



# SISTER

Strategy for Improving Stroke Treatment Response Trial

# Imaging Manual

NIH StrokeNet Imaging Management Center

University of Cincinnati

v2

## Imaging Management Center Team Contact Information

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Intelera® (Previously AmbraHealth)	Providing secure web- based image transfer platform from clinical site to imaging core lab	Providing image transfer technical support to participating sites	Technical support available 24/7 Email: <a href="mailto:support.ambrahealth.com">support.ambrahealth.com</a> United States (Toll-Free): 1-888-315-0790.

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## Acronyms

AE	Adverse Event
AVM	Arteriovenous Malformation
CD	Compact Disc
CFR	Code of Federal Regulations
CRS	Clinical Research Services
CT	Computed Tomography
CTA	Computed Tomography Angiography
DCR	Data Clarification Request
DICOM	Digital Imaging and Communications in Medicine
DOB	Date of Birth
DVD	Digital Versatile Disc
eCRF	Electronic Case Report Form
GCP	Good Clinical Practice
HIPAA	Health Insurance Portability and Accountability Act
ICH	Intracerebral Hemorrhage
ID	Identification
IMSM	Independent Medical Safety Monitor
IT	Information Technology
IVH	Intraventricular Hemorrhage
IMC	Imaging Management Center
LKW	Last Known Well
MRN	Medical Record Number
MSU	Mobile Stroke Unit
MRI	Magnetic Resonance Imaging
NCCT	Non-contrast Computed Tomography
NCVC	National Cerebral and Cardiovascular Center
PACS	Picture Archiving and Communication System
PHI	Protected Health Information
QA/QC	Quality Assurance/Quality Control
SOC	Standard of Care
SID	Subject Identification Number
URL	Uniform Resource Locator
USA	United States of America
USB	Universal Serial Bus

## 1. MANUAL OVERVIEW

### 1.1. Purpose

The purpose of this imaging manual is to

- delineate the image acquisition and submission requirements for the SISTER Trial,
- provide detailed instructions for transmitting the imaging data to the Imaging Management Center (IMC) at the University of Cincinnati via the Ambra Health® web-based imaging management platform,
- outline the query resolution process for any imaging discrepancies and/or non-compliant imaging data received.

### 1.2. General Information

For each subject randomized, baseline brain parenchymal imaging (NCCT or DWI MRI), vascular (CTA or MRA), and perfusion imaging (CTP or PWI-MR) as well as follow-up brain parenchymal imaging (NCCT) and perfusion imaging (CTP or PWI-MR) at 30 (+/- 4) hours from stroke onset/last known well (LKW) will be obtained. Vascular imaging (CTA or MRA) will be obtained for those patients who have a visible vessel occlusion on the baseline vascular imaging (CTA or MRA) per the site's local read.

It is the responsibility of the clinical site, in collaboration with the site's Radiology Department, to oversee protocol required image acquisition as well as the timely transmission of the images via the secure Ambra Health® platform to the IMC for subsequent central interpretation.

Imaging data received at the IMC will undergo a thorough quality inspection to assess protocol adherence and technical quality (e.g., ensure de-identification of all protected health information [PHI], assess for missing images, corrupt imaging data, etc.). Data clarification requests (DCR) will be generated through WebDCU™ as outlined in Section 9 to resolve any imaging issues identified during this inspection. A persistent pattern of failure to meet pre-specified imaging criteria from a site will be cause for Sponsor notification by the IMC.

After the imaging passes QA/QC, it will be made available on the secure Ambra Health® platform for the designated central reader to perform timely independent blinded review on submitted imaging studies. Dr. Achala Vagal, neuroradiologist at the University of Cincinnati, will conduct and oversee review and interpretation of the brain parenchymal and vascular imaging studies.

## 2. NEUROIMAGING PROTOCOL REQUIREMENTS

Choice of brain parenchymal imaging modality (i.e., CT vs MRI) for baseline is based on what is routinely performed as standard of care at your institution, however, for follow up imaging, NCCT is required.

### 2.1. Timing of Imaging Assessments

<b>Baseline</b>	
Parenchymal imaging	NCCT or MRI
Vascular imaging	CTA or MRA
Perfusion imaging	CTP or PWI MR
<b>30 (+/- 4) hours from stroke onset</b>	
Parenchymal imaging	NCCT* (MR cannot be substituted for NCCT)
Vascular imaging	CTA or MRA
Perfusion imaging	CTP or PWI MR

\* MRI will be collected if done as SOC

### **3. WHAT AND WHEN TO SUBMIT IMAGING TO MANAGEMENT CENTER**

- It is expected that all baseline and follow up brain parenchymal and vascular imaging performed as required by the trial (i.e., NCCT, CTA, MRI) will be submitted to the IMC.
  - If there is an adverse event (AE) beyond this time period that is within the AE reporting window (e.g., new cerebral infarct), additional imaging if obtained may be requested for submission for the event if indicated as required for review by the Independent Medical Safety Monitor (IMSM).
- **Imaging *MUST BE* submitted to the IMC within 7 days of subject randomization.**
  - If the 7-day timeline cannot be met for any reason, it is the site's responsibility to communicate reason for delay to the IMC project manager. The IMC will work closely with the site to address any issues/challenges related to meeting this requirement.

#### **IMPORTANT NOTE:**

**Confirmation of receipt of ALL imaging at the imaging center is one of the requirements in triggering the "In-Hospital Payment" to your site.**

### **4. HOW TO SUBMIT IMAGING**

Direct image transfer from the participating site to the imaging center will occur utilizing Ambra Health® web-based imaging management platform which is accessed directly from your internet browser.

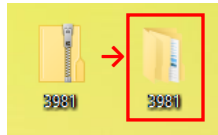
Ambra Health®

- Requires no separate software download
- Is HIPAA compliant
- GCP and 21 CFR Part 11 compliant
- Image data shared via secure web link only accessible by authorized personnel
- Ambra Health® privacy policy is available at <https://access.ambrahealth.com/privacy>

### **5. IMAGING DATA PREPARATION PRIOR TO SUBMISSION**

- Recommend identifying appropriate Radiology Department contact (e.g., PACS specialist) *before* start of enrollment to become familiar with departmental protocol for requesting imaging as part of trial participation to determine the
  - procedures and possible costs of transferring imaging from clinical PACs onto offline medium such as CD, DVD or USB flash drive,
  - timeline to process imaging request.
- Determine process for securing scans if subject enrolled in Mobile Stroke Unit
  - destination hospital Radiology Department?
  - other?
- Instruct the identified Radiology contact to the following:
  - Imaging **MUST BE** in native, uncompressed DICOM format,
  - It is **NOT** required to de-identify image DICOM header of subject demographic information or PHI prior to submission unless mandated by your institution (e.g., name, DOB, MRN, account or ID number).
    - Ambra Health® platform will automatically de-identify/strip DICOM header of patient demographic PHI at the time of image upload
    - Any residual embedded PHI or dose reports identified during QA/QC process will undergo manual pixel masking at the IMC

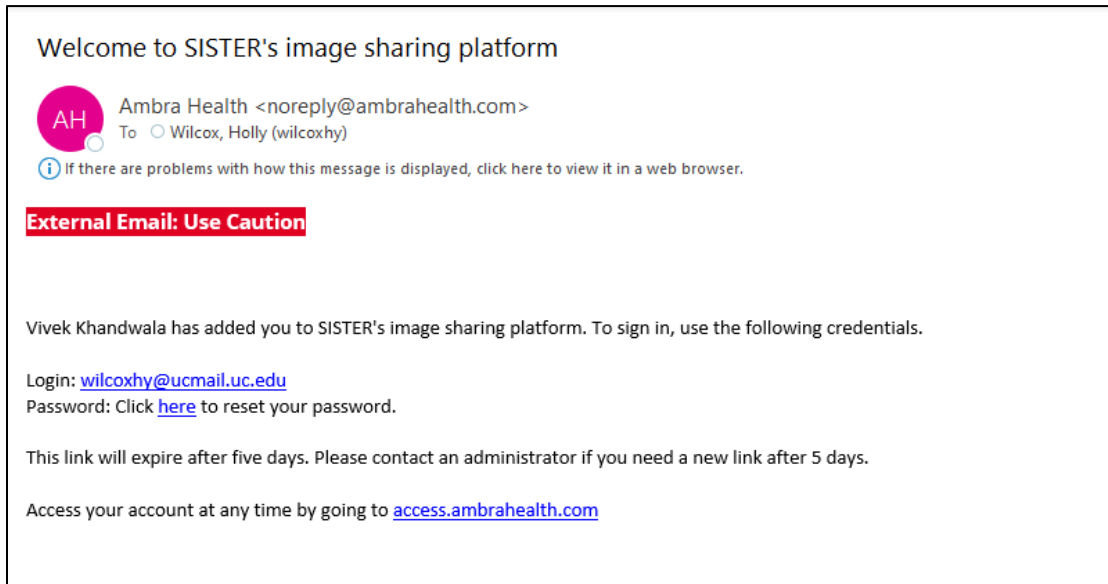
- **Actual date and time of image acquisition MUST BE retained in DICOM header**
- To avoid any possible confusion in situations when requesting imaging for more than one randomized subject, imaging for each subject should be saved on a separate CD/DVD/USB thumb drive...DO NOT BATCH onto one offline medium.
- A fillable “SISTER Radiology Imaging Request Form” (see Appendix 2) is available in WebDCU under “Toolbox” > “Project Documents” for your convenience to use when making subject imaging requests to your Radiology Department contact. The document also includes the above-mentioned instructions.
- Once imaging secured from Radiology Department and/or MSU, save subject imaging data DICOM file(s) from the offline medium to your desktop (or other preferred location) labeling file accordingly with subject ID number. First saving files to computer desktop location vs uploading directly from offline medium speeds up Ambra Health® upload process.
  - If files saved in compressed zip format, files must be extracted prior to upload into Ambra Health® platform



- All subject specific imaging should be transmitted at the same time. Avoid, for example, uploading baseline scan one day, followed by 24-hour scan 2 days later.
  - Only exception to this request is if additional imaging obtained > 30 hours from stroke onset in setting of reportable adverse event (e.g., new cerebral infarct) indicated as required for review by the Independent Medical Safety Monitor (IMSM).

## 6. ACCESSING AMBRA HEALTH®

Persons identified on the site delegation of authority log as responsible for collection and transferring of imaging files will receive an invitation similar to below to join the SISTER Ambra Health® image sharing platform.




- Once invitation accepted, enter the following Ambra Health® website URL into internet browser <https://uhealth.ambrahealth.com/>
  - **NOTE: Google Chrome is the preferred browser**
    - Other compatible browsers include Firefox, Internet Explorer 9, 10, or 11
- Enter your login (email address) and password information as shown below.

University of CINCINNATI | Health.

### Sign In

Email:

Password:  

[Forgot your password?](#)

### Register

[Register here](#)

[For additional support please click here.](#)



- After signing in, direction to the homepage shown below confirms successful account activation.
  - Your site number and name will appear in the “Namespace box”.

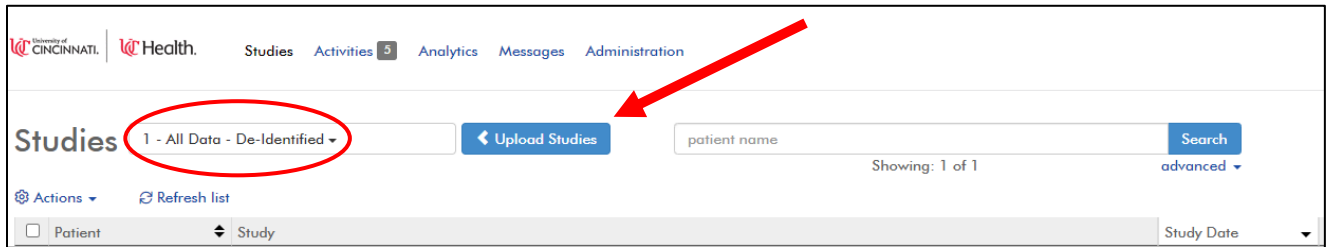
The screenshot shows the top navigation bar with the University of Cincinnati Health logo and menu items: Studies, Activities (5), Analytics, Messages, Administration, Help, and SISTER. Below the navigation bar, the 'Studies' section features a dropdown menu labeled 'SISTER' (circled in red), an 'Upload Studies' button, and a search bar for 'patient name'. Below the search bar, it indicates 'Showing: 0 of 0' and an 'advanced' filter. There are also 'Actions' and 'Refresh list' options. A table header is visible with columns: Patient, Study, Study Date, and Uploaded. Below the table, the text 'No studies found.' is displayed.

- Should a prompt such as shown below appear, try again re-checking your login information has been accurately entered.

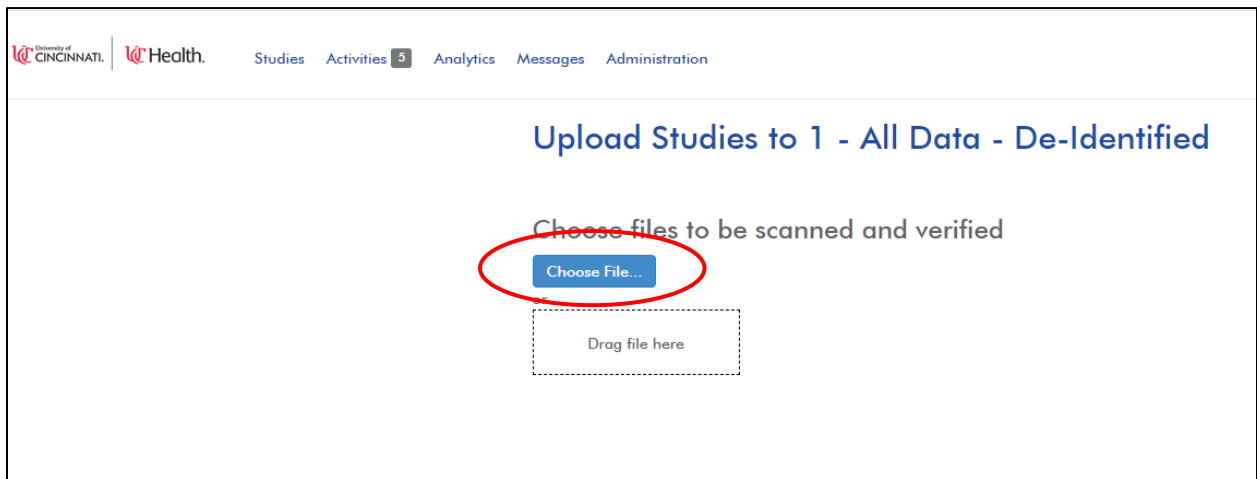
A red error message box with the text "Username or password is incorrect." and a close button (X).

## 7. UPLOADING IMAGES INTO AMBRA HEALTH®

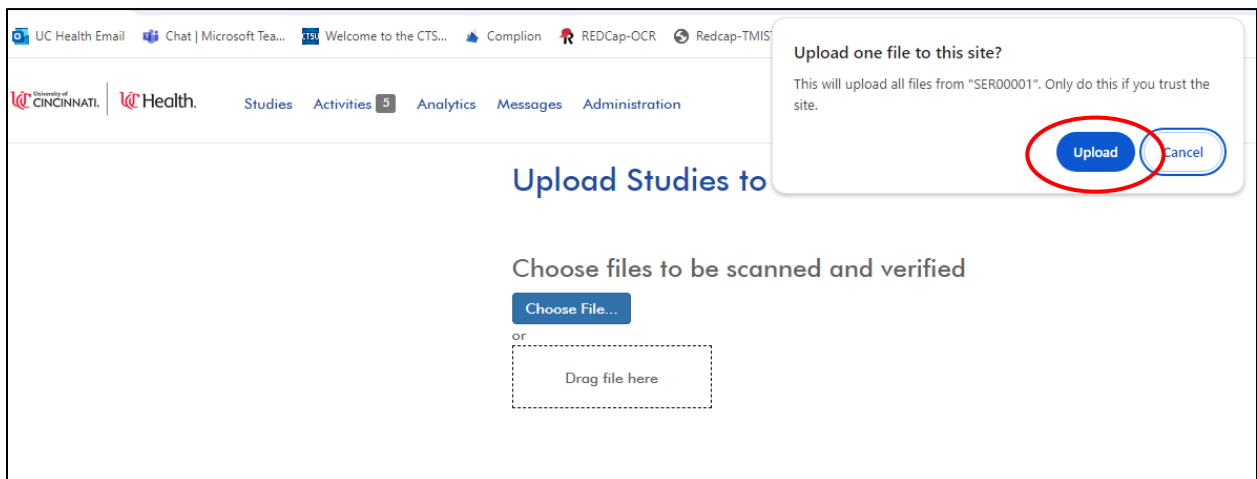
- To begin image upload, first click on “Upload Studies” after changing the Namespace from “SISTER” to “1- All Data – De-Identified.”



- Click on “Choose File” to locate subject imaging file previously saved to a preferred location (e.g., desktop), then “click” on appropriate file once located.



- After locating and selecting file, confirm by clicking on “Upload” to begin process.



- AMBRA will scan the selected DICOM files for upload which may take a few minutes depending on file size. Do not exit out of this function or upload process will need to be restarted.
- Once scanning of files is complete, scans will appear in upload queue where site personnel can confirm imaging meant for uploading is present or can identify if any scans meant for upload are missing.
  - Prior to completing upload task
    - 4-digit Subject ID number must be entered in appropriate box
    - Site number will auto populate so no action required

Studies Activities 4 Analytics Messages Administration Help

### Upload Studies to 1 - All Data - De-Identified

Choose studies to upload

Choose File...

or

Drag file here

Description	Images	Patient Name	DOB	Modality	Study Date	
<input checked="" type="checkbox"/> CT HEAD WO_BASELINE	1	1093		SR	09-29-2020	

\* Subject ID

\* Site ID

Uploading User

Upload Selected Studies Preview Selected Studies Cancel

- To preview a scan(s) prior to completing upload process, select scan(s) to view by “checking box” next to scan of interest, then click on “Preview Selected Studies”.

Studies Activities 4 Analytics Messages Administration Help

### Upload Studies to 1 - All Data - De-Identified

Choose studies to upload

Choose File...

or

Drag file here

Description	Images	Patient Name	DOB	Modality	Study Date	
<input checked="" type="checkbox"/> CT HEAD WO_BASELINE	1	1093		SR	09-29-2020	

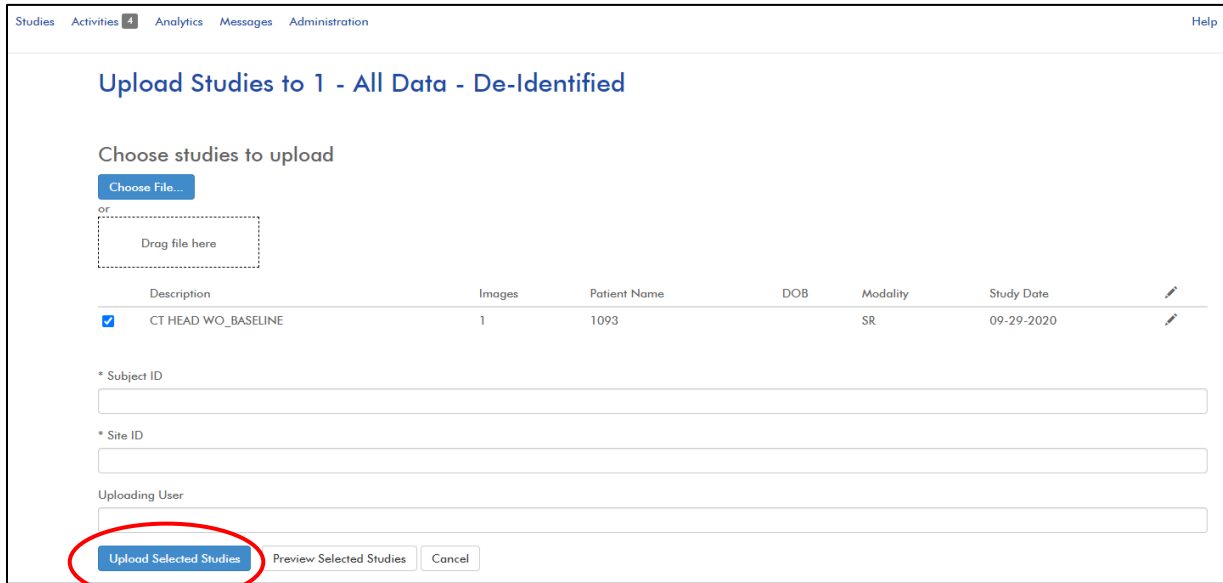
\* Subject ID

\* Site ID

Uploading User

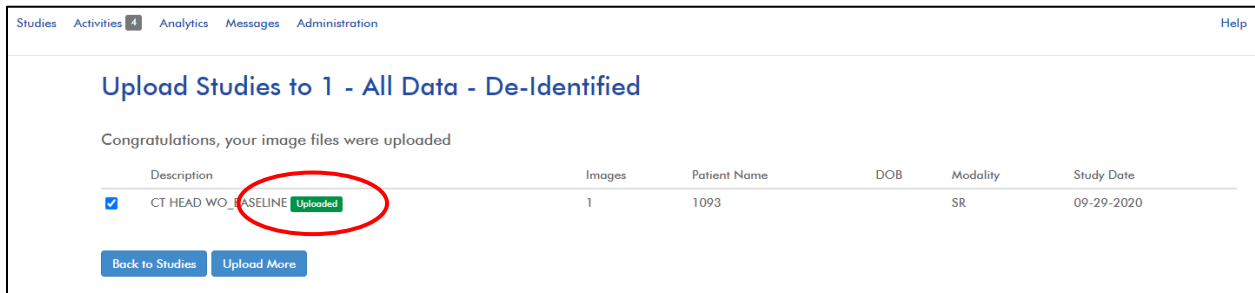
Upload Selected Studies Preview Selected Studies Cancel

To complete upload process, ensure all intended scans for upload have been selected prior to “clicking” on “Upload Selected Studies” icon.

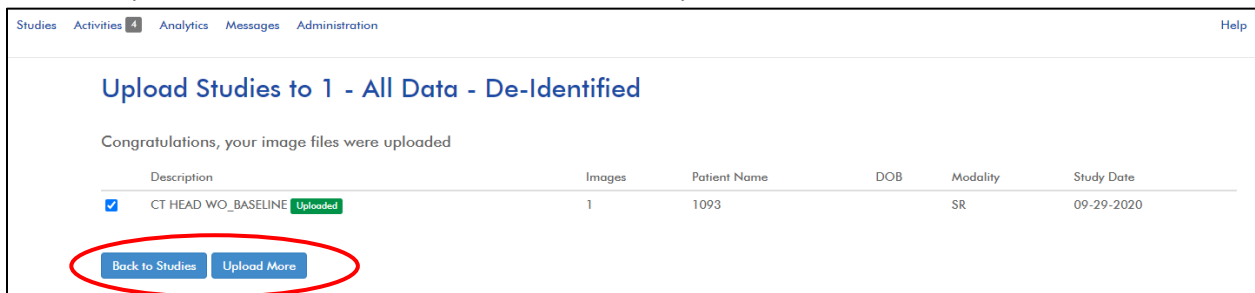


- Display of upload process trackable during transmission activity with successful upload indicated by green “Uploaded” label next to scan.

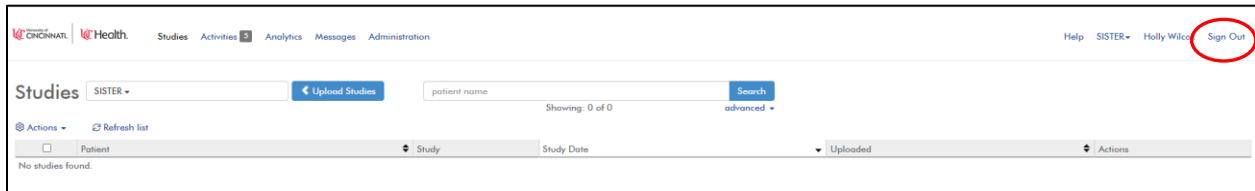
**NOTE: Do not navigate away from webpage while upload is in process.**



- Upon notification of successful upload, click on “Back to Studies” to return to “Namespace” or “Upload More” if additional studies need to be uploaded.



- To exit out of Ambra Health® platform, click on “Sign Out” in upper right-hand corner of screen.



## 8. AMBRA HEALTH® TECHNICAL SUPPORT

- IT support is available 24/7 to sites experiencing any Ambra Health® systems question or encountering technical issues when uploading images.
- Contact Ambra Technical Support via one of the following:
  - Email: [support@ambrahealth.com](mailto:support@ambrahealth.com)
  - Phone: 1-888-315-0790



## SISTER Radiology Imaging Request Form

NAME: \_\_\_\_\_ MRN: \_\_\_\_\_ DOB: \_\_\_\_\_

\*All brain parenchymal and vascular imaging (i.e., CT/MR, CTA/MRA, CTP/PWI MR) from \_\_\_\_\_ through \_\_\_\_\_  
(Date) (Date)

### Image Export Considerations:

- Imaging must be in native, uncompressed DICOM format
- Actual date and time of image acquisition MUST BE retained
- NOT required that DICOM header be de-identified of PHI (i.e., name, DOB, MRN) unless institutional policy as will be de-identified at time of Ambra Health® platform upload.
- Imaging for each subject should be saved on separate CD/DVD/USB thumb drive (DO NOT batch onto one if imaging for more than one subject requested).

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Name of person requesting imaging

Date of request

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Signature