MACE-ICH – Working Practice Document
Title: Uploading Scans, No. 002

Before starting the upload procedure, please obtain the correct CT scan images for the participant. This document will show you the method of uploading the images to the MACE-ICH website.

Identify the participant you wish to upload images for using the participant list on the MACE-ICH website, locate the scans column and use the **select** link.

SAEs	Scans	Protocol violations	Centre transfers	Day 90
Select	Select	Select	2 Select	2 8 Jan 2019
Select	Select	Select	Select	21 Jan 2019
...	...	...	...	...

This will show the scan history page. This page lists all of the scans which have been uploaded for the participant, summarising the scan modality, the number of images uploaded, and which investigator(s) uploaded the images.

To upload new images for the participant, select the **brain scan upload** link.

Scan history

Example Hospital   Investigator: **Example Investigator**   Participant ID: **C002-0001-ABC**   Participant's sex: **Female**
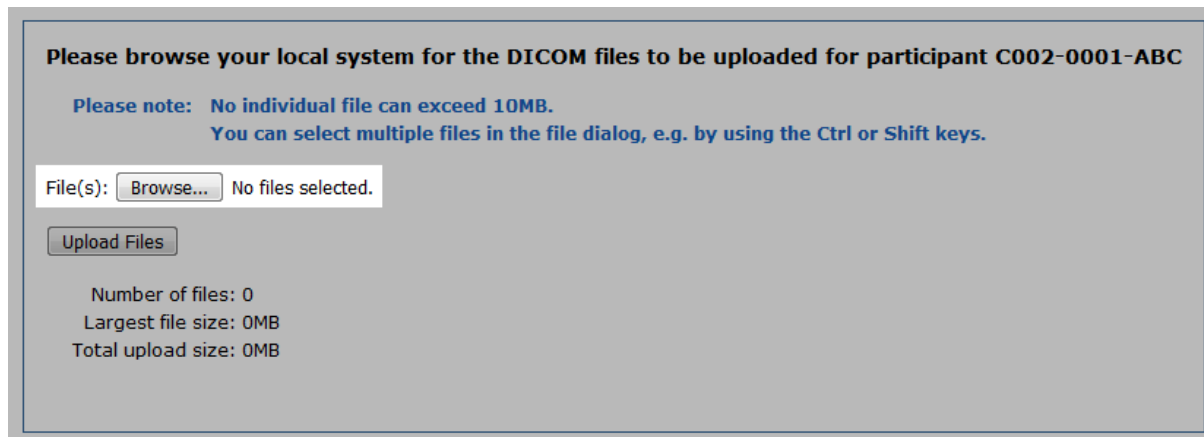
« Back to participant list
» Brain scan upload

Uploaded Scans

Scan ID	Scan date/time	Modality	Uploaded by
1	20 Aug 2018 16:49	CT	Example Investigator (30 images)
2	11 Oct 2018 16:16	MR	Example Investigator (270 images)
3	25 Nov 2018 15:45	CT	Example Investigator (150 images)

This will display the DICOM image upload page. From here, you will be able to upload the DICOM image files for the participant. Please note any restrictions on image uploads that are shown – this will probably just be a restriction on the size of each uploaded file (which should be well in excess of the size of most DICOM files).

If you are using a web browser which does not support JavaScript (or has JavaScript disabled), additional restrictions may apply. These include a limit on the total upload size, and a limit on the number of files which can be uploaded at once. Since most modern web browsers support JavaScript, you are unlikely to encounter these additional restrictions.

To begin selecting the files for upload, click the **browse** button (depending on your web browser, this may be labelled something different such as "choose file"). This will then display a file selection window.

You will then need to locate the files on your computer's filesystem using the file selection window. This will probably be the hardest part of the procedure as the location of the DICOM files will depend on your system.

Please browse your local system for the DICOM files to be uploaded for participant C002-0001-ABC

Please note: **No individual file can exceed 10MB.**
You can select multiple files in the file dialog, e.g. by using the Ctrl or Shift keys.

File(s): [Browse...] No files selected.

[Upload Files]

Number of files: 0
Largest file size: 0MB
Total upload size: 0MB

If you are trying to find DICOM files on a CD, start by looking for the CD drive in the file selection window – this should be visible in a panel at the side or within a drop-down menu showing an appropriate icon. On Windows systems, CD drives and other disk drives are denoted with a drive letter (e.g. C, D, E etc).

You will then need to locate the folder of DICOM brain images on the CD or drive. This will frequently be called "DICOM" but may also be called something like "Participant0" or "IMAGES". The second and third level folders, if present, may be called "ST00000", "SE00000" (where ST = study and SE = series), or even "Anonymised", "Head", "Brain" or similar.

Some radiology departments provide a CD with DICOM folders. There should be one folder for each series and it is necessary to identify which series to upload. Equally there may be more than one study. You can identify these sometimes using the folders but more commonly using viewing software. Some radiology departments provide viewing software with the images. As there are many types of viewing software, the various methods are not listed here.

Please do not upload the Participant protocol, report or localiser images.

When you have located the images for upload, select the images you want to upload and then click the **Open** button on the file selection window. All modern web browsers will support selecting multiple files in the file selection window, using one of the following methods:

	PC	Mac
Select several adjacent files using the mouse (click and drag)	Position the cursor in an empty area near the first file. Click and hold the mouse button. Drag the mouse until all the desired files are selected. Release the mouse button.	Position the cursor in an empty area near the first file. Click and hold the mouse button. Drag the mouse until all the desired files are selected. Release the mouse button.
Select several non-adjacent files	Press and hold the Control key. Click each desired file to select it. Release the Control key.	Press and hold the Command key. Click each desired file to select it. Release the Command key.

Select a range of adjacent files	Click the first file in the range. Press and hold the Shift key. Click the last file in the range. Release the Shift key.	Click the first file in the range. Press and hold the Shift key. Click the last file in the range. Release the Shift key.
Select all the files currently shown in the file selection window.	Press and hold the Control key. Press the A key. Release the Control key.	Press and hold the Command key. Press the A key. Release the Command key.

When you have selected the files, the DICOM image upload screen will display the total number of files selected, as well as listing them individually (if JavaScript is not supported/enabled on your web browser, you may only see the total number). To upload the selected files, click the **upload files** button.

Please browse your local system for the DICOM files to be uploaded for participant C002-0001-ABC

   Please note: **No individual file can exceed 10MB.**
                       You can select multiple files in the file dialog, e.g. by using the Ctrl or Shift keys.

File(s): [Browse...] 16 files selected.

[Upload Files]

      Number of files: 16
      Largest file size: 0.04MB
    Total upload size: 0.63MB

img0 (0.04MB)
img1 (0.04MB)
img2 (0.04MB)
img3 (0.04MB)
img4 (0.04MB)
img5 (0.04MB)
img6 (0.04MB)
img7 (0.04MB)
img8 (0.04MB)
img9 (0.04MB)
img10 (0.04MB)
img11 (0.04MB)
img12 (0.04MB)
img13 (0.04MB)
img14 (0.04MB)
img15 (0.04MB)

You will then need to wait for the upload to complete. If JavaScript is enabled on your web browser, the upload files button will now read **uploading** and a progress bar will appear. The button text will change again to **uploaded** once the upload is complete. In the list of files, the status of the upload for each file will be displayed.

If JavaScript is not supported/enabled on your web browser, you will see the list of files and the upload status for each file on a new web page once all the files have been uploaded.

Please check the upload status after each upload to ensure that all the images have been uploaded successfully. If any files have failed to upload, please check the error message to determine the cause of the error and how to proceed. An error icon will be displayed next to any files that have failed to upload in order to assist you in locating them in the list.

A list of common errors and probable causes can be found at the end of this document.

You can now use the link near the top of the page to go back to the **participant's scan history**. There you should see that the images you have uploaded have been added to the scans for the participant. They will either have been appended to an existing scan, or a new scan will have been created. The system will use criteria such as study date/time to determine whether DICOM images belong in the same scan. Note that this automatic grouping of images into scans is subject to review by the coordinating centre, so the number of scans and the images in each scan could change over time.

Uploaded Scans

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To upload more images, select the **brain scan upload** link again.

Troubleshooting

Some of the errors that may occur when uploading DICOM images are listed below. Errors may occur because the image data is validated against the participant data, in order to ensure that images cannot be uploaded for the wrong participant.

If DICOM images have been anonymised prior to upload, the anonymization process may alter or remove some of the metadata fields which are used for validation, causing it to fail. If you have confirmed that the correct participant is selected and you are unable to address the issue, please contact the coordinating centre as it may be possible to adjust DICOM upload validation for your centre.

Error	Information
File extension must be one of 'dcm', or no extension	Only DICOM files can be uploaded. The filename extension will be checked against a defined list (files with no extension may be allowed). The file will also be checked to ensure it contains a DICOM preamble.
File is not a DICOM file	Filename extension errors can be addressed by renaming the file (although an unexpected extension could indicate the file is invalid).
File is too large	The file size exceeds the maximum allowed size. Please ensure you are uploading the correct file. If you need to upload large files, the coordinating centre may be able to increase the limit.
This file has already been uploaded	The file you are uploading (or its encapsulated image data) has already been uploaded to the database, therefore it does not need to be uploaded again.
Sex mismatch	The sex in the DICOM metadata does not match the sex of the participant. This error will also appear if the sex is blank or a value other than 'M' or 'F'.
Age mismatch	The age in the DICOM metadata does not match the age of the participant. This error will also appear if the age is blank (unless date of birth validation can be performed instead).
Date of birth mismatch	The date of birth in the DICOM metadata does not match the date of birth of the participant. This error will also appear if the date of birth is blank. Dates of birth are sometimes partially anonymised – if you can provide details to the coordinating centre it may be possible to adjust the validation to take this into account.
Could not determine scan date/time	The DICOM metadata does not contain a valid study date/time, series date/time or content date/time. Without at least one of these times, it is not possible to determine the date/time of the scan.
The scan date/time is outside the study period	The scan date/time is outside the range of days, relative to the participant's baseline, for which scans are

	expected. Scan date/times are sometimes partially anonymised – if you can provide details to the coordinating centre it may be possible to adjust the validation to take this into account.