

Image Exchange User Guide

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1 Introduction and Overview



1.1 Image Exchange

» Image Exchange allows organizations to share their radiology and cardiology imaging studies and for those images to be viewed by users in full diagnostic quality through HIE Portal or InContext. This document serves as a general user guide to assist in navigating Imaging Access. Please contact your HIE Account Manager if your organization would like more information about sharing images. Our imaging exchange service allows for:



Improved patient care and treatment outcomes: Faster access to images frees up time and attention for patients



Reduced costs: No need for physical CD distribution and storage



Improved Patient Safety: Reduces the need for repeat scans



Enhance Collaboration and Communication: Expands the network of those who can virtually share images

1.2 Key Features

- » • View high resolution medical images in full-DICOM quality
- Ability to measure, zoom, collaborate, flip, revert and rotate imaging studies allowing for
- Ability for credentialed sites and users to transfer image studies to PACs

1.3 Access and Permissions

» To view images, users must have access to see clinical information in the HIE Portal or InContext. If you need access, please contact your organization's HIE Admin. Please reach out to your Account Manager for more information about sharing your organization's images.

2 Product Functionality



» This section outlines the step-by-step process to view images in the HIE Portal and InContext App.

2.1 Navigate To Your Patient

» *Below are the steps to patient search in the HIE Portal:*

1. Log into HIE Portal
2. Search for your patient
3. Select Clinical Information

Below are the steps to patient search in the InContext:

1. Log into your EHR. Launch InContext
2. Select the best matched patient

2.2 View Imaging Reports and Corresponding Images

» *Below are the steps to view Imaging Reports and corresponding images*

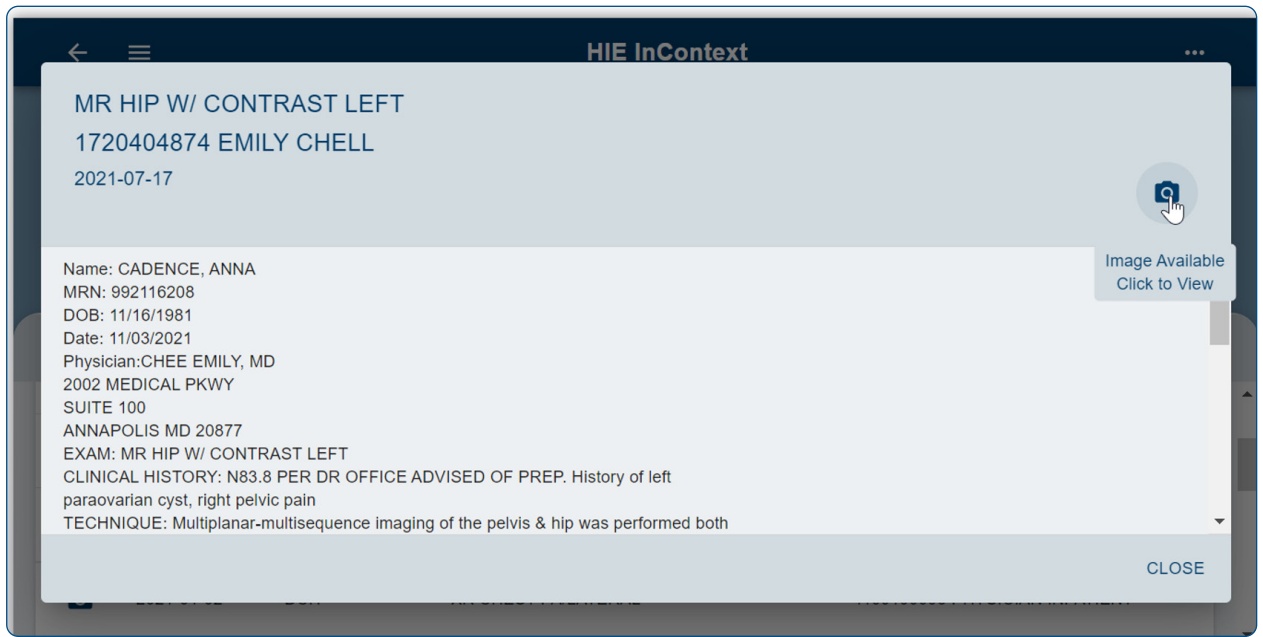
1. Once on the Clinical Information tab, navigate to the Radiology sub tab within Health Records.

Date Collected (ET)	Source	Category	Description	Provider
2023-02-14	Adventist HealthCare White Oak Medical Center	Radiology	XR Chest 1 View	NAICISYHP6 Znaicisyhp6
2023-02-01	Adventist HealthCare Shady Grove Medical Center	Radiology	XR Chest 1 View	NAICISYHP6 Znaicisyhp6
2022-05-18	Danbury Hospital	Radiology	XR Chest 2 Views	Jose Mendez
2022-05-18	Danbury Hospital	Radiology	XR Chest 2 Views	Jose Mendez
2022-05-18	Danbury Hospital	Radiology	XR Chest 2 Views	Jose Mendez
2022-05-09	American Radiology Services	Radiology	TEST PDF FOR INT14528 WITHOUT IMAGING STUDY	REBECCA KAUFMAN
2022-05-09	Holy Cross Hospital	Radiology	TEST PDF FOR INT14528	REBECCA KAUFMAN
2019-04-16	Adventist HealthCare Shady Grove Medical Center	Radiology	CTA Chest w/ + w/o Contrast	Aaron Adler
2019-02-01	Adventist HealthCare Shady Grove Medical Center	Radiology	XR Ankle Complete Right	Agyapong
2018-03-15	Adventist HealthCare Shady Grove Medical Center	Radiology	XR Chest 1 View	NAICISYHP6 Znaicisyhp6

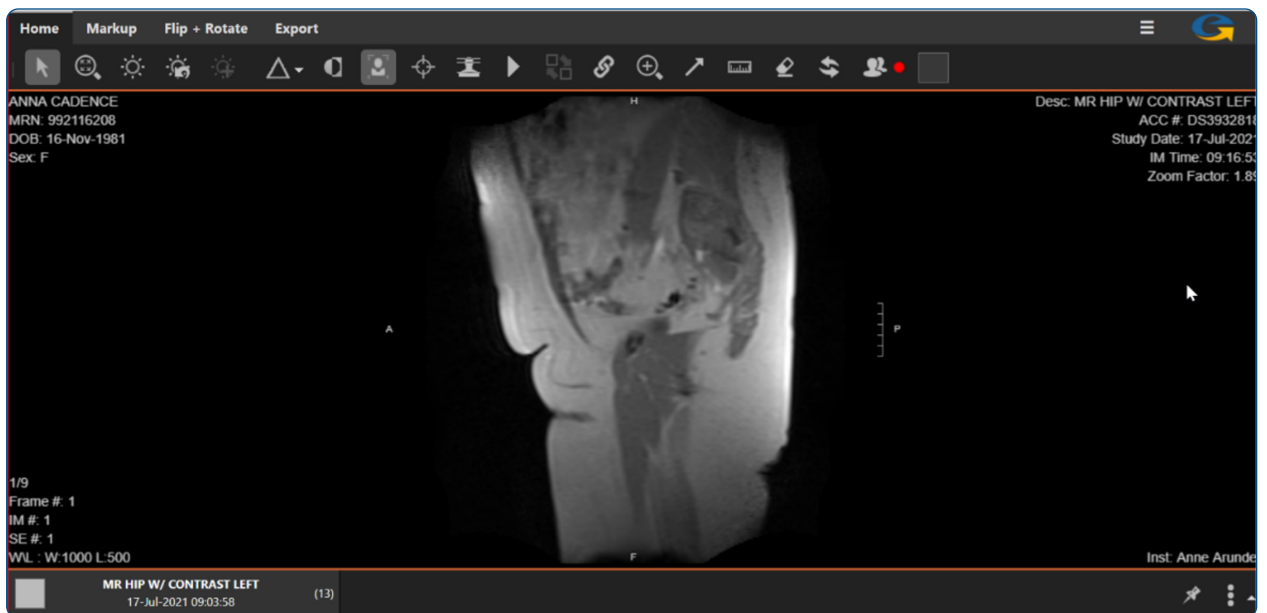
2 Product Functionality



- This will display all reports associated with the identified patient. To open a report, click anywhere on the row of the report you would like to view. Note that images without an associated report will not display in this view. Please navigate to Imaging Worklist to see all images associated with selected patient (see Section 2.3).



- To open an image from the Report view, click on the camera icon. A new window will open with the image using eHealthViewer®. Scroll with your mouse to view all frames of the imaging study.





2.3 Navigate to the Imaging Worklist

- » 1. Click on the Imaging Worklist button. The imaging worklist window will pop out and will list out every image that is available and associated with selected patient.

HEALTH RECORDS STRUCTURED DOCUMENTS ENCOUNTERS PROBLEMS IMMUNIZATIONS ALLERGIES VITALS PROCEDURES

ALL LABORATORY **RADIOLOGY** CLINICAL NOTES

Health Records ⌵ 🏠 🔍 ☰ 👤 **Imaging Worklist**

	Date Collected (ET)	Source	Category	Description	Provider
	2023-02-14	Adventist Healthcare White Oak Medical Center	Radiology	XR Chest 1 View	Naicisyhp6 Znaicisyhp6
	2023-02-01	Adventist HealthCare Shady Grove Medical Center	Radiology	XR Chest 1 View	Naicisyhp6 Znaicisyhp6
	2022-05-18	Danbury Hospital	Radiology	XR Chest 2 Views	Jose Mendez
	2022-05-18	Danbury Hospital	Radiology	XR Chest 2 Views	Jose Mendez
	2022-05-18	Danbury Hospital	Radiology	XR Chest 2 Views	Jose Mendez
	2022-05-09	American Radiology Services	Radiology	TEST PDF FOR INT14528 WITHOUT IMAGING STUDY	REBECCA KAUFMAN
	2022-05-09	Holy Cross Hospital	Radiology	TEST PDF FOR INT14528	REBECCA KAUFMAN

ANNA CADENCE DOB: 11/16/1981

Patient

HIE Imaging Worklist Transfer to PACS Transfer History

Available Studies for This Patient

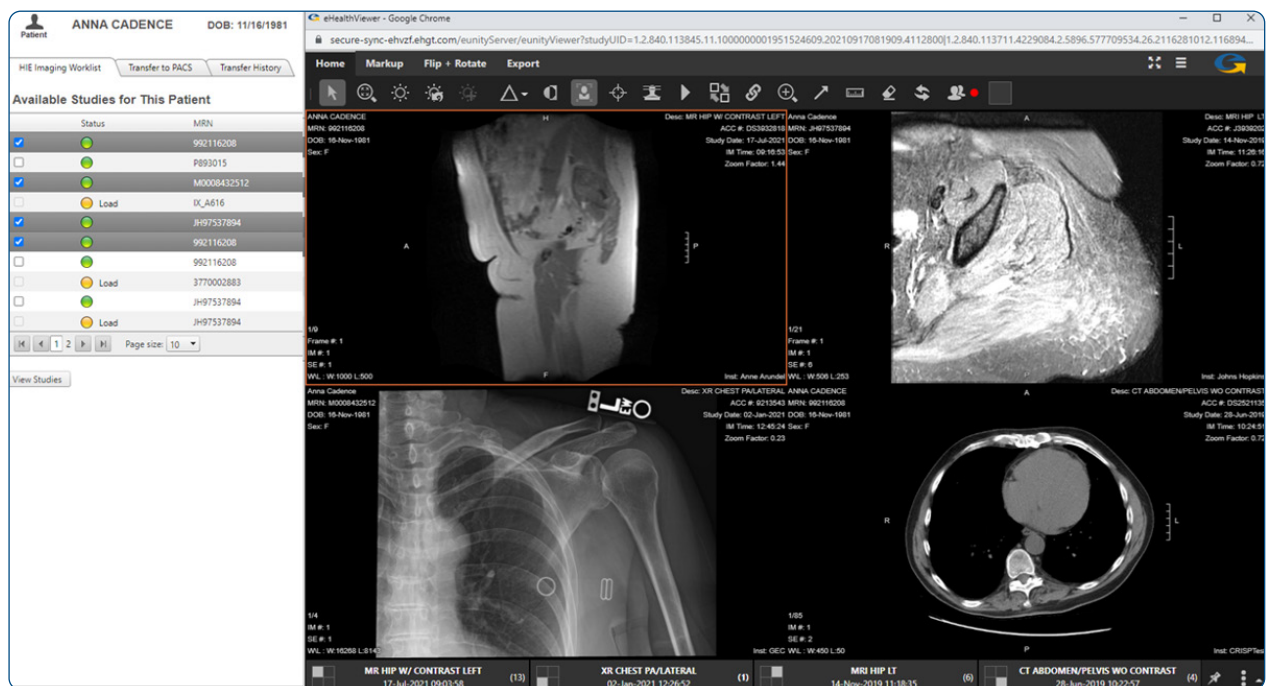
	Status	MRN
<input type="checkbox"/>	Load	992116208
<input type="checkbox"/>		P893015
<input type="checkbox"/>	Load	M0008432512
<input type="checkbox"/>	Load	IX_A616
<input type="checkbox"/>	Load	JH97537894
<input type="checkbox"/>	Load	992116208
<input type="checkbox"/>	Load	992116208
<input type="checkbox"/>	Load	3770002883
<input type="checkbox"/>	Load	JH97537894
<input type="checkbox"/>	Load	JH97537894

Page size: 10

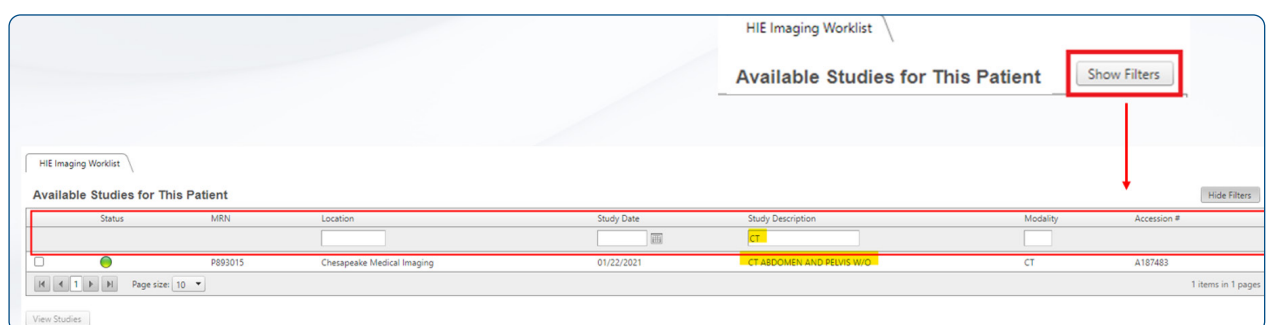
2 Product Functionality



2. Select desired study in the checkbox to the left.
3. Click “View Studies” to view selected studies. Select up to four images in the Imaging Worklist to view and compare for a single patient.
 - a. Green identifies imaging studies available immediately.
 - b. Yellow indicates the image is not readily available and will need additional time to load. Click on “load” and wait for image to render. It will take seconds to minutes depending on size and age of the imaging study. Once this is successfully loaded, it will be readily available (green) for the next 90 days for every user to view.



4. The Imaging Worklist is also filterable. Select the Show Filters button (shown in the screenshot below) to show each filterable field. Search for specific locations, study dates, study descriptions or modalities to filter the Imaging Worklist to show available studies that are inclusive of the search term. Input the search term and press Enter to bring up results. Remove the filter by removing the search term and pressing Enter.





2.4 eHealthViewer® Features

» The screen that displays the images is the eHealthViewer®. This viewer at the top of the screen has a full toolbar of valuable tools.



Select the **Help** icon in the upper right corner for additional information and assistance. Not all functions depicted in the Help screens will be available on the eHealthViewer user interface.

	Fullscreen: Select this icon in the upper right corner of the display, to enable full screen viewing.		Cine: Allows a series to be displayed like a movie. The speed and subset of images displayed may also be adjusted.
	Navigate: The Cursor tool allows users to enter image paging mode.		Linear Measurement: Provides the ability to make length measurements.
	Zoom/Pan: The mouse wheel or other scrolling tool permits zooming in and out. Hold the left mouse button to pan the image.		Angle Measurement: Allows for the measurement of angles.
	Window/Level: The Window/Level tool changes window width and level center (image contrast and brightness).		Ellipse ROI Tool: Selects an elliptical region and provides a variety of measurement characteristics.
	Invert Brightness: This tool inverts the polarity of an image (black -> white, white -> black).		Freeform ROI/Doppler Envelope: Selects a freeform region and provides a variety of measurement characteristics including Doppler Envelope.
	Flip: Flips an image on its vertical axis (left-to-right).		Cobb Angle Measurement: Enables capabilities such as measuring spinal curve progression to quantify scoliosis.
	Rotate: Rotates an image 90 degrees clockwise or counterclockwise.		Magnifying Glass: Magnifies an area of an image without markups and overlays. You can have up to 4 magnifying glasses open at one time.
	Toggle Demographics: Toggles the display of patient and study-related meta data ON and OFF.		Eraser: Allows the user to select and erase measurements and markup.
	Triangulation: Displays an overlay on a corresponding point on another series in a different plane. Hold and drag to reposition.		Layout: Allows the user to define how images, series, and studies are presented in the viewing windows.
	Toggle Reference Lines: Toggles Scout/Reference lines on and off.		Revert to Original: Allows the user to reset a series of images to their original state.
	Link Series: Enables common operations (Navigate, Window/Level, Zoom/Pan) to be performed on a group of series. Adjusts automatically to anatomical position.		Collaboration (Share This Session): Users viewing same patient exam(s) can collaborate in real-time with one-click.

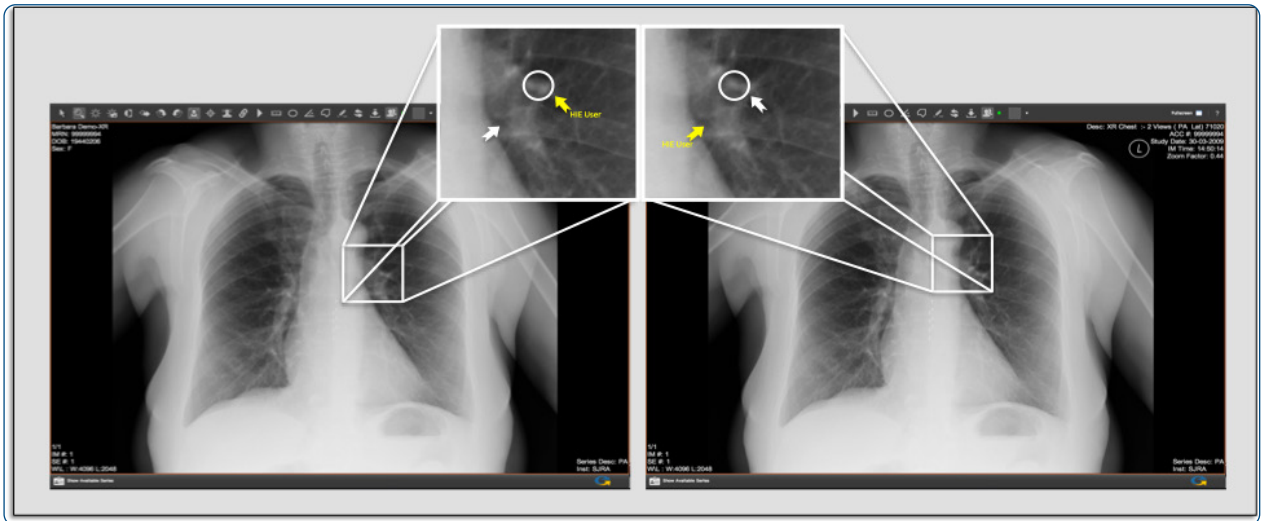
Note: If you initially receive a message that your browser has blocked pop-ups from your HIE's server location, change your desktop or mobile browser setting to "always allow pop-ups for this site"

2 Product Functionality



Real-Time Image Collaboration is a highly valuable tool location in the tool bar

- Immediate consultations with any caregiver in the HIE community
- One-click to initiate a collaboration session
- Full access to real-time image manipulation for all collaborators
- Standard feature is accessible for all eHealthViewer® users



2.5 Transfer to PACS (TTP)

Users and organizations that share images have credentialed access by their PACS administrators to also have access to the TTP tabs which enables the ability to transfer studies.

Note: Upon transfer, the Medical Record Number (MRN) will automatically update to match the patient's MRN within a user's system. However, if needed, users can also change the MRN prior to transferring the image. Select the pencil icon, which will open a drop-down menu to change either the MRN or Accession Number. Once edited, press the green check to save the change, then transfer.

This may be especially helpful in cases where you have a new patient, with prior external images that you wish to transfer, but have not yet sent any of the patient's records to the HIE or updated your patient panel to include the new patient.

HIE Imaging Worklist		Transfer to PACS	Transfer Hist
Transfer Studies to PACS			
Status	MRN	Location	
<input checked="" type="checkbox"/>	992116208	Anne Arundel Medical C	
<input type="checkbox"/>	P893015	Chesapeake Medical Ima	
<input type="checkbox"/>	M0008432512	Doctors Community Hos	
<input type="checkbox"/>	IX_A616	UPMC Western Maryland	
<input type="checkbox"/>	JH97537894	Johns Hopkins	
<input type="checkbox"/>	992116208	Anne Arundel Medical C	
<input type="checkbox"/>	992116208	Anne Arundel Medical C	
<input type="checkbox"/>	JH97537894	Johns Hopkins	
<input type="checkbox"/>	JH97537894	Johns Hopkins	
<input type="checkbox"/>	JH97537894	Johns Hopkins	
<input type="checkbox"/>	JH97537894	Johns Hopkins	
Transfer Studies		to PACS:	<input type="text"/>

2 Product Functionality



<input type="checkbox"/>		456	Holy Cross Hospital	08/12/2018	XR HIP COMPL 2+V LT	CR	58503024	
<input type="checkbox"/>		456	Holy Cross Hospital	08/12/2018	XR HIP COMPL 2+V LT	CR	58503024	

Specify new values for the destination PACS :

MRN: Accession Number:

3 Use Cases



As a specialist, I have the ability to view all known images for a new patient and compare images across all connected facilities.



As a care team member in the ER, when a patient is brought in with trauma to the back or head I have the ability to view images conducted at an external facility, to understand baseline anatomy and assess impact of the trauma, in order to make an appropriate treatment decision.



As a PACS Administrator, Radiology Technician, Medical Records Specialist, or Film Librarian, I have the ability to query patients and download images to my local archives that were conducted at all external connected facilities, and to prep in advance of an outpatient appointment.

4 Troubleshooting



Why am I receiving a “Study Not Found” error?

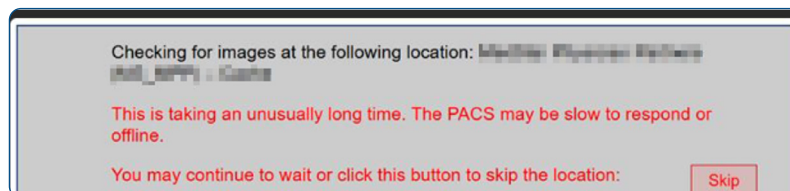


This usually indicates that the connection to the site that took the image is down or we are not able to find the image on the source site PACS. Please contact the HIE Technical User Support (TUS) team [INPUT CONTACT INFORMATION] and provide information on the study in question:

- Patient Name
- Patient Date of Birth
- Modality of the image (CT, XR, Mammo etc.)
- The site the image was taken at and the date the image was taken



Why am I receiving the error message – “This is taking an unusually long time. The PACS may be slow to respond or offline”?

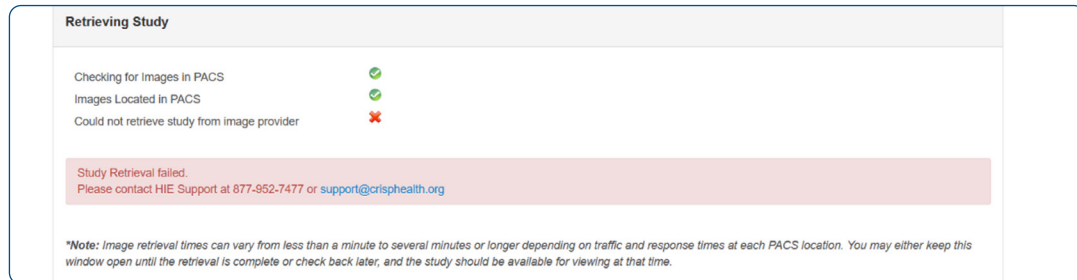


Please wait a few minutes to see if the images from the site load. Sometimes with slower connections it takes a bit longer to load all the images for a patient. If the images are still not showing in the Imaging Worklist please contact the HIE Technical User Support (TUS) team [INPUT CONTACT INFORMATION] and provide information on the study in question:

- Patient Name
- Patient Date of Birth
- Modality of the image (CT, XR, Mammo etc.)
- The site the image was taken at and the date the image was taken



Why is it taking a long time for my image to load? Why am I receiving a “Retrieving Study” Error?



Please wait at least 5 – 10 minutes before retrying because larger size modalities can take some time to load/transfer (ex. Mammography). If the image still does not load, try opening the Imaging Worklist and check if the image is cached (green circle next to image). If the circle is not cached (yellow circle next to image) please click the load button next to the circle and wait for the image to be cached. Once the image is cached it should be viewable. If the image is still not able to be seen or transferred please contact the HIE Technical User Support (TUS) team [INPUT CONTACT INFORMATION] and provide information on the study in question:

- Patient Name
- Patient Date of Birth
- Modality of the image (CT, XR, Mammo etc.)
- The site the image was taken at and the date the image was taken



Why can't I see the Transfer to PACS (TTP) tab in the Imaging worklist?



You may not have permission to TTP. Please check with your PACS administrator to see if they have requested to have you added as a TTP user. If this has not been done, please have your PACS administrator contact the TUS team and provide your email, organization, and EMR username if applicable.

5 Appendix



- » Define key terms, acronyms, product language, and concepts referenced throughout the user guide.
- **Report-Level viewing:** Reports can be accessed under “Health Records” -> “Radiology”. The corresponding image may be accessed by clicking on the camera icon to the left of the “Date” column. A user may click on the desired report to view. User may also navigate to the related image by clicking the camera icon on the top right corner of the report screen.
 - **Imaging Worklist:** Can be accessed in the top right corner of the “radiology” tab. This will open a window with a list of every image that is available and associated with selected patient.
 - **Transfer to PACS (TTP):** Credentialed organizations and users may have the ability to download full DICOM-quality images to their local PACs.
 - **eHealthViewer®:** The pop-up viewer in which all images are viewed in the image exchange service.



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