



MarkVCID Imaging Data Registration Standard Operating Procedure

Version 2.3, March 2019
MarkVCID Consortium

By the MarkVCID Coordinating Center (Data Core Director Karl Helmer, PhD)

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MarkVCID Imaging Data Registration Standard Operating Procedure

Version 2.3 | Effective Date: 3/20/19 | Planned Review Date: 6/20/19

The procedures in this SOP should be followed exactly. If changes to the SOP are needed, please send suggested edits to the MarkVCID Coordinating Center.

I. Scope

This standard operating procedure (SOP) describes the methods to be performed when registering a MRI scan session and transferring the scan data to the MarkVCID Coordinating Center (CC).

II. Procedures

Users will register a MRI scan session through the MarkVCID website Imaging Data Registration page. This will apply to both the study participant scans and the phantom scans. At the end of this process, users will receive an imaging data ID number that will identify the scan session. Users will first anonymize the MRI data following the MarkVCID Data Anonymization SOP and then transmit the data to the MarkVCID Coordinating Center (CC) using the Globus service following the MarkVCID Globus Data Transfer SOP. Note that phantom data does not have to be anonymized.

Registering an MRI Scan Session

- Click "Log in" at the top of the MarkVCID website (www.markvcid.org)
- Go to the "Data Portals" menu and select "Imaging Data Registration"
- Users will see the screen below

The screenshot shows the MarkVCID website's "Imaging Data Registration" page. At the top, there is a navigation bar with links for "My account", "Log out", and "Contact". The MarkVCID logo is prominently displayed, along with a search bar and a shopping cart icon. Below the navigation, a "Home" button is visible. The main content area is titled "Imaging Data Registration" and contains several input fields: "Project" (pre-filled with "MarkVCID"), "Subproject" (a dropdown menu currently set to "None"), "Subject ID:" (with a placeholder "(Enter Subject ID)"), "Data Modality:" (a dropdown menu currently set to "Select Study"), "Scan Date:" (with a placeholder "mm / dd / yyyy"), and "Comments:" (a large text area). At the bottom left of the page, the URL "https://markvcid.partners.org" is visible. At the bottom center, there is a small disclaimer: "(This is for free text notes. No Personal Health information should be typed in this space)".

- d. Fill out the form using the correct Subject ID and scan date. Select “MRI” for the Data Modality.
- e. There is a new field called “Subproject”. This field is only to be used for data generated for the two MarkVCID subprojects: “Test-Retest” and “Traveling Human Phantom”. Consult your site coordinator for information regarding these subprojects.
- f. If the data you are registering is either the first or second scan from a subject being used in the “Test-Retest” subproject, then select that choice. You will then be prompted to choose the “Session Type”, either “test” (first scan session) or “Retest” (second scan session).

My account Log out Register Contact

MarkVCID HOME ABOUT SITES SEARCH DATA RESOURCES DATA PORTALS

Imaging Data Registration

Project: MarkVCID

Subproject: Test-Retest

Session Type:
 - Select -
 Test
 Retest

Data Modality: Select Study

Scan Date: mm / dd / yyyy

Comments:

This is for free text notes. No Personal Health Information should be typed in this space!

Save

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- g. If your site is participating in the inter-site validation and the data is part of the “Traveling Human Phantom” subproject, then select that choice. You will then be prompted to select the scanner vendor and model used to acquire your data.

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MarkVCID HOME ABOUT SITES SEARCH DATA RESOURCES DATA PORTALS

Imaging Data Registration

Project: MarkVCID

Subproject: Traveling_Human_Phantom

Scanner Model:
 - Select -
 Siemens Trio
 Siemens Prisma
 GE 750W
 Philips Achieva

Select Study

Scan Date: mm / dd / yyyy

Comments:

This is for free text notes. No Personal Health Information should be typed in this space!

Save

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- h. If the data you are registering is from neither of those subprojects, leave the field as "None".

My account Log out Register Contact

MarkVCID

HOME ABOUT SITES SEARCH DATA RESOURCES DATA PORTALS

Imaging Data Registration

Project:
MarkVCID

Subproject:
None
None
Test-Retest
Traveling_Human_Phantom

Data Modality:
Select Study

Scan Date:
mm / dd / yyyy

Comments:
(This is for free text notes. No Personal Health information should be typed in this space)

Save

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- i. Click "Save" when finished.
j. The screen after a successful ID creation will give you the created ID:

My account Log out Register Contact

MarkVCID

HOME ABOUT SITES SEARCH DATA RESOURCES DATA PORTALS

- Data registration completed successfully for the MRI scan
- The DocID for the registered data is **b142ec2383601225b6437d9aaa270545**
- The SubjectID for the registered data is **5c32769d3d**
- The time since the registration (in days) is **-8**
- An email containing the registration details has been sent.

Imaging Data Registration

Project:
MarkVCID

Subject ID:
(Enter Subject ID)

Data Modality:
Select Study

Scan Date:
mm / dd / yyyy

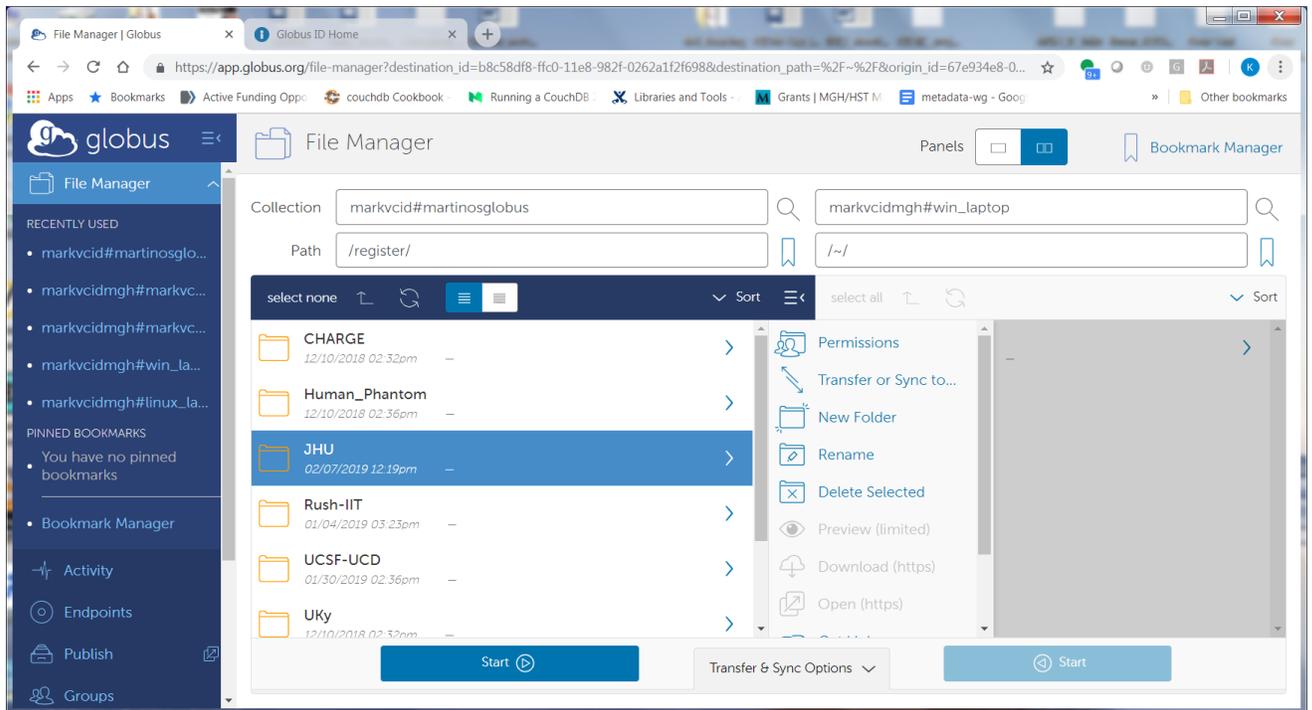
Comments:
(This is for free text notes. No Personal Health information should be typed in this space)

Save

- k. Paste the created Imaging Data ID into the [MarkVCID Imaging Data Log](#) so that you have a record that the scan session was registered. You will also receive an email with the information in green above for your records.

| Individual Patient Record (Reg ID and Imaging DocID) | | | | |
|--|---------------------------------|---|---|----------|
| Updated [insert date] | | | | |
| Record the patient's information and COPY and PASTE the Patient's MarkVCID website Imaging DocID into this document. You will also receive a copy of each ID in email. | | | | |
| MarkVCID Patient ID (generated from MarkVCID Website) | Imaging Scan Date (MM/DD/YY) | MarkVCID Image Data DocID (generated from MarkVCID Website) | Site's Internal Patient ID (if applicable) | Comments |
| EX. 1599fff5c9 | 7/24/2018 | c52b36814586f78e70282fe400a398 | E01 | |

- l. Now anonymize the data following the procedure detailed in the [MarkVCID Data Anonymization SOP](#). **The phantom data does not have to be anonymized.**
- m. Once you have anonymized the data for the scan session you should name a folder using the following schema: /<subject_ID>/<scan_type>/<run_number>-anon. For example: “/4cbb32f887/DiffWTD/1-PA-anon” would be the schema for a single run of a diffusion-weighted MRI scan in the “PA” direction of subject 4cbb32f887 that has already been anonymized. Note that to correctly handle the “PA” and “AP” diffusion scans, the correct naming convention would be “/4cbb32f887/DiffWTD/1-PA-anon” and “/4cbb32f887/DiffWTD/2-AP-anon” for subject 4cbb32f887. If there are multiple diffusion runs, the naming convention is: 1-PA-anon,2-AP-anon, 3-PA-anon,and 4-AP-anon. Please do not add subfolders to this folder structure.
- Please note that the consortium has agreed to collect the 3D-GRE data in magnitude/phase (Siemens) or real/imaginary (Philips) format rather than the resulting QSM or SWI maps calculated on the scanner. Please place all the DICOM files of both types in a **single** folder and label using the /<subject_ID>/<scan_type>/<run_number>-anon format. In this case, the <scan_type> would be “T2STARWTD” and there is no need for any further labeling (e.g., “phase”).
- n. **Phantom scans:** The ADNI phantom scans do not have to be anonymized and therefore have a slightly different file-naming convention. The main convention is the same, using subject ID and scan type, but there is no “anon” in the name of the folder named for the run number, e.g., “/4cbb32f887/DiffWTD/1-AP” for one of the diffusion-weighted scans and “/4cbb32f887/T1WTD/1” for the first phantom T1-weighted scan. There should not be any subfolders below this level.
- o. Create a zip archive of the data directory containing the anonymized data. Name the archive using the Imaging Data ID that you received at the successful completion of the registration process, e.g. “a7b560abdca414e2a200600a901ba7b.zip”. Please do not compress each individual DICOM file. Also, please do not include NIfTI formatted versions of the data, DICOM SR files, and miscellaneous files that often accompany the data as it is stored on your file system (for example, “syngo_fv” folders, “Autorun.inf”, “DICOMDIR”, ‘autorun.exe” or “cdinfo” files often found on Siemens systems.)
- p. Use the [MarkVCID Globus Data Transfer SOP](#) and instructions to transfer the archive file to the MarkVCID shared endpoint (**markvcid#martinosglobus**) “register” folder. You will only have “write” access to your site’s subfolder.



Note for site certification scans:

For the initial site-certification scans, the scans should be placed in the /transfer/test_files/<your-site> directory on the project Globus endpoint. The subject or phantom do not need to be registered as a subject for this step. Data should be zip compressed as in the instructions above, but the naming convention for the zip archive should be <your-site>-test_human.zip and <your-site>-test_phantom.zip. The scan-type folder naming convention for the phantom data is the same as for the human data, as given in the [MarkVCID Data Anonymization SOP](#). Please do not send an uncompressed folder containing your data as this may affect the available bandwidth at your site. Also, please do not compress the individual DICOM files – only compress the highest-level folder containing the subfolder for each scan type.