User Pre-Release Notes

for RADNET rRIS
Build 1.23

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1. Purpose

This document describes some of the new features and changes implemented in rRIS as of the end of Sprint 23. This pre-release version of rRIS is referred to as Build 1.23.

Only features which can be visually demonstrated to the user will be outlined in this document.

2. Intended Audience

This document is created by the rRIS Development team for the RadNet RIS management team.

3. Installing/Accessing the Application

The installation instructions for the rRIS client have been posted to the RadNet Wiki page at
http://mdbal01rdtweb/Wiki/

Under the RIS menu, click on the rRIS page. The credentials to access the page are:
Username: rRIS
Password: Summerside

Please note that Build 1.23 is considered a new core release of the application and will require a reinstallation of rRIS. This is accomplished by navigating to the rRIS shared installation drive and running the CoreInstall.bat file (ex: I:\RISDeployment\CoreInstall.bat)

If you experience difficulties accessing the application, please do not hesitate to contact Darcy Noye with the PEI RIS Development Team.

4. New Features and Enhancements

Radiologist Menu Changes

The radiologist menu has seen some changes in Build 1.23. As displayed in Figure 4.1 the menu options have been updated. Before we had "Exam Done" we now have "Pending Dictation" and "Transcribed" is now "Pending Signature".

Also instead of prefixing user specific work list with "My xxx" work list we now simply state "xxx" work list To indicate a work list that is non-user specific we suffix the name with "(all)", which would likely be seen by admin type users. The user specific work list would usually be the norm, and always be visible. This has the effect of reducing visual clutter on the items most likely visible and used by the user.

The new Pending dictation work list will show all items in exam done that are assigned to the user or not assigned to anyone AND suspended by the user or not suspended by anyone.
In previous versions the current selected row was the starting point with the next exam in the work list loaded in Dictate window next. Now it will always start at the top available row, moving to the next available in the work list.
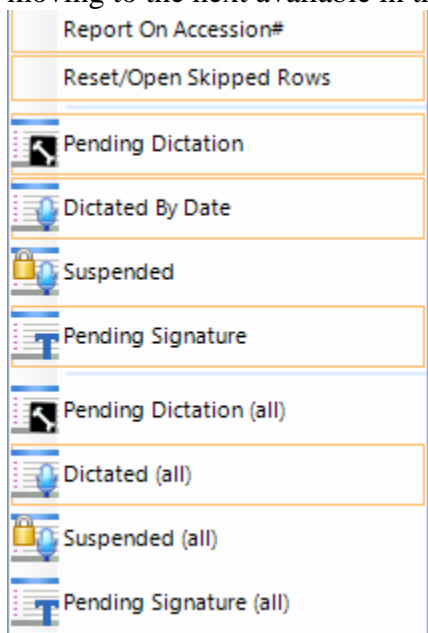

Figure 4.1 – Radiologist menu

Rad Drop Down Buttons with Ability to Assign Skip / Continue Session

New button controls have been added in Dictate and Sign Reports data windows for build 1.23. Next to the buttons is a downward arrow indicating that there is more than one potential action that can be completed on a particular button control. Figure 4.2 displays these buttons, with the Submit button menu expanded showing alternate actions. Hover the mouse pointer over the button will show its default value. Clicking directly on the button will perform the assigned default action.

You can see in Figure 4.2 that two option from this buttons drop down list have bypass VR. Selecting one of this menu options will submit the dictation skipping voice recognition.
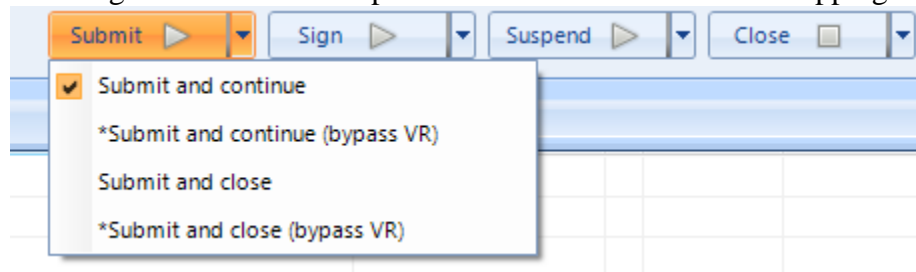

Figure 4.2 – Radiologist drop down buttons

To change the default action of the button, hold down the CTRL key on the keyboard and select the action from the drop down list. The option selected from the list will be performed as well as change the default setting for the button. When the default action is changed for a button, the text on the button will also change.

Some actions are preceded by an '*' (as displayed in figure 4.2), these are the actions that cannot be defaulted. If the user attempts to default that action a message box would be displayed.
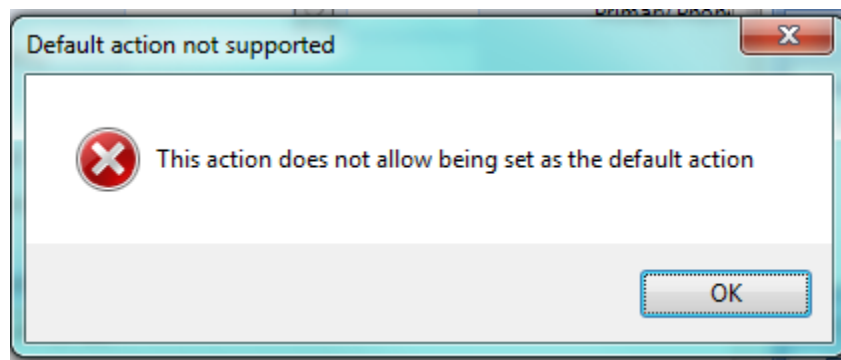

Figure 4.3 – Message informing user the action cannot be defaulted to the button

Actions are defined as "button action" and continue or "button action" and close. Referring to Figure 4.4, you will notice ICONS on the buttons as play ▷ or stop ☐. Assigning actions that are to continue to the next record on the work list display the play ICON, and actions that are to complete action and close data window to return to the work list will have the stop ICON.
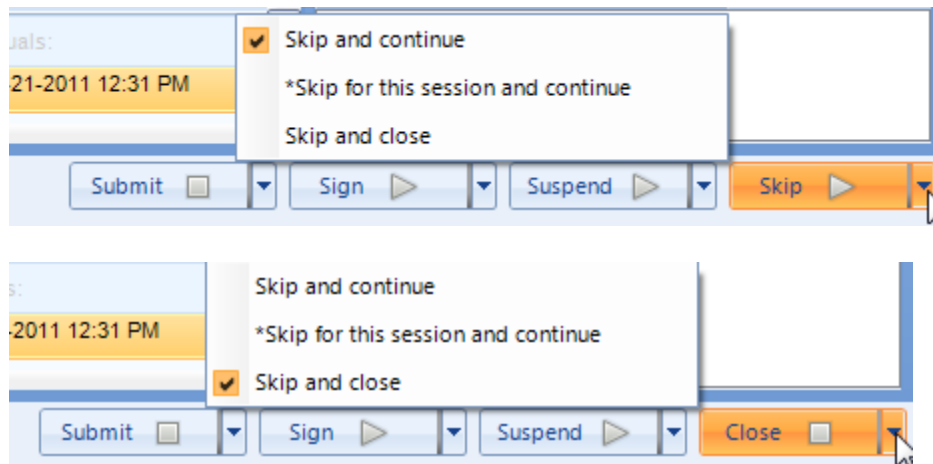

Figure 4.4 – Default button changed. Default action checked in drop menu with text on button also changed.

In figure 4.4 the menu options are to skip the current exam and a specified following action. In this example Skip and Close if defaulted with the action being to simply close the Dictate window.

Skip and continue will skip the item for the current workflow instance. To access this exam in the Dictate window again, it can be opened directly from the work list as normal, or if the user completes the entire work list, then the skipped rows are accessed next.

The final menu option of "*Skip for this session and continue" will mark this exam as such. Unlike "Skip and Continue" once the user completes the work list, exams flagged "*Skip for this session and continue" will not be accessed during the normal "next available exam" work flow. If the user so chooses, they can access the exam via the work list, or if the exam(s) are to be added back into the "next exam" work flow, the user does have the ability to manually add these skipped exams back into the workflow by resetting skipped rows via the Radiologist menu option displayed in Figure 4.5. Also in Figure 4.5 is the window that opens. The user can reset individual rows or all of the skipped rows in this list.
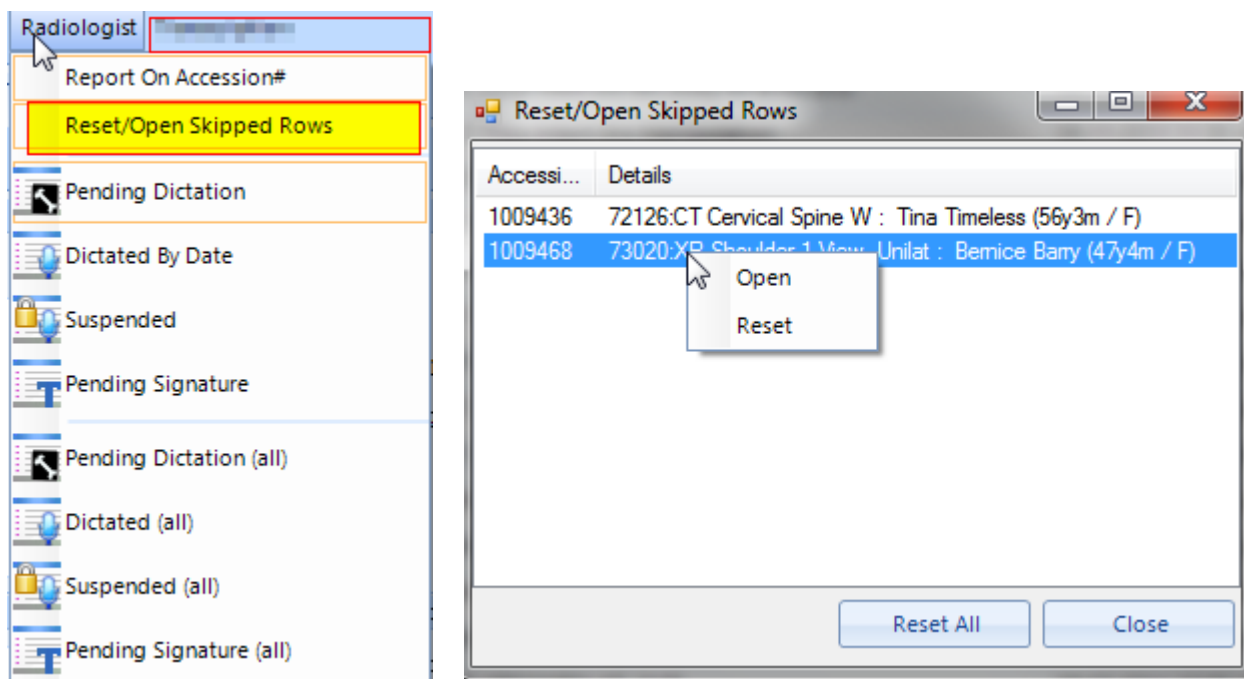
Figure 4.5 – Reset/Open Skipped Rows menu option and Window

Insurance Policy Mask

In build 1.23, the insurance policy number mask has been changed. The "@" sign now represents any letter and the "#" sign now represents any number.

As before, in the event that the policy mask is wrong and the patient insurance policy does not fit the mask, the user can prefix the policy with a "+" character to bypass the policy mask. Any study with an insurance policy that begins with a "+" will be flagged as a billing exception and held until the "+" is removed

Carrier code	Description	Phone	Fax	Address1	Policy number mask	
Contains: ▽	Contains: ▽	Contains: ▽	Contains: ▽	Contains: ▽	Contains: ▽	Co
➧ 01400030	CHIDI / TQIWO AGBAJE ESQ.	4105662007	4105586417	1724 WOODLAWN DRIVE		
01400046	CHASE CHASE & HAMMERSCHLAG	4104884100	4104884174	1190 W. NORTHERN PARKWAY		SU
01400051	CSEK	4107521880	4105471996	347 N. CHARLES ST		
0140265	KADISH & KADISH	4102961898	4103378504	11 E LEXINGTON ST	@#######	
01406201	MOBLEY & BROWN	(410)385-0398	4103855851	1 NORTH CHARLES ST		SU
0140621	PREVAS AND PREVAS	4107522340	4103320474	231 E. BALTIMORE ST.		SU

Figure 4.6 – Insurance Policy Mask

Multiple "Contains" Column Filter

A new work list filtering addition has been added in Build 1.23. The user can now filter a column within a work list by entering multiple search criteria. The separator "or" (case insensitive) or "|" (pipe) will separate multiple search criteria and apply a "contains". Note the search string '' (single quotes) will match empty entries or null. This can also apply to the "does not contain" filter if specified in the filtering list of options. This is achieved by selecting the filter ICON on the column header and selecting the "does not contain" option.

Last name	First name	Status	Procedures	Order date	Re
Contains:	Contains:	Contains:	Contains: xr or ct 3 | "	Equals:	Con
Hughes	Stuart	OrderSigned		07-21-2011 3:25 PM	
Hughes	Stuart	OrderSigned		07-28-2011 10:46 AM	
Acorn	Adele	OrderSigned		08-03-2011 8:55 AM	
Knotter	Harry	OrderSigned		08-10-2011 9:11 AM	
Hill	Monica	OrderSigned		08-10-2011 4:41 PM	
Jones	Abel	OrderSigned	70140^XR Facial Bones 1-2 Views	06-15-2011 2:08 PM	
Test20	John	OrderSigned	71010^XR CHEST PA ONLY	08-12-2011 3:04 PM	
Walsh	Brenda	OrderSigned	72050^XR CERVICAL SPINE MIN 4 VIEWS	10-19-2011 3:16 PM	
Xroller	Xena	OrderSigned	72100^XR LUMBAR SPINE 2 OR 3 VIEWS	10-19-2011 12:48 PM	
Cone	Clare	OrderSigned	73500^XR Hip Unilateral AP | CT29^CT Hip Art...	08-03-2011 9:22 AM	
Smith	Kitt i o	OrderSigned	74000^XR ABDOMEN AP, KUB	07-19-2011 3:04 PM	
Barry	Mary7	OrderSigned	74020^XR ABDOMEN FLAT & ERECT OR DEC...	05-25-2011 10:09 AM	
Dwarf	Grumpy	OrderSigned	CT13^CT 3 Phase	05-10-2011 3:55 PM	
away	right	OrderSigned	CT13^CT 3 Phase	05-12-2011 4:08 PM	
zxcvsdf	zsdzxdf	OrderSigned	CT13^CT 3 Phase	05-12-2011 4:20 PM	
Jonah	Trudy	OrderSigned	CT13^CT 3 Phase	06-06-2011 11:40 AM	
Load	Heavy	OrderSigned	CT13^CT 3 Phase	07-19-2011 1:17 PM	
Mcwilliams	Carry	OrderSigned	RD9^XR Elbow, Bilat 2 Views	05-06-2011 1:05 PM	
Houphmeyer	Artie	OrderSigned	RD19^XR Hand 2 Views & Wrist 2 Views, Unilat	10-19-2011 8:27 AM	

Figure 4.7 – Multiple contains filter on procedure column. Notice "or" and "|" (pipe) is used.

Also implemented in this build is the ability to specify filter values via a multi select window. Currently this has only been applied to the Modality type column as displayed in figure 4.8. To

access the Filter Values for Modality Type window double mouse click the area of the column where the filter value would be entered.
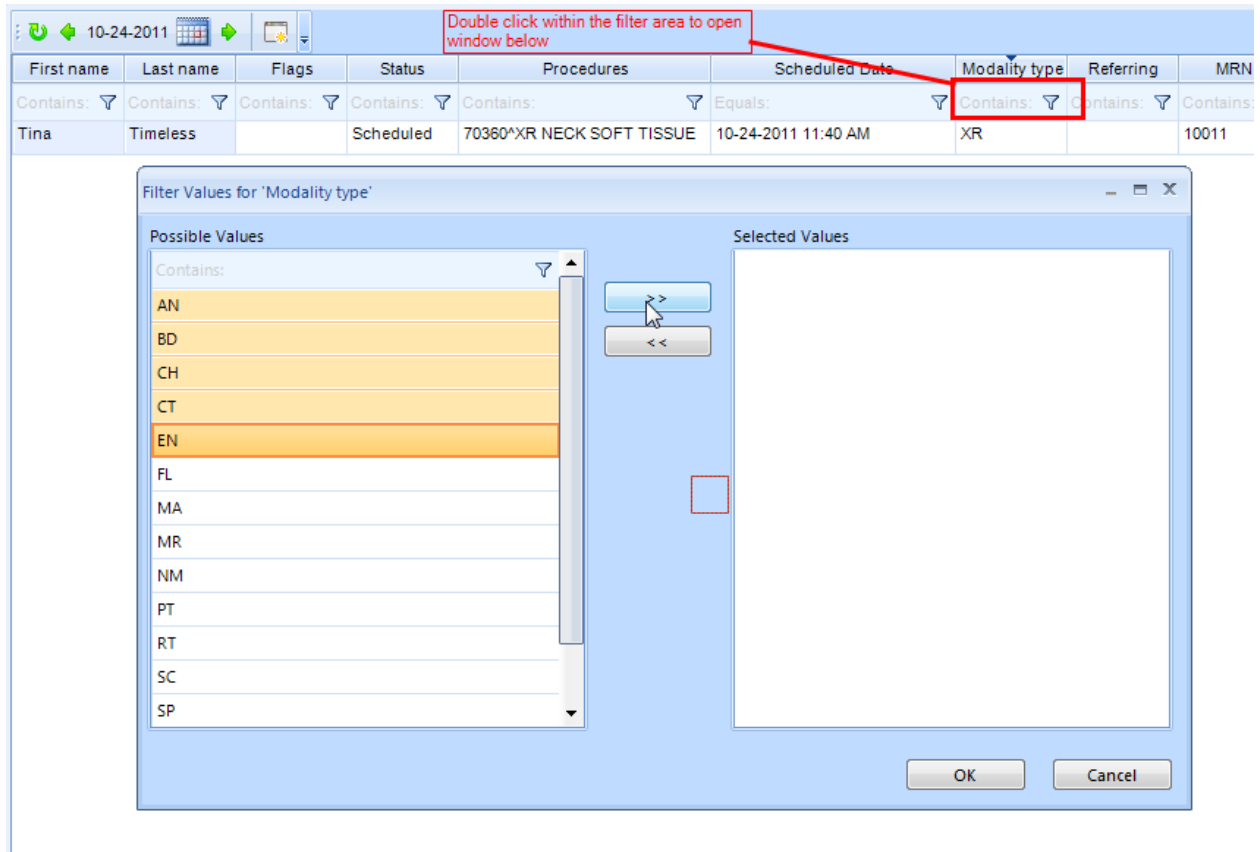

Figure 4.8 – Adding multiple filter values.

Verbal Order Changes

Verbal order was added in build 1.21. This build introduces a few changes. A multi-type control was added and mapped to our list of procedures. A checkbox was also added that allows the user to manually type free-form text instead of using the multi-type ahead

Figure 4.9 – Create Verbal Order Exam selector. Adding check to "Enter unlisted exam(s)" allows for free form text.

Amended Order

Utilizing the Verbal Order feature, Amended Order will also have a fill-in form type of feature that is stored as a scanned document. A radio button will be added to the verbal order screen to allow it to be switched to an amended order. Upon selecting the Amended Order radio button the label for "Signs and Symptoms" (see figure 4.9 above) changes to "Comments" (See figure 4.10 below). The rest of the workflow is the same as Verbal Order. Of course the rendered document is altered to say "Amended order" at the top, and it also has the comments field, and does not have a signs and symptoms page

Figure 4.10 – Report External to rRIS in Perform Exam data window

Amended Order Form

Created on   10-24-2011

Patient Name   Yolanda Yeesh   Phone

Patient MRN

Date of Birth   07-21-1956

Ordering Physician   Darcy Noye   Physician Phone #   (541) 574-5855

Representative from Referring Physician Office:

Name   Betty

Title   Recption

Exam(s) changed to:

Selecting the check box "enter unlisted exam(s) allows the user to enter text.

Comments

The label above has changed to Comments after selecting the Amended order radio button.

Team Member taking Amended Order

Name   Darcy Thane Noye

Title   scheduler

Figure 4.11 – Amended Order

Film-Image Request Work Flow.

Additional enhancements have been made to Film – Image Request work flow in build 1.23. When the user is completing the Image Request they will now have the ability to change its status when creating a request. This will allow a user create and complete the request in one step. The "complete" status has been split. . Now there are "Sent" and "Picked Up". This will allow the system to differentiate how a request was completed. Also, when a request is picked up, the "Identification Verified" check box is enabled and becomes required.

Figure 4.12 – Image Request

A user can edit request for images from the scheduling, registration and technologist screens. A new tab called "Image Request" has been added to aforementioned user's windows. The tab will contain the number of image requests for the study. A study with no requests for images with show "Image Request (0)" in the tab page title.
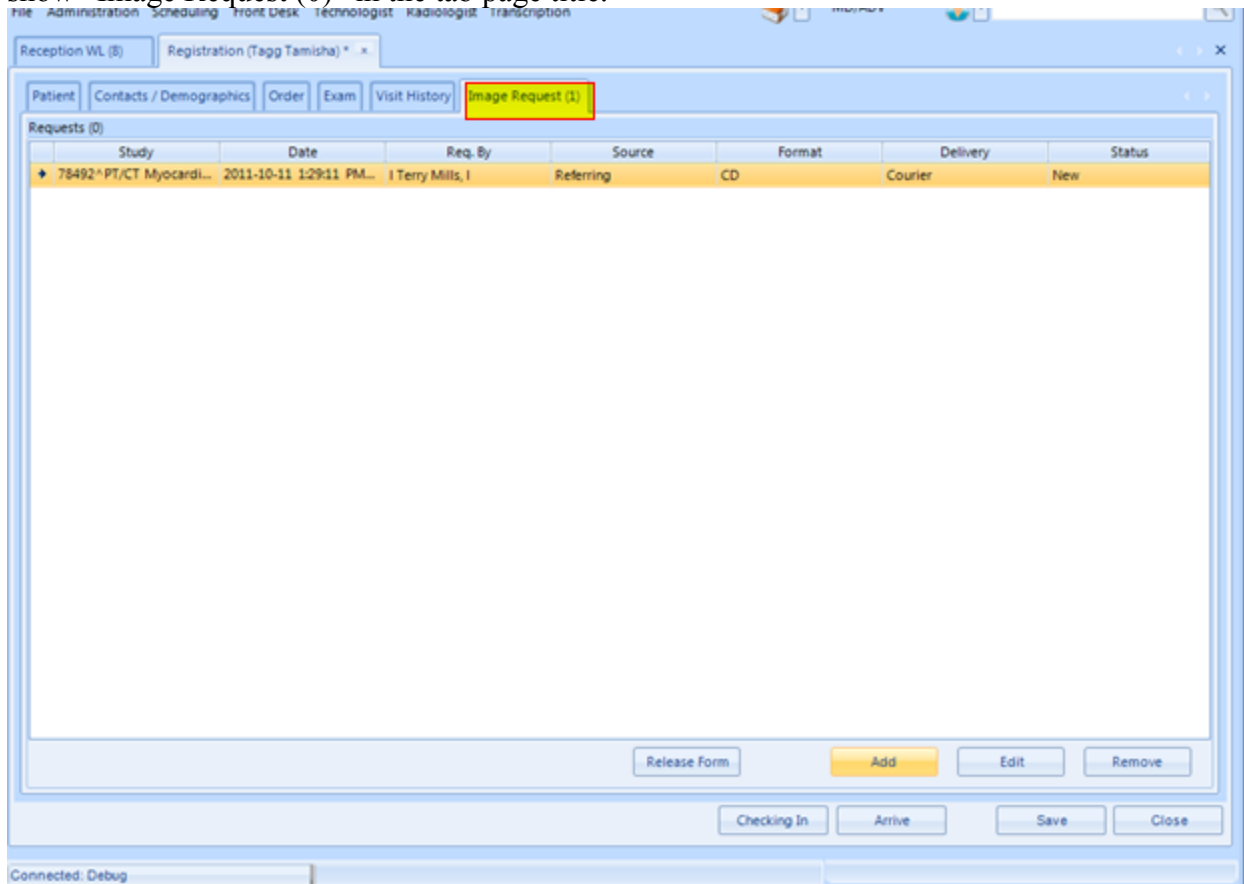

Figure 4.13 – Image Request tab in Registration data window

Only new requests can be removed (i.e. not save to the db). In order to "remove" other requests they have to be cancelled. This can be accomplished via the Image request tab or by editing the request from the Image Request work list.

Patient Relation Behavior Changes

When entering Insurance Policy Information, the Policy Holder Information fields must be completed. To help ease of use, when selecting "Self" from the list, all fields will be copied over from the patient record, provided the data exist.

If the user chooses "Spouse" or "Child", all fields except the first name will be pre-populated. Any other relation type selected will have the field left blank.

Figure 4.14 – Insurance Policy Holder Information

Two other areas of the application also currently use this feature. The Contacts/Demographics tab / Responsible Party section will utilize the same features. Also approved medical access will use this feature with the exception of Self which is not an option.

Attachment / Scan Document Enhancements

In build 1.23 enhancements and clean up items were addressed for Attachment / Scan documents.
Clean up issues are:
- Re-classifying an attachment back to its original classification, it will join the attachment document entry for any other of that type that were scanned or attached at the same time.

- Re-ordering can now be accomplished when viewing scans through dragging and dropping the thumbnails.
- Previously, the popup's for the scan document list only closed with the 'x' in the top right corner, now we also have an ok button at the bottom of the screen.
- Notes added to the attachment are displayed in the lower left when viewing the attachment.
- The Attachment viewer list now has buttons to scan, import, verbal order, and a button for advanced scanning options.
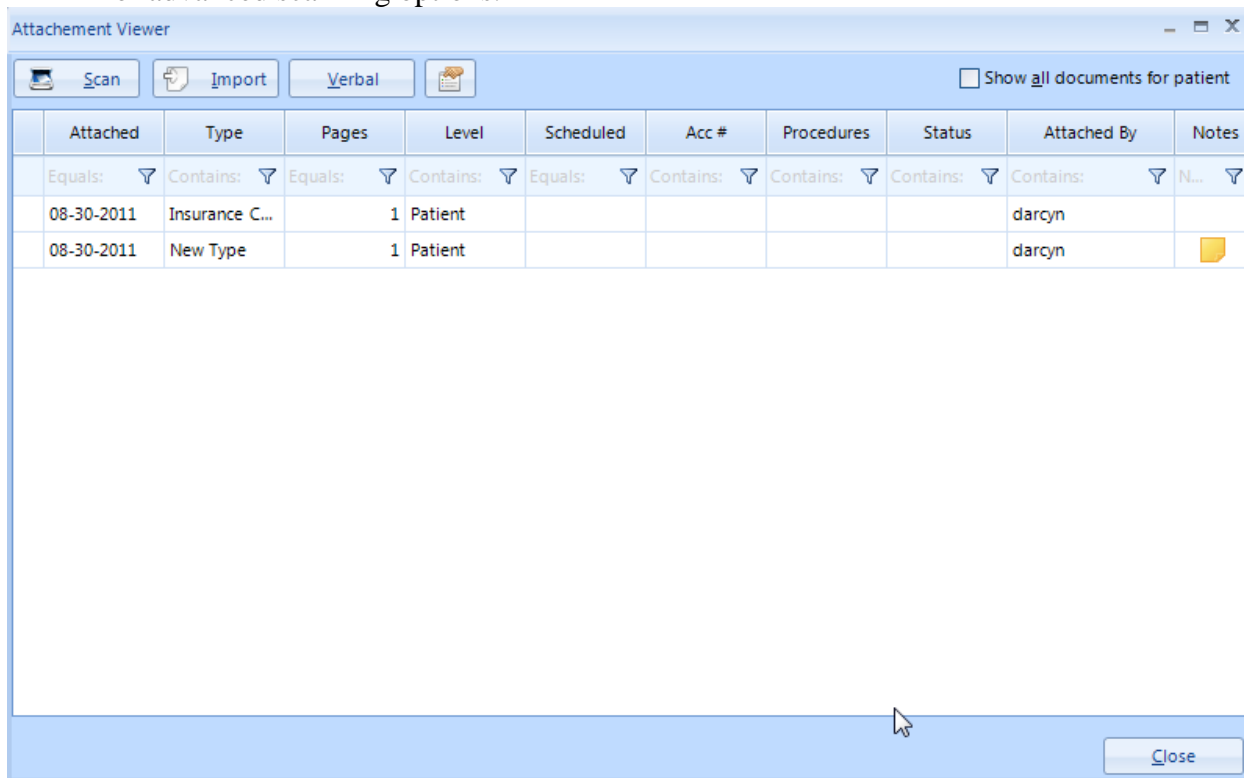

Figure 4.15 – Attachment Viewer button changes

Enhancements for Scanning / Attaching documents are:
- To **optimize the import workflow**, if the directory you are importing from contains in its name "**AutoDeleting**", then all the images in the directory will be auto selected when you open up the Import dialog and they will be deleted after the import.
- When viewing the scanned image or attachment the user can right click on an image and choose **Straighten**, next they are asked to underline a word in the image. The user has option to apply or cancel changes. When they choose Apply, the image will be rotated making the line they drew strait. An undo option is also available from context menu or keyboard shortcut <Ctrl>+ Z

- Also from the context menu an image cropping feature has been added. The user selects the menu option, click and drags the desired area, and select Apply or Cancel. Once applied the cropping can be reverted back by using the same Undo options for Straighten.
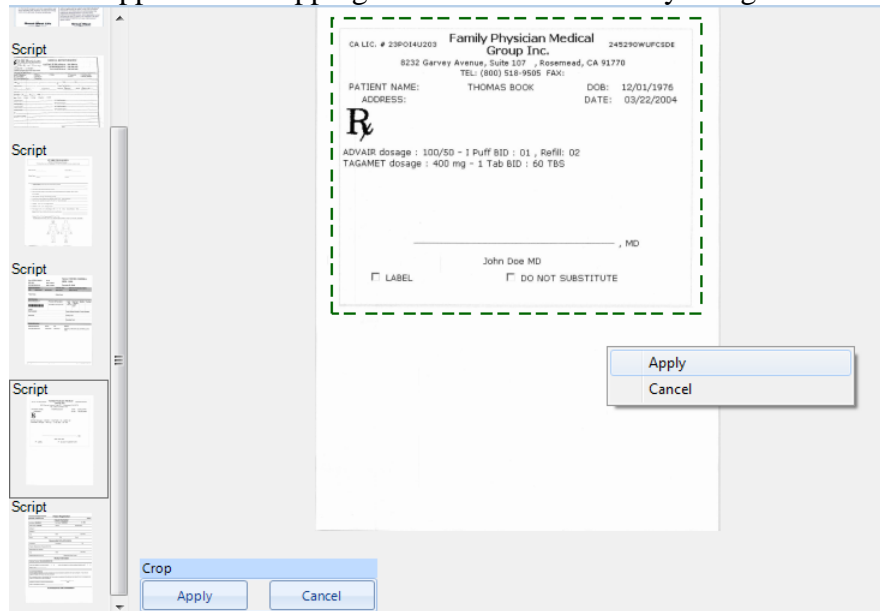

**Figure 4.16 – Displaying scanned document using cropping feature.**

Patient Growth Chart

A part of the Meaning Use requirement 170.302 part of Vital Signs, the patient growth chart has been added in build 1.23. A new table called l_bmi_percentiles to hold the data table from the CDC in Atlanta, GA. This table provides the BMI to percentile values based on age and sex of the patient.

A management report has been created to first provide the standard values based on the patient sex. Applied plot marks to indicate the patient BMI on the grid against the CDC values as displayed in figure 4.17. If the patient has multiple visits and the age in months is the same then the calculation provides an average of those results for plotting to the chart.

2 to 20 years: Boys
Body mass index-for-age percentiles

Patient Name: [ ] Sidney Bob1
MRN: 750
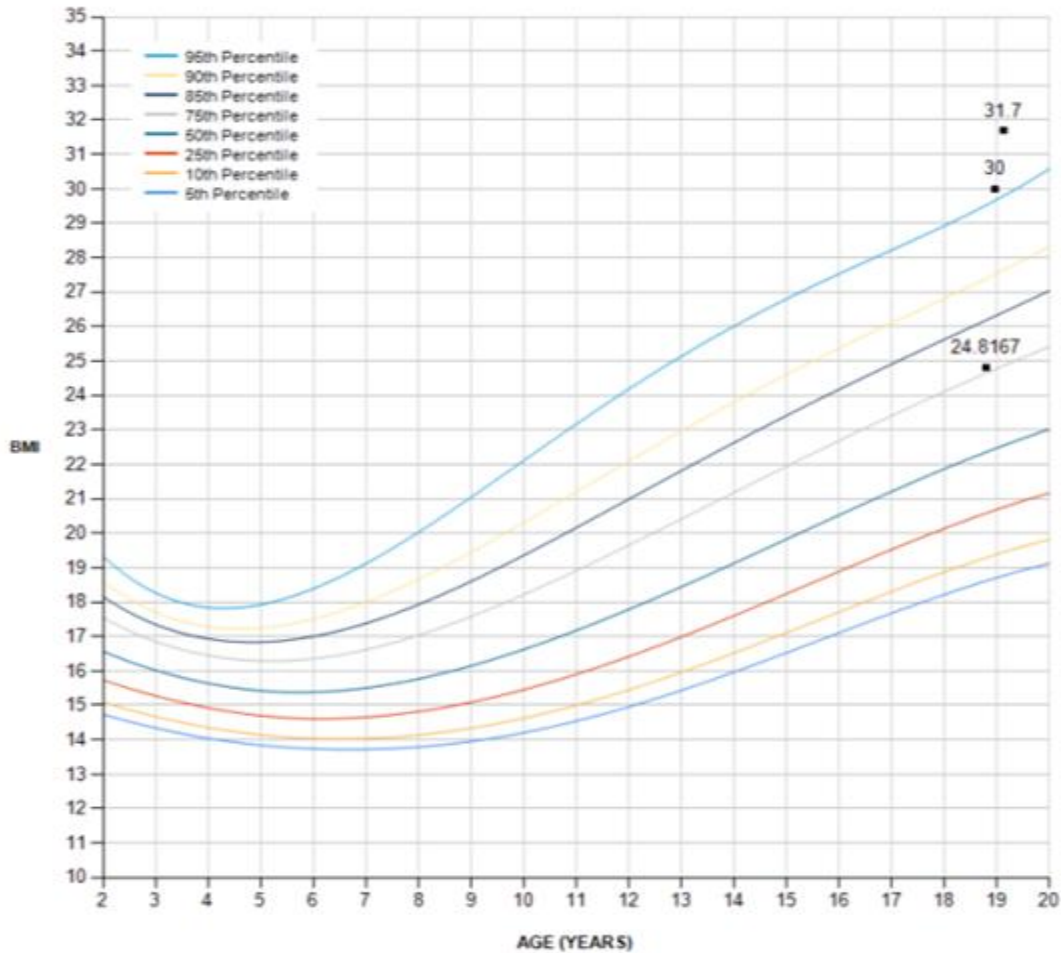
Exam Date	Age (years)	Age (Month)	Weight (lbs)	Height	BMI
5/2/2011 1:02 PM	19	225	180	5ft 4in	30.9
5/3/2011 6:25 AM	19	225	30	2ft 10in	18.2
5/3/2011 10:44 AM	19	225	70.4	4ft 3in	19
5/3/2011 10:44 AM	19	225	70.4	4ft 3in	19
5/6/2011 11:14 AM	19	225	165	5ft 1in	31.2
5/30/2011 1:48 PM	19	225	173	5ft 3in	30.6
7/20/2011 2:19 PM	19	227	180	5ft 5in	30
9/16/2011 1:36 PM	19	229	157	4ft 11in	31.7

Figure 4.17– Patient Growth Chart Management Report

Though not a requirement, the patient specific data in a table below the chart for data validation will also be displayed.

Educational Resources

Part of the Meaningful Use requirement 170.302 (m) Patient Education, Educational Resources. Previous versions had Google search functionality. The search has been extended, becoming configurable supporting multiple search providers.

Search providers code	Description	Display order	Url	Access string code	Launch external flag	Active
Contains:	Contains:	Equals:	Contains:	Contains:	Contains:	Contains:
google	Google	1	http://www.google.com/search?q={0}		Y	Y
webmd	WebMD	2	http://www.webmd.com/search/search_results/default.aspx?query={0}&sourceType=undefined		N	Y
*			Click here to add a new row			

Figure 4.18 – Lookup table SearchProviders entries

When adding a new search provider it is important to replace the search parameters with the placeholder {0} as this will be substituted for the text box on the main app when the search is called.
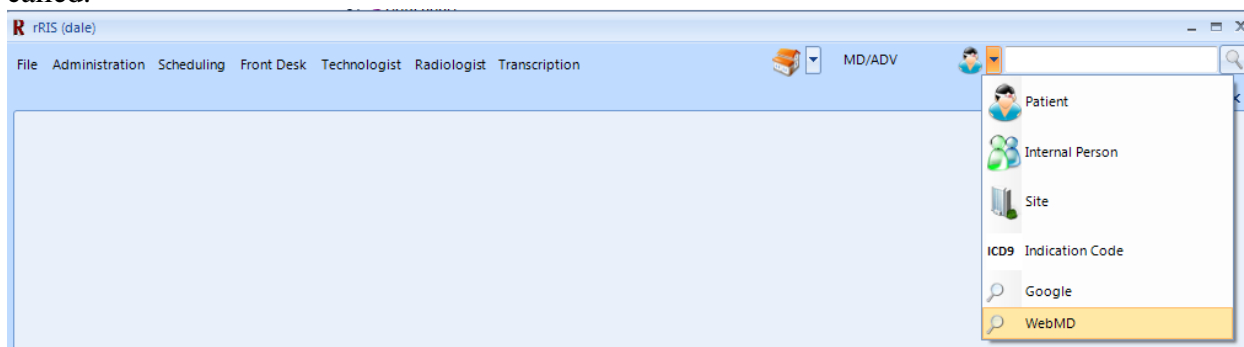

Figure 4.19 – Displaying Search Provider options

Prep Instructions Hyperlink

A hyperlink has been added to the Prep Instructions sections of the scheduling, registration, technologist windows
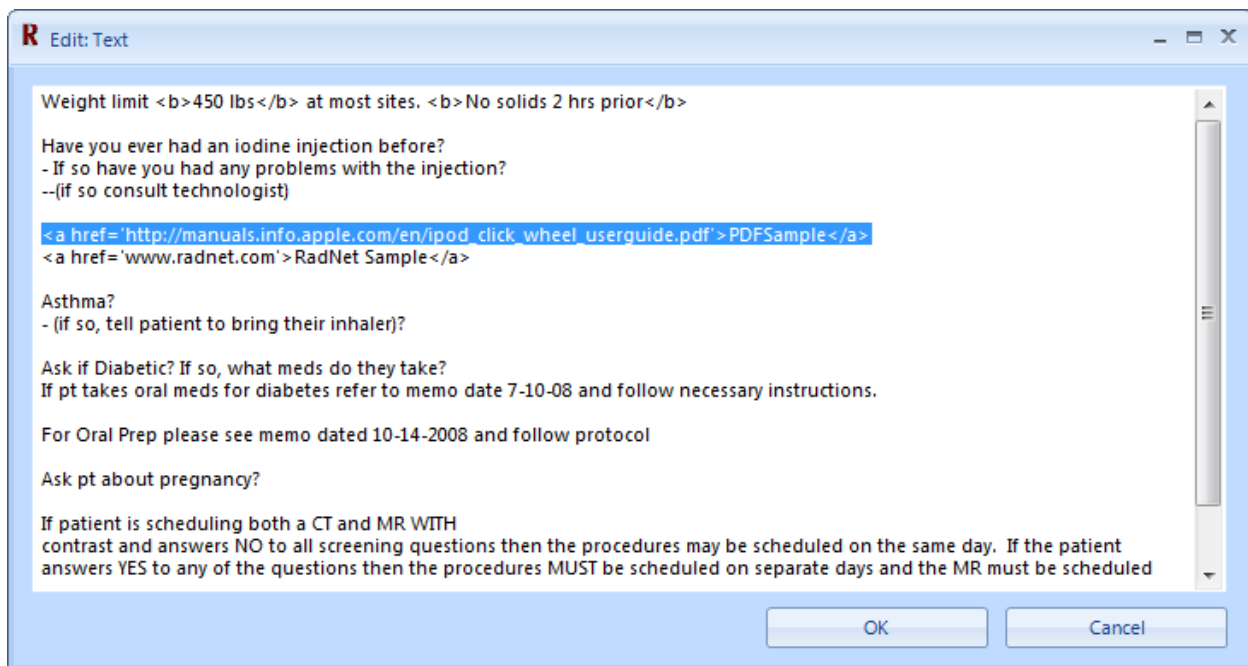
Figure 4.20 – Adding hyperlink to prep instructions

Hyperlinks are edited in the lookup editor for the prep instructions and are coded as shown above as standard a href (html) tags.

Figure 4.21 – Sample displaying hyperlinks in Prep Instructions.

Proxy Signing User Preference

A new user preference "Proxy Signing" has been added. Users can specify who will be able to proxy sign on their behalf. Also as a display only, it will inform who you (the user preferences of the user logged in) that you may sign for.
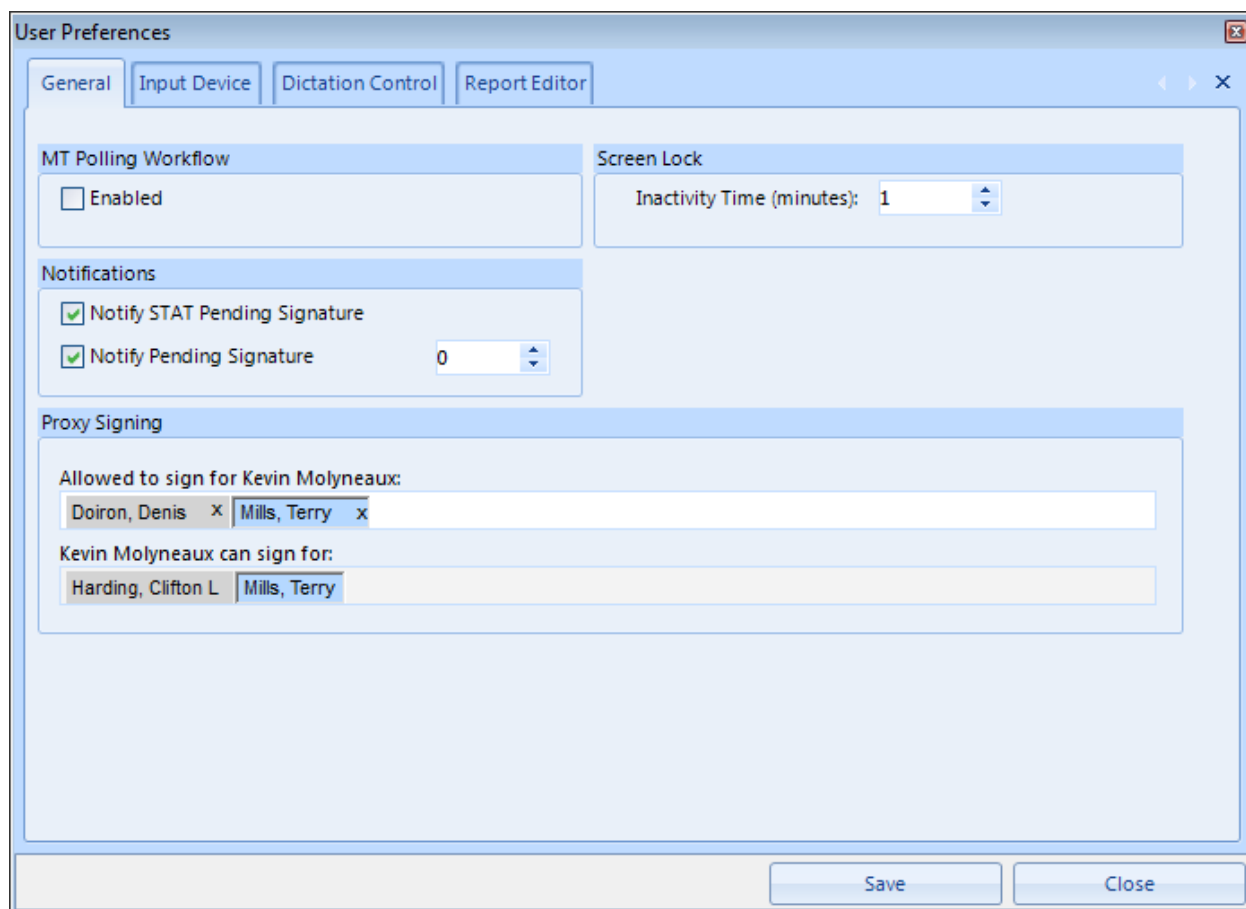
Figure 4.22 – Displaying User Preferences, Proxy Signing. Notice that the "Can sign for" is read only.

For admins, Proxy Signing can also be administered from the Personnel editor.
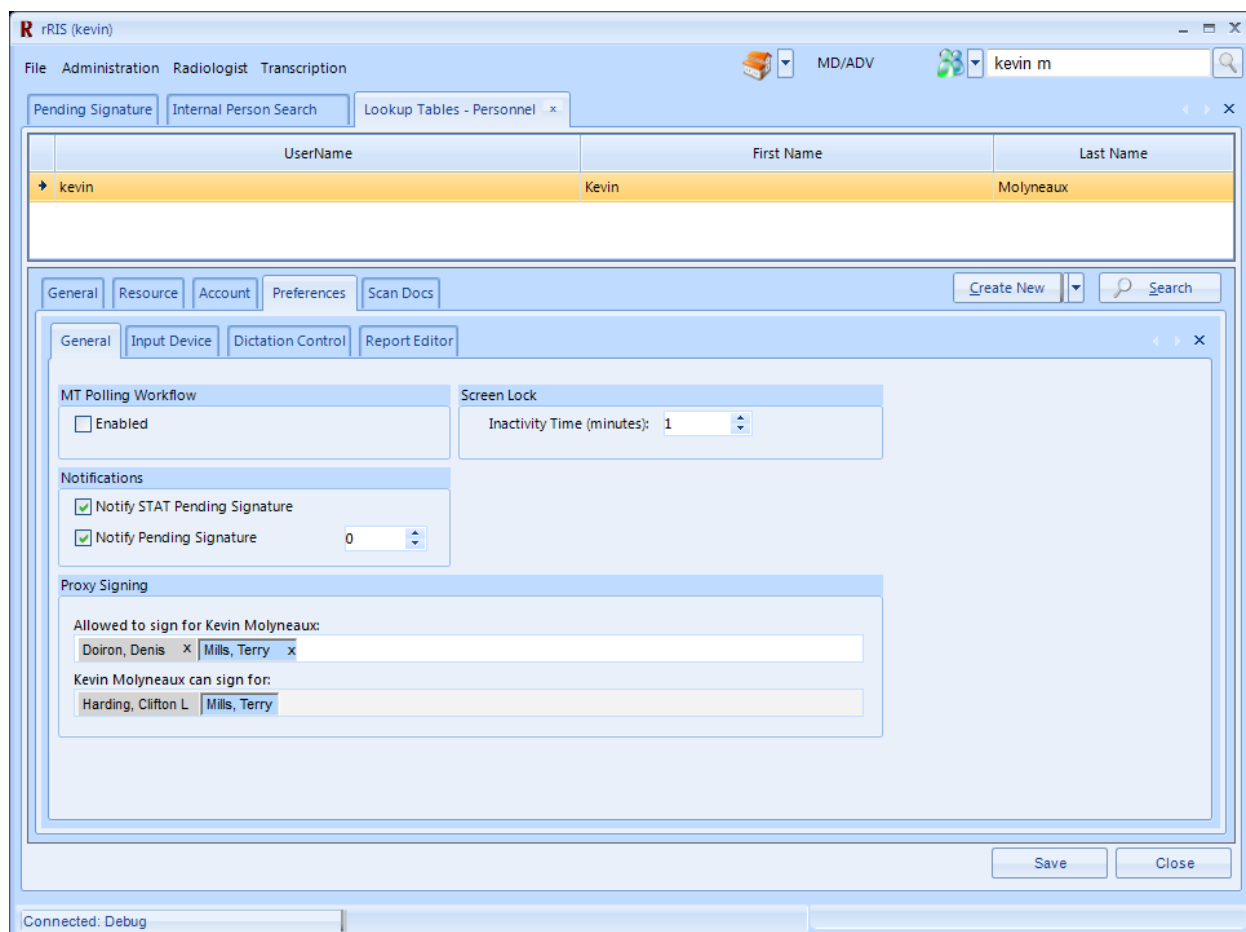
Figure 4.23 – Personnel editor

5. Known Limitations

Bugs, Suggested Features, and Support Issues are tracked in a web based system called Redmine. The following is a snapshot of the issues found in Build 1.23.

#	Status	Subject	Category	Target version
630	New	Manage policies that have policy number that begins with + symbol are not added to Billing Exception work list	Thick Client GUI	1.23
629	Resolved	Manage Policies - Policy Holder information fields don't populate everytime	Thick Client GUI	1.23
628	Resolved	IVT - Selecting a carrier returns error	Web Services/DB	1.23

626	New	Removing procedure will delete all attachments associated with procedure stored at exam level	Thick Client GUI	1.23
625	Resolved	Changing order at the time of scheduling	Thick Client GUI	1.23
624	New	Schedule exam, selecting time from Advance tab can make available times "jump"	Thick Client GUI	1.23
623	Resolved	Edit order > Attachments > selecting Scan or Import prompts to select document type.	Thick Client GUI	1.23
621	New	Attempting to create an order with a newly created unknown referrer throws exception	Thick Client GUI	1.23
619	New	Orders to Schedule > Attempt to Schedule on locked order then cancel throws exception	Thick Client GUI	1.23
618	New	Orders to Schedule > Attempt to Mark Order on locked order then cancel returns error on getdata	Thick Client GUI	1.23
617	New	Registration / scheduling / edit order open in read only mode from orders to schedule prompts to save changes	Thick Client GUI	1.23
616	Resolved	Radiologist > Diagnose > Skip and continue	Thick Client GUI	1.23
615	Resolved	Reset/Open skipped rows	Thick Client GUI	1.23
611	Resolved	Personnel > Edit contact information > Edit address can go blank if user removes text	Admin Tools	1.23
610	Resolved	Personnel Editor - Exception thrown from closing without saving first	Admin Tools	1.23
609	Resolved	Closing Personnel Editor throws exception	Admin Tools	1.23