



fluency for imaging reporting

v 3 . 2

DOCUMENT AUTHOR USER'S GUIDE

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This document and the information contained within are under development in accordance with the planned software development. Content in this document is subject to change during the development process.

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GETTING STARTED

Fluency for Imaging Reporting can be integrated with PACS so that user and patient context will be shared between the image viewer and the reporting application. Depending upon the specific PACS, a separate log in to Fluency may be required.

LAUNCHING FLUENCY

Depending on the specific PACS integration, Fluency for Imaging Reporting may launch automatically upon login to the PACS. If your PACS integration does not automatically launch, double click on the Fluency Reporting desktop icon:




SIGNING INTO FLUENCY

Depending on the specific PACS integration, Fluency for Imaging Reporting may log in automatically. If your PACS integration does not automatically log you in, enter your domain username and password at the log-in screen:



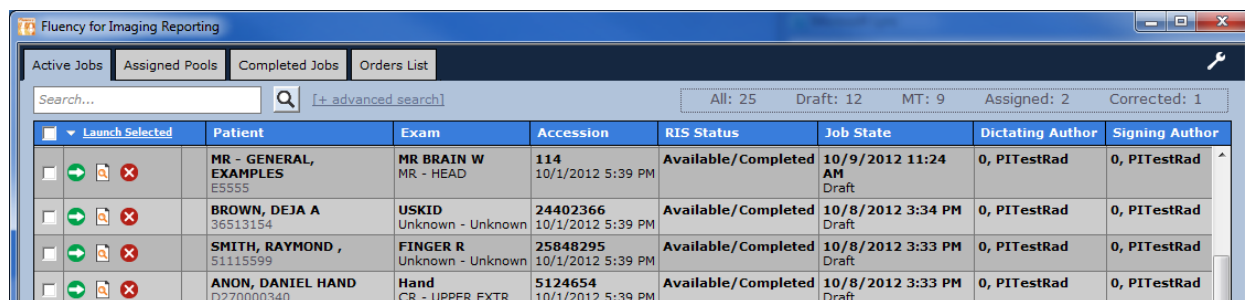
USING THE PHILIPS SPEECH MICROPHONE

While other microphones are supported, the Philips SpeechMike Pro is the preferred microphone for Fluency Reporting. The following table describes the functionality of the microphone.

Microphone	Button	Description
	EOL	Submits audio while in Narrative mode
	Record	Records audio either in Narrative or voice edit mode. The record button can also be used to launch the Fluency window in the iSite integration.
	INS/OVR	Not Used
	F.RWD	Used to Rewind audio during playback or recording. The rewind key can be mapped (as a user preference) to go to the previous field while in voice edit mode
	Play/Stop	Plays/Stops audio during playback of audio recorded in Narrative mode.
	F.FWD	Used to FFWD audio during playback or recording. The rewind key can be mapped (as a user preference) to go to the next field while in voice edit mode.
	Function Buttons	Can be mapped to application functionality as a user preference.
	Trigger	Toggles the minimized/restored state of the Fluency window.

FLUENCY JOB LISTS

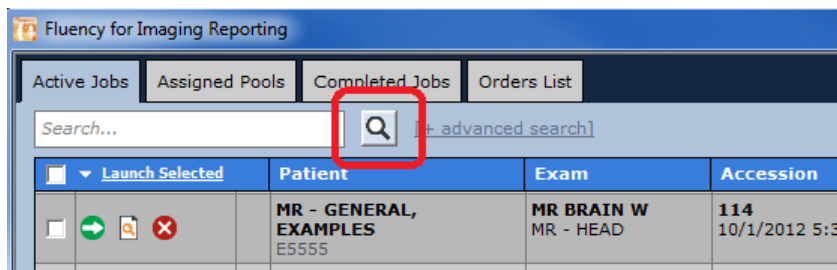
Upon login, the Fluency Job List window will be displayed. The job lists are displayed any time there is not a patient in context in Fluency Reporting.



Launch Selected	Patient	Exam	Accession	RIS Status	Job State	Dictating Author	Signing Author
<input type="checkbox"/>	MR - GENERAL, EXAMPLES E5555	MR BRAIN W MR - HEAD	114 10/1/2012 5:39 PM	Available/Completed	10/9/2012 11:24 AM Draft	0, PITestRad	0, PITestRad
<input type="checkbox"/>	BROWN, DEJA A 36513154	USKID Unknown - Unknown	24402366 10/1/2012 5:39 PM	Available/Completed	10/8/2012 3:34 PM Draft	0, PITestRad	0, PITestRad
<input type="checkbox"/>	SMITH, RAYMOND, 51115599	FINGER R Unknown - Unknown	25848295 10/1/2012 5:39 PM	Available/Completed	10/8/2012 3:33 PM Draft	0, PITestRad	0, PITestRad
<input type="checkbox"/>	ANON, DANIEL HAND D270000340	Hand CR - UPPER EXTR	5124654 10/1/2012 5:39 PM	Available/Completed	10/8/2012 3:33 PM Draft	0, PITestRad	0, PITestRad

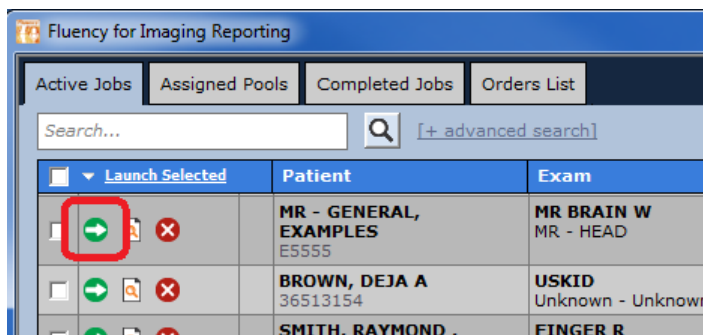
Specific tabs will be displayed based on the roles and permissions of the logged in user. The image above is an example of the workflow for a Staff Radiologist with transcription and residents.

Tab	Description	Role
Active Jobs	A list of all jobs currently in progress. Active Jobs consist of saved drafts, jobs in a transcription queue and jobs initiated through a Resident workflow.	All Users
Assigned Pools	Jobs which have been completed by a Resident and placed into an assignment pool. Any Staff can pull jobs off of the Assigned Pools list to claim.	Staff
Completed Jobs	Dictations which have been recently signed off by a Staff Radiologist (with MM_SIGN permission). For residents, this list will be comprised of dictations for which they were the preliminary author.	All Users
Orders List	A list of available orders which have been through the Fluency system.	All Users
Settings Icon (far right)	Access to manage templates and voice profile, personal preferences	All Users











While Fluency Reporting is designed to listen for requests from the PACS to launch dictations, the job lists can also be used to launch dictations.

To launch a dictation, click on the Launch icon for the corresponding entry.



When launching a dictation from a Fluency job list, the images for the corresponding exam may load in the PACS. This will vary based on the level of integration with the PACS.

Included below is a full list of the icons which appear in the Fluency job lists and what they mean:

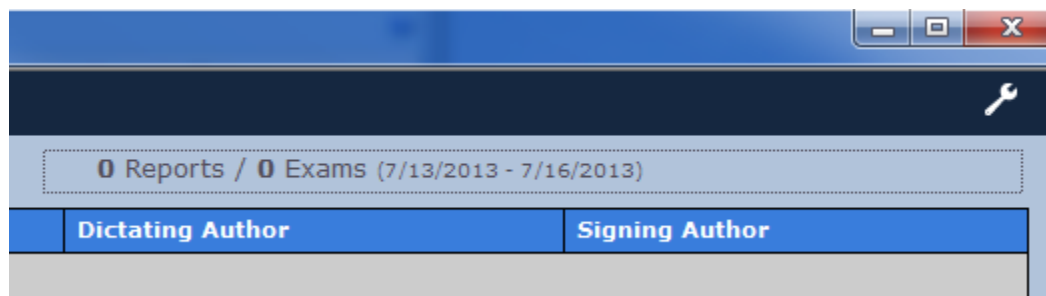
Icon	Description
	Indicates that an Addendum can be created. This icon will only appear in the Completed Jobs tab. Click this icon to create an Addendum.
	Indicates that a draft can be deleted. Click to delete the draft. Once a job has progressed through the worklist (resulting in a RIS update) the draft cannot be deleted.
	Indicates that a job can be launched for editing. Click to launch the report in Fluency
	Indicates that a job is an Addendum.
	Indicates that the report has a draft. Click to launch a preview of the report.
	Indicates that the job is Assigned to Transcription either by the user or a resident. Click to reclaim from the Transcription queue.
	Indicates that a job is being processed in another part of the workflow and no action can be taken.
	Indicates that the job is currently locked by another user and is actively being worked on.

The Active Jobs tab displays a count indicating the number of dictations broken down by type.



Click on a count to quickly filter the list of associated list of dictations. This list will automatically refresh once every minute, however it can be manually updated by clicking on the search button at any time.

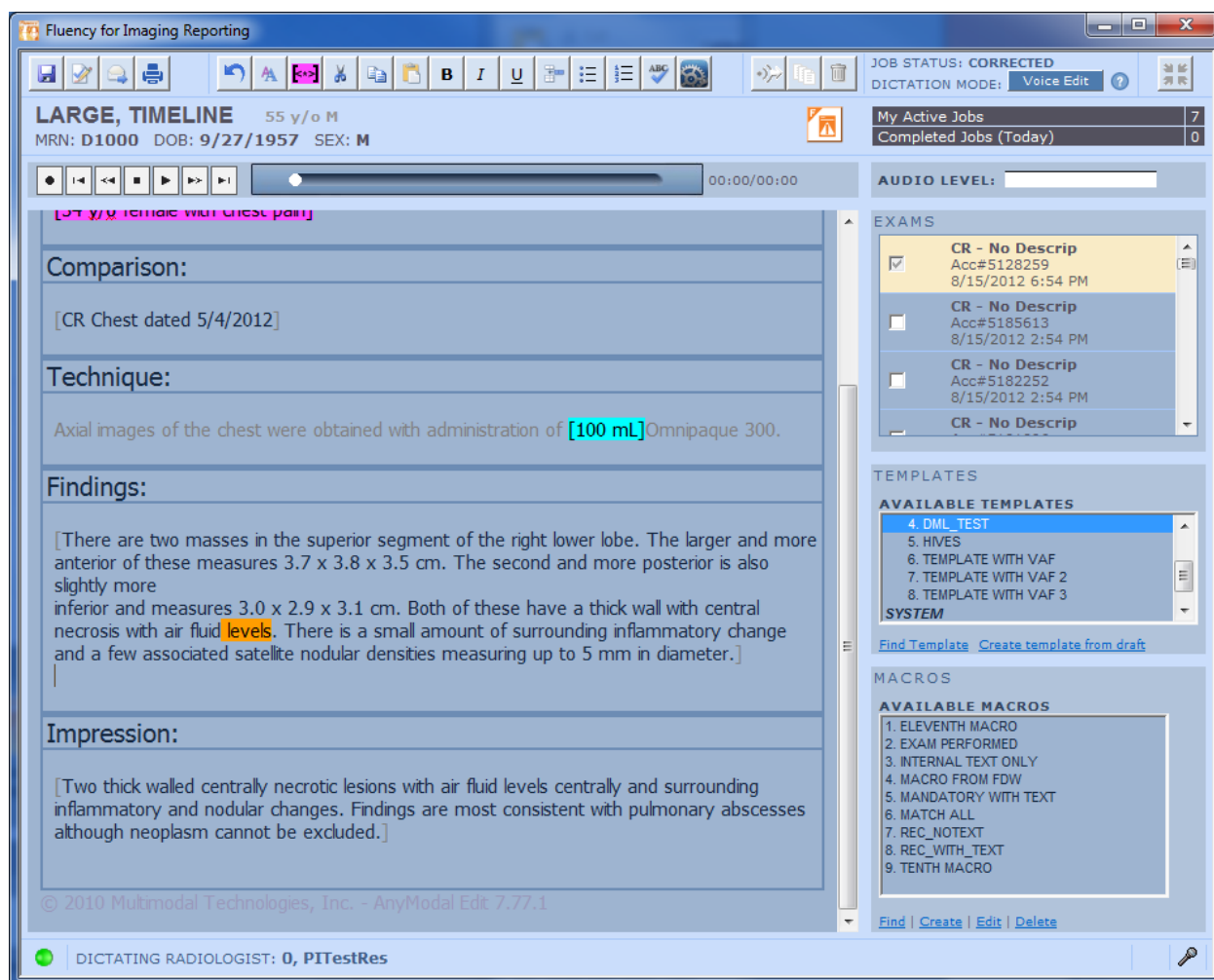
The completed Jobs list displays a count of the jobs (and exams) signed by the current user based on the specified time range.



FLUENCY DICTATION WORKSPACE

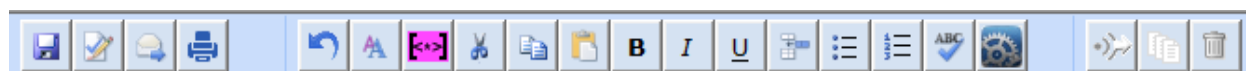
When an exam is loaded for dictation, the Fluency window will display the Dictation Workspace. The workspace is comprised of the following elements:





Element	Function
Toolbar	Contains buttons for commonly used functions
Dictation Mode	Switch between Narrative and Voice Edit modes
Patient Demographics	Shows information about the current patient.
Dashboard	Displays counts for the number of active and completed dictations
Audio Controls	Provides ability to control audio (recording, playback, etc.)
Audio Levels	Indicates the volume during recording
Exams	Shows the exam currently being dictated, along with a list of exams available for association
Templates	Displays the list of "best match" templates for the current exam
Macros	Displays the list of "best match" macros for the current exam
Resident Judgment	Provides the opportunity for a staff to judge a resident draft
Report Preview	Shows the report done in Fluency when performing an addendum
Editor	The main editor window for editing the report.
Status Bar	Shows information about the current user and connection status.




















TOOLBAR

The toolbar is comprised of a number of commonly used functions:

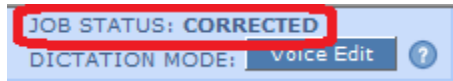


	Save Draft	Ability to save the current report as a draft.
	Sign Report	Ability to sign the report.
	Send to Transcription	Ability to send the current report to an MT for correction/transcription.
	Preview Final Report	Ability to preview the final report.

	Undo	Ability to undo the last action performed.
	Font Size	Ability to change the font size of selected text.
	Insert Token	Ability to insert a token into the report at the location of the cursor. Note: Two tokens cannot be inserted back to back without a space between them.
	Cut	Ability to remove selected text from the current location and place it on the workstation's 'clipboard' for pasting into a new location.
	Copy	Ability to copy selected text from the current location and place it on the workstation's 'clipboard' for pasting into a new location.
	Paste	Ability to paste text stored on the workstation's 'clipboard' into a new location.
	Bold	Ability to apply bold formatting to selected text.
	Italics	Ability to apply italics formatting to selected text.
	Underline	Ability to apply underline formatting to selected text.
	Subsection	Ability to insert a new subsection at the location of the cursor.
	Bulleted List	Ability to begin a new bulleted list or convert selected text to a list format.
	Ordered List	Ability to begin a new ordered list or convert selected text to a list format.
	Spellchecker	Ability to start the spellchecker from the point of the cursor and continue through the end of the report.
	Fluency Settings	<p>Location of additional options of</p> <ul style="list-style-type: none"> • Microphone Wizard • Edit Vocabulary • Update Preferences • Manage my Templates. • About <p>For specific details of the above mentioned, see the Fluency Settings section.</p>
	Submit Audio	Ability to submit recorded audio for processing, which will be returned as a report draft.
	Batch Mode	Ability to turn batch mode on and off.
	Delete Job	Ability to delete the current job. A job that already has HL7 messages sent (e.g. Resident Assigned, Sent to MT) cannot be deleted.

JOB STATUS

Indication of the status of the job being displayed.

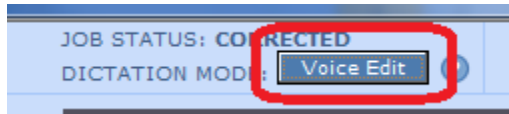


Possible status are as follows:

Draft	A draft has been created for the report.
Assigned	A resident radiologist has assigned the job to a staff radiologist.
Corrected	The staff radiologist sent the job to transcription and it has been returned as corrected and ready for signature.
Addendum	The staff radiologist has signed the job. After signing, the only status of a job is an Addendum.

DICTATION MODE

There are two modes in which to create a report; Voice Edit or Narrative. Both modes can be used in creating a report and you can do all or parts in each mode. This flexibility is here to make it easy for the doctor.



NARRATIVE

Narrative mode supports users who are comfortable working in a digital dictation/transcription environment. In Narrative Mode, a radiologist dictates the entire report in a natural, conversational style. The user does not interact with the editor in any way and can even minimize the dictation window (through the selection of Compact Mode) to leave more of the screen available for image viewing.

As part of the Narrative Mode process, the M*Modal Speech Understanding Engine interprets the narrative, places the dictated content in the appropriate structural section of the draft, and codifies key terms against known ontologies such as SNOMED and RADLEX. Once a draft report is created, it will be returned based on the user's workflow. The following workflows are supported:

Self Edit Workflow: This mode allows the physician to dictate a report, review/edit the report, then sign the report.

Batch Workflow: This mode allows the physician to dictate multiple reports, submit and retrieve the reports for self-editing at a later time.

MT Edit Workflow: This mode allows the physician to dictate single or multiple reports, submit to a MT for review/edit, return back to the user for review/edit, then signature.

To dictate in Narrative Mode, speak the section title, followed by a colon followed by the section content. For example: *"Clinical History colon thirty four year old female with a history of chest pain. Comparison colon CT chest one view dated three fourteen two thousand and five."*

Note: Users who self correct a job completed in Narrative Mode will automatically be placed in Voice Edit mode to complete the self-correction process.

Additionally, users who self correct have the option to highlight words considered relevant (i.e. right, left, ascending, descending, not, etc.) or underline words that have a lower confidence level (words which the recognizer is less confident it has recognized correctly). These features are available as part of the Fluency Settings as a user preference.

VOICE EDIT

Voice Edit mode exists to support users who are used to working with structured templates containing interactive fields. In Voice Edit mode, the user can use the keyboard/mouse and/or the microphone to interact with the editor. There is a robust set of voice commands which can be used to navigate between different sections of the document and make insertions, corrections and formatting changes. Some users

will prefer Voice Edit Mode to support complex templates with fields, or placeholders for entering specific, structured data.

Voice: Allows the dictator to use voice commands to edit the report (used for brief instructions). Within the application, click on the help icon to the right of the Mode indicator to get a list of voice commands. Also, a complete list of voice commands can be found in Appendix A of this document.

Keyboard / Mouse: Allows the dictator to navigate and make selections using the mouse or keyboard and then typing directly into the draft report to make corrections. Within the application, click on the help icon to the right of the Mode indicator to get a list of keyboard shortcuts. Also, a complete list of keyboard shortcuts can be found in Appendix b of this document.

To dictate in Voice Edit mode, use a combination of voice commands with dictation text.

For example: *"Go to end of Clinical History (pause) thirty four year old female with history of chest pain <period> (pause) Go to end of Comparison (pause) None"*

Note: Users who self correct a job completed in Narrative Mode will automatically be placed in Voice Edit mode to complete the self-correction process.

WHICH MODE TO USE?

Users can set up a personal preference within Fluency to specify which dictation mode they prefer to work in by default. Every exam that is opened for dictation will default to this mode. Additionally, users have the option to designate a different mode for specific exams. For example, a user can decide that they want to work primarily in narrative mode, so that is set as their default preference. However, specific exams may be more efficiently reported on by using a structured template. Therefore, the template configuration provides an option y to link one or many exam codes to a template. As a result, when a dictation is started, the appropriate dictation mode will be launch based on the template rules.



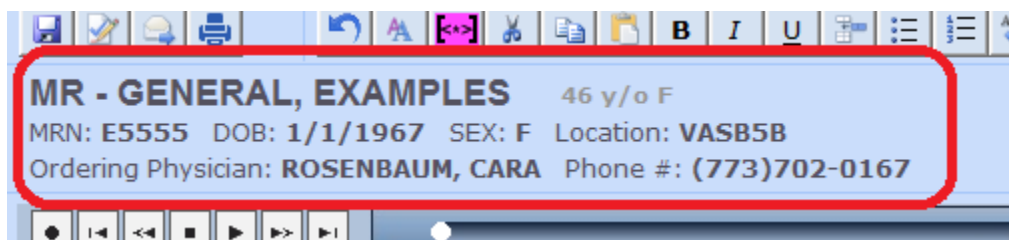
COMPACT MODE

Switches the user to compact mode where the editor window is hidden and only the audio controls are displayed. This option can be used for users who prefer to not have the Fluency Editor visible when dictating. **Note:** This option will be disabled when in Voice-Edit mode.



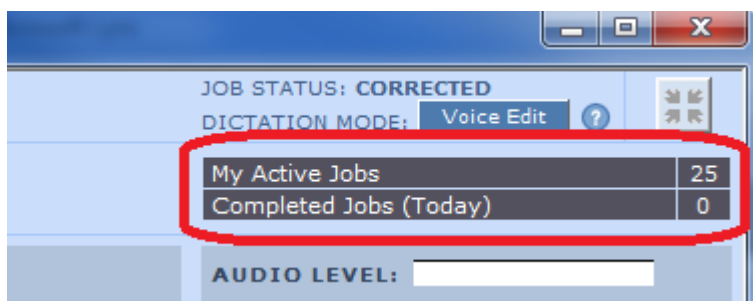
PATIENT DEMOGRAPHICS

The patient demographics are displayed for the dictator's reference: Patient Name, MRN, Date of Birth, Gender, Patient Location, Ordering Physician and Phone Number..



DASHBOARD

The dashboard will display a count of jobs applicable for the current user. Clicking on the job list will close the current dictation and return the user to the job lists. The user will be prompted if there are unsaved changes to the current report.



- **My Active Jobs:** Displays the number of currently active jobs for the user. Active jobs are considered jobs started, but not yet signed and included jobs in the following states:
 - Draft (Suspended)
 - Sent to Transcription
 - Corrected
 - Resident Assigned
- **Completed Jobs (Today):** Displays the total number of dictations that have been completed by the Radiologist that day.
-

AUDIO BAR

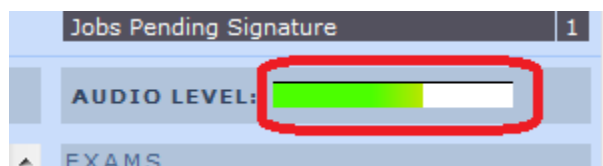
The audio bar will display the status of the current audio recording/playing and can be used to control audio functions instead the buttons on the dictation microphone.



	Start Recording	This button will allow you to record dictation. The recording button will also turn red while recording is in progress.
	Move Audio To Beginning	This button will rewind to the beginning of the current dictation file (Narrative mode only).
	Rewind	This button will rewind the current dictation file (Narrative mode only).
	Stop Playback	This button will stop or pause the playback/recording of the current dictation file (Narrative mode only).
	Start Playback	This button will play the current dictation file. (Narrative mode only).
	Fast Forward	This button will fast forward the current dictation file (Narrative mode only).
	Move Audio To End	This button will fast forward to the end of the current dictation file (Narrative mode only).
	Audio Status Bar	This slide bar will show the progress of the audio and will display the current position in the audio file against the total audio file length as well as the audio time: current and total.

AUDIO LEVEL

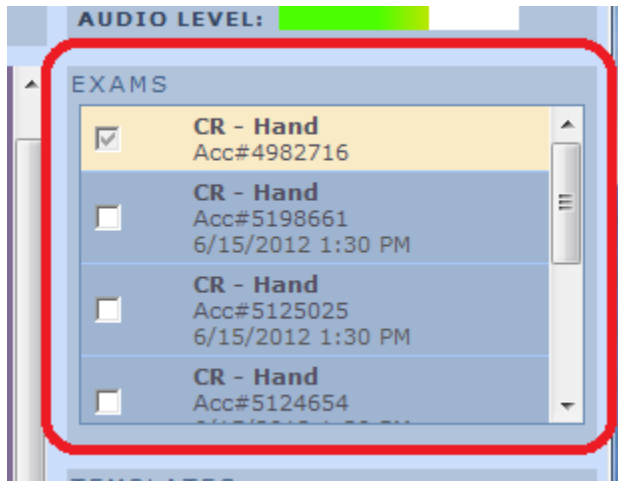
The audio level will display the audio level of the dictator's voice as he/she is speaking. The level colors will display yellow/orange/red to indicate when the audio levels are reaching ranges that may have a negative effect on audio quality and therefore report recognition.



EXAMS

Displays a list of reportable exams for the patient in context. The main exam that was launched for dictation will be highlighted in yellow. Other reportable exams will be displayed below the main exam with checkboxes.

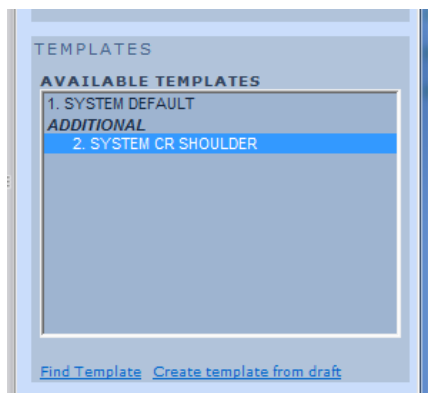
To associate another accession number with the main exam, click on the corresponding checkbox. A prompt will be displayed when attempting to associate an exam from a different modality or an exam outside of a 4 hour window of the main exam.



Note: After doing an association, it is possible to hide/minimize the exams section by clicking on the EXAMS header. This will leave more room for the other content on the right side of the document. This setting will be remember between dictations.

TEMPLATES

Available templates for the exam loaded for dictation will be displayed in the templates section. A template often serves as the starting point for a new document and may contain sections, subsections, fields and tokens, each possibly containing text. Fluency supports both user templates and system templates.



A primary template can be automatically launched based on business rules. Additionally, any template can be manually selected within the template list or explicitly searched for. The rules for how a template is displayed is based on the following rules order:

- User template with procedure code match
- System template with procedure code match

If multiple templates match the current exam, the highest ranking template will be chosen by default. Additional templates will be displayed in the Templates window based on match of Modality and Body Part.

Note: After selecting a template, it is possible to hide/minimize the template section by clicking on the TEMPLATES header. This will leave more room for the other content on the right side of the document. This setting will be remember between dictations.

APPLYING A TEMPLATE

While the system will attempt to apply the appropriate template by default, it is always possible to switch templates before editing a report. The apply a different template, do one of the following:

- Double click on the template in the list
- Insert using a voice command: LAUNCH <TEMPLATE_NAME>
- Insert using the template index: LAUNCH TEMPLATE ONE which corresponds to the number index of the macro

FIND A TEMPLATE

If you want to use a template different than any that are displayed by default (e.g. a template belonging to another user), you can click on the **Find Template** link. The Find Template window will appear.

By default, the window will show you templates belonging to you matching the same modality as the exam you are dictating. The following search items can be modified:

- Template Name (partial matches allowed)
- Owner: select a specific user, all users, system level or all templates
- Modality and Body Part

Enter your search information and click the **Search** button. The list will populate with any templates that match your search criteria. Clicking on the template name will display a preview of that template.

When a template is selected, a checkbox in the lower right hand corner may appear giving you the following options:

- If the template belongs to another user, you have the option to copy this template to your personal template list.
- If the template belongs to you, you have the option to update the association of that template so it will matches the current exam you are dictating.

Click the **Insert** button to apply the template to the current report.

CREATE TEMPLATE FROM DRAFT

Allows users to create a new document template from the available draft report.



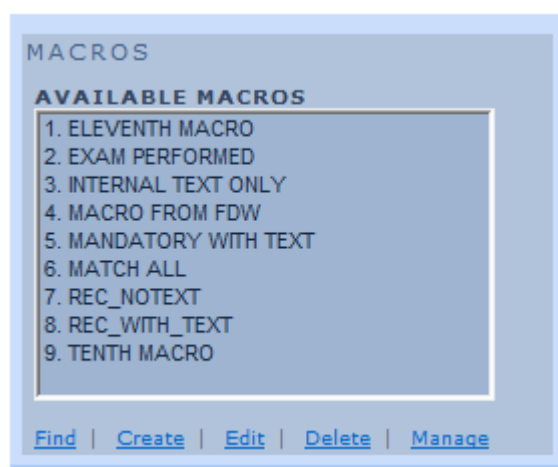
MACROS

Macros are snippets of text, either a series of words, a sentence or multiple sentences that can be inserted into the document as part of the reporting process through manual selection within the macro list. Macros can be created at the user level or the system level.

Available macros will be displayed in the Macros section and will display a list of available Macros for that specific user. Macros can be inserted into the report as needed. Users have the option to Create, Edit, or Delete a Macro from the interface.

Note: The Macros section will only be displayed while in Voice Edit mode.

Note: After selecting a macro, it is possible to hide/minimize the macros section by clicking on the MACROS header. This will leave more room for the other content on the right side of the document. This setting will be remember between dictations.



CREATE MACRO

To create a macro, perform the following steps:

- Click on the 'Create Macro' text. A floating window titled Macro Editor will display. Any text selected in the editor will be carried over into the macro editor.
- Enter the Macro Name. This name will also be used as a voice command for inserting the macro: INSERT <MACRO_NAME>. The name must be unique and once it is created, it cannot be changed.
- Enter or exit the content of the Macro. The same voice and keyboard commands that are used when doing a dictation can be used in this window.
- Optionally select Modalities and/or Body Parts to associate with the Macro. This will limit the macro from displaying in the list for matching exams.
- Click Save to save the macro or Cancel to exit without saving.
- **Note:** If a modalities or body parts was not selected, the Macro will display in the Macro list for every exam launched in Fluency.

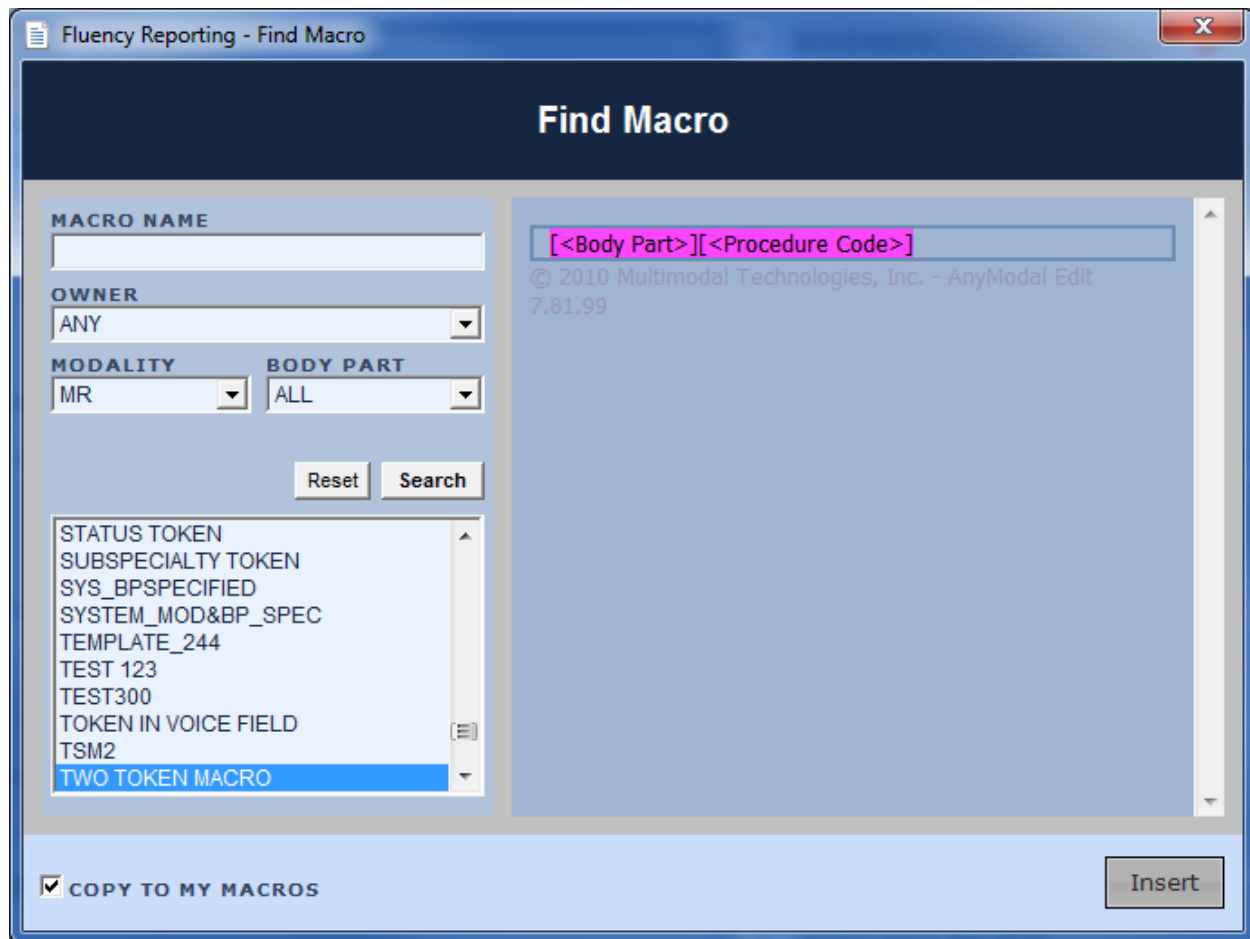
EDIT MACRO

To edit a macro, perform the following steps:

- Click on the 'Edit Macro' text. A floating window titled Macro Editor will display populated with the existing Macro information.
- Edit the text of the Macro or select/edit the Modality and/or Body Part. **Note:** The name of the macro cannot be changed once it is created.
- Click Save to save the macro or Cancel to exit without saving.

FIND MACRO

If you want to insert a macro that does not display by default (e.g. a macro belonging to another user), you can click on the **Find Macro** link (or FIND MACRO voice command). The Find Macro window will appear.



By default, the window will show you macros belonging to you matching the same modality as the exam you are dictating. The following search items can be modified:

- Macro Name (partial matches allowed)
- Owner: select a specific user, all users, system level or all macros
- Modality and Body Part

Enter your search information and click the **Search** button. The list will populate with any macros that match your search criteria. Clicking on the macro name will display a preview of that macro.

When a macro is selected, a checkbox in the lower right hand corner may appear giving you the following options:

- If the macro belongs to another user, you have the option to copy this macro to your personal macro list.
- If the macro belongs to you, you have the option to update the association of that template so it will matches the current exam you are dictating.

Click the **Insert** button to insert the macro into the current report.

DELETE MACRO

To delete a macro, perform the following steps:

- Select one of the macros from the list.
- Click on the 'Delete Macro' text. A message box will display confirming that the selected Macro should be deleted.
- Click Yes to delete the macro or No to cancel without deleting. **Note:** This option cannot be undone.
- Note: Fluency users do not have the permission to delete system level macros.

MANAGE MACROS

Users can manage their personal macros similar to editing their personal templates. To manage macros, follow these steps:

- Click on the **Manage** link in the macros area.
- The personal Macro Manager will appear
- Every personal macro will be displayed, 15 per page
- Click the Edit button on a specific row to display the Macro Editor
- Click the Delete button on a specific row to delete the macro.

INSERTING A MACRO INTO A REPORT

To insert a macro into a report, move the cursor to the position of the report where the macro is to be inserted (this can be done with the mouse, keyboard or voice commands). There are three options to insert a macro:

- Double click on the macro in the list
- Insert using a voice command: INSERT <MACRO_NAME>
- Insert using the macro index: INSERT MACRO ONE which corresponds to the number index of the macro

RESIDENT JUDGMENT



When a staff signs a report dictated by a resident, they are given the opportunity to judge the resident draft using similar criteria as the ACR Peer Review options. This step is optional for the staff, however it will give the resident the opportunity to easily find reports where they may have had significant misses.

The screenshot shows a window titled "Create template from draft". Inside, there is a section labeled "RESIDENT JUDGMENT" which contains four buttons: "TOTALLY AGREE", "MOSTLY AGREE", "MINOR MISS", and "MAJOR MISS".

PREVIEW REPORT

When dictating an addendum report, a preview of the report will be displayed for reference. Note: Only reports that were done in Fluency will be displayed here - otherwise, the preview report section will be blank.

The screenshot shows a window titled "REPORT TEXT". It contains a list of sections with their corresponding content placeholders: "Examination Performed: content", "Clinical History: content", "Comparison: content", "Technique: content", "Findings: content", and "Staff radiologist". A vertical scrollbar is visible on the right side of the text area.

EDITOR

The editor displays the current report being dictated. The editor behaves exactly like a standard text editor, such as Microsoft Word. The difference is, this editor is also voice enabled. In Narrative Mode, the editor control is disabled because it cannot be interacted with. In Voice Edit mode, text in the editor can be manipulated through voice commands, keyboard shortcuts or the keyboard and mouse. See the appendix of this document for more information on voice commands and keyboard shortcuts.

Section titles in the document are locked down and cannot be manipulated. This is to prevent accidentally removing a section title or changing the name of a section title. This encourages standardization across all reports. Section titles can be manipulated when creating a template or a macro, so there should be no need to modify them in the report themselves. However, if the need does arise, right click on a section title and select the 'Edit Section Title' menu item to change the text of a section title.

When recording, the background color of the border of the editor will change to purple as a visual indicator that recording is in progress.

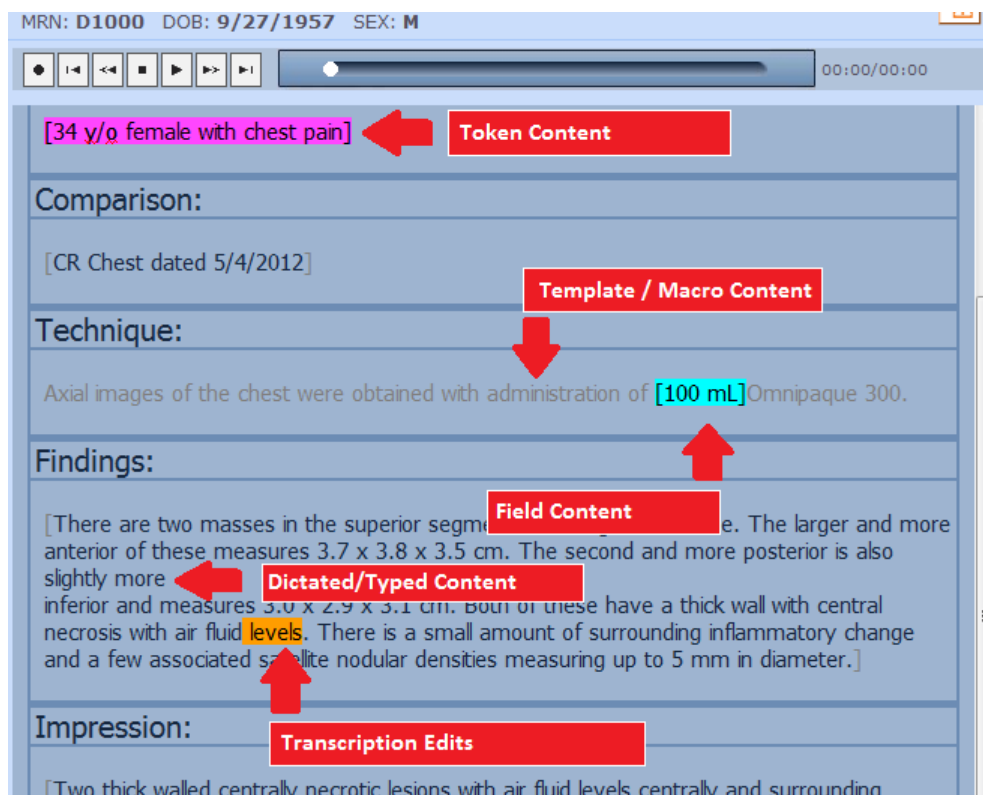


CONTENT HIGHLIGHTING

Content in the Fluency editor window when creating/editing a report is color coded to assist in the display of the report. The following color codes are supported:

Token Content	Content added by tokens is highlighted in purple. Tokens are placeholders for data pulled in from external systems, such as data from the RIS Order.
Field Content	Voice Enabled Fields are highlighted in teal.
Template / Macro Content	Content that was added as part of the template or added as part of a macro will be rendered in grey as a visual indicator that this information does not need to be checked again for errors.
Dictated / Edited Content	Any content edited by the current user either by typing or dictating will be rendered in black (exact color depends on the skin being applied)
Transcription Edits	Any edits made by transcription are highlighted in yellow/orange. Note: Highlighting edits made by a transcriptionist can be enabled/disabled with the Enable Author Highlighting user preference.

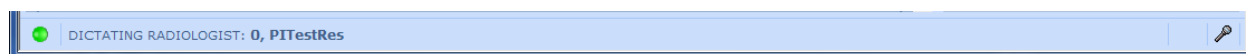
Please see the screen capture below for an example of how content is highlighted using the Dawn skin.



STATUS BAR

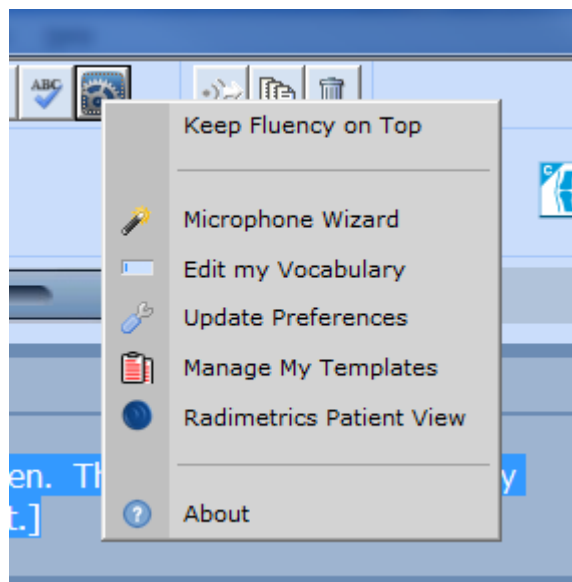
The status bar is located at the bottom of the Fluency window. It displays the following:

- The current connection status. When the LED on the far left is green, all is good. The LED will change to orange or red if the connection to the M*Modal cloud or Fluency Reporting server is lost.
- Current User: The name of the current user will be displayed
- Sign off Selection (Resident only, not shown) a drop down list of available signers will be displayed for the resident to select from.
- Microphone indicator: Hover over this icon to display the name of the current microphone being used for Fluency



FLUENCY SETTINGS

To access Fluency Settings, click on the settings icon from the toolbar:



MICROPHONE WIZARD

Ability to the setup of the user's microphone, ensuring that it is connected and receiving audio at the appropriate audio level and recording the user's dictation to improve recognition.

To use the microphone wizard, perform the following steps:

- Click on the Microphone Wizard from the drop down menu.
- Hold down the Record button and read the available text. Speak as you normally would while doing a dictation. The audio level will be displayed as the recording occurs.
- Click on the 'Finish Wizard' button when finished reading text.

EDIT MY VOCABULARY

Ability to add or exclude words from your recognition dictionary. This enables you to force the system to learn words that may not be recognized properly

ADDED WORDS

Ability to create a custom dictionary of words or phrases. By adding words, users can improve recognition of names, locations, and medications.

To add a new word, perform the following steps:

1. Select the Added Words radio button and click the Add button.
 - Type the word that you wish to add in the blank field. To improve recognition you can Record Pronunciation of the added word.
 - Select the word category (Name, Location, Medication, etc.)
 - Click OK.

EXCLUDED WORDS

Ability to specify words that should not be included in the report.

To exclude a word, perform the following steps:

- Select the Excluded Words radio button and click Add.
- Type the word that you do not wish to see in the dictation.
- Click OK.

REPLACEMENT RULES

Ability to create a collection of words or phrases that will be used to substitute the spoken form.

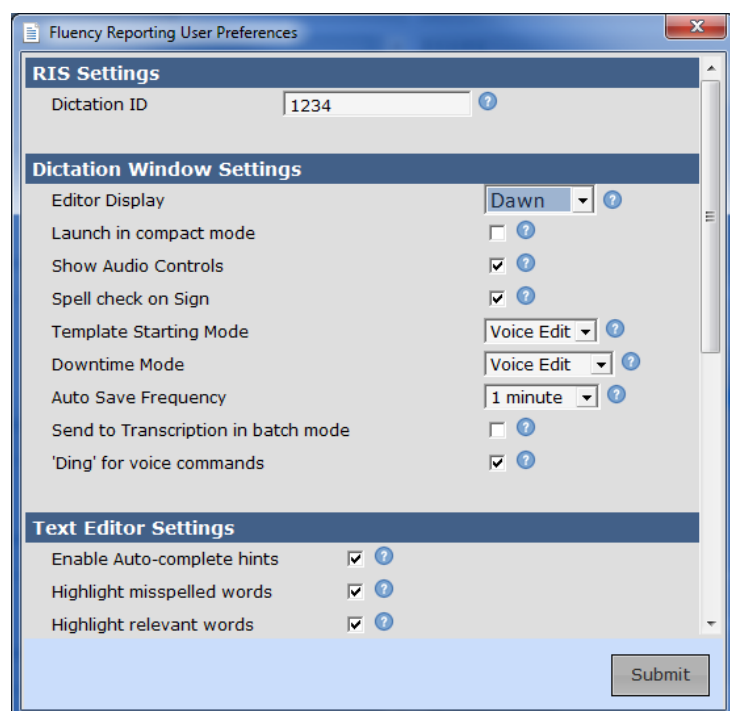
To create a Replacement Rule, perform the following steps:

- Select the **Replacement Rules** radio button and click **Add**.
- Enter the original text into the Original Word field (ex: cabbage)
- Enter the replacement text into the Replace With Field (ex: CABG)
- Click Save.

DOMAIN

Ability to select a specific domain. The default domain is Radiology. Users have the option to select specific vocabulary domains related to their field. Each domain will download and install a specific recognizer that increases accuracy and speed of recognition.

USER PREFERENCES



RIS SETTINGS	
RIS ID	Set the ID of your account in the RIS. This is how the dictation will be associated with your RIS account.
DICTATION WINDOWS SETTINGS	
Editor Display	Select your choice of editor display color schemes from the options available: Daylight, Dawn, Dusk, or Night. There is also an option to set a custom color scheme as a user preference
Launch in Compact Mode	Check this box to launch the dictation window in compact mode. While in compact mode, the dictation window is not visible. This option can be used for users who prefer to not have the Fluency Editor visible when dictating.
Show Audio Controls	Displays the audio controls (Play, Stop, Fast-Forward, etc) in the Fluency Window.
Spell Check on Sign	Check this box to automatically run the Spellchecker before the job is signed.
Template Starting Mode	Set whether to begin jobs in Narrative mode or Voice Edit mode. This setting can be overridden by a specific template.
Downtime mode	Set the preferred way to work during a downtime. If the M*Modal Server is unavailable, you may continue working using

	either Batch Mode or Voice Edit Mode.
Auto Save Frequency	Choose how frequently the system auto-saves your report drafts.
Send To Transcription In Batch Mode	When this option is selected, dictations done in Batch Mode are automatically sent to transcription when the user concludes the dictation.
TEXT EDITOR SETTINGS	
Enable Auto-complete hints	When typing in the Fluency editor, suggested words will be displayed. Hit the <tab> key to select the suggested word.
Highlight misspelled words	When this option is checked, misspelled words are underlined in red and can be corrected by right clicking on the entry to see a list of appropriate corrections.
Highlight Relevant Words	Check this box to highlight clinically relevant words in the editor (e.g. Left, Right, Ascending, Descending) Note: This setting only applies to drafts returned from Narrative mode.
Recognition Confidence Threshold	Select the threshold for highlighting words with low recognition confidence. Scale is from Very Low (Less words highlighted) to Very High (More Words Highlighted). The default is set to Off. Note: This setting only applies to drafts returned from Narrative mode.
Enable Author Highlighting	When this box is checked, edits made by other users will be highlighted in a different background color.
Default Font Size	Set the default font size of the editor window. This option can also be set from within the Fluency window.
Line breaks per paragraph	Specify the number of new lines to insert when the NEW PARAGRAPH voice command issues. The default value is one line break.
Enable Auto Punctuation	When this box is checked, the NLP engine will attempt to add punctuation to a report where appropriate. Users who prefer to dictate their own punctuation should disable this option. Note: This setting only applies to Voice Edit mode.
MICROPHONE SETTINGS	
Microphone Mode (Narrative)	<p>Select your preference for using the record button.</p> <ul style="list-style-type: none"> • Push to Talk: Press and hold the record button while speaking. • Toggle: Click the record button once to start recording, the click it again to stop recording. <p>Note: If you experience the addition of small words while in toggle mode, please switch to Push to Talk</p>
Microphone Mode (Voice Edit)	<p>Select your preference for using the record button.</p> <ul style="list-style-type: none"> • Push to Talk: Press and hold the record button while speaking. In voice edit mode, push to talk is the recommended setting and will result in faster recognition of commands.

	<ul style="list-style-type: none"> Toggle: Click the record button once to start recording, the click it again to stop recording.
Insert/Overwrite On Rewind	Select your preference for whether to insert or overwrite after rewinding while in Narrative Mode.
Function Buttons	Set the preferred behavior for the microphone function buttons (including EOL and INS/OVR). If these options are grayed out then a system administrator has locked this down at the system level. See below for a list of the function button options
Microphone Gain	Select the appropriate microphone volume to achieve optimal recording quality. Adjust this value if accuracy is low. A recommended starting value is 20000. This value should mainly be adjusted by running the Microphone Wizard
Launch Mic Wizard on Startup	When this option is selected the microphone wizard will launch when the application is loaded.
FF/RW Speed	Select the speed for fast forwarding and rewinding through a recording while in Narrative mode.
Use FWD/RWD for field navigation	When this option is selected, the fast forward and rewind buttons will operate as next field and previous field commands when in voice edit mode.
Skip tokens when navigating	When this option is selected, tokens will be skipped over when using the FF/RW microphone buttons for field navigation. Note: This preference is only applied when the <i>Use FWD/RWD for field navigation</i> preference is checked
Voice Commands for Macros	This feature allows the user to specify the voice command to use to launch a macro. The default is "INSERT" - additional options are OPEN and LAUNCH.

Function Button Options for Microphone Configuration:

Function	Action
No Action	No action will be performed when the button is pressed
Toggle Narrative / Voice Edit	Switch between Narrative and Voice Edit modes
Sign/Assign current dictation	The current dictation will be signed (this is the same as clicking the 'sign' button.
Send to Transcription	The current dictation will be sent to a transcription queue

Toggle View (min/editor)	The Fluency window will toggle between its minimized and maximized states
Toggle Batch Mode	Toggles batch mode on and off
Suspend Dictation	The current dictation will be saved and closed
Previous Field	Focus will be diverted to the field directly preceding the cursor position.
Next Field	Focus will be diverted to the field directly following the cursor position.
Previous Section	Focus will be diverted to the end of the previous section.
Next Section	Focus will be diverted to the end of the next section.
Delete Selected Text	Mimics the DELETE SELECTION voice command.
Toggle Case	Changes the case of the text to be dictated (Only for EOL and INS/OVR buttons.)

MANAGE MY TEMPLATES

The Template Manager allows users to create personal templates as well as edit or delete existing templates.

Template Name	Modalies	Body Parts	Procedure Code	Action
	All	All		Search
A CHEST BODY PART	All	CHEST		Edit Delete
AAA	CR,CT,DX	ABDOMEN,ARM,BONE		Edit Delete
ANOTHER HOLOGIC			MAMMOGRAM	Edit Delete
BLANK TEMPLATE	All	All		Edit Delete
CHEST 4			CHEST AP A	Edit Delete
CHEST 5			CHEST AP A	Edit Delete
CHEST TEMPLATE FROM DRAFT			CHEST	Edit Delete
CHEST TEMPLATE USER			CHEST	Edit Delete
CR CHEST AP TWO			FACE	Edit Delete
DML_TEST			NO DESCRIP	Edit Delete
EMPTY CR CHEST			NO DESCRIP, CHEST	Edit Delete
HIVES	All	All		Edit Delete
NEW_SECTION_TEMP			UPPER EXTR	Edit Delete
NEW_SECTION_TEMPLAT			UPPER ARM	Edit Delete
NEW_SUBS_TEMPL			CHEST	Edit Delete

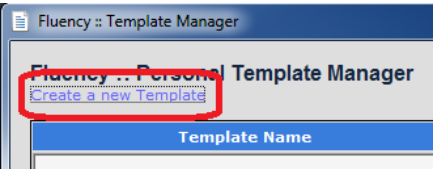
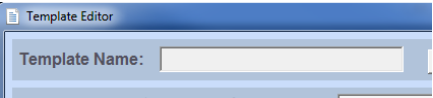
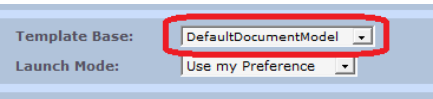
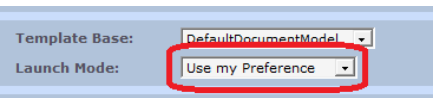
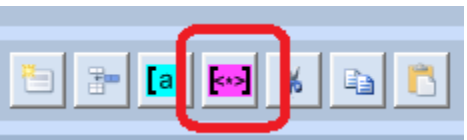
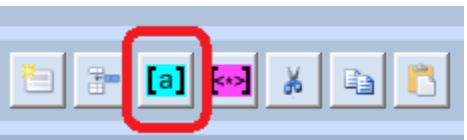
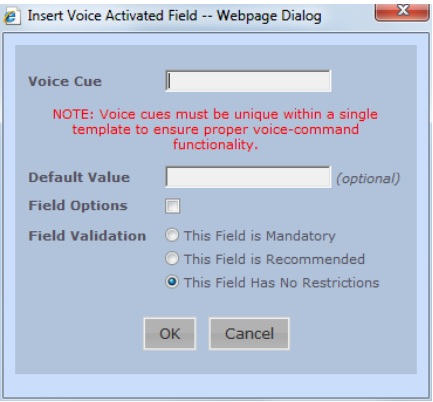
Prev 1 2 3 Next

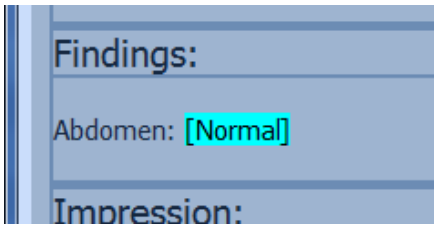
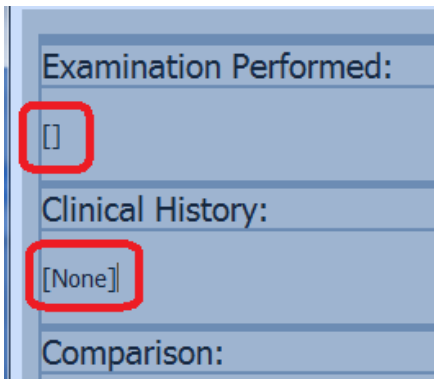
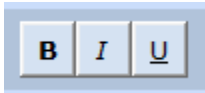

Create a new Template	Create a new template.
Edit	Edit an existing template.
Delete	Delete the template from the system.

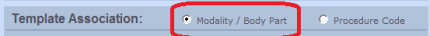
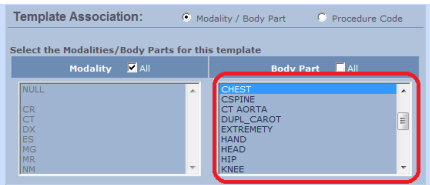
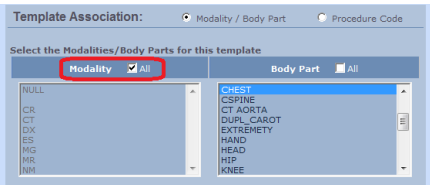
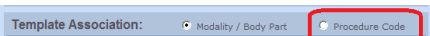

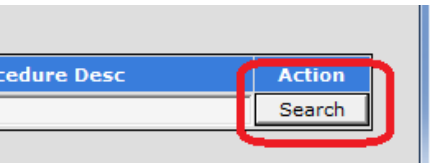
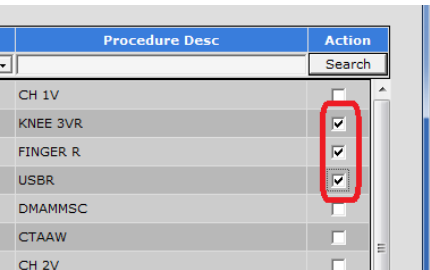
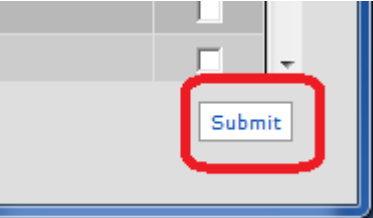
CREATE A NEW TEMPLATE

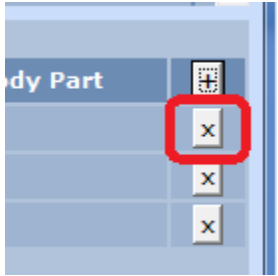
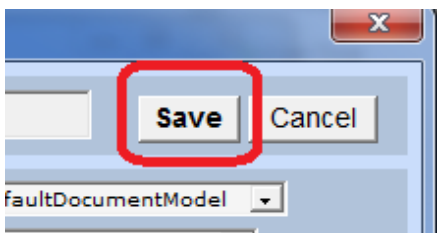
A new template can be created from scratch by clicking on the **Create a new Template** link. To create a new template follow these steps:

#	Step	Image
---	------	-------

1	Click on the Create a new Template link. The template editor will appear.	
2	Enter a template name. This name must be unique and it can be used as a voice command to launch the template.	
3	Select the template base. Your system administrator may have set up multiple document models for different report types (e.g. General, DEXA, BREAST). By default, the DefaultDocumentModel is chosen which can be used for most General Radiology. Changing the document model may change the sections listed in the editor, depending on how the document models were defined.	
4	Select the Launch Mode.	
5	Insert / Modify the template content - template content can be added by typing or using the microphone as if you're in Voice Edit mode.	
5.1	<p>Inserting Tokens - tokens are placeholders for data to be inserted into the report from external systems (e.g. and order).</p> <ul style="list-style-type: none"> To insert a token, click on the Insert Token icon, select the token from a list and click Submit. 	
5.2	<p>Inserting Voice Activated Fields - Voice activated fields can be inserted into the document by clicking on the Insert Voice activated field button in the toolbar.</p> <ul style="list-style-type: none"> To insert a field, click on the Insert Voice Activated Field button. A Voice Activated Field dialog box will display with the following: Voice Cue: This is the command which will be used to navigate to the field. It should be unique per template. Default Value: The default value which will appear in the template. Field Options: Check this option to enable a set of choices for this field - this will improve 	 

	<p>recognition as well as provide a list of choices when the field is selected.</p> <ul style="list-style-type: none"> • Field Validation: Set the option for how this field should be validated upon signature. Mandatory fields will not allow users to sign a report if there is no content within them. Recommended fields will warn the user when signing if they are empty, but it will not prevent signature. • Click the Ok button to create the field or Cancel to cancel changes. • • NOTE: To edit a voice activated field, right click on the field and select 'Edit Field' <p>WARNING: Field names should be unique to ensure voice cues take you to the correct field.</p> <p>WARNING: Adding a field with no restrictions to a section created as required will count as content for that section and you will not be prompted.</p>	
5.3	<p>Adding Simple Fields - to insert a simple field, type an opening and closing bracket anywhere in the template. Simple fields can be navigated to by using the FF/RW keys on the microphone (if that user preference is set) or by issuing the NEXT FIELD or PREVIOUS FIELD voice command.</p>	
5.4	<p>Other formatting options: There are other formatting options in the toolbar which can be used to modify the look and feel of the document template.</p> <p>Note: When the final message is sent via HL7, the formatting will be stripped in most cases.</p>	
5.5	<p>Bulleted and Numbered Lists can also be inserted in a report template.</p>	
6	<p>Associate the Template: Templates can be associated with specific modalities and or body parts or with specific procedure codes. This will make it easy to create, for example, a "global" CT template or a global CHEST template. Templates can also be globally associated, for</p>	

	users who prefer a macro driven workflow.	
6.1	Click on the Modality / Body part checkbox to associate with a specific modalities and/or body parts.	
6.2	Hold down the CTRL key to select multiple entries from the modality and or body part lists.	
6.3	To select all entries, click on the All checkbox for the corresponding entries	
6.4	Click on the Procedure Code checkbox to associate with a specific modalities and/or body parts	
6.5	Click on the + icon under the procedure codes section.	
6.6	In the Add Exam Code to Template dialog, use the filter options to search for a specific procedure code and click the Search button.	
6.7	For each procedure code, select the checkbox to add the procedure code to the list.	
6.8	Click the Submit button. The window will close and the procedure codes will be added to the list.	

6.9	To remove a procedure code, click on the [x] button next to a procedure code.	
7	Save the template by clicking on the Save button or Cancel to cancel changes.	

•

TO EDIT AN EXISTING TEMPLATE

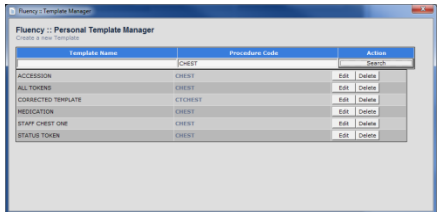
- Locate the template in the list of Personal Templates. Enter in a name or partial name of a filter or the associated procedure code to narrow the search.
- Select the Edit button for the template.
- The Template Editor window will appear. From here you can edit the template information. **Note:** The template base cannot be modified.

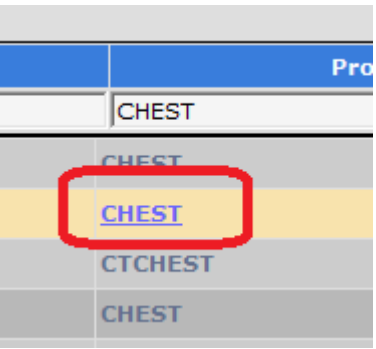
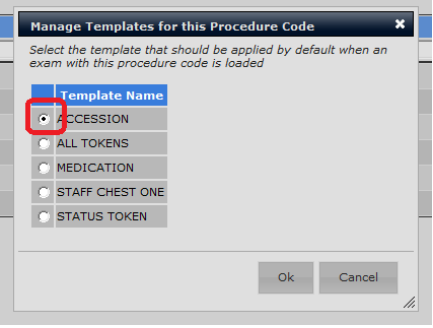
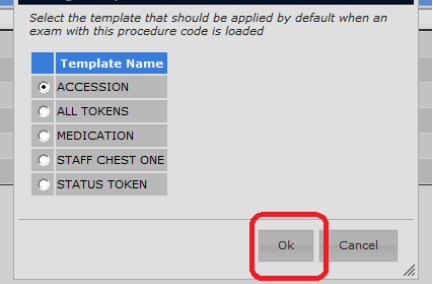
RANKING TEMPLATES

For templates associated with procedure codes, there is a many-to-many relationship between templates and a procedure code. In other words, a template can have many procedure codes associated with it (e.g. CT HEAD template is associated to CT HEAD W and CT HEAD WO codes) and a procedure code can have multiple templates associated with it (e.g. CR CHEST procedure code can have a Normal Template, a CHF Template and an Infiltrate Template).

When an exam is loaded in Fluency, the system will try to pick the right template to load, and this can be set at the user level by ranking the templates associated with a procedure code. (See Appendix D for more information on how the right template is auto-launched in Fluency)

To do this, follow these steps:

#	Step	Image
1	Bring up the personal Template Manager. Enter a procedure code to search on, and then click Search. The list of matching templates for that procedure code will be displayed.	

2	Click on one of the procedure codes. This will launch the Procedure Code Template Manager.	
3	Select the template which should load by default when an exam with this procedure code is launched in Fluency.	
4	Click the Ok button to submit or Cancel to cancel changes.	

KEEP FLUENCY ON TOP

This setting will toggle keeping the Fluency window on top of other applications. A checkbox will appear to indicate that the on-top preference is set.

FLUENCY FOR IMAGING REPORTING WORKFLOWS

Fluency will receive the patient accession number from the PACS and the dictation window will automatically display.

DICTATING IN NARRATIVE MODE

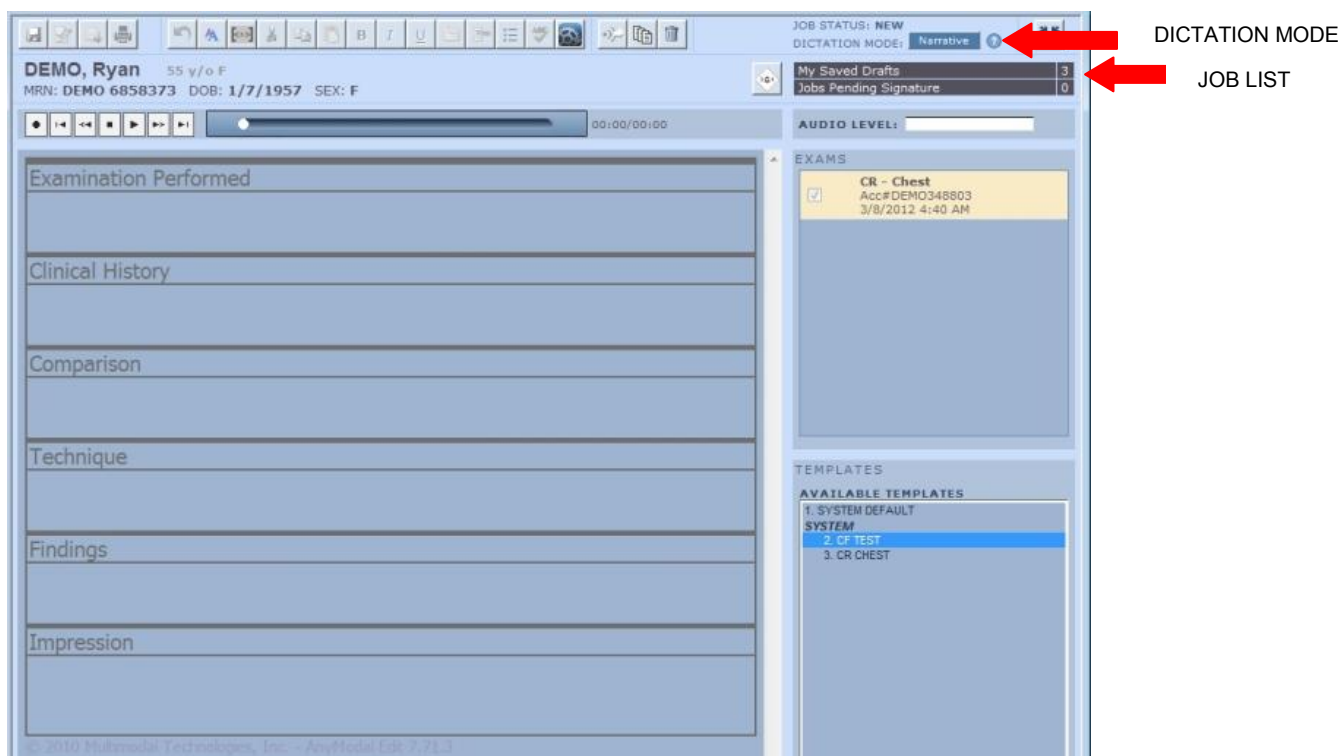
Narrative mode supports users who are comfortable working in a digital dictation/transcription environment. In Narrative Mode, a radiologist will speak the entire dictation in a natural, conversational style. The user does not interact with the editor in any way and can even minimize the dictation window (through the selection of Compact Mode) to leave more of the screen available for image viewing.

As part of the Narrative Mode process, the M*Modal Speech Understanding Engine interprets the narrative, places the dictated content in the appropriate structural section of the draft, and even codify key terms against known ontologies such as SNOMED and RADLEX. Once a draft report is created, it will be returned based on the user's workflow. The following workflows are supported:

Self Edit Workflow: This mode allows the physician to dictate a report, review/edit the report, then sign the report.

Batch Workflow: This mode allows the physician to dictate multiple reports, submit and retrieve the reports for self-editing at a later time.

MT Edit Workflow: This mode allows the physician to dictate single or multiple reports, submit to a MT for review/edit, return back to the user for review/edit, then signature.



To dictate in Narrative Mode, perform the following steps:

-
- Hit the record button and speak each section name followed by the content.
- For example - "Clinical History colon thirty four year old female with a history of chest pain. Comparison colon CT chest one view dated three fourteen two thousand and five."
- Once the report has been dictated, hit the 'EOL' button on the microphone. You will see the progress circle spin as the job is being electronically transcribed by Fluency.
- Upon receiving the fully transcribed document, proceed with preferred workflow such as self-edit or send to transcription. Once completed, the Fluency window will return to the job list screen.

Note: Users who self correct a job completed in Narrative Mode will automatically be placed in Voice Edit mode to complete the self-correction process.

-

DICTATING IN VOICE-EDIT MODE

Voice Edit mode exists to support users who are used to working with structured templates with interactive fields. In Voice Edit mode, the user can use the keyboard/mouse and/or the microphone to interact with the editor. There is a robust set of voice commands which can be used to navigate between different sections of the report and make insertions, corrections and formatting changes. Some users will prefer Voice Edit Mode to support complex templates with fields, or placeholders for entering specific, structured data.

Voice: Allows the dictator to use voice commands to edit the report (used for brief instructions). Within the application, click on the help icon to the right of the Mode indicator to get a list of voice commands. Also, a complete list of voice commands can be found in Appendix A of this document.

Keyboard / Mouse: Allows the dictator to navigate and make selections using the mouse or keyboard and then typing directly into the draft report to make corrections. Within the application, click on the help icon to the right of the Mode indicator to get a list of keyboard shortcuts. Also, a complete list of keyboard shortcuts can be found in Appendix B of this document.

Microphone: The microphone can be used to navigate between different sections of the document by using some of the navigational options of the function buttons, or the FF/RW keys to navigate between fields.

DEMO, Hewitt 81 y/o M
MRN: DEMO1132725 DOB: 4/6/1931 SEX: M

JOB STATUS: NEW
DICTATION MODE: Voice Edit

My Saved Drafts: 4
Jobs Pending Signature: 0

AUDIO LEVEL: [Slider]

Examination Performed:
[CT CHEST W CONTRAST]

Clinical History:

Comparison:

Technique:
Contrast enhanced chest and contrast enhanced abdomen CT of contrast material were administered intravenously. Multiplanar reconstructions, including MIP, MINIP and Slab images were reviewed.

Findings:
CHEST: []
ABDOMEN: []
PELVIS: [The pelvic organs are unremarkable. There is no free fluid in the pelvis. The bony structures are unremarkable.]

Impression:

DICTATING RADIOLOGIST: Martin, Claudine

EXAMS
CT - CT CHEST W CON...
Acc# DEMO914066
6/2/2012 2:18 PM

TEMPLATES
AVAILABLE TEMPLATES
1. SYSTEM DEFAULT
PERSONAL
2. CT CHEST
SYSTEM
3. CT CHEST

[Find Template](#) [Create template from draft](#)

MACROS
AVAILABLE MACROS

[Create Macro](#) [Edit Macro](#) [Delete Macro](#)

Dictating in Voice Edit mode can be performed through a use of voice commands and microphone buttons that have been programmed.

For example - "Go to end of Clinical History (pause) thirty four year old female with history of chest pain <period> (pause) Go to end of Comparison (pause) None"

Note: Users who self correct a job completed in Narrative Mode will automatically be placed in Voice Edit mode to complete the self-correction process.

•

VOICE ACTIVATED FIELDS

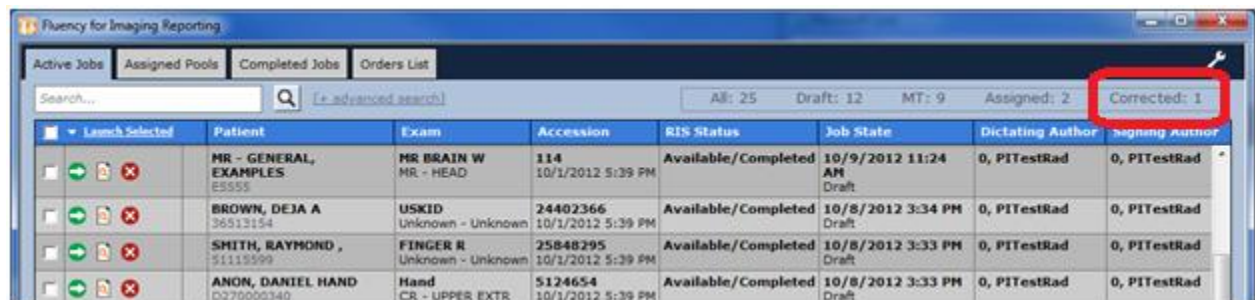
Voice Activated Fields provide a unique opportunity for navigation and workflow:





Navigation: While it is possible to navigate to a field using the FF/RW keys to progress through each field in the document, it is also possible to select a field using the voice cue. Simply speaking the voice cue of a field will navigate to that field.

Workflow: When a field with options is made active (for example by navigating to it using the NEXT FIELD voice command), a list of the field options will be displayed on the right hand side of the Fluency window. Each choice is linked to a voice command (e.g. CHOOSE ONE, CHOOSE TWO, etc.) to easily insert the choice into the document.

HOW TO ACCESS MT CORRECTED JOBS

- Dictations corrected by an MT can be accessed in the same Fluency window. It will automatically default to the Job List whenever a report is not being dictated. The Job List can also be accessed during an active dictation by clicking on the Job List counts.



Launch Selected	Patient	Exam	Accession	RIS Status	Job State	Dictating Author	Signing Author
	MR - GENERAL, EXAMPLES E5555	MR BRAIN W MR - HEAD	114 10/1/2012 5:39 PM	Available/Completed	10/9/2012 11:24 AM Draft	0, PITestRad	0, PITestRad
	BROWN, DEJA A 36513154	USKID Unknown - Unknown	24402366 10/1/2012 5:39 PM	Available/Completed	10/8/2012 3:34 PM Draft	0, PITestRad	0, PITestRad
	SMITH, RAYMOND, 51115599	FINGER R Unknown - Unknown	25848295 10/1/2012 5:39 PM	Available/Completed	10/8/2012 3:33 PM Draft	0, PITestRad	0, PITestRad
	ANON, DANIEL HAND 0279000340	Hand CR - UPPER EXTR	5124654 10/1/2012 5:39 PM	Available/Completed	10/8/2012 3:33 PM Draft	0, PITestRad	0, PITestRad

- Click on the Active Jobs tab if it is not already selected
- Click on the Corrected count in the top right hand corner
- Select a report to load by clicking the Launch icon (green arrow). The Fluency window will load the corrected report. MT comments may be displayed in the report, however these will not be sent.
- Make any necessary edits and Sign the report.

FLUENCY FOR IMAGING REPORTING DOWNTIME SCENARIOS

SCENARIO 1: APPLICATION UNABLE TO CONNECT TO M*MODAL CLOUD

Possible Causes

- M*Modal Cloud downtime (scheduled or unscheduled)
- Fluency application loses Internet/Wide Area Network (WAN) access

Description

If the Fluency application is unable to communicate with the M*Modal Cloud, recordings performed in Narrative mode will not be able to be sent to the M*Modal data center for recognition. Fluency supports the following two options for continuing to work:

- Batch Mode: Users can continue to create Narrative recordings in Batch mode. These recordings will be stored on the Fluency workflow server (located within the customer network) and will be processed automatically when the network connection is restored.
- Voice-Edit Mode: As voice-edit mode only uses the local recognizer for speech recognition, users can continue to perform all dictations in voice-edit mode even if the connection to the Internet/WAN is lost.

The Fluency for Imaging Reporting application will automatically detect when this type of network outage occurs and will automatically place the user in the appropriate downtime mode depending on a user preference.

When the Downtime Ends

When the network connection is restored, the queued recordings will be sent to the M*Modal data center for processing. When the drafts are created, the associated jobs can be automatically sent to transcription or placed back in the dictating radiologists signing queue (this behavior is also based on a user preference).

SCENARIO 2: APPLICATION LOSES LOCAL NETWORK CONNECTIVITY

Possible Causes

- Local intranet downtime (scheduled or unscheduled)

Description

In the event that the user's workstation loses its network connection, it is not possible for the Fluency application to initiate a new dictation because there is no connection to the Fluency server. In most instances, the PACS client will not function as well. However, if the user is in the middle of a dictation while the network connection is lost, the user can complete their current dictation (either in narrative or voice edit mode). The draft and any associated audio will automatically be stored on the client workstation, allowing the user to resume the job when the network connection is restored.

Note: This is the only instance in which the user is unable to resume the job from a different workstation.



When the Downtime Ends

When the client regains connection to the internet, the user can resume the job simply by restarting Fluency. The Fluency application will detect that there is a locally saved job and will prompt the user to restore the locally saved job. Once the job is restored, it can be processed using the normal workflows.

SCENARIO 3: USING FLUENCY DURING A PACS DOWNTIME

Possible Causes

- PACS downtime (scheduled or unscheduled)

Description

Fluency currently only supports a PACS driven workflow. In the event that the PACS is unavailable, users will not be able to launch Fluency.

When the Downtime Ends

The Fluency application will automatically resume functionality.

SCENARIO 4: UNPLANNED FLUENCY SYSTEM DOWNTIME

Possible Causes

- Fluency server downtime (scheduled or unscheduled)
- Fluency server is unreachable by Fluency client

Description

See MModal Fluency for Imaging Reporting Downtime v3.2 document for detailed information.

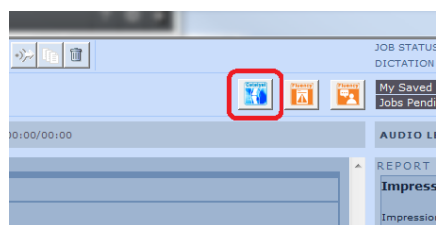
M*MODAL CATALYST FOR RADIOLOGY INTEGRATION

M*Modal Catalyst for Radiology aggregates, understands and leverages information from prior documentation to deliver a robust set of decision-support capabilities related to:

- Enhancing report quality to maximize revenue
- Targeting and addressing compliance issues
- Providing robust support for monitoring critical findings
- Accessing the narrative's collective intelligence and uncovering insights

LAUNCHING CATALYST

When a report is loaded, the Catalyst for Radiology patient detail page can be launched for that patient by clicking on the **Launch Catalyst** icon on the Fluency Reporting Workspace (shown below).



Catalyst for Radiology will load in a separate, floating window. Upon login, you will be taken to the Catalyst patient details page. Please refer to your M*Modal Catalyst for Radiology user documentation for more information on using Catalyst.

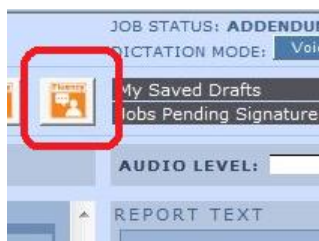


When the dictation is closed in Fluency, the patient detail page will be closed in Catalyst for Radiology and the user will be returned to the Catalyst home page.

PEER REVIEW INTEGRATION

A Peer Review Module can be integrated into Fluency Reporting which allows a Radiologist to perform an ACR-compliant Peer Review as part of their normal dictation workflow.

When creating a report, if a prior exam for that patient has an exam which qualifies for Peer Review, a **Launch Peer Review** button will appear in the Fluency dictation window (shown below). This button is a visual cue that an optional Peer Review is available. As part of the Peer Review set-up process, an administrator will determine the number of reviews per day/week/month that a user must perform, and this icon will only present itself when that quota has not been reached.



Clicking on the Peer Review button (or issuing the LAUNCH PEER REVIEW voice command) will launch the Peer Review form (shown below).

 A screenshot of the 'SCREENING PEER REVIEW' form. The window title bar shows 'DEMO^CHRIS^' and 'MR - VAS76'. The patient information includes 'MRN: D1234' and '84 y/o F'. The form has a large text area for comments. Below the text area are four buttons: 'Totally Agree', 'Mostly Agree', 'Minor Miss', and 'Major Miss'. At the bottom, there are three buttons: 'Flag for follow-up', 'Clinically Relevant', and 'Submit'. A red 'X' button is in the top right corner. The form also includes a copyright notice: '© 2010 Multimodal Technologies, Inc. - AnyModal Edit 7.71.3'.

Every element on this form is voice activated. For example, speak TOTALLY AGREE to select that choice or speak FLAG FOR FOLLOW UP to indicate this report should be added to a worklist for follow-up. Upon completion, speak SUBMIT or click the submit button. If you would like to cancel the Peer Review, click on the red X in the upper right corner of the Peer Review window.

CRITICAL FINDINGS INTEGRATION

A Critical Findings Module can be integrated into Fluency Reporting which allows a Radiologist to flag an exam as having critical findings as part of their normal dictation workflow.

When Critical Findings is installed (and the radiologist has the CTRM_CREATE permission code), a Critical Findings icon will appear on the Fluency Reporting screen above the report template (shown below).



CREATING A FINDING

Clicking on this button (or issuing the CRITICAL FINDINGS voice command) will launch the Critical Findings authoring window (shown below). This window will guide the user through a series of steps to create a Finding.

A screenshot of the 'Create Critical Findings' window. The window has a title bar with the text 'Create Critical Findings' and a close button. Below the title bar, there are three tabs: 'Workflow', 'Level', and 'Details'. The 'Workflow' tab is selected. The main content area has a yellow background and contains the text 'Please select a Workflow Option:'. Below this text, there are two dashed boxes. The first box contains the text 'Option 1: I've already spoken with the provider and only want to document this finding.' The second box contains the text 'Option 2: Add this finding to a worklist and notify me when the provider has been contacted.'

Step 1: Choose a Workflow Option:
There are currently two options available:

- Option 1 - I've already spoken with the provider, and only want to document this finding. This option will create the critical finding entry, but will not add it to the critical findings worklist for processing. It will simply enable the radiologist to add the communication clause to the end of their report.
- Option 2 - Add this finding to a worklist, and notify me when the provider has been contacted. This option will give the radiologist to provide instructions on how they want to follow up on the finding.

Step 2: Choose a Level

Select one of the predefined levels (see image below). At this point, you can also go back to select a different workflow or close the window to cancel the Critical Findings process.

The screenshot shows a window titled "Create Critical Findings" with a close button (X) in the top right corner. The window has a tabbed interface with four tabs: "Workflow", "Level", "Details", and "Notifications". The "Level" tab is currently selected. Below the tabs, the text "Please select a Level:" is displayed. There are five colored boxes representing different alert levels, each with a title, a description, and examples:

- Red Alert** (Due within 30 minutes): Findings that are potentially immediately life-threatening. Examples include: pneumothorax Ischemic bowel Intracerebral hemorrhage.
- Orange Alert** (Due within 6 hours): Findings that could result in mortality or significant morbidity if not appropriately treated urgently. Examples include: Intra-abdominal abscess Impending pathological hip fractur.
- Yellow Alert** (Due within 12 hours): Findings that could result in mortality or significant morbidity if not appropriately treated, but are not immediately life-threatening or urgent. Examples include: test.
- Green Alert** (Due within 10 minutes): long description. Examples include: examples.
- test** (Due within 18 hours and 15 minutes): test. Examples include: test.

Step 3a: Provide Details (Workflow Option 1)

This step enables the provider to supply details on the finding. This form is voice enabled, allowing the user to supply details by voice.

- Findings: Enter the details of the finding which can be used to classify the finding (e.g. Tension Pneumothorax or Intracranial Hemorrhage). Note: Leave this field blank if you do not want this content appended to the report when the finding is submitted
- Communication: Document how this finding was communicated to the provider. The text snippet supplied in this field has been defined by your system administrator.
- Append to Report: Check this box to append both the findings and the communication clause to the end of your report.
- Add Follow Up: click this button to add a section allowing you to provide any additional follow-up information (e.g. instructions to request a follow-up CT in 3 months)

- **Acknowledge and Close:** Click this button to complete this workflow step and close the Critical Findings window. This will also mark the finding as "Closed" which means it will not show up on the Critical Findings worklist.

The screenshot shows a software window titled "Create Critical Findings" with three tabs: "Workflow", "Level", and "Details". The "Details" tab is active. It contains two main text input areas: "Findings" and "Communication". The "Findings" area is currently empty. The "Communication" area contains the text: "The critical information above was relayed directly by me [by telephone] to [ROSENBAUM, CARA] on [7/16/2013] at [10:32 AM] with readback verification." Below this text is a copyright notice: "© 2010 Multimodal Technologies, Inc. - AnyModal Edit 7.88.0". At the bottom of the window, there is a checkbox labeled "Append to Report" which is checked, and two buttons: "Add Follow Up" and "Acknowledge and Close".

Step 3b: Provide Details (Workflow Option 2)

This step enables the provider to supply instructions on how the finding should be worked:

- **Findings:** Enter the details of the finding which can be used to classify the finding (e.g. Tension Pneumothorax or Intracranial Hemorrhage). Note: Leave this field blank if you do not want this content appended to the report when the finding is submitted.
- **Instructions:** enter any special instructions for the person working the critical findings worklist. For example: Please contact me when you reach the provider.
- **Append to Report:** Ignored for this step - instructions are not added to the report.
- **Add Follow Up:** click this button to add a section allowing you to provide any additional follow-up information (e.g. instructions to request a follow-up CT in 3 months)

The screenshot shows the 'Create Critical Findings' window with the 'Details' tab selected. The window has four tabs: 'Workflow', 'Level', 'Details', and 'Notifications'. The 'Findings' section has a text area with 'Findings: [redacted]'. The 'Instructions' section has a text area with 'Instructions: [redacted]'. At the bottom, there is a checkbox labeled 'Append to Report' which is checked, and two buttons: 'Add Follow Up' and 'Next'. A copyright notice at the bottom reads '© 2010 Multimodal Technologies, Inc. - AnyModal Edit 7.88.0'.

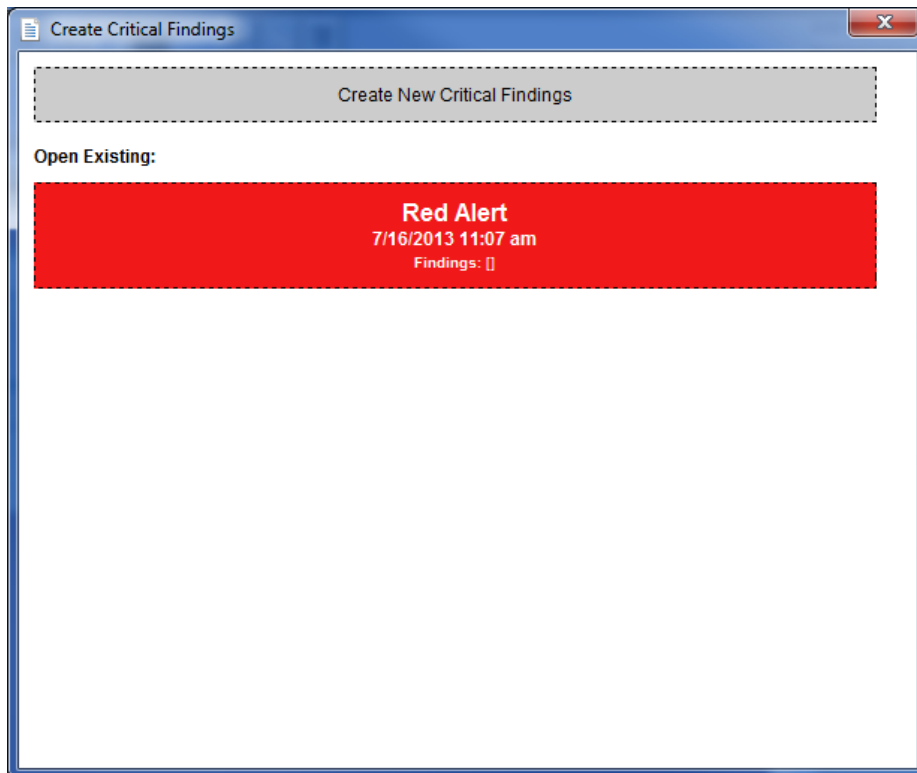
At this point, the finding can either be submitted, or there may be one additional screen if HIT Notify is enabled.

The screenshot shows the 'Create Critical Findings' window with the 'Notifications' tab selected. The window has four tabs: 'Workflow', 'Level', 'Details', and 'Notifications'. The 'Notify contact(s): (2 selected)' section shows a search bar with '50 matches'. Below the search bar, a list of contacts is displayed, including 'CC: 0 PITestRad', 'Provider RICHARDS', 'Provider ANTHONY', 'Madeline Bauer', 'Aaron Brauser', 'Provider CAR', 'Doc Catlin', 'Provider CHANG', 'Provider CHEUNG', 'NotScheduled Contact', 'Oncall Contact', 'Provider DEMO CD', 'Provider Demonstration', and 'Provider DOHERTY'. A 'Submit' button is located at the bottom left.

Finally, click Submit to create the finding.

REOPENING A FINDING

When a finding with workflow Step 2 has been created, there will be an option to reopen the existing finding when clicking on the Critical Findings icon in the Fluency window. This window will now give you the option to create a new (second) finding, or reopen the existing one. Click on the alert to reopen:



When the finding is reopened, you are taken back to the Details page. The same instructions from step 3a apply.

APPENDIX A: FLUENCY VOICE COMMANDS

The following voice commands are supported in the M*Modal Fluency Reporting Editor. Voice commands are only enabled while in voice edit mode.

SELECTION COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
select <word sequence>	Select a word or group of words; 5 word limit, including punctuation
correct <word sequence>	Correct a word or group of words; 5 word limit, including punctuation
select <word> through <word>	Select the text beginning with the first word spoken through to the last word spoken
select all	Select all text in the entire document
select next <n> words	Select the number of words (between 2 and 9, including punctuation) to the right of the cursor
select previous <n> words	Select the number of words (between 2 and 9, including punctuation) to the left of the cursor
select current sentence/paragraph/list/item /subsection/section	Selects the entire sentence, paragraph, list, item, subsection, or section in which the cursor is currently located
select next sentence/paragraph	Selects the entire next sentence or paragraph
select previous sentence/paragraph	Selects the entire previous sentence or paragraph
clear selection	Clears the current selection
select next one	Finds and selects the next content matching the currently selected content, searching to the right of the currently selected content
select previous one	Finds and selects the previous content matching the currently selected content, searching to the left of the currently selected content

DELETION COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
delete selection	Deletes the currently selected content
delete current sentence/paragraph/list/item /subsection/section	Deletes the entire sentence, paragraph, list, item, subsection, or section in which the cursor is currently located
delete next	Deletes the next sentence, paragraph, list, item, subsection, or section



sentence/paragraph/list/item /subsection/section	to the right of the current cursor position, if existing
delete previous sentence/paragraph/list/item /subsection/section	Deletes the previous sentence, paragraph, list, item, subsection, or section to the left of the current cursor position, if existing

UNDO COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
undo that	Undo last command spoken.

CORRECTION COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
correct selection	Shows correction options for the selected word
correct that	Shows correction options for the selected word
correct <word>	Shows correction options for the desired word

NAVIGATION COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
scroll up	Scrolls up
scroll down	Scrolls down
insert after <word>	Places cursor after the given word in insert mode
insert after <word sequence>	Places cursor after the given word sequence in insert mode
insert before <word>	Places cursor before the given word in insert mode
insert before <word sequence>	Places cursor before the given word in insert mode
Next Section	Places cursor at the end of the next section in the document.
Previous Section	Places cursor at the end of the previous section in the document.
go to beginning of sentence/paragraph/list	Places cursor at the beginning of the current sentence, paragraph, or list
go to end> of sentence/paragraph/list	Places cursor at the end of the current sentence, paragraph, or list

EDITING COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
toggle section/subsection	Toggle the current selection between regular text and a section/subsection.
new paragraph/line	Start selected text on a new paragraph/line or create a new paragraph/line at the current cursor position
boldface selection	Turns current selection into boldfaced text
boldface next <n> words	Boldfaces the sequence of <n> tokens to the left of the current cursor position
boldface previous <n> words	Boldfaces the sequence of <n> tokens to the right of the current cursor position
italicize selection	Turns current selection into italicized text
italicize next <n> words	Italicizes the sequence of <n> tokens to the right of the current cursor position
italicize previous <n> words	Italicizes the sequence of <n> tokens to the left of the current cursor position
underline selection	Turns current selection into underlined text
underline next <n> words	Underlines the sequence of <n> tokens to the left of the current cursor position
underline previous <n> words	Underlines the sequence of <n> tokens to the right of the current cursor position
toggle case	Toggles the case of the selection between Title, UPPERCASE, lowercase.
lowercase/no caps selection	Turns current selection into lowercased text
lowercase/no caps next <n> words	Lowercases the sequence of <n> tokens to the left of the current cursor position
lowercase/no caps previous <n> words	Lowercases the sequence of <n> tokens to the right of the current cursor position
uppercase/all caps selection	Turns current selection into uppercased text
uppercase/all caps next <n> words	Uppercases the sequence of <n> tokens to the left of the current cursor position
uppercase/all caps previous <n> words	Uppercases the sequence of <n> tokens to the right of the current cursor position

FIELD COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
<field cue>	Selects the field that matches the given cue
next field	Positions cursor in next field (relative to current cursor position)
previous field	Positions cursor in previous field (relative to current cursor position)
first field	Positions cursor in first field in document
last field	Positions cursor in last field in document

MOVING CONTENT COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
new list	Creates the first bullet of a new, unordered (bulleted list)
item number one	Starts a new, numbered list
next item	creates the next item in a list (for both ordered and unordered lists)

LIST COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
move selection to begin of <section name>	Moves currently selected content to the beginning of the indicated section
move selection to end of <section name>	Moves currently selected content to the end of the indicated section

FLUENCY REPORTING WORKFLOW COMMANDS

WHAT YOU MAY SAY	EXPECTED BEHAVIOR
create template	Opens the template editor loaded with a new template based on the current draft
find template	Launches the find template window
launch template <template name>	Loads the specified template, based on the template name
launch template <#>	Loads the specified template, based on the template number
create macro	Creates a macro based on the current selection

insert <macro name>	Inserts the specified macro (by name) at the location of the cursor
insert macro <#>	Inserts the specified macro (by index) at the location of the cursor
find macro	Launches the Find Macro window
edit macro	Launches the Edit Macro window for the currently selected macro
delete macro	Deletes the currently selected macro
check spelling	Launches Spellchecker on the current dictation
save key image	Saves image under cursor location as a key image
save draft	Saves current dictation as a draft
sign report	Signs report and closes images
assign report	Allows a resident to assign a report to a staff radiologist
send to transcription	Launches transcriptionist options; from here the user can add notes and then use voice commands "Send Routine", "Send STAT", or "Cancel"
preview report	Shows the html version of the Fluency report in a new popup window
insert token	Brings up the insert token dialog box
delete job	Cancels (aborts) the current job
go to sleep	Turns on the recording device
wake up	Turns off the recording device

APPENDIX B: FLUENCY KEYBOARD SHORTCUTS

ACTION	KEYSTROKE
One Character Left	Left Arrow
One Character Right	Right Arrow
Up One Line	Up Arrow
Down One Line	Down Arrow
Move cursor up one paragraph	CTRL + up arrow
Move cursor down one paragraph	CTRL + down arrow
Select one paragraph up	CTRL + SHIFT +up arrow
Select one paragraph down	CTRL + SHIFT +down arrow
Select one word to the left	CTRL + SHIFT + left arrow
Select one word to the right	CTRL + SHIFT + right arrow
Delete one word to the right	CTRL + DELETE

Delete one word to the left	CTRL+Backspace
Copy selected text	CTRL+C
Cut selected text	CTRL+X
Paste selected text	CTRL+V
Undo	CTRL+Z
Redo	CTRL+Y
Select text	SHIFT+ arrow
Select all text	CTRL+A
Move cursor to the beginning of line	HOME
Move cursor to the end of line	END
Create a Section Header	CTRL+N
Create a Subsection	CTRL+SHIFT+N
Create a Bulleted List	CTRL+L
Create an Ordered List	CTRL+SHIFT+L
Increase Indent of List	CTRL+T
Decrease Indent of List	CTRL+SHIFT+T
Toggle Case (UPPER, lower, Title)	CTRL+W
Check Spelling	CTRL+F9
Go to the beginning of audio	CTRL+4
Rewind audio	CTRL+5
Play audio	CTRL+6
Fast Forward audio	CTRL+7
Go to the end of audio	CTRL+8
Stop playing audio	CTRL+9
Save Macro	CTRL+M

APPENDIX C: SUGGESTED DICTATION HABITS

HANDHELD DICTATION DEVICES

- If using a handheld dictation device; place in the palm of your hand with the thumb on the 4-position switch and your index finger across the trigger underneath.
- When dictating, hold the device approximately 4 – 6 inches from your mouth.
- Pause slightly before speaking when starting your recorder and pause briefly before stopping recording. This prevents words from being “clipped.”
- Release the RECORD button when pausing to avoid picking up external noise.

GENERAL GOOD HABITS

- Dictate in a quiet area with minimal background noise, whenever possible.
- Speak clearly in full sentences, including punctuation, at a regular pace without over-enunciating or speaking too slowly/quickly.
- Use correct verbiage and grammar and avoid using slang, acronyms and/or coined terms.
- Try to use the same phrases in each of your report types. Be consistent in the way you approach similar reports. Make sure you use the same headings whenever possible. This makes it easier to transcribe your work and lessens the chance of error.

APPENDIX D: TEMPLATE ASSOCIATION RULES

When initiating a dictation, the following rules will be applied (in order) to determine which template to auto launch:

#	DESCRIPTION
1	If there is one or more personal templates specifically associated with the procedure code for the exam being loaded, choose the highest ranking template
2	If there is one or more personal templates specifically associated with the modality and body part for the exam being loaded, choose the first template in alphabetical order.
3	If there is one or more personal templates specifically associated with the body part only for the exam being loaded, choose the first template in alphabetical order.
4	If there is one or more personal templates specifically associated with the modality only for the exam being loaded, choose the first template in alphabetical order.
5	If no personal templates match, the same rules will be applied at the system level.
6	If no appropriate system or user template can be found, the System Default template will be loaded.

