

**University of Minnesota**  
**Center for Clinical Imaging Research**  
**Standard Operating Procedure**  
**Research Scan Reviews System**

SOP Number / Version: S150-01 / Version 1  
Approval Date:  
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Author/Owner: Michael McDaniel

<b>Approval Signatures</b>	<b>Date</b>
Author/Owner:	
Regulatory Compliance Coordinator:	
Center Director:	

**1. Purpose**

The Research Scan Reviews System gives the researcher a way to request a high-level radiologist review if they observe something in a scan that may need medical attention. Radiologists review the scans for a reduced fee, and only include a small summary and indicate whether or not the subject should be seen for further tests.

**2. Scope**

The Research Scan Review System provides a mechanism for a scan to be reviewed by a radiologist for incidental findings thru the CMRR / CCIR online portal. This process allows for the requestor to receive feedback pertaining to if the scan should be referred back to the Research Team, Principal Investigator, and/or primary care provider(s) for further review. The radiologist will outline any next steps via the online scan review interface for the research team to follow up with. This information is not uploaded to a patient’s medical record, and will only contain a brief summary and/or image of the scans for sole purpose of the brief incidental findings request.

**3. Definitions**

**Escalation** – Process by which radiologist selects (subject should follow up with medical team / principal investigator). This is a two way process, through which the radiologist indicates that the subject is followed up with by the research team, and research team acknowledges date that follow up was completed.

**Incidental Findings Scan Review** – Online portal that is used to request scan review

**Naxos DICOM Server** – CMRR Image Storage Server where images must be uploaded by researcher / MRI Tech in order for radiologist to review and complete incidental scan review.

## 4. Responsibility

**Researcher(s)** – Schedules initial scan and may work with MRI Tech when incidental findings scan review is needed. They are also the contact point back with the radiologist once the scan review is completed and will be required to close the loop with research team and subject if escalation is needed.

**MRI Technologist** – Works with researcher(s) and radiologist as requested to answer questions regarding scan review process and provide guidance if scan should be requested.

**Radiologist** – Reviews scans entered into Scan Review System and communicates back to research team via online portal with findings and next steps (if applicable).

**CCIR Operations Team** – Reviews existing SOP and responsible for monitoring scan reviews that are not reviewed in a timely fashion and/or tracking scan reviews that result in an incidental finding to ensure that the research team has made contact with the subject and noted this contact in the online review system.

## 5. Procedure

### 5.1 What is a Radiologist Scan Review Request:

A request consists of two things:

**5.1.1** Entering some subject information into the reviews system

**5.1.2** Transferring the data to the radiologist.

### 5.2 Researchers Start the Process:

Researchers scanning at CMRR MRI instruments can enter a research scan review request by visiting the CMRR website at <https://www.cmrr.umn.edu/scanreview/> (Quick Links, Radiologist Scan Reviews).

### 5.3 Entering a request for radiologist to review

**5.3.1** To enter a request, click on the USER link to begin.

**5.3.2** User selects the project they wish to submit for a scan review based upon their access

**5.3.3** User selects a new review for this project

**5.3.4** Once a new review is selected for a project (please **read** the prompts regarding the Cornerstone DICOM Bookmark, items 1-4). *Note that images must be sent to the Naxos DICOM server in order to use the Radiologist Scan Review System.*

#### 5.3.4.1 Cornerstone DICOM Bookmark

1. Send your study to Naxos DICOM, then click browse Naxos DICOM below (or from the calendar) and find your study.
2. Using the Cornerstone DICOM image viewer, navigate to image you are concerned about.
3. Zoom, pan, and annotate the image with an ROI to highlight the area of concern.
4. Click 'Request Read' in the image viewer. You will return here with a bookmark for the radiologist and annotated preview.

**5.3.5** Fill in the fillable fields in the new review interface: (location, anonymized patient name, pertinent clinical history, description of MR Series, and Questions for Reviewer (if any).

**5.3.6** User then clicks on Browse Naxos DICOM button to access the server to find the image that they want the radiologist to review.

### 5.4 Naxos DICOM Server Interface

- 5.4.1 User can search by Project and Date for the study that they are working on, or they can view all studies that have been sent to the Naxos DICOM server.
- 5.4.2 Once user locates their study (sorted by Project Number), user clicks View.
- 5.4.3 User then verifies the information is the correct subject, and click on DICOM Image Viewer
- 5.4.4 User is then directed to the Cornerstone DICOM image viewer, and selects the subject that they want reviewed.
- 5.4.5 Once study subject is selected, user can review different images, slices, and sequences that were collected. Image viewing tools can be used to draw, measure and zoom in on the specific area that they want reviewed.
- 5.4.6 User then clicks on the Request Read button in the image viewer, and the user is taken back to the original scan review portal that was initiated.
- 5.4.7 User reviews all information, and then submits the request for review.

## 5.5 Radiologist Reviews Scans

The radiologist assigned to do the reviews will examine the queue and see the reviews that are requested. The reviewer will get an automated email indicating that there is a scan review request to complete. They will use the same access portal as the requester, but will click on the Reviewer link on the main Radiologist Scan Review page: <https://www.cmrr.umn.edu/scanreviews>. They will use the information submitted as well as their experience to determine if the subject needs further examination, and include their incidental findings in the summary back to the researcher (noted in Section 7 below). The radiologist will record their findings in the system, mark the review complete, and continue with other reviews.

- 5.5.1 If radiologist cannot view the images for some reason, or if the communication by the reviewer is not complete, the radiologist will make a note of that in the system and reach out to the reviewer for further follow up.
- 5.5.2 It is the responsibility of the researcher to follow up on all requested reviews to ensure that these are completed in a timely fashion. Escalation of this procedure will go to the CCIR Operations Committee.

## 5.6 Communication / Scan Review Follow-up

The researcher should return to the system afterwards and read the findings as entered by the radiologist. Reviews that are marked as “needs clinical review” are highlighted in the listings. After reading the review findings, if a clinical review is indicated, the researcher must communicate the need for clinical review to the subject and principal investigator. It is the responsibility of the research team to close the loop with the subject and note in the scan review system that this follow-up has occurred. There is a check box feature in the scan review system to record the date of this follow-up and who recorded that this follow-up with the subject occurred.

### 5.6.1 Escalation / Emergency Follow-up:

If there is an urgent need to follow up quickly with the subject / research team based upon the incidental findings report, the radiologist will email the researcher that requested the scan, as well as email / call Safety Officer Jeramy Kulesa, whom will reach out to the research team that requested the scan for immediate follow up.

## 5.7 Billing

Every month, completed reviews are tabulated and billed to individual grants. The collected funds go to the Radiology department. It is the researcher's responsibility to allocate funds for any needed scan reviews in their project budget. Current pricing for radiologist scan reviews can be found here: <https://www.cmrr.umn.edu/scanreview/>

## 6. References

Please reference CMRR/CCIR Website for updated Research Scan Review Procedures and to initiate the process: <https://www.cmrr.umn.edu/scanreview/>

## 7. Forms and Templates

**7.1 Research Scan Review Template:** Below is listed what is include in the incidental findings scan review done by the radiologist reading the images:

### 7.1.1 Image Review:

- What can / cannot be interpreted based upon images sent and sequences used

### 7.1.2 Synopsis of Images:

- Normal findings, no follow up needed
- Brief description of image, summary, and next steps for follow up
- Images that are not able to be interpreted

## 8. Appendices / Tables

None

## 9. Revision History

Version Number	Approval Date	Change from Previous Version