NYULMC Technologist Training

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NYU RADIOLOGY IT

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  - Document Scanning
  - Document Viewer (Onbase/Imagenow)
  - Other Tools
Terminology

- **RIS** (*Radiology Information System*)
  - Information Systems designed to manage exams (orders), including filling orders and scheduling
  (*Siemens Syngo*)

- **PACS** (*Picture Archive and Communications System*)
  - Information Systems designed to manage, store and distribute medical images and related information throughout the healthcare enterprise
  (*Philips iSite*)

- **HIS** (*Hospital Information System*)
  - Information Systems designed to manage patient records, including patient registration, billing, and order entry
  (*EDR,Epic*)
Terminology

**MRN (Medical Record Number)**
- A unique patient identifier (also known as Patient ID) used for auditing of billing and scheduling for patients

**Accession Number (ACCEssion Number)**
- A unique exam identifier (also known as an order number or requisition number) used for auditing of billing and scheduling of scheduled procedures

**DMWL (DICOM Modality Work List)**
- The patient and exam information from the RIS populates the work list on the modality

**DICOM (Digital Imaging COmmunication in Medicine)**
- DICOM is the predominant communication standard between imaging equipment throughout the Healthcare Enterprise
Systems

**iSite Radiology**
- PACS used by Technologist and Radiologist

**Primordial**
- Provides Advanced Communication & Workflow tools.
  (Instant Messaging, View Protocols, RadScan, Onbase/Imagenow)

**iSite Enterprise**
- PACS viewer used by clinicians & outside physicians.

**Philips iSuite**
- PACS Administrative tools for Managers & Supervisors.
Other Systems

**Commissure**
Tool that the radiologists use to dictate exams. Some of the QA techs also use it to enter in canned reports on non-reportable exams.

**Dynacad**
MR cad viewer used for breast and prostrate exam

**MimVista**
Pet CT and NM viewer to assist the nuclear medicine physicians in viewing and interpreting images.

**RadClinInfo**
Our homegrown applications – Peer review, radiologist schedule

**Syngo Via** –
3d thin client software that will allow for advanced visualization.

**Syngo workflow**
our RIS, used for scheduling, tracking and changing of exams, as well as printing requisitions.

**Terarecon**
3d thin client for advanced visualization of vascular studies.
Technologist Workflow

1. Tech Greets patient in SWF

2. Tech launches primordial TN (tech note) to review protocol and scan in documents if necessary (CT, MR, NM, Peds)

3. Tech begins exam in SWF

4. Tech selects the patient from DMWL

5. Tech images the patient
Technologist Workflow

6. Tech QCs images on the modality

7. Tech ends exam in SWF

8. Tech does Recons as needed and sends all images to PACS

9. Tech notifies Supervisors/Managers of any PACS issues

10. Tech verifies images in iSite and adds tech notes as needed for Radiologist
iSite Radiology Login
iSite Radiology
Double click on filter from the list to view list of exams.
Reviewing your Isite worklist of exams with images

In Isite worklists are called Filters

- From System filters, click on the plus
- Choose the filter you would like to view
- The tech filters are all named Tech –
- If you are an X-ray tech you would choose TECH CR past 24 hours
- Open the worklist and click on study date to sort the lists for the most recent exam to be on top.

- ISITE WORKLISTS ARE POPULATED BY EXAMS WITH IMAGES
  - Scheduled exams are not viewable
  - Exams whose images did not match with the order are seen as exceptions on the bottom of the list.
Sorting List

<table>
<thead>
<tr>
<th>Accession</th>
<th>Patient Name</th>
<th>MRN</th>
<th>Body Part</th>
<th>Date</th>
<th>Ref. Physician</th>
<th>Status</th>
<th>Modality</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td></td>
<td></td>
<td>LWREXT</td>
<td>11/16/2006</td>
<td>Phillips, Pr</td>
<td>FINAL</td>
<td>MR</td>
</tr>
<tr>
<td>1234567</td>
<td></td>
<td></td>
<td>LSPINE</td>
<td>11/27/2006</td>
<td>TAKEGOS, Pr</td>
<td>FINAL</td>
<td>MR</td>
</tr>
<tr>
<td>ACC7602</td>
<td></td>
<td></td>
<td>CHEST</td>
<td>11/27/2006</td>
<td>Unassigned</td>
<td>PRELIM</td>
<td>MR</td>
</tr>
<tr>
<td>02036039060</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>104</td>
<td></td>
<td></td>
<td>REMO CD VIE</td>
<td>11/27/2006</td>
<td>Phillips, Pr</td>
<td>FINAL</td>
<td>MR</td>
</tr>
<tr>
<td>ACC7597</td>
<td></td>
<td></td>
<td>LWREXT</td>
<td>11/27/2006</td>
<td>ANTHONY, Pr</td>
<td>FINAL</td>
<td>MR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ABDOMEN</td>
<td>11/27/2006</td>
<td>Sterling, Al</td>
<td>FINAL</td>
<td>MR</td>
</tr>
</tbody>
</table>

Click on column header to sort the list by the column.
Moving the columns around in a filter

Note that the filter has different columns at the top.
To move the resource to be easily viewable
Slide the bar at the bottom to the right
Click on the gray title for preforming resource and drag it to the left
This will reorder the columns.
Creating a shortcut

• To create a shortcut in the left hand column of a filter
• Click on the plus next to system filters
• Find the filter that you would like
• Left click and drag the filter to the right
Patient Search

<table>
<thead>
<tr>
<th>Close All</th>
<th>Patient Name</th>
<th>MRN</th>
<th>Exam Date</th>
<th>Patient Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Query</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

left-click on (+) for expanded query
Patient Search

Expanded Query

<table>
<thead>
<tr>
<th>Close All</th>
<th>Patient Name</th>
<th>MRN</th>
<th>Exam Date</th>
<th>Patient Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Query</td>
<td>Adams</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accession Number</td>
<td>Modality</td>
<td>Referring Physician</td>
<td>Organization</td>
</tr>
<tr>
<td>ADAMS, JULIE</td>
<td>D7856</td>
<td>11/29/2006 19:2...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT - Chest; Acc: 4295009; Referr...</td>
<td>11/29/2006 19:2...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR - Chest; Acc: 4294000; Referr...</td>
<td>11/29/2006 16:3...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Patient/ Exam List Symbols:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>Marked Read</td>
</tr>
<tr>
<td>□</td>
<td>Report available</td>
</tr>
<tr>
<td>🛠</td>
<td>Locked exam</td>
</tr>
<tr>
<td>!</td>
<td>Exception</td>
</tr>
</tbody>
</table>
Customizing Filter Views

Right-click header bar for column list. Uncheck unneeded columns.
Exam Canvas Page
Access point to patient’s exams and studies

1. **Patient Demographics**: Patient’s name, DOB, sex, MRN, Referring Physician

2. **Patient Timeline**: History of and navigation menu to all of a patient’s studies in iSite PACS

3. **Exam notes**: When icon is present, indicates diagnostic report is available for the exam

4. **Shelf bar**: Access point to exam specific menu and information
Exam Canvas Page (cont.)

5. **Exam Rack:** Set of images that make up the exam

6. **Image/ Series Information:** Image specific information (for example: description, number of images, slice thickness, etc.)

7. **Thumbnail:** Thumbnail view of image

8. **Image/ Series date and time:** Exam accession number, Date and Time image was acquired

9. **Close Exam:** Exit from exam and return to Patient Directory
Control Strip

1. Return to Patient Directory

2. Right-click to navigate between exams

3. Select bulls eye icon to close current exam
Patient History Timeline

- History of and navigation menu to patient’s exams in iSite PACS
- Colors and symbols in timeline

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>No diagnostic report</td>
</tr>
<tr>
<td>Blue</td>
<td>Diagnostic report available</td>
</tr>
<tr>
<td>“</td>
<td>”</td>
</tr>
<tr>
<td>“X”</td>
<td>No images</td>
</tr>
<tr>
<td>“A”</td>
<td>Exams on 3rd party digital archive—not on iSite PACS server</td>
</tr>
</tbody>
</table>
Navigation within the Exam Rack

- Exam Rack: the set of images in an study
- Reorder series by dragging and dropping on grey image header or footer
- Navigating through stacked series
  1. Mouse wheel
  2. Select “C” on keyboard
  3. Context menu

Double-click to open in window
Exam Navigation

Patient Information Tab

Shelf Bar

Reason for Study and Impressions

Relevant Exams

Exam History

Patient Comments: N/A, History: N/A, Study comments: N/A


**Images are for demo purposes only, not intended for actual use.**
Worklist Filters

- **My Filters:**
  - Created by the user
  - Available to that user for iSite Radiology as well as iSite Enterprise

- **System Filters:**
  - Available to all users
Filters

- Select the “P” for Preferences
- Select User Preferences
- Filters
- Add
Filters

• This screen allows the user to generate a filter

• Users are not required to fill in all the fields because the default for an empty field is all

• When you have finished making changes, click Apply and then OK to save and exit the Dialog box
Filters

- Example:
  - “CARDIAC” subspecialty (as defined in the Exam Dictionary)
  - Unread
  - Last 24 Hours
  - All Exam Statuses
Filters

- Example 2:
  - “CR” and “DX” (DR) images for patients in
  - “Critical Care” Units
  - For Body Part “Chest”
  - “Stat” priority
  - Today
  - “Unread Only”
  - “Completed” Exam Status
Primordial

Provides an advanced Workflow & Communication tools.

Presents Patient Information in Context
Primordial Palette

- Instant Messaging (IM)
- RadMail
- Calculators
- Personal Scratchpad
- Tech note, Follow-up
- Scheduled Exams
- RadScan

Opens applications in context (EDR, Epic, Onbase/Imagenow, etc.)
Instant Messaging – realtime communication.

Search Who’s Online
- By Location
- By Role (Radiologist/Technologist/IT/etc.)
- By Name

Other Information Available:
- Location individual is signed on from
- Tel # individual can called when online

Eg: If a Tech needs to get in touch with a Radiologist for a positive PE, then the Technologist can select the location and Role from the drop down menu and then look for Radiologist that are online to communicate with on the case.
RadMail

Mails

History
Calculators

- Adult/Peds GFR Calculator
- Adrenal Characterization
- Gestational Age
- Volume
- BMI
- Scientific Calculator
Scheduled Exams

My Tools

Scheduled Exams by Modality

List of Scheduled exams +/- 24 hrs.
<table>
<thead>
<tr>
<th>Name</th>
<th>MRN</th>
<th>Acc</th>
<th>Date/Time*</th>
<th>Mod</th>
<th>Procedure</th>
<th>Dept</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 06:00:00</td>
<td>CR</td>
<td>XR PORTABLE CHEST AP</td>
<td>TXR</td>
<td>CHST</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 06:00:00</td>
<td>CR</td>
<td>XR PORTABLE CHEST AP</td>
<td>TXR</td>
<td>CHST</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 00:00:00</td>
<td>CR</td>
<td>PED XR CHEST _ ABD PORTABLE</td>
<td>TXR</td>
<td>CHAB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 00:00:00</td>
<td>CR</td>
<td>XR PORTABLE CHEST AP</td>
<td>TXR</td>
<td>CHST</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 00:00:00</td>
<td>CR</td>
<td>XR PORTABLE CHEST AP</td>
<td>JXR</td>
<td>CHST</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 00:00:00</td>
<td>CR</td>
<td>XR PORTABLE CHEST AP</td>
<td>JXR</td>
<td>CHST</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2010-09-12 00:00:00</td>
<td>CR</td>
<td>PED XR CHEST _ ABD PORTABLE</td>
<td>TXR</td>
<td>CHAB</td>
</tr>
</tbody>
</table>
Tech Note

- Patient Information
- Exam Status
- Links to patient info in EDR/Epic
- Scan Documents
- Reason for Study
- Protocol Information
- Pre Acquisition Notes
- Contrast Information
- Additional Info
- Additional Notes
Scan Documents

- Questionnaires
- Consent Forms
- Other Documents
- Requisition forms
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