CRISP

Image Access Presentation

April 2024

7160 Columbia Gateway Drive, Suite 100
Columbia, MD 21046
877.952.7477 | info@crisphealth.org
www.crisphealth.org

Image Exchange

- Image Exchange is our image-sharing service that allows users to view patient images in full diagnostic quality through the Web Portal or the InContext app within their EMR.
- In order for an organization to become an Image Exchange participant, meaning that they contribute images to the HIE, they must also share radiology reports.
- We work very closely with our imaging partner, eHealth Technologies (eHT), to make images accessible for end users.
- Images are available to all users that have access to their patient's health records.

Image Exchange Participants

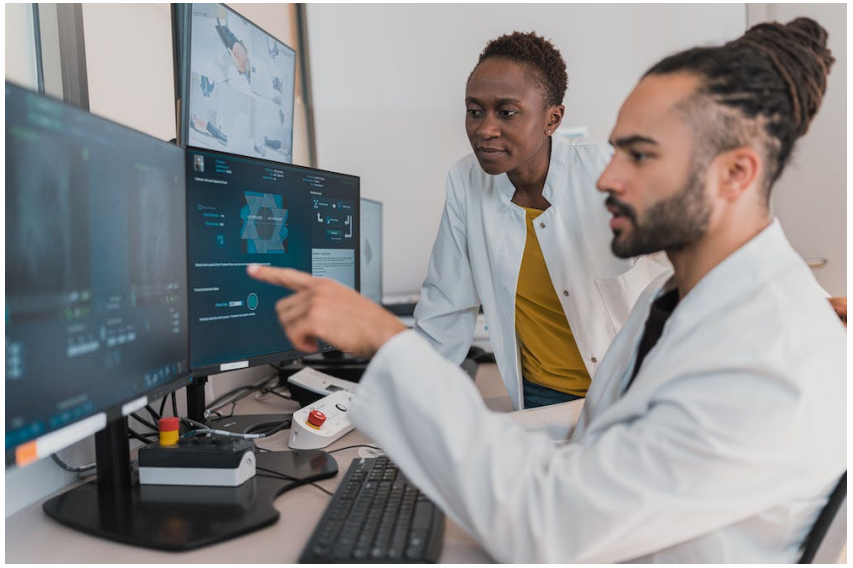
Type	Participants
Hospital	Adventist HealthCare Fort Washington Medical Center
Hospital	Adventist HealthCare Shady Grove Medical Center
Hospital	Adventist HealthCare White Oak Medical Center
Hospital	Anne Arundel Medical Center
Hospital	Atlantic General Hospital
Hospital	Calvert Health Medical Center
Hospital	Christiana Care, Union Hospital
Hospital	Doctors Community Hospital
Hospital	Frederick Memorial Hospital
Hospital	George Washington University Hospital (DC)
Hospital	Grace Medical Center
Hospital	Greater Baltimore Medical Center
Hospital	Holy Cross Germantown
Hospital	Holy Cross Hospital
Hospital	John Hopkins Bayview Medical Center
Hospital	John Hopkins Howard County General Hospital
Hospital	John Hopkins Sibley Memorial Hospital (DC)
Hospital	John Hopkins Suburban Hospital
Hospital	Johns Hopkins Hospital

Type	Participants
Hospital	Lifebridge Carroll County General Hospital
Hospital	Lifebridge Northwest Hospital
Hospital	Lifebridge Sinai Hospital of Baltimore
Hospital	MedStar Franklin Square Hospital
Hospital	MedStar Georgetown University Hospital (DC)
Hospital	MedStar Good Samaritan Hospital
Hospital	MedStar Harbor Hospital
Hospital	MedStar Montgomery Medical Center
Hospital	MedStar National Rehabilitation Center (DC)
Hospital	MedStar Southern Maryland Hospital Center
Hospital	MedStar St. Mary's Hospital
Hospital	MedStar Union Memorial Hospital
Hospital	MedStar Washington Hospital Center (DC)
Hospital	Mercy Medical Center
Hospital	Meritus Medical Center
Hospital	Mount Washington Pediatric Hospital
Hospital	Peninsula Regional Medical Center
Hospital	St. Agnes Hospital
Hospital	United Medical Center (DC)

Image Exchange Participants

Type	Participants
Hospital	University of Maryland Baltimore Washington Medical Center
Hospital	University of Maryland Bowie Health Center
Hospital	University of Maryland Capital Region Medical Center
Hospital	University of Maryland Charles Regional Medical Center
Hospital	University of Maryland Harford Memorial Hospital
Hospital	University of Maryland Laurel Medical Center
Hospital	University of Maryland Medical Center
Hospital	University of Maryland Medical Center Midtown Campus
Hospital	University of Maryland Rehabilitation & Orthopaedic Institute
Hospital	University of Maryland Shore Medical Center at Cambridge
Hospital	University of Maryland Shore Medical Center at Chestertown
Hospital	University of Maryland Shore Medical Center at Easton
Hospital	University of Maryland St. Joseph's Medical Center
Hospital	University of Maryland Upper Chesapeake Medical Center
Hospital	University of Pittsburgh Medical Center Western Maryland
Outpatient Facilities	Adventist HealthCare Imaging
Outpatient Facilities	Bay Radiology Breast Imaging Center
Outpatient Facilities	Charles Regional Imaging
Outpatient Facilities	Charter Radiology
Outpatient Facilities	Chesapeake Medical Imaging
Outpatient Facilities	Johns Hopkins Community Physicians (MD, DC)
Outpatient Facilities	Kaiser Permanente Mid-Atlantic Inc. (MD, DC, VA)
Outpatient Facilities	Medstar Radiology Network, Urgent Care, Physician Partners (MD, DC)
Outpatient Facilities	Peninsula Imaging
Outpatient Facilities	Progressive Radiology (MD, DC, DE, VA)
Outpatient Facilities	RadNet
Outpatient Facilities	The Radiology Clinic

Use Case Scenarios



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

"As an ER Doc, when a patient is brought in with trauma to the back or head, I have the ability 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, to prep in advance of an outpatient appointment. "

Image Access and Functionality

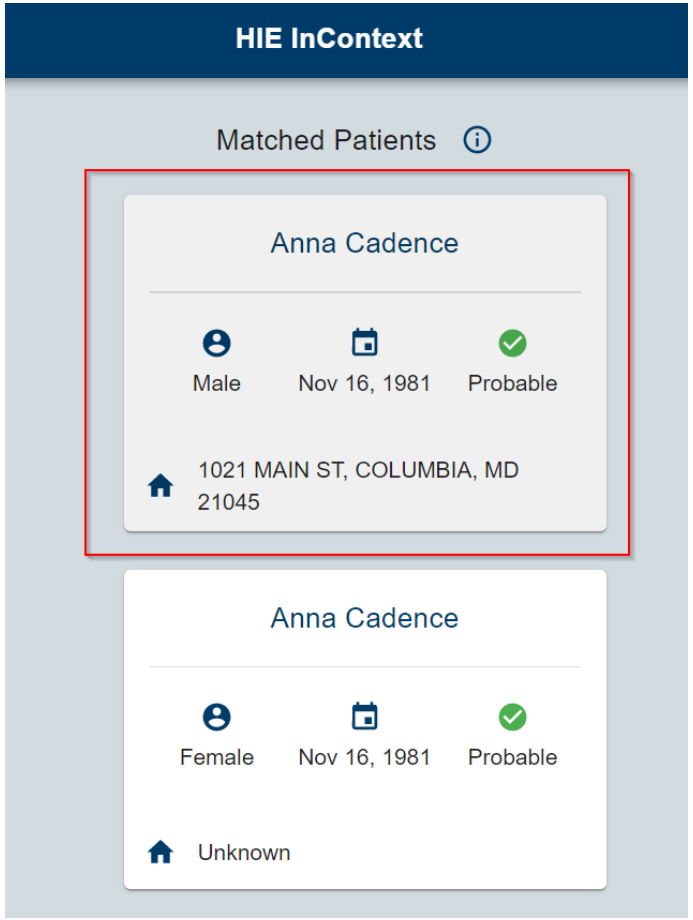
Report-Level	View an image and the corresponding Radiology or Cardiology report.
Imaging Worklist	Compare images from all organizations that contribute images to CRISP. The worklist will have up to 20-year's worth of prior images from participating sites.
Transfer to PACS	Download external images from the Imaging Worklist to your local PACS. Note: not all users will have access to this functionality. Access is determined by facility PACS administrator.

Important Note: PACS stands for Picture Archiving Communication System. Images are stored in the PACS.

Accessing Image Exchange: Portal Users

Step 1: Log into CRISP Portal
Step 2: Search for your patient
Step 3: Select Clinical Information

Accessing Image Exchange: InContext Users



Step 1: Log into your EHR. Launch HIE InContext

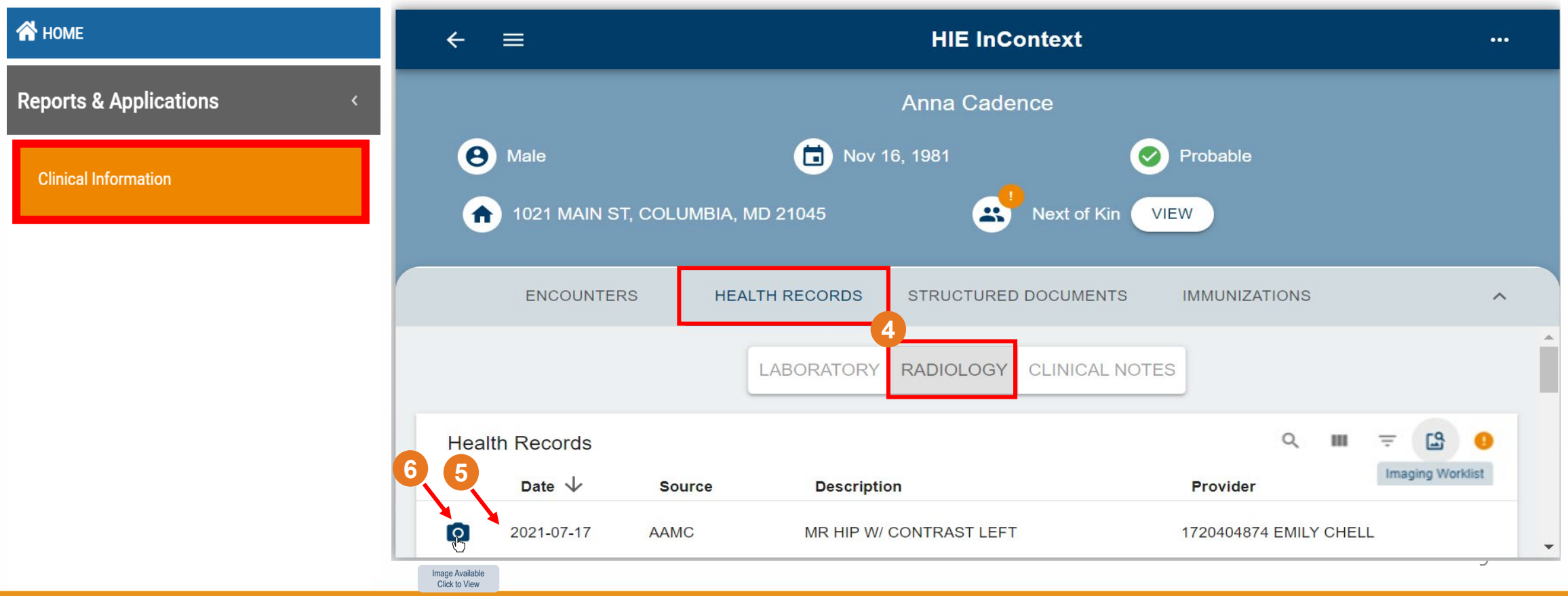
Step 2: Select the best matched patient

Accessing Images: All Users

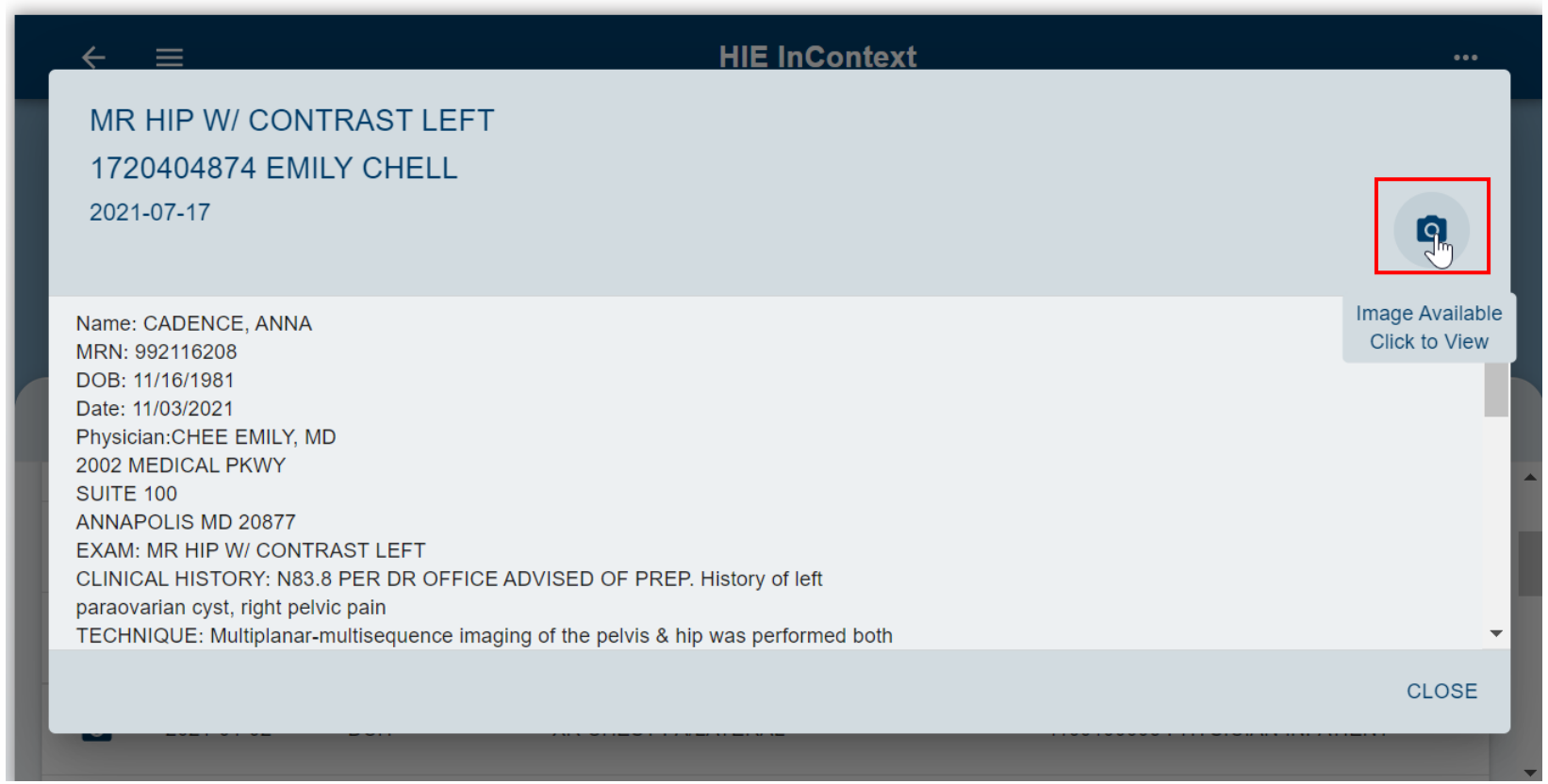
Step 4: Once on the Clinical Information tab, navigate to the Radiology sub tab within Health Records.

Step 5: To open a report, click on the row that has the report. It will open the report (see next slide)

Step 6: To open an image, click on the camera icon.

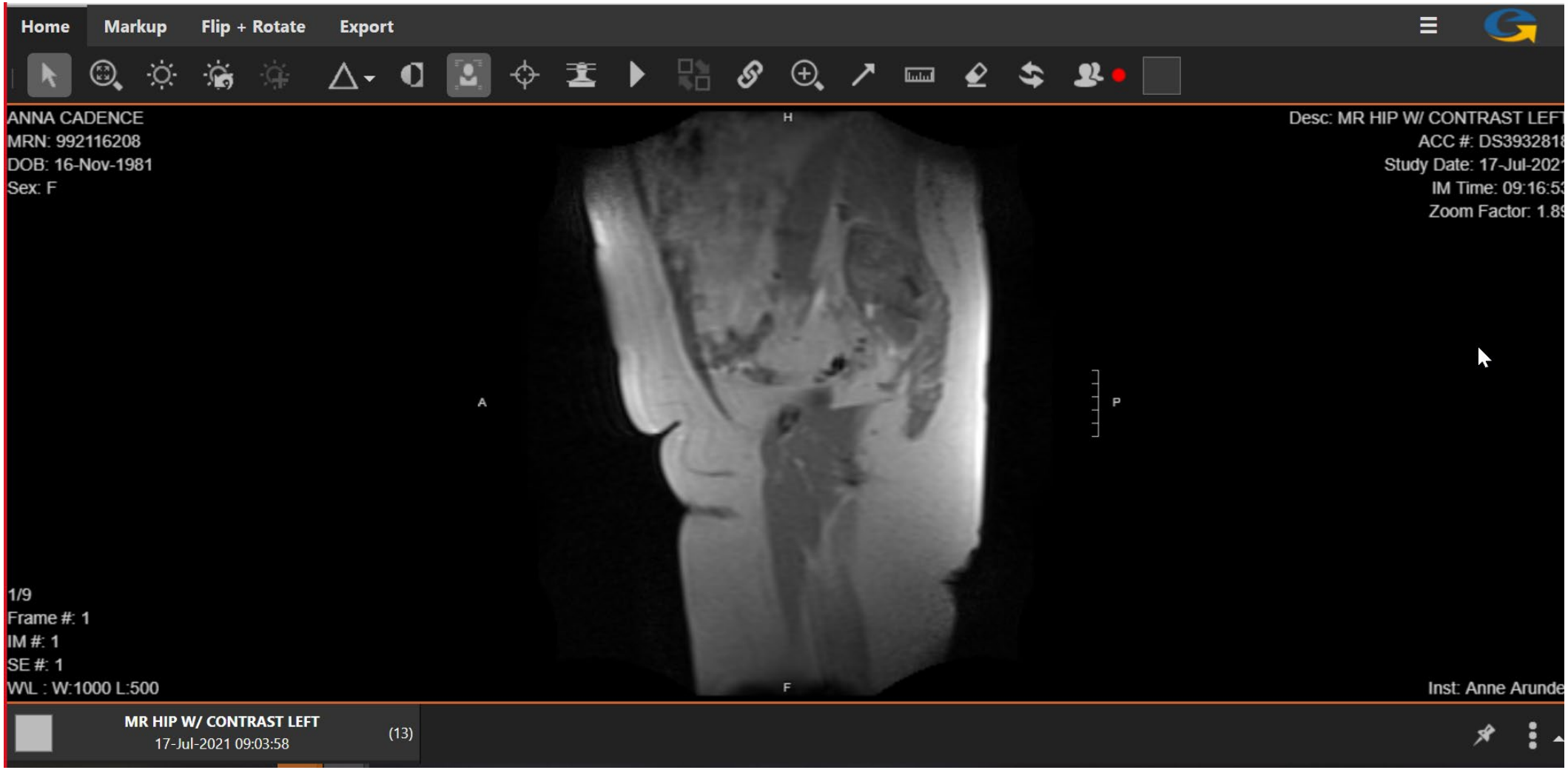


Report-Level View



Step 6: To open an image from the Report view, click on the camera icon. A new window will open with the image using eHealthViewer (see next slide).

eHealthViewer®



eHealthViewer®

Unified Viewing for the Entire Community

Full Diagnostic Quality: FDA 510(k) Class II Medical Device

Secure: No PHI is stored on the local client

High Performance: Even over slow connections

Scalable: Support for unlimited users and concurrency

Built-in Collaboration: For consultations, 2nd opinions & grand rounds

Designed specifically for community-wide image sharing:

- On any browser, in any environment
- No local application to install
- Supports all common Radiology and Cardiology imaging modalities

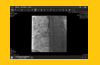
X-Ray

CT

MRI

Ultrasound

PET-CT

 Cardiac Cath

EKG

eHealthViewer Features

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.

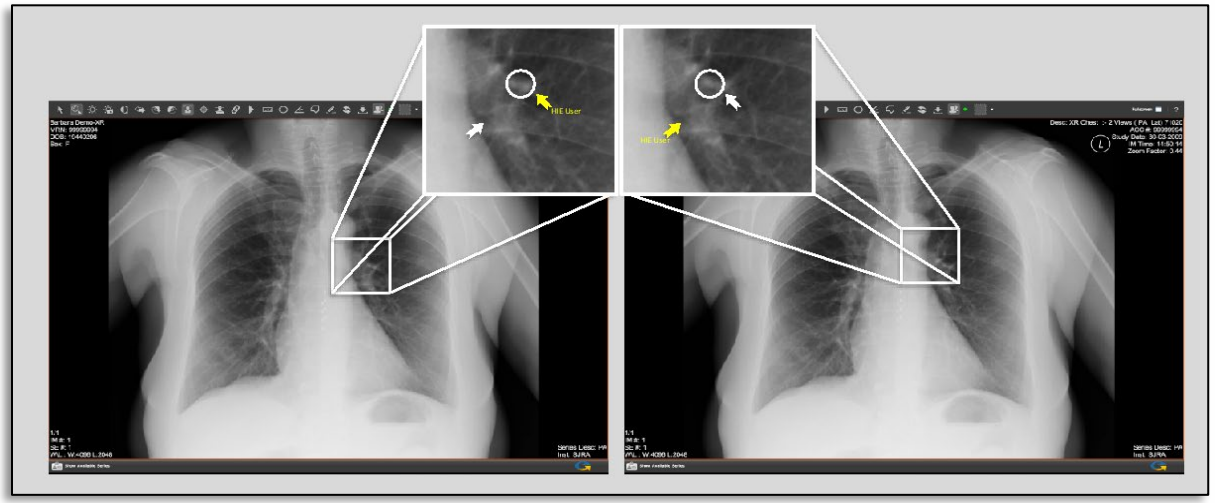
	Fullscreen: Select this icon in the upper right corner of the display, to enable full screen viewing.		**Cine**: Allows a series to be displayed like a movie. The speed and subset of images displayed may also be adjusted.
	Navigate: The Cursor tool allows users to enter image paging mode.		**Linear Measurement**: 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"

eHealth Viewer Features

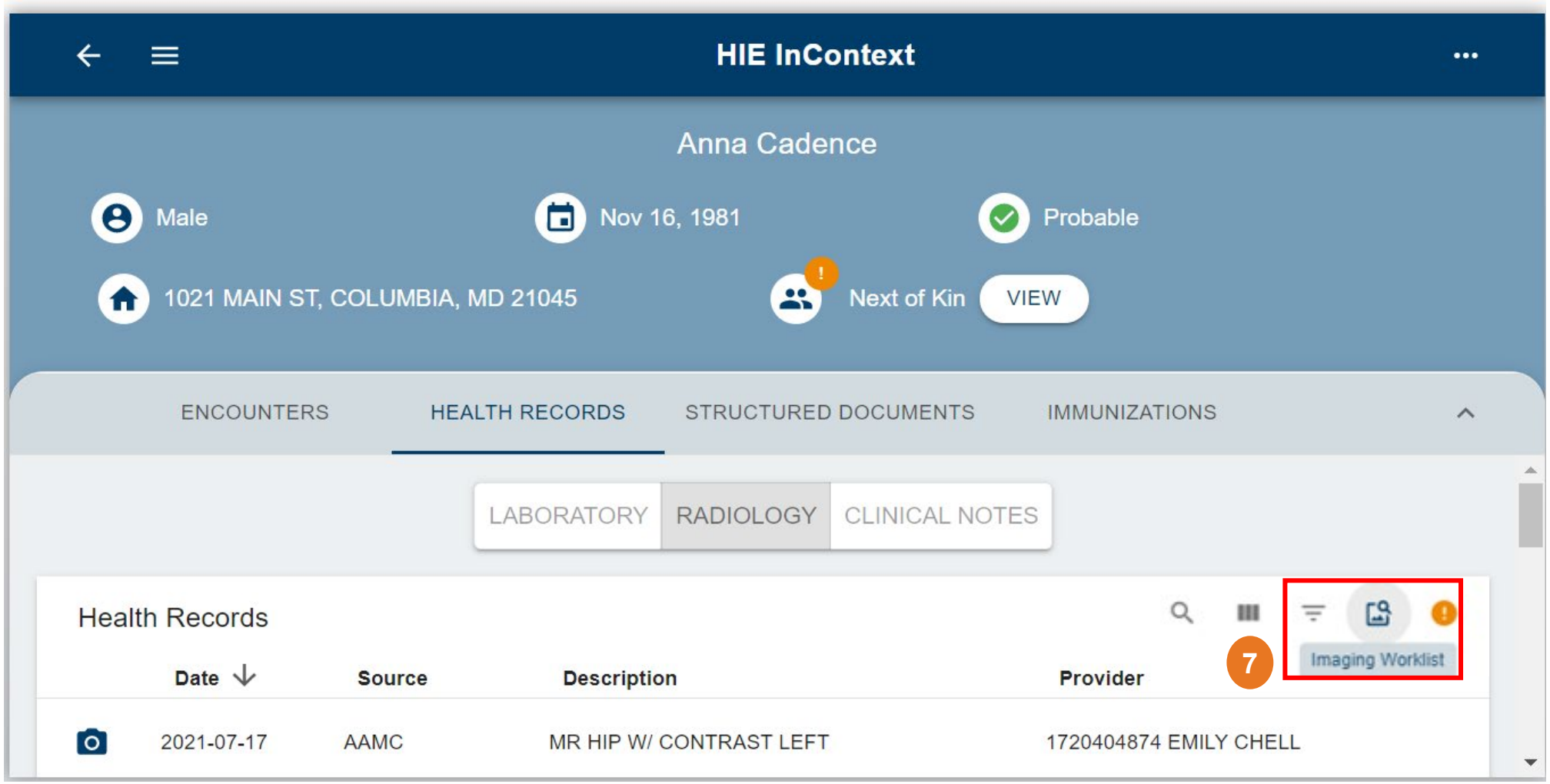
Real-Time Image Collaboration

- 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



Imaging Worklist

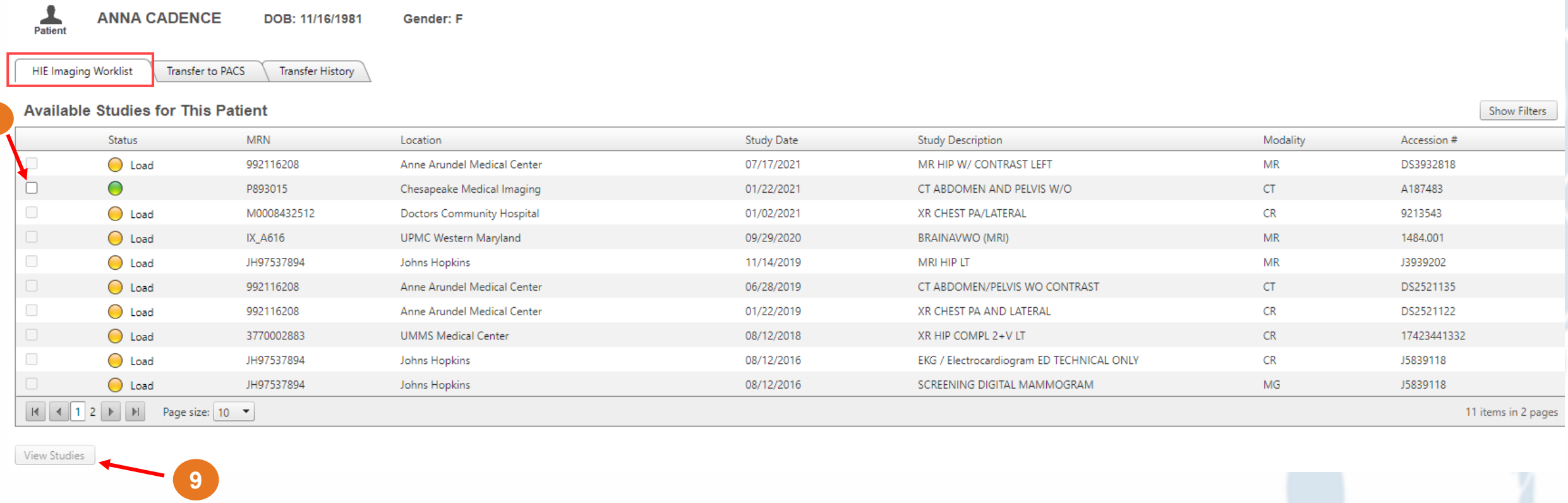
Step 7: To view a patient's prior images, click on the Imaging Worklist button.

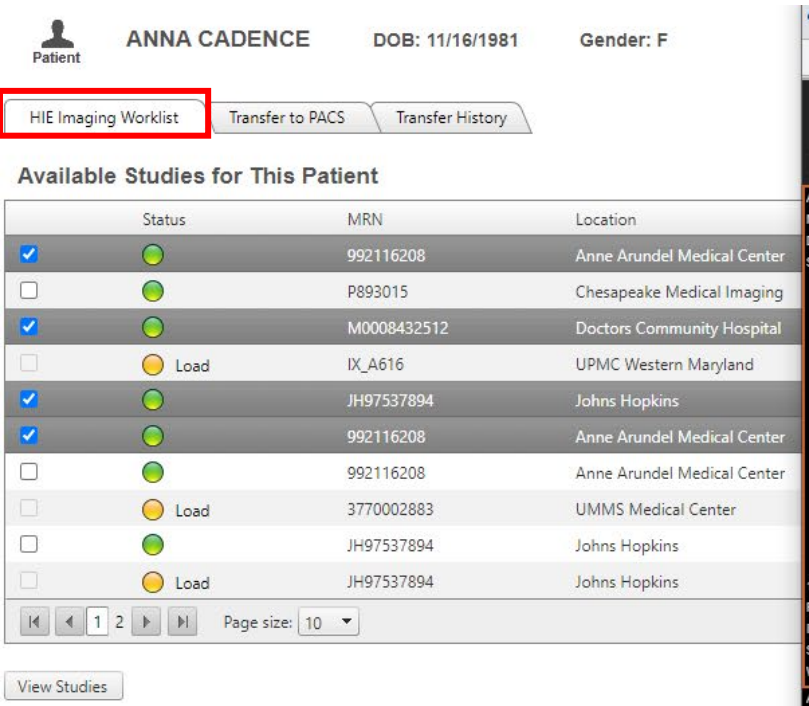


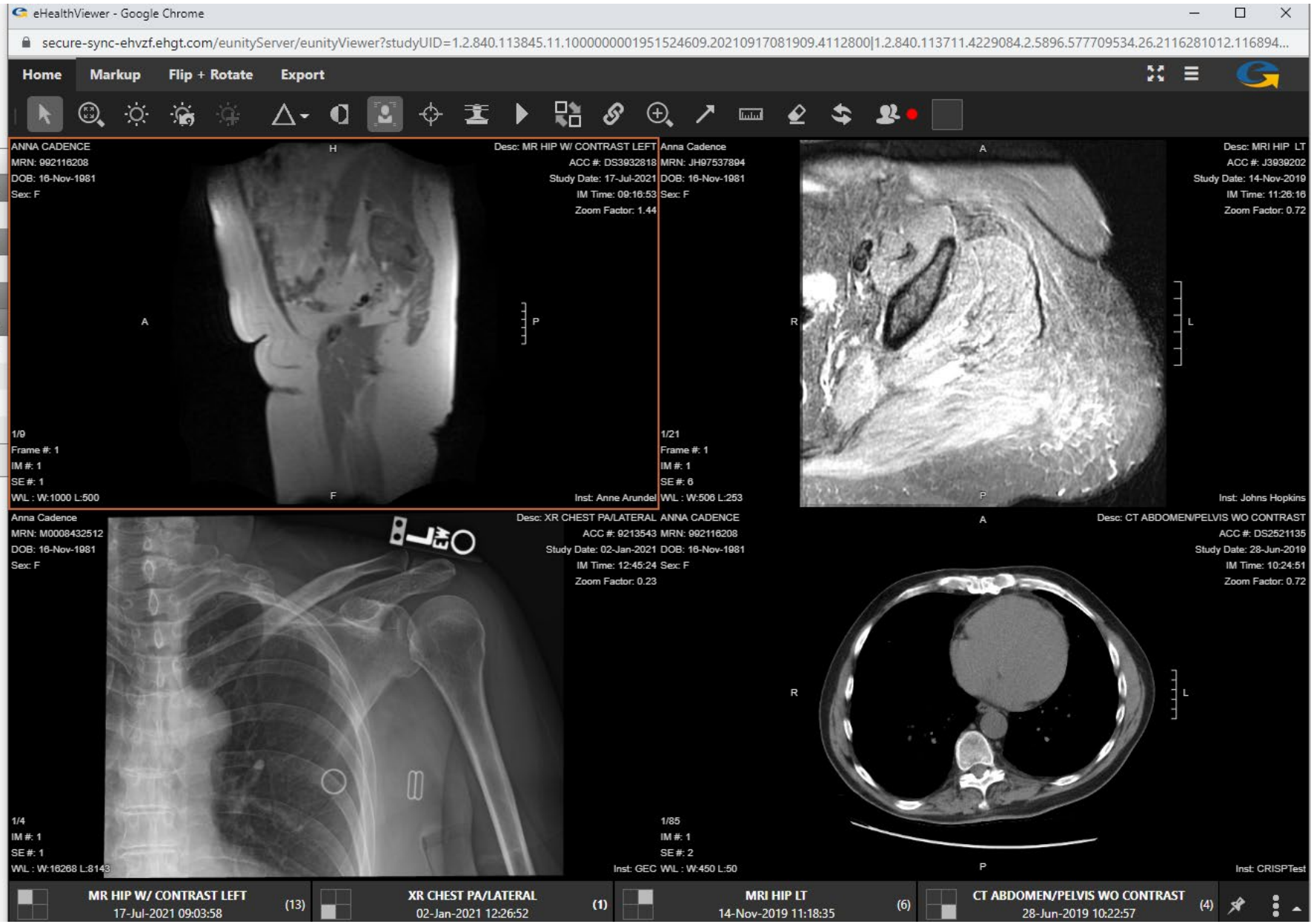
Imaging Worklist

Step 8: Select images to compare.

Step 9: View studies.







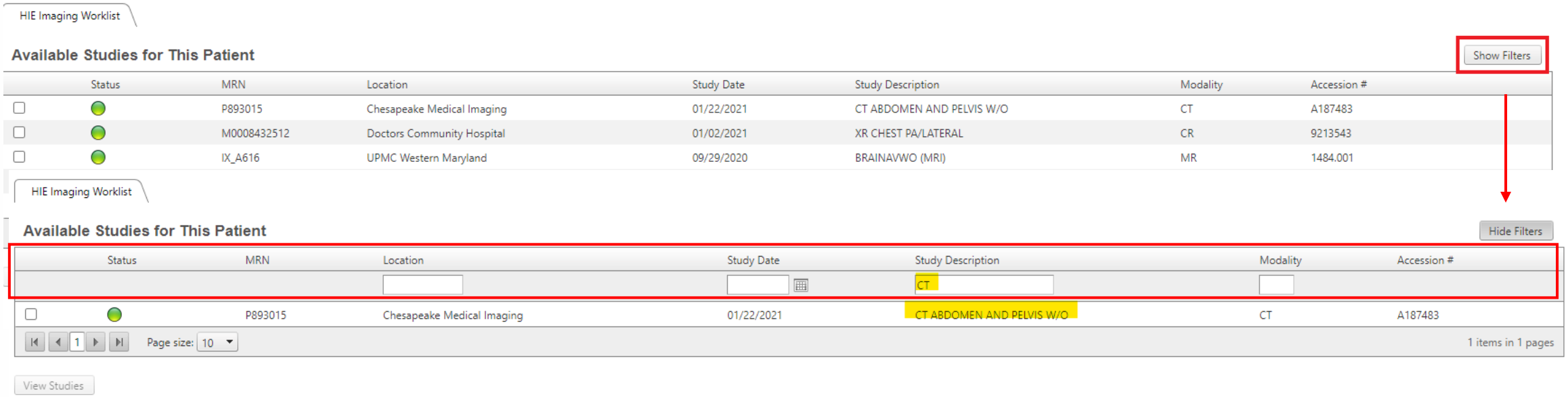
Select up to four images in the Imaging Worklist to view and compare for a single patient.

Status:

- Green identifies images available immediately.
- Yellow indicates the image may be older. Click on “load” and wait for image to render. It will take seconds to minutes depending on size.

Imaging Worklist

The Imaging Worklist is also filterable. Select the Show Filters button (shown in the screenshot below) to show each filterable field.

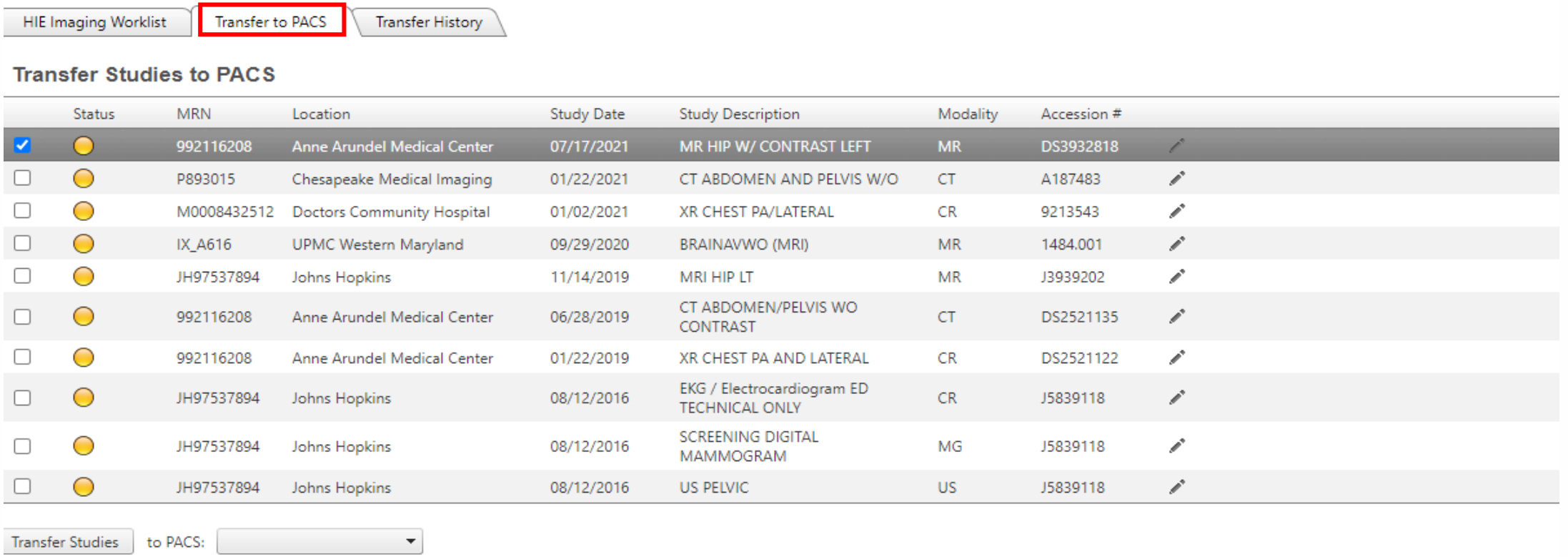


Search for specific locations, study dates, study descriptions or modalities to filter the Imaging Worklist to show available studies that are inclusive of the search term. Input the search term and press Enter to bring up results. Remove the filter by removing the search term and pressing Enter.

Transfer-To-PACS

Note:
Users that are approved by their PACS administrators will also have access to the TTP tabs.

Once images are selected, the MRN will automatically change to match that of the organization prior to download.



Transfer-to-PACS

Note: Users can also manually 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.

Imaging Worklist & Transfer-to-PACS Features

Worklist of all imaging studies for any patient in the community:

"Virtual Community-Wide PACS"

1) **View & Compare** multiple imaging studies from the same or different locations side-by-side
2) **Transfer** DICOM studies between locations with a single click
   - ✓ No manual patient matching
   - ✓ No need to obtain consent
   - ✓ Little or no manual reconciliation

Any Questions?

Contact Emily.Ogunbo@crisphealth.org

7160 Columbia Gateway Drive, Suite 100
Columbia, MD 21046
877.952.7477 | info@crisphealth.org
www.crisphealth.org