transcription user in admin group does not have the send for approval option.

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Reports	RSDK speech recognition - FIX: Text segments with audio, but no text in the beginning of the report are not played backed
Reports	RSDK speech recognition - FIX: Database fields in text blocks are not replaced when inserted with RSDK voice command
Reports	RSDK speech recognition - FIX:RSDK speech recognition - FIX: Transcription workflow: Speech audio is played but without sound
Reports	RSDK speech recognition - FIX: deleted text reappears when saving a report
Viewer	FIX: Consolidated Patient history - reports from other sources not accessible
DICOM Processor	FIX: ImageExchange - Daily studies for which the images were not downloaded, status completed, progress 0%
Worklist	Improved performance when searching on PatientId in the worklist
Viewer	FIX: Disappearing mouse pointer in multi-monitor app
WCF	MWL: Ignore empty study date in MWL query to fallback to scheduled procedures step date
WCF	MWL: Add Schedules AE, Protocol code and Type of patient ID to MWL response

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Access	Don't allow none-administrator to access studies canceled in the RIS
Study administration	Allow to modify canceled flag (set via RIS integration) in the study administration.

17.1.19 Release notes version 3.3.402 (05/01/2022)

WCF	FIX: Pixel data for some images in large series lost when processing of the image is interrupted by a timeout.
WCF	FIX: Performance of incoming images negatively impacted by DICOM source rules

17.1.20 Release notes version 3.3.401 (14/12/2021)

Viewer	FIX: Images with negative pixel spacing not visible because of error in scale ruler calculation
Reporting	Performance improvement in loading Recognosco speech recognition
ADT	FIX: Correction in handling ADT messages for sources where multiple internal patient ID's are allowed for same national number.
Management	FIX: Password expiration mail also send to AD user

17.1.21 Release notes version 3.3.400 (30/11/2021)

Login	Improved password expiration mail

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Image Viewing and Manipulation	Improve auto selection when placing spine labels
Studies	Select multiple instances to move to another study
Multi-Monitor	Client side desktop integration with multi-monitor app
Reports	Correction workflow with audio playback, based on Recognosco speech recognition
DICOM Processor	Don't send mails or SMS for migrated studies
Viewer	FIX: Mouse cursor no longer disappears when doing image manipulations
Image Viewing and Manipulation	Scale ruler added to viewer
MPR	FIX: MPR creation from Local image cache
Local Image Cache	FIX: Local image cache accepts studies with empty accession number
Reports	Automatically add text as template in report
Viewer	Allow to define keyboard shortcuts for external reporting flow
Reports	Integration Recognosco speech recognition (finalization)
Home Reading App	Text blocks can be used in combination with Home reading (phone based speech recognition)

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Reports	Support pdf report in the order details tab of the patient history
Viewer	Clear indication for prior studies that are more recent than current study
Download	FIX: Study instance EUID adapted correctly when downloading DICOM
Viewer	FIX: cut-off of the bottom pixels of the viewer in iOS Safari solved
Reports	FIX: text block pop-up now showing on Safari and older Edge versions
Image Viewing and Manipulation	FIX: Window level support for IE11
WCF	FIX: Modality Worklist - Characters before '_' no longer removed from Procedure Code
Management	More intuitive UI for labels in viewer
Reports	Improved robustness of ORU outbound communication
WCF	FIX: C-FIND PATIENT level query needs to be on PATIENT root instead of STUDY root
DICOM Processor	FIX: Viewing and downloading of encapsulated PDF document with empty file name tag
Reports	FIX: Copy of report signature when using copy to clipboard function
Studies	FIX: Resend SMS in Study Administration when source setting "Send SMS on first image" is disabled (Norway)

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Worklist	Worklist dashboard moved to worklist tab header when in full screen mode
Image Viewing and Manipulation	Improved usability for Window Level on images with 15 or 16 bit grayscale
Viewer	Loop the RP steps when navigating with shortcut keys * Page-Down on last step --> first step * Page-up on first step --> last step
Image Viewing and Manipulation	Add delta with 180° to angle measurement
Image Viewing and Manipulation	FIX: Use middle mouse button to Window Level on MPR
Multi-Monitor	Add links to open report or order from PACSonWEB in RISonWEB (configuration by DH Healthcare GmbH)
WCF	FIX: C-MOVE requests no longer fails if the destination cannot process JPEG Lossless
WCF	FIX: Set access when sending known physician without physician number if received through HL7

17.1.22 Release notes version 3.3.303 (14/10/2021)

Viewer	FIX: Check on patient consent in eHealth for consolidated patient history always fails.
Login	Extra check to block login in case duplicated reference numbers were send by third party system.

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Viewer	FIX: List of reading protocols is not always refreshed when logging in with other user. (cached list from previous user is used)
Download	FIX: Auto transfer not working in German environment

17.1.23 Release notes version 3.3.302 (09/09/2021)

Studies	FIX: Study Administration - Impossible to update order information
Viewer	FIX: Performance impact of backfilling extracting an storing extra DICOM tags in the DB on the fly.
Reports	FIX: ORU Out - User with the default mapping always gets the warning 'Mapping not found' (report correctly exported)
Reports	FIX: Speech recognition does not work if a report is in edit mode in other tab
WCF	FIX: Q/R interface C-MOVE intermediate status updates are not send resulting in some clients aborting association
Reports	FIX: Study Administration - Resend report throws error for user that does not have home reading configured
Login	FIX: EMR gateway with anonymous login does not show report

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17.1.24 Release notes version 3.3.301 (31/08/2021)

Studies	FIX: Study anomaly: A different date of birth create for images without DOB processed by DICOM Processor directly (not via WCF)
Login	FIX: Some irrelevant field are shown on the support page if Login screen \disableRequestUsername=true
DICOM Processor	FIX: Merge study fails in Stored Procedure
WCF	FIX: PACSonWEB always uses SpecificCharacterSet ISO_IR 192 in MWL response, which is not supported by all modalities

17.1.25 Release notes version 3.3.300 (27/08/2021)

Project Plan	Release note
Reports	Multi-procedure reporting
Reports	Insert saved text blocks in a report
Studies	Support accession number with multiple study instance UID's in download/transfer
WCF	C-MOVE from PACSonWEB to PACS moves all images in one association
WCF	Canceled studies ("study_state": "CA") are not returned in the MWL response
WCF	Procedures received via HL7 are no longer overwritten by DICOM study description

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Explore	No anomalies are created for studies that are filtered, based on DICOM tags
Viewer	DICOM encapsulated pdf's (SOP class 1.2.840.10008.5.1.4.1.1.104.1) are shown in the document viewport
Worklist	Worklist dashboard: count of key worklist items in view at all times
Viewer	"Show original DICOM tags" available to source administrator users
Studies	Additional warnings for archive / PACS customers when deleting a study / images
DICOM Processor	Images without patient name and/or patient ID are accepted but create an anomaly
Study list	Performance improvement for filtering on unread messages in study list
Viewer	FIX: Studies with same frame of reference are now auto linked if orientation slightly deviates (0,1° tolerance added)
Viewer	Improve styling for narrow series picker
MPR	FIX: In MPR cached images are now re-rendered when window level is changed
Worklist	Additional bulk reporting workflow options * Report a selection of studies * Skip * Open report in edit mode * First open other unreported form same order

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Studies	Improve performance of access logging tab in study administration
Manage Templates	Possibility to switch order of first name and last name in mail templates
Viewer	Use of arrow keys to scroll through multi-slice series
Worklist	Possibility to filter a worklist on procedure code or description
User Settings	New user setting to automatically publish annotations
Viewer	Extended order details panel * Performing department * Requesting department * Prescription date * Visit information * Patient & * Study remark
Viewer	Show acquisition date and time in image overlay
Studies	FIX: Study administration - Patient information can now be modified when first name is empty
Management	HDS requirement: extended logging on all admin actions by DH Healthcare GmbH personnel
Reports	FIX: download button for pdf reports now available for all resolutions
DICOM Router	FIX: DICOM Router now respects "PreferredTransferSyntax" when sending images to a destination via C-MOVE requests
Worklist	Default reservation time made customizable per source

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Viewer	FIX: Series picker tooltips stay visible on image viewport
Access	Consolidated patient history for hospital users
Explorer	Clicking a filter label in study list and worklist filter allows to enter/change the filter value
Studies	Refresh anomaly list after solving an anomaly with an action that changes data
Viewer	FIX: User can now remove self-created private labels
Login	Mobile number no longer mandatory for AD users in account completion form
Viewer	Patient history tab added to the order details panel for fast navigation through prior reports
Share	FIX: Auto transfer of study's now also works for CC2 physician if no CC1 is present
Share	FIX: flag now changes automatically when changing the country code from the phone number when sharing a study
Reports	Date & time for report availability changed to "dd/MM/yyyy HH:mm" format to avoid translation issue with months and weekdays.
Viewer	FIX:DU POW no longer freezes when FPS in cine loop is set to 0

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Viewer	Option to show relevant priors in the series picker in a separate block or chronologically in "Others"
Explore	FIX: PACS overlay now parses StudyTime that contain fractions correctly
Viewer	FIX: Comparing from patient history bar now also works when series picker is hidden
Worklist	FIX: Multi-select worklist filter value no longer disappears when deleting/ saving/modifying worklist
WCF	Support patient level C-FIND
Reports	Beta version of Recognosco speech recognition integration. (for early feedback only!)
DICOM Router	* Source administrators can define DICOM based rules to automatically send images to CvKO (Belgium) * Anomaly creation if routed studies do not meet CvKO requirements
Login	* Fix for OTP method selection page in Multi-monitor for AD users * Fix ‘Remember OTP 30 days’ when asking OTP for AD users outside trusted IP range
Reports	FIX: text from browser speech recognition now always inserted at correct position after image manipulation
Worklist	FIX: order with a canceled procedure can now be opened from the worklist

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Reports	Selected font size in report window is remembered
Local Image Cache	FIX: Local Image Cache now re-renders when a DICOM file with the already existing SOPInstanceUID is received
Worklist	Possibility to give permission to modify priority to non-source admins
Explore	FIX: Saved "Today" filter now updates as expected
Worklist	Additional worklist filters: "report author" & "report edit date"
Reports	FIX: corrected use of "Page Up" when editing a report
WCF	FIX: Duplicate national number anomaly now also created when national number is sent via DICOM
Local Image Cache	FIX: Corrected pre-rendering of images in Local image cache
WCF	FIX: DICOM Compliance Modality Worklist result - SpecificCharacterSet DICOM tag now on the root level
Viewer	FIX: Image no longer blurry after image rotation
Worklist	FIX: Labels from other sources are visible in worklist
Reports	FIX: PACSonWEB page no longer jumps after editing preliminary report with browser recognition

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WCF	Modality Worklist - Procedure code in response * (0032,1064) SQ Requested Procedure Code Sequence\(0008,0100) CodeValue * (0040,0100) SQ Scheduled Procedure Step Sequence\(0040,0008) SQ Scheduled Protocol Code Sequence \(0008,0100) CodeValue
Worklist	Improvements in worklist performance, especially for empty worklists
Local Image Cache	Performance improvement in Local image cache clean-up

17.1.26 Release notes version 3.3.200 (30/04/2021)

Module	**Release note**
Reports	Basic formatting and Speech recognition with local microphone
Viewer	Study/order details panel
Explore	Filter on custom date range in study list
WCF	Use default 19000101 as default date when no date of birth is passed
Viewer	Save report and got to next in worklist
WCF	Don’t fail CMove if there are no images for a study, succeed with 0 images moved
Studies	FIX: Time stamps in study logging are now consistently formatted in 24H notation
DICOM Processor	Log timing of image processing in study log

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DICOM Router	unknown AE title association errors are now logged as an error
WCF	Federated query: CMove respects order of sources in affinity domain
Viewer	FIX: 'Show my reference number' is available in portrait mode on mobile
WCF	WCF client only logs fatal errors are to windows event log
Viewer	Consolidate patient history - for hospital users only
Viewer	Reading protocols - choose favorite for procedure
Viewer	Default operation on left/middle mouse button configurable per modality
Local Image Cache	Local image cache improvement: * MPR on local images * FIFO clean-up based on disk space threshold
Image Viewing and Manipulation	Show Left/right indication in CT and MR view ports
Viewer	iCAD integration
DICOM Router	Clean-up temporary files from conversions (in case of process interruption)
RSW	RSW - Allow to configure a different responsible radiologist for each department
Local image cache	Series splitting consistent for local and online studies

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Worklist	Reporting worklists: Filter on status, assigned radiologist, performing department, room, ...
Explore	FIX: Adding bucket fails because of Customer Ref Code validator
Download	FIX: ConceptNameCodeSequence is now under the ContentSequence in SR for PACSonWEB report
Share	FIX: Print reference number: copy this information button doesn't work
WCF	FIX: C-FIND Endpoint - Patient Name is separated by '^' (=^+ space) instead of '^'
Access	FIX: can’t grant (via share) read&write access to a user already having read access
DICOM Router	FIX: Use # as field separator in file names instead co '-' to avoid issue with '-' in AE titles
Viewer	Simplification of extended series picker. * Less different blocks * prior study stays in chorological order when compared * two levels of relevance
Image Viewing and Manipulation	Spine labeling panel
Viewer	Shortcuts to open other systems via URL in PACSonWEB
Viewer	keyboard shortcuts for cine, Density measurement, spatial locator
Viewer	Performance of loading first image from series file on object storage

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WCF	Improved logging of patient creation and updates
Image Viewing and Manipulation	Text annotation
Viewer	FIX: Size of series picker is not remembered when switching exam
Multi-Monitor	Setting to leave Syngo.via in control of it's monitor layout.
Multi-Monitor	Support PACSonWEB app for user profiles on network drive
Login	FIX: external authentication app as second factor needs to be set twice before it's active in user settings
Viewer	Age at acquisition is available (between brackets behind the date of birth) in the demographic overlay
Viewer	Old viewer was removed from PACSonWEB
Studies	move images and series: extra search criteria
Studies	move images and series: improved progress indication
Studies	FIX: SIP-3311 Study administration: manage series and images broken after reverting changes
Studies	FIX: Select button not visible in study administration (study move)
Studies	FIX: Study administration: Negative image count when move images to series that has deleted images

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Login	Allow UPOW codes for canceled procedures in multi-procedure order
Image Viewing and Manipulation	Some improvements in interacting with annotations were done * Cobb angle: Always measure inner angle * Angle: Set Leg-corner-leg instead of corner, leg 1, leg2 * Don't select annotation while drawing a new one, to allow measuring * distance between other annotations * Always return to none-annotation function after drawing annotation (instead of returning to other annotation) * Avoid overlap between labels * Pan icon was replaced by arrow, to ease selection
Viewer	FIX: Tooltip outside page with right side series picker
Viewer	FIX: One-up only works if pan tool is active
Image Viewing and Manipulation	Indicate if ruler annotation is vertical
Multi-Monitor	Make it possible to disable local image cache for a multimonitor setup
Share	Configurable mail subject for image availability mails
WCF	FIX: When changing Requesting Physician to an Unmapped Physician, old access record is not removed
Viewer	FIX: Printing an image on one page independent of aspect ratio
Login	Improved implementation of "remember this browser for 30 days"

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Multi-Monitor	FIX: Master window in multi-monitor sometimes flickers when getting/losing focus
MWL	FIX: Use ',' instead '^' as name part separator
Share	FIX: Share study without accession nr. from PACS overlay
Multi-Monitor	FIX: QUOTA_EXCEEDED error for in multi-monitor app with German translation
DICOM Processor	Trigger anomaly for merged studies of different patients

17.1.27 Release notes version 3.3.111 (01/03/2021)

Module	**Release note**
MPR	FIX: If slices have negative coordinates on an axis (e.g. x axis for sagittal) the slices are sorted in incorrect order to construct the volume with the result that the volume and the slices generated from it are flipped.

17.1.28 Release notes version 3.3.110 (29/01/2021)

Module	**Release note**
Token Based Interfaces	Show RSW status and resend in study administration
Multi-Monitor	Allow to split wide monitor in two 'virtual' monitors
Annotations	Length loss and length ratio annotation

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Access	Show to patient when report becomes available
Viewer	Activate scroll function via context menu
Viewer	Allow to restrict auto-compare option to certain modality types
Share	Allow to show list of procedures in custom print reference number template
Viewer	Button to reload study
Viewer	Allow to scroll 1 series using multiple monitors
Viewer	Allow to activate scroll function using StreamDeck
WCF	Don't overwrite procedure, received via HL7, by DICOM study description
WCF	Don't return studies without images in CFind result
Login	Update cookie policy
Viewer	Avoid double fetch operation by disabling button after click
Viewer	Improved CT loading performance
Viewer	Allow auto-compare with studies from the same order
Studies	Provide an indication in the anomalies overview if an anomaly is blocking access or is just informational

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Token Based Interfaces	RSW - Support different HCParty department types
Viewer	Monitoring of study loading time
Viewer	When tiling 'all series', apply window leveling only to images of the same series
Login	Add "Imprint" information to the login page
Image Viewing and Manipulation	Improvements breast border detection
Viewer	Add documents to a study by "Drag and drop" in the documents viewport Allowed file types: pdf, png, tif, rtf, jpeg, jpg and txt
WCF	FIX: Anomaly - "Different national number from HL7" not mentioning previous national number
WCF	FIX: C-FIND Endpoint - 'Modalities In Study' tag does not correctly return multiple values
WCF	FIX: C-FIND Endpoint - 'Modalities in Study' parameter doesn't work
Viewer	FIX: When printing an image, the overlay data is not shown
Viewer	FIX: Real Time PNG generation in the UI project always creates grayscale images
Download	FIX: Report visible, independent of source settings, when downloading study

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Viewer	FIX: breast border does not update with multiple images in 1 viewport
Explore	FIX: sorting on column 'study status' doesn't work anymore

17.1.29 Release notes version 3.3.100 (07/11/2020)

Module	**Release note**
Explore	Allow to open explore page via URL integration
Viewer	Allow to send an image or pdf documents as part of ORM
Viewer	Shortcut keys for the viewer can be customized (by DH Healthcare GmbH)
Studies	Move study content to other study (fix-up)
Local Image Cache	Local image cache in case PACSonWEB is set up as a PACS
Client Configs	Allow WCF client tot handle HL7 messages for multiple sources
Viewer	Improved CT scrolling performance
Groups	Clear message that you can not remove yourself form a group while being primary contact
Token Based Interfaces	RSW - Publish studies based on LastModificationDateTime instead of StudyDateTime
MPR	Improved MPR scrolling performance

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Login	Password reset mail on second user request for registered physician ID
WCF	Support open date and time ranges in C-Find
Login	Extend default session timeout in PACSonWEB
Studies	Automatically clear anomalies when patient merge is done/received
Login	Allow to return to log-in page from OTP page
Share	Notification that two factor does not apply in case a study is shared with a medical department
Viewer	Allow to fetch images for HL7 filtered studies
Viewer	Show all linked labels for study in study administration
Login	Adapt user manual URLs in mails to https to avoid triggering SPAM filters
Reports	Link to new viewer if PDF report is shown in the old viewer
Login	Added option to resend pin code
Studies	Added info on how to deactivate "Mail on new study" in mail template
DICOM Processor	Update of StudyInstanceUID for studies processed by migration flow (not via WCF client)

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Multi-Monitor	Download multi-monitor installer from portal with automated upgrade mechanism
Client Configs	Support multiple Transfer destinations on WCF client
Login	OTP setting "Remember this device for 30 days" not reset when IP changes
Explore	Expired studies without a report remain visible in explore page to allow fetch
Viewer	Delete single images or series from a study or move to another study (split/ merge)
Multi-Monitor	Support Stream Deck keypad in multi-monitor app
Login	Add Responsible Disclosure policy to the login page
Global	Text next to TeamViewer button "Only start when in technical support"
WCF	Extra tags can be included in CFind for PACS synchronization
Viewer	Additional user preferences for the viewer
Viewer	Fetch based on accession number (in case Study Instance UID is unknown)
WCF	HL7 - Update Performing Department and requesting department via ORM
DICOM Processor	Link images to source Modality when sent directly to PACSonWEB

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Token Based Interfaces	Use TLS 2.0 for COZO communication
Viewer	More prominent fetch images button
Viewer	Improvement in key images functionality (e.g. Option "show in original series")
WCF	Update national number on an ADT merge message
Explore	Explore list available in multi monitor application and in separate tab in viewer.
PACS Push	Add support for StudyQueue based synchronization in WCF3
Explore	PACSonWEB UI optimized for mobile phone
Login	Add "Resend OTP"-option in activation screen
Login	Unlock user account when logging in with eID
Reports	FIX: QR Codes in templates are not printed in IE Explorer and Edge
Token Based Interfaces	FIX: EMR gateway cannot open study by accession number for user linked to multiple repositories
PACS Push	FIX: Sync - Study is moved again if study description contains special characters
Viewer	Clear warning on unsupported or suboptimal browsers

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Viewer	FIX: CT presets don't work CT series in case of drag & drop
Viewer	FIX: New viewer doesn't work in IE11 if DOM Local Storage is disabled
WCF	FIX: Series level C-FIND returns Study Procedure instead of SeriesDescription
Reports	FIX: Report text cannot be selected in the new viewer
PACS Push	FIX: Sync - Automatic synchronization fails for studies with an empty accession number
Download	FIX: When retention of PNG images has expired the option to download as PNG no longer functions
Viewer	FIX: Compare does not work when series picker is not shown
Viewer	FIX: Difference in fps and demanded framerate
Share	FIX: Print reference number - language not passed to confirmation dialog
Viewer	FIX: Some MR series open with highest image number
DICOM Router	FIX: Dicom Router doesn't accept associations from Osirix 11.0.4
Reports	FIX: Slovenian special characters not displayed correctly in report
WCF	FIX: Maximum retry count for Storage commit

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DICOM Processor	FIX: Studies without accession number and study date are not processed
Reports	FIX: Report signature isn't copied when clicking "Copy Report" in the new viewer
Download	FIX: Anonymization fails when client is not connected to server
Login	FIX: 'Check password' symbol (eye) not visible when password is filled-in by chrome
Explore	FIX: Viewer preferences not applied for users that are logged in via EMR gateway
WCF	FIX: CFind on PatientID too slow
WCF	FIX: CFind to DU POW Gateway returns '?' instead of special characters
Login	FIX: URL for Local import page is invalid when the patient name contains a point (.)

17.1.30 Release notes version 3.3.0 (19/06/2020)

Module	**Release note**	**New viewer only**
Access	Delayed report availability can be based on report date passed via ORU	
DICOM Processor	Allow to send patient SMS from study administration even if automatic SMS are turned off (Norway workflow)	

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DICOM Processor	FIX: Don't send SMS to patient when a study is marked as 'BlockPatientAccess'	
DICOM Processor	Add support for MS Azure blob storage	
DICOM Router	**MWL provided by PACSonWEB, based on orders sent by ORM**	
DICOM Router	**Support DICOM tag sequence in transformer and filter scripts in DICOM router**	
DICOM Router	**Check patient consent in eHealth for federated query (Belgium)**	
DICOM Router	Support 0002 tags in file name and scripts in DICOM Router	
DICOM Router	Allow WCF client to do C-Find, C-Move to other sources	
Download	Fix: Also send none-image instances to PACS when using autotransfer	
Download	Added field to DICOM SR for reports created in PACSonWEB to make it DICOM standard compliant	

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Download	Add status fields to DICOM SR for reports created in PACSonWEB	
Explore	Show national number in PACS overlay (if PACS supports 0010:1000 Other Patient ID's)	
Explore	**Add labels to study in study administration.**	
Explore	**Redesign of PACSonWEB explore page**	
Global	Switch between PACSonWEB environments after log-in.	
Global	Add German environment to environment list	
Home Reading App	Improve behavior of Home reading PACSonWEB app in case of network interruption	
Annotations	FIX: annotations on multi-frame linked to correct frame	
Annotations	FIX: Density measurement doesn't use the DICOM Tag 'Modality sequence LUT'	
Annotations	FIX: No density calculation for ROI drawn at the border of the image.	

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Annotations	Arrow annotation	
MG	**Invert or window level breast area only**	****
MG	Mammography reading protocols	*
Login	Open PACS overly via EMR gateway	
Login	FIX: notifications PACSonWEB app on androïd no longer work	
Login	FIX: error when DA user creation when default properties are configured	
Login	FIX: restrict uniqueness check for reference number to own source when using source portal	
Login	Add link to resend One-Time Password in OTP page	
Login	Redesign of PACSonWEB login page	
Login	Show partial phone number or email address in OTP page	
Login	FIX: Authenticator App - The OTP field for adding a new device skips characters if the users types too fast	

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Multi-Monitor	**New PACSonWEB viewer with reading protocols and compare (not active by default)**	****
Multi-Monitor	Integration between multi-monitor PACSonWEB and local Syngo.via for 3D	*
Multi-Monitor	Reading protocols	*
Multi-Monitor	RISonWEB desktop integration with multi-monitor PACSonWEB	*
Archive	**Handle storage commit request for archive customers**	
Reports	Log report creation and modifications in study logging in study administration	
Share	Allow to share when logged in with AD user via EMR gateway	
Share	Address details for medical departments in share dialog	
Share	FIX: source logo not used for confirmation mail when study was opened form share email	
Share	FIX: no warning in case of correctly formatted but	

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	none-existing dates. E.g. 29/02/2021.	
COZO/RSW	**Don't show user agreement or tutorial pop-up when opening PACSonWEB form COZO or RSW.**	
RSW	FIX: RSW - GetTransactionDetails denied when order of hcparty of the author is not correct	
COZO	FIX: CoZo - TransactionList response not fully compliant with CoZo Cookbook	
COZO	Monitoring on performance and failures of COZO requests	
RSW	FIX: Adjust method for sending requesting physician to RSW	
COZO	FIX: CoZo - Also send the Requesting Physician information to CoZo for physicians that don't have a PACSonWEB account	
COZO	Show report in patient history for CoZo users that are not physicians but have access to images is allowed.	
Viewer	Select window level presets using numpad	*

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Viewer	**Add documents to a study (.txt, .pdf, .png)**	*
Viewer	FIX: improve loading performance for large series (e.g. 10000 images)	
Viewer	FIX: show update values in Show DICOM tags for study description and study instance UID	
Viewer	**Relevant priors in series picker, based on procedure linking**	*
Viewer	**Create series with Key images**	*
Viewer	FIX: "Expired Images" message doesn't disappear after fetching the images for these studies	
Viewer	Thick slice scrolling	*
Viewer	Show series picker in a viewport	*
WCF	FIX: Inefficient Query execution when IMAGE level C-FIND query is executed against WCF Client	
WCF	Allow to tune polling interval for autotransfer workflow	

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Viewer	Allow to send a txt file with order info as part of ORM	*
WCF	Allow multiple Patient ID's for a national number for a sources (turned-on on request)	
WCF	FIX: Patient DOB not updated by HL7 ORU/ ORM.	
WCF	Allow to disable emails to requesting physician for older studies (priors/ migration)	
WCF	FIX: C-Find uses ',' instead of '^' as separator for name parts	

17.1.31 Release notes version 3.2.1000 (14/12/2019)

Project Plan	Release Note
COZO	Support for opening studies without accession number via COZO
WCF	Fix: Clean-up temporary files written in the crypto folder
DICOM router	Include number of images moved in final C-MOVE response
WCF	FIX: ADT - exception when merging patient with deleted studies
WCF	FIX: WCF3 Work list query does not add RRN to DICOM headers

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Viewer	FIX: "Expired Images" thumb nail does not disappear after fetching a study with SR
DICOM router	FIX: endless retry if a file already exists in error folder
Image Viewing and Manipulation	**Density measurements on Region Of Interest (ROI)**
Viewer	FIX: Avoid report scrolls to second line on opening
COZO	**Allow to configure access to studies via COZO for Healthcare providers based on roles, E.g. physicians, dentists ...**
Viewer	FIX: Scrolling through images of a series moves the entire viewport on Safari and Chrome on iOS13
Home Reading App	Allow to pair with new browser if app is still paired wit previous browser
Home Reading App	FIX: Android app stuck in loop when denying camera permission on opening home reading
Viewer	FIX: Not all studies from order are loaded in series picker
Login	FIX: avoid losing pairing with Lastpass or Google authenticator app for 2nd factor authentication
WCF	Add setting to define delay when sending report available SMS

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DICOM Router	FIX: Endless loop router when trying to delete file that has already been deleted or moved
Login	Reset password unlocks locked account
PACS Sync	**Possibility to send images directly from modalities without studies being removed by PACS synchronization afterwards**
Access	FIX: If a delay is configured for availability of report, images are not available via patient login either
Login	Allow to disable Tutorial and cookie warning in URL integrations
Studies	Show accession number in Overview - Anomalies list
Share	FIX: Share study anonymized and sending reference number via SMS does not work
WCF	ORM parser - remove unnecessary warnings in Windows Application log
Management	User activation mail available in Slovenian
Reports	Header tags are stripped from DICOM SR with HTML report text
Access	Log on removal of access rights by administrators
PACS Sync	Ability to perform multiple C-Moves in parallel

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Login	Allow use of PACSonWEB app when logging in with a user created through AD integration
COZO	Show user agreement only once when opening multiple studies via COZO
WCF	FIX: Report Status not correct if DICOM object and ORU are processed at exact the same time
WCF	HL7 ADT Merge - Don't fail messages trying to merge the same patient
Access	Add username who transferred the study to the PACS in study administration
DICOM Router	Router - Visual Notification that a Route is disabled
DICOM router	[Standalone Router - UI] retry failed queue without having to stop the service
DICOM router	[Standalone router - UI] - change font in filter and transformer script windows to a console font for better readability
Login	Sort list of delegates

17.1.32 Release notes version 3.2.900 (23/09/2019)

Project Plan	Release Note
Global	Integrate Digital Ordering in PACSonWEB
Global	Upgrade .NET framework dependency to 4.8

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Global	**Slovenian as UI language for PACSonWEB**
Groups	Group confirmation dialog: include all users for admins (also those that choose not to expose their contact details)
Login	**Display clear message if results are not yet available for a security code.**
Login	Repeat source contact number at the bottom of the support page
Login	Bug Fix: 'Send backup SMS' does not work in OTP page when using the authentication app
Login	Bug Fix: OTP still send via mail when switching form SMS to mail
Users	Reactivate account when logging with Belgian EID
Access	Allow to hide studies for none strong authenticated users for your source
Anomalies	In the anomalies page: Clear message when trying to merge patient that has already been merged (e.g. via ADT)
Download	Reduce impact of viewing studies with a large number of images (> 20.000) on PACSonWEB backend
Download	Bug fix: Download single image does not work in IE or Edge
Download	Additional access logging in case studies are downloaded from PACSonWEB

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Viewer	**Add support for reference lines and linked scrolling in CT multi-frame studies**
Viewer	Bug Fix: Reference lines are off by 1 image
Viewer	Toolbar not drawn while loading study
Viewer	Bug Fix: Fetch for patients or when opening via COZO is no longer possible
Share	Show full patient name in email when allowed when authentication is required for security code
Reports	**Merge home reading and PACSonWEB Authenticator app for Android & support switch language**
Home Reading/Authentication App	PACSonWEB App for iOS: Improve usability
Dicom Processor	Support OtherPatientIDsSequence for sending social security numbers
Monitoring	Refined monitoring detect a delay in uploading images to PACSonWEB
Monitoring	Add monitoring checks to WCF3 router embedded in the client
PACS Push	Bug fix: using StudyInstanceUID as accession number resulted in unconstraint query in PACS synchronization
Router	Bug Fix: images with space as accession number are stuck in the router queue

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WCF	Bug fix: PACSonWEB gateway processing DICOM files (0kb) before they are fully saved by the DICOM Router, causing them to fail
WCF	Bug Fix: Incoming Images processing did not always recover form lost connections

17.1.33 Release notes version 3.2.801 (09/08/2019)

Project Plan	Release Note
DICOM Processor	Bug fix: for files that image upload to PACSonWEB (DICOM Processor failed) • If there is no accession nr. in the DICOM file • If Images were not registered by the WCF3 server • Images send to a client for one WCF client of one source but need to be linked to other source
WCF	Bug fix: Procedure of existing study updated to 'UNKNOWN' if no procedure is passed in ORM/ORU

17.1.34 Release notes version 3.2.800 (26/07/2019)

Access	Show/Hide "Add Study", based on user setting
Access	Show Bank-ID logins in access logging
Dicom Processor	Fix: correction in default window level in case the Study contains a VOILUT sequence

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Download	Update referring physician (0008:0090) when downloading or transferring a study
Explore	**Allow user to change order of filters in the explore page**
Explore	Fix: Patient search based on National Number search for Norway and new countries
Explore	Add order level information in the study administration
Explore	**"Select all" checkbox for selecting all studies in (filtered) PACSonWEB explore page**
Explore	Improved performance for searching on Patient ID
Global	**Internet Explorer 9 and Internet Explorer 10 no longer supported**
Login	No OTP required to add study, requiring second factor authentication, in case the user is already strong authenticated
Login	**Use of PACSonWEB authentication app for two-factor authentication**
Reports	Fix: ReferenceNumber in PrintReport template generated a new security code instead of printing an existing one
Reports	**Allow to switch language during speech recognition (iOs only, Android app to be released with PACSonWEB 3.2.900)**

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Router	Fix: improve performance of federated queries
Router	Improved throughput of DICOM Router in case of many faulty DICOM files
Share	Ignore the leading "0" when entering a mobile number when sharing a study
Share	Fix: Anonymization/Pseudonymization creates a study instance UID that is more than 64 charachters
Share	By default set two-factor authentication when sharing with a self defined recipient
Access	**Sources can impose "Break-the-Glass" requirement for group members of the requesting physician to motivate access**
RSW	Fix: Limit retries for unregistered patients in RSW
COZO	Fix: GetTransactionList for patient with studies in multiple private practices
Viewer	Reload of a prior study after fetching does not change open study
Viewer	Improved interaction with circle annotation
Viewer	**Make / Share / Hide annotations in PACSonWEB**
Viewer	Fix: take in account origin tags for positioning of imported annotations

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Viewer	Download single image as png, e.g. to use in a presentation.
WCF	Improved handling of images with accession number in a non-default tag
WCF	Fix: "File in use by another process" exceptions while processing incoming images
WCF	Invalid security codes in ORM or ORU no longer blocking for processing remainder of the message
WCF	Improve performance of C-Move requests to PACSonWEB

17.1.35 Release notes version 3.2.701 (15/05/2019)

Share	Bug fix: Default anonymization gets stuck on 'loading files...'
DICOM Processor	Bug Fix: Incorrect default window level issue for multi frames with SharedFunctionalGroupSequence
DICOM Processor	Bug FIx: Incorrect default window level on images that have VOILUT and a Window width and center tags populated
Global	T+left click listed for 3-point angle, while implemented shortcut is G+left click
Share	Bug Fix: Only one line is shown in forward status
Login	Bug fix: Can't login with delegate user

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17.1.36 Release notes version 3.2.700 (10/05/2019)

Login	**Customized Support FAQ page: hints in case of user issues for patients and requesting physicians**
DICOM router	**Federated query: C-Find, C-Move for studies of other sources for a patient in order to make studies from PACSonWEB available in the local PACS system**
Login	**Improved EMR/PACSonWEB URL integration : access logging on correct user & personal annotations**
Login	**Usability improvement for 2 factor authentication: OTP via mail or SMS, mail token to allow adding mobile number**
Localisation	Spanish and Italian as GUI language
RSW	**eHealth: RSW cloud-to-cloud integration: delete transaction + retry failed posts**
Viewer	**New tools: line and 3 point angel annotations**
Explore	**Search on Patient ID in PACSonWEB overview page**
Share/download	**Anonymization/Pseudonymiza tion schemes (paying feature): allows to apply a specific anonymization scheme e.g. for studies used in a research project**
Share	Change label to 'medical department' in sharing

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Access	RADION - for new requesting physician, get RIZIV numbers from name suffix in DICOM header to map to a PACSonWEB user
PACS Push	Removing study based on StudyInstanceUID sometimes not correct when study has multiple studyInstanceUIDs
Dicom Processor	Bug fix: source setting 'getReportFromSR=false' is not respected
Reports	Print report uses PACSonWEB user language instead of browser language
Users	Improvements in mails to users: Mr./Ms. based on gender
Viewer	Extend URL integration to allow passing an order number
Login	Trust this computer for 30 days. Don't ask OTP again.
Login	Don't show Cookies warning in an EMR integration
Studies	Bug fix: DICOM Tags not shown in 'Dicom Tags'-popup
Groups	Admin users should be able to see all group members, even those that don't show contact details
Share	Bug fix: Avoid two bucket codes generated when sharing studies from the PACS Overlay

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Router	Bug fix: add support in DICOM router for accession numbers that contain system reserved characters
Download	Bug fix: Error when transferring study a second time when the 'imported' label was added
Share	Bug fix: Email validation fails when email address domain contains an uppercase value
Explore	Improve usability of Add study
Login	Bug fix: Password box is shown after invalid login with AD/FS
Global	Add warning that 3.2.700 is the last version that supports IE9 and IE10
Studies	Automatically reload study when the fetch is finished
Access	Send text messages when images are available only after receiving HL7
Login	Bug fix: Reset passwords sends multiple mails, only last one works
Favorites	Show favorite medical department in user settings
Studies	Bug fix: Cannot merge studies (e.g. when accession number changes) after a transfer action
Router	Allow to enforce transfer syntax
Access	Source setting to allow or block automated sharing of exams with group members

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17.1.37 Release notes version 3.2.603 (12/02/2019)

WCF	Bug fix: When a series moves between studies, images are still linked to original study => broken image icon
Viewer	Don't show studies with empty order number as being from same order
Viewer	Don't show tutorial when opening PACSonWEB from EMR
Login	Configurable timing for logout on inactivity for PACSonWEB in EMR integrations
Viewer	Bug fix: Script error when selecting window level preset before series is fully loaded in embedded browser

17.1.38 Release notes version 3.2.602 (28/01/2019)

Share	Remember previous share settings
Share	Allow sending of Reference number and OTP code to the same destination type (mail / mobile) based on source setting

17.1.39 Release notes version 3.2.601 (24/01/2019)

Login	Bug fix: Not possible to login with username and password if no mobile number is registered
Login	Bug fix: SendOTPToMail not working if no mobile number is registered

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DICOM router	Resolved performance issue for image processing
Explore	Resolved performance issue for queries on security code
COZO	Bug fix: Open study through COZO link
Login	Enhanced layout of customer logo on login page
Share	Quick sharing with non-PACSonWEB users
WCF	Improved performance by load balancing on ORM processing
DICOM Processor	Support additional SOP classes to get report from DICOM SR reports: • 1.2.840.10008.5.1.4.1.1.88.22 Enhanced SR • 1.2.840.10008.5.1.4.1.1.88.33 Comprehensive SR
DICOM Processor	Bug fix: Densitometry secondary captures not correctly processed

17.1.40 Release notes version 3.2.600 (11/01/2019)

Login	Required Opt-in terms and conditions on login page
Login	Enhanced AD / ADFS login
Login	Login page restyled
Login	Patient login through Bank ID (Norway only)

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Login	Minimum requirements for security codes
Sharing	**Reworked sharing for better usability**
Sharing	Bug fix for Retrying a share task creates the bucket/DU POW code
Sharing	Improved patient privacy in sharing mails
Sharing	Validity period for shared studies configurable on source level
Study Page	Faster way for loading 16-bit images
Study Page	Bug fix: Diacritics not shown properly in "Show DICOM tags"
Study Page	Automatically link series with same table position
Study Page	Stepless zoom - freeze and change cursor on the spot you want to zoom on
Study Page	Fetch images for created studies, based on ORU only
DICOM processor	SR support for nested sequences
Management	DICOM tag filter management
Report	Correct handling of SR report status (partial, preliminary, unverified, validated)
DICOM Router	UI for standalone router
Monitoring	Management tool for Checks

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17.1.41 Release notes versie 3.2.503 (31/10/2018)

Login	Improvement: AD integration login also accounts for trusted subdomains
Share	Bug Fix: transfer fails due to incorrect use of the 'Created' TimeStamp

17.1.42 Release notes versie 3.2.502 (14/09/2018)

Access	Bug Fix: security patch for restriction of access for source admins on shared repo

17.1.43 Release notes versie 3.2.501 (13/09/2018)

Viewer	Bug fix: series grouping of XA images, based on SOPInstanceUID
Share	Bug fix: Sharing of a study with a blocking anomaly is not possible and a clear warning on the issue is shown
Explore	Unfiltered list is displayed immediately after clicking "Reset filters" in explore page
DICOM Processor	Improved load balancing in DICOM processor

17.1.44 Release notes version 3.2.500 (29/08/2018)

General	Use of language picker for faster switching of interface language
General	**New Feature: PACS archiving in PACSonWEB**

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Sharing	Bug fix: Uploading studies from PACS overlay for non PACSonWEB users
Sharing	Sharing with a group: possibility to send notification mail to entire group
Sharing	Adjustment on access rights when sharing study multiple times with the same user
Study Page	Grouping of XA modality on SOPInstanceUID in sead of SeriesInstanceUID
Study Page	Default use of (0008,2144) RecommendedDisplayFrameRate in Cine loop
Explore Page	Increased stability for preforming large worklist queries
Explore Page	Correction in case of anomalies for small screens
Explore Page	Disable filter fields when query is running
Reports	Bug fix: reports not visible on small devices when no images
Users	Support for multiple physician numbers per registered user
Login	**New Feature: payment module for patients**
Monitoring	Advanced monitoring on local installations
Active Directory	**New Feature: support for Active Directory Federated Services (ADFS)**

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Access	Increased security on automated mappings
Interfaces	**New Feature: Direct link from EMR to PACSonWEB**
Interfaces	**New Feature: RSW and Abrumed integration**
WCF	Allow ADT patient merges in case of study anomaly
DICOM Router	Enhanced DICOM router: support JPEG 2000 transfer syntax, remote configuration, PACS archiving
Reports	Improved parsing of HTML reports

17.1.45 Release notes version 3.2.402 (05/07/2018)

Studies	Bug fix: In case a DICOM file or HL7 message is received for a known Study instance EUID or accession number but a different patient an anomaly is registered

17.1.46 Release notes version 3.2.401 (07/05/2018)

Viewer	Bug Fix: patients no longer get an error message when fetching expired images with a providing source
Image viewing and manipulation	Bug Fix: location of density measurement now aligned with tip of droplet picker

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17.1.47 Release notes version 3.2.400 (13/04/2018)

General	Support links to PACSonWEB from MS Word, Excel, Powerpoint, ...
General	Advanced detection and blocking of unsafe HTML tags
Share Study	Modify expiration date for shared studies
Share Study	Enhancement: Clearing patient information from private DICOM tags when sharing a study anonymously
Study Page	**New Feature: Indication on how long images will be available**
Study page	Small enhancements on patient anomalies overview page
Study Page	Improved scrolling sensitivity in CT and MR series
Study Page	Clear message if report is not, not yet or will never be available for patient and requesting physician
Study Page	Improved usability for changing measurements
Study Page	Bug fix: window level for multiframe tomo
Explore Page	Clear indication which filters are set
Explore Page	Filter fields are blocked when performing a search

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Reports	**New feature: Make report available to patients after x days**
Users	Supporting identification numbers from other countries for physicians (RIZIV, HIN, INSEE, ...)
Management	Implementation of SQL and task manager
Login Page	Privacy policy is available from the login page (GDPR compliance)
PACS Push	HL7 based filtering for DICOM forward scenario
Groups	Improved usability for group management confirmation
Administration	Automatic sending of mails for new accounts and password reset
Home Reading	Warning in case no postback to RIS is possible due to missing information
Active Directory	Enhancement for better AD account handling

17.1.48 Release notes version 3.2.300 (27/12/2017)

3.2.300	General	Fine-tune banner information
3.2.300	Home Reading	Version check on app upon startup
3.2.300	Home Reading	Disable automatic time-out on microphone in case of no speech

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3.2.300	Sharing	**New feature: Email on new study, checkbox per mapping**
3.2.300	Sharing	Preferences on sharing settings are retained
3.2.300	Explore Page	**New Feature: Display multiple modalities**
3.2.300	WCF	Improved HL7 handling (multiple report types, cancel messages, ADT)
3.2.300	DICOM Processor	Bug Fix: handling of XA images
3.2.300	Study Page	**New feature: Fetch functionality for expired images**
3.2.300	Study Page	Display all exams in series picker in case of multiple studies for same order
3.2.300	Study Page	**Extended feature: Anomalies on patient level**
3.2.300	Study Page	Show original DICOM tags for source admins
3.2.300	Management	Advanced user and group management functionality
3.2.300	Management	COZO encryption support tool

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3.2.300	Administration	**New Feature: Possibility to regenerate security codes**
3.2.300	Administration	Timestamp on access registration
3.2.300	Transfer	Failover in case WCF crashes during transfer
3.2.300	Transfer	Accession numbers are displayed with progress bar
3.2.300	Active directory	Active directory integration enhancements
3.2.300	PACS Push	Improved handling on reopened exams

17.1.49 Release notes version 3.2.200 (26/07/2017)

3.2.200	Home Reading	**New Feature: Possibility to create a report using speech recognition through app on smartphone (iPhone + Android)**
3.2.200	Sharing	Possibility to revoke access, granted through DU POW bucket code
3.2.200	Explore Page	Message to clear filter from explore page in case of no results

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3.2.200	Explore Page	Performance improvement on loading explore list
3.2.200	DICOM Processor	Processing of ColorSoftcopyPresentationStateStorage (CSPS) files
3.2.200	Study Page	Bug fix: printing single issue from Chrome
3.2.200	Study Page	Locking mechanism when editing report

17.1.50 Release notes version 3.2.102 (23/06/2017)

Viewer	Bug fix: opening exam takes too long due to query to look for removed images

17.1.51 Release notes version 3.2.101 (15/06/2017)

Login	Bug fix: issue with password reset in case password has expired
COZO	Bug fix: issue with access through COZO

17.1.52 Release notes version 3.2.100 (13/06/2017)

General	Adaptation of 'About box and terms and conditions' as PACSonWEB is now certified as a CE class IIa medical device
Login	Mail on password reset procedure
Explore Page	Add studies for a group instead of a single user (only for group admin)

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Explore Page	Clear filters from within explore pane when no results match the given criteria
Study Page	Possibility to add the report as SR when downloading
Study Page	Notification when images are removed due to expiration of retention
Study Transfer	Retry on progress page in case transfer fails
Study Page	**New Feature: Fast select + shortcuts for stepless zoom / pan / window level**
AD integration	Allow trusted IPs when logging in using AD authentication
Administration	Extended logging on admin access
COZO	Extended logging on study access through COZO

17.1.53 Release notes version 3.2.0 (20 March 2017)

General	**New Feature: Information banner for notifications**
General	New functionality: link to localized manual (WEB + PDF)
General	Enhanced About box
Login	Enhanced login page
Login	Security enhancements (generic messages)

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Explore Page	New functionality: Message labels for sharing with user
Explore Page	New functionality: Filtering on national number
Explore Page	Bug Fix: sharing +20 exams at once
Study Page	New functionality: Notification on clinical use
Study Page	New functionality: copying of report
Study Page	Bug Fix: caching issue in case an exam is opened before the images are available
Study Page	**New Feature: Display of registered Anomalies**
Management	**New Feature: New management pages with enhanced functionality + look and feel**
Administration	**New Feature: Administration of registered Anomalies**
PACS Push	Enhancements PACS Push
PACS Push	Back-end for manual synchronization of studies
PACS Push	Enhanced synchronization PACS - PACSonWEB
COZO	Enhanced audit trail COZO

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17.1.54 Release notes version 3.1.201 (19 January 2017)

Sharing	DOB is incorrectly displayed in sharing Wizard
COZO	Fix for audit trail end-point
Export to PACS	Osirix import fix

17.1.55 Release notes version 3.1.200 (18 November 2016)

Explore Page	New feature: Option to print sharing information in different language is available in the "Forward Status page"
Explore Page	Fix: Time out on downloading very large studies
Sharing	Fix: Date restriction for sharing a study
Sharing	New Feature: Share with user unlimited in time
General	New feature: Manual can be downloaded as PDF from the help function
Export to PACS	Fix: Issue with progress bar
Study page	New feature: Default 1-up representation on mobile devices
Study Page	Fix: Translation for tool labels
Login Page	**New Feature: Login via Active Directory on e-mail address instead of Windows user name**

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17.1.56 Release notes version 3.1.100 (24 October 2016)

Login Page	New Feature: Login history available from the user settings page
Study Page	New Feature: Density measurement tool available for CT in study page
Export to PACS	**New Feature: DICOM IMPORT tool available for controlled import of studies from PACSonWEB into the local PACS (optional)**
Study Page	Fix: Report cannot be copied when not in edit mode

17.1.57 Release notes version 3.1.1 (14 October 2016)

Login Page	Fix: SMS code for activation when logging in with eID for new accounts
Login Page	Fix: eID session is closed when logging out
Login Page	**New Feature: Redirect to new study page is activated for anonymous login**
Study Page	Fix: bug for a specific version of IE11

17.1.58 Release notes version 3.1.0 (14 October 2016)

General	Fix: Group validation not shown for users not in group
General	Change request: Doctors national number format has been adapted (RIZIV in Dutch)

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Login Page	**New feature: eID allow users to automatically logon - Only for physicians**
Login Page	New feature: Accounts can have expiration date, necessary for temporary employees
Sharing	New feature: Remove favorites in address book from sharing wizard
Sharing	Fix: Scroll bar added to sharing wizard when selecting multiple exams from the explore page
Sharing	Fix: Subject read notification is localized
Sharing	New feature: Custom formatting/Layout of e-mails
Sharing	New feature: Read/Write rights can be delegated if allowed by source
Explore Page	**New feature: Download multiple exams simultaneously**
Explore Page	New feature: Search DU POW code in progress overview
Explore Page	New feature: Sorting remains after auto refresh (account setting)
Explore Page	New feature: Filtering on access numbers with algoritm applied
Study Page	**New feature: NEW viewer (phased activation)**
Study Page	New feature: Automatic signature when modifying report

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Study Page	New feature: Better indication when modifying report (red border)
Study Page	**New feature: New administration page for administrative manipulations and access consultation**
Image Clean-up	Change: Improvements to information Life Cycle Management
Workflow	Fix: Fix for downloading PNG images for very large studies
User Settings	Fix: Layout fixes for Safari
DICOM Router	Known bug: Study Instance UID might not be updated in particular cases when HL7 arrives before images

17.2 Known bugs

Detected in version	Project Plan	Description
3.3.400	Login	Login request for PACSonWEB authenticator is sent twice.
3.3.400	MPR	Creating an annotation is interrupted when crossing axis lines in MPR.
3.3.600	Multi-Monitor, Reports	When using speech recognition in the multi-monitor app, cut & paste text sometimes pastes at end of report instead of cursor position.
3.3.905	Studies	DU PACSonWEB user name needs to contain at least one lowercase character.

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Detected in version	Project Plan	Description
3.3.907	Image Viewing and Manipulation	FIX: Wrong display of US cine loops of images with photometric interpretation YBR_FULL_422, if the preferred DICOM transfer syntax is set to 'Explicit VR Little Endian'.
3.3.907	Reports	A source user is able to print a draft report that he is not able to see in the viewer yet.
3.4.100	Viewer	In MM App test with the new 3D capabilities can only be performed on the primary PACSonWEB window (the one with the study tabs).

17.3 PDF version of the user manual

PACSonWEB version	Version installation date	Version release date	User manual revision date	User manual	Release notes
3.3.900	24.05.2024	19.04.2024	11.04.2024		
3.3.800	15.06.2024	11.12.2024	11.12.2024		
3.3.700	02.06.2023	23.05.2023	23.05.2023		
3.3.601	07.11.2022	04.11.2022	04.11.2022		

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3.3.600	21.10.2022	18.10.2022	18.10.2022		
3.3.500	10.06.2022	27.05.2022	27.05.2022		
3.3.400	03.12.2021	30.11.2021	30.11.2021		
3.3.00	27.08.2021	27.08.2021	27.08.2021		
3.3.200	30.04.2021	30.04.2021	29.04.2021		
3.3.110	31.01.2021	29.01.2021	29.01.2021		
3.3.100	12.11.2020	06.11.2020	06.11.2020		
3.3.0	19.06.2020	19.06.2020	19.06.2020		
3.2.1000	22.12.2019	13.12.2019	13.12.2019		
3.2.900	29.09.2019	23.09.2019	20.09.2019		
3.2.800	04.08.2019	26.07.2019	26.07.2019		

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3.2.700	12.05.2019	10.05.2019	10.05.2019		
3.2.600	13.01.2019	11.01.2019	11.01.2019		
3.2.500	30.08.2018	29.08.2018	27.08.2018		
3.2.400	16.04.2018	13.04.2018	11.04.2018		
3.2.300	27.12.2017	27.12.2017	22.12.2017		
3.2.200	26.07.2017	26.07.2017	26.07.2017		
3.2.100	13.06.2017	13.06.2017	12.06.2017		
3.2.0	19.05.2017	20.03.2017	02.05.2017		

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