Vitrea® Advanced Visualization

Vitrea General Software Education and Reference Guide

VITAL®

Canon
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VPMC-16225B

VPMC-16225B Vitrea General Software Education and Reference Guide

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Safety and Regulatory Considerations

PLEASE REFER TO THE *ABOUT VITREA MEDICAL IMAGING SOFTWARE* DOCUMENT BEFORE USING THIS PRODUCT. This document includes important information regarding general Vitrea Safety and Regulatory considerations.

CAUTION

Federal law restricts this device to sale by or on the order of a physician, as directed by 21 CFR 801.109(b)(1).

NOTE

While every effort has been made to ensure the accuracy of the content in this document, you may notice slight differences between screen captures and the actual software interface.

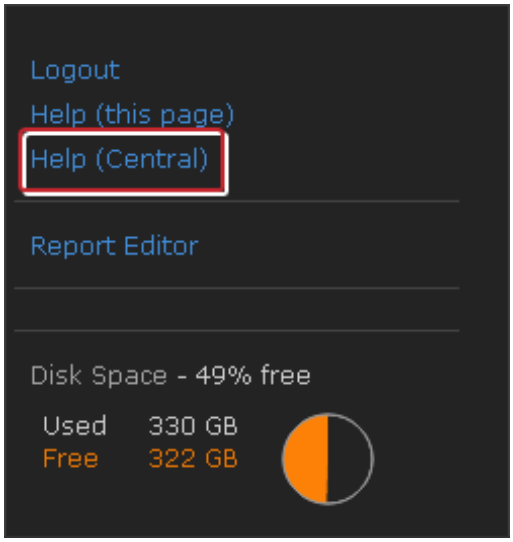
Contact Us

- For general, non-technical support questions, contact us through our website: www.vitalimages.com.
- For customer technical support, contact us:
  - In the U.S., call the Customer Support line at 1.800.208.3005.
  - Outside the U.S., contact your Vital distributor.
  - Send an email to support@vitalimages.com.
- For a printed version of the Release Notes, Education and Reference Guide, or Installation Guides, contact Customer Support at 1.800.208.3005.

UDI

Locate the Vitrea unique device identifier (UDI) on the Help Central page. This identifier contains the software version information and manufacture date.

1. Click  at the top of the window to display the Global Options menu.
2. Select **Help (Central)**.



The UDI is displayed under the **Version Info** section.

Release Notes

Vitrea Release Notes contain late-breaking information not available at the time the Education and Reference Guide was released. This document is available from your system administrator or from Vital Images.

Contents

Introduction to Vitrea Software

Vitrea Overview

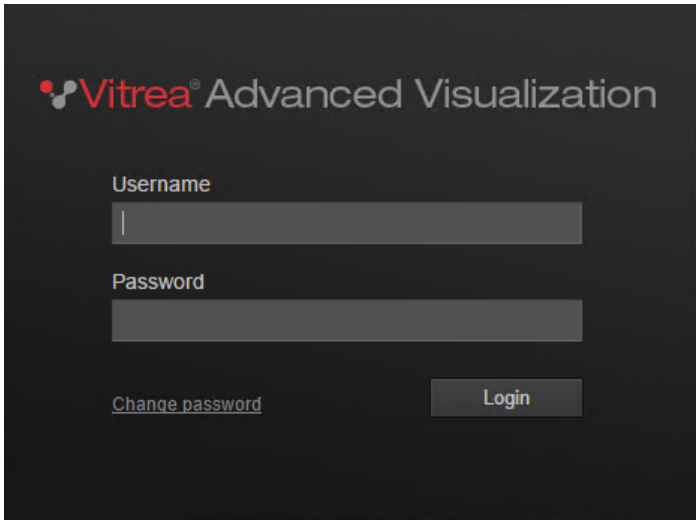
Vitrea software is an advanced visualization solution from Vital that creates 2D, 3D, and 4D images of human anatomy from image data from multiple modalities. With this tool, physicians can easily navigate within these images to better understand disease conditions. Vitrea software addresses specialists' needs through various software options for cardiac, colon, vessel probe, and other applications. In addition, Vitrea software utilizes an intuitive clinical workflow and automatic settings to improve speed and simplicity.

With Vitrea software, you can do the following things:

- Communicate with configured DICOM (Digital Imaging and Communications in Medicine) devices to retrieve and export patient data.
- Load one or multiple CT or MR volumes for a patient.
- Select from a gallery of predefined clinical viewing protocols.
- Adjust visualization parameters to enhance images.
- Review multiple image files in 2D, side-by-side views.
- Measure regions of interest.
- Locate and observe points of interest, using a mix of MPR (Multi-Planar Reformatted), 2D, and 3D images.
- Trim with 3D and 2D segmentation to focus images on regions of interest.
- Fly through or around anatomical images.
- Save snapshots highlighting regions of interest for saving to PACS or to a printable, Intranet-ready report.
- Capture image sequences in batches to create printed reports or make Intranet-ready digital movies.

Login

Log in to Vitrea software with your **Username** and **Password**.



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N O T E

Your system can be configured to login without entering credentials. Contact your System Administrator for more information.

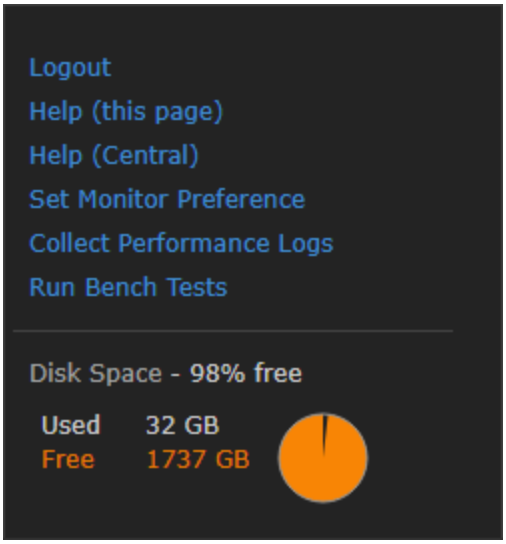
System Information Area

At the top of the window, user information, the **Global Options Menu** button, and the system performance icon display.

Warnings regarding network outages and other users viewing the same study also display here.

Display Global Options Menu

Click  in the upper-right corner of the window to display the Global Options menu.



From the Global Options menu, you can:

- Logout
- Display application-specific user documentation
- Access Help Central for links to user documentation and release notes
- Set Monitor Preferences for multi-monitor systems (see below)
- Collect Performance Logs for system administrators
- Run Bench Tests for system administrators
- Go to Applications Home for access to clinical, administration, and other applications
- View the available disk space

Set Up Multiple-Monitor or Single-Monitor Configuration

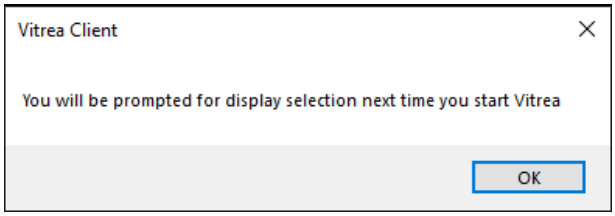
Vitrea supports multiple monitor functionality on Vitrea Enterprise, Vitrea Enterprise Single Server, Extend, or Workstation deployment.

N O T E

- Multiple monitor configurations are supported on two homogeneous, landscape monitors that have the same resolution, DPI, and orientation settings.
- PACS or an embedded window deployment is not supported.

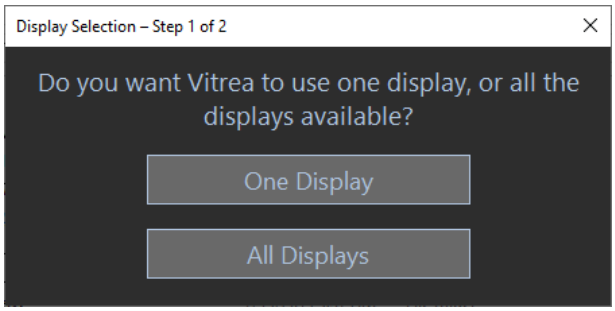
1. Click  in the upper-right corner of the window to display the Global Options menu.
2. Select the **Set Monitor Preference** option.

   The following dialog displays:



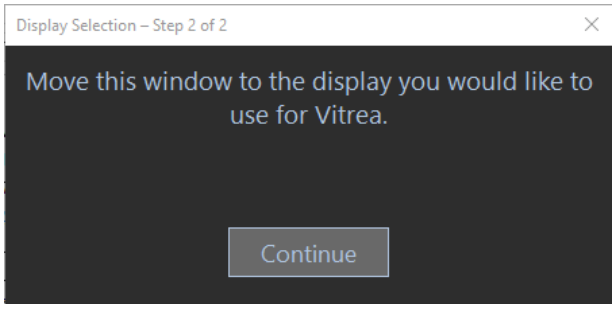
3. Click **OK**.
4. Close Vitrea.
5. Re-launch the Vitrea software on a system with two monitors.

   The following dialog displays:



6. Select the desired display option.

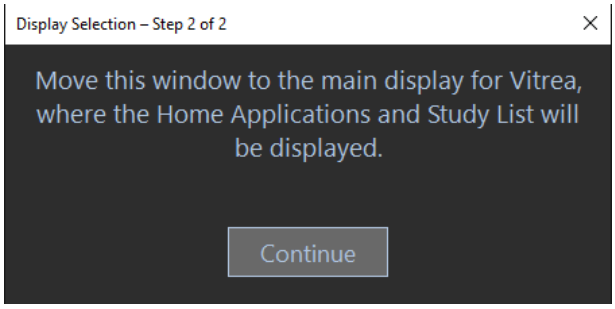
   If you select the **One Display** option, the following dialog displays:



   a. Drag the dialog box to the monitor you wish to use.
   b. Click **Continue**.

   OR

   If you select the **All Displays** option, the following dialog displays:



a. Drag the dialog box to the monitor you wish to use for the Home Applications and Study List. The clinical applications display on the other monitor.

b. Click **Continue**.

T I P

To move an open tab between monitors, click and hold the tab name at the top and drag to the desired monitor. Some applications are grouped, as indicated by a colored bar above their name. Grouped applications will move together between monitors.

N O T E

You can preview a series in the Study Tab of the Study List on one monitor while an application displays on the other monitor. If you preview a series for a different patient than the patient loaded in the application, the monitor with the application will be grayed out. To restore the application view, click within that monitor.

Observe Network Performance

When the Vitrea software is accessed remotely, the system monitors the network performance counters, and displays a connection quality icon above the Global Session bar. The performance may reduce or frames may be skipped as you interact with the images (such as window/level or rotate).

(green)	Good
(green)	Good with frames skipped
(yellow)	Moderate
(yellow)	Moderate with frames skipped
(red)	Bad
(red)	Bad with frames skipped
(gray)	Unknown

NOTE

Be aware that moderate, bad, unknown, or frames-skipped network performance may result in images that are less than full fidelity.

The Four-step Process

Workflows in the Vitrea software can be completed using a four-step process:

I. Select a Study from the Study List or from a PACS integration.
II. Choose an Application from the Applications Tab or Pick a Protocol and Preset from the Gallery
III. Perform Analysis in the Viewer Window
IV. Export Findings in the Results Tab or Complete a Report in the Report Editor

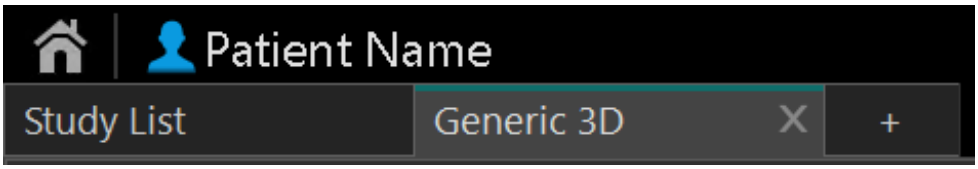
Select a Study from the Study List

When you start the Vitrea software, the Study List opens. Select a Study from the Study List.

See the **Vitrea Study List** chapter for more information on using the Study List.

1. Click the study entry to select it and display the Applications tab.
2. To load a study directly into the default application, click  for the study listing.

   The Vitrea software launches the application in a new tab at the top of the window.



OR

Continue with the Applications tab.

NOTE

Applications autoclose when another application is opened for a different patient.

Select a Study from a PACS Integration

NOTE

With PACS-integrated Vitrea, the Vitrea application automatically launches and loads the patient study or series you select from the PACS client.

When you select a patient study from the PACS Client, the study(ies) will load using one of the following methods:

- If you configured an Integration Profile to open using a pre-defined application, the Vitrea application automatically launches and loads the patient study(ies) or series.
- If you did not configure an Integration Profile to open using a predefined application, the Applications tab displays. Continue with the Applications tab instructions.

Choose an Application from the Applications Tab

When you click a study, the **Applications** tab displays. Use the Application tab thumbnails to load a study directly into an application. The series are listed below the Applications.

See the **Vitrea Study List** chapter for more information on using the Applications tab.

Load a Series or Stack in an Application

1. Select the appropriate application thumbnail.
2. Click 

or 

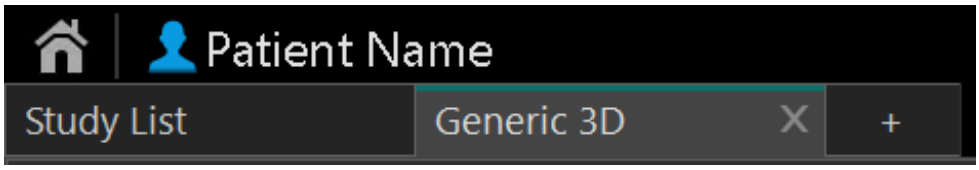
.
3. Select the series or image.

   OR

   Press **CTRL** and select multiple series or images.

4. Double-click the selected thumbnail.

   The Vitrea software launches the application in a new tab at the top of the window.



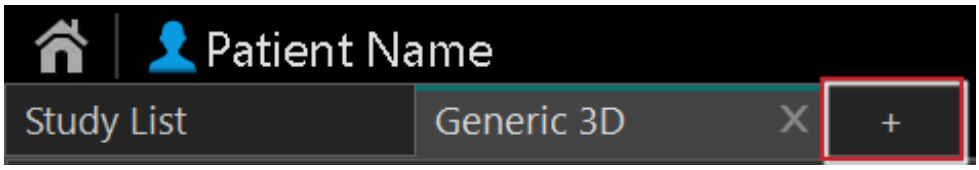
Load a Series or Stack in Additional Applications

Once you load a study or stack into an application, you can launch additional application suites for the same patient.

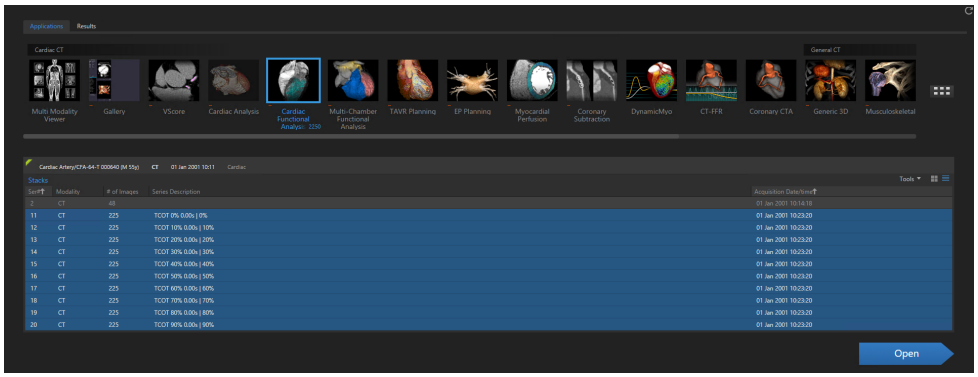
N O T E

Launching multiple applications from the same software suite is not supported. Applications from the same software suite are identified with a small, red mark on the left side. To launch a study or stack into an additional application of the same suite, return to the Study List. Additionally, if you request to open an additional application that is in the same suite, a dialog will display asking if Vitrea software can close the initial application.

1. Click the **+** icon next to the application tab.



The application selector launches. Thumbnails representing the licensed applications available for the study type.



N O T E

The lower-right corner of the selected thumbnail displays the total number of images, including multi-frame images, of the selected series.

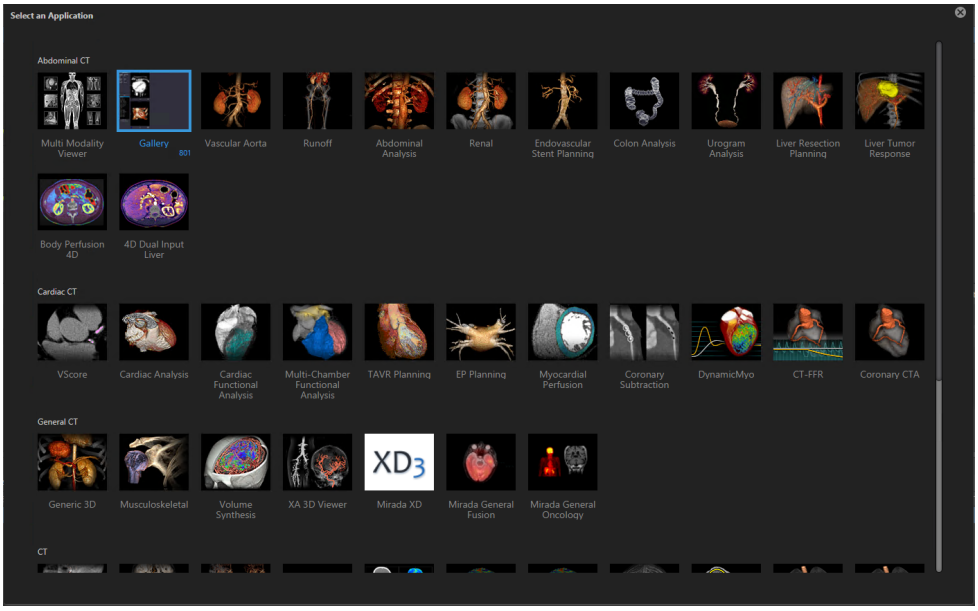
The thumbnails are arranged by relevancy as follows:

- Multi Modality Viewer (if licensed or appropriate)
- Vitrea Gallery
- protocol-specific applications
- general applications for the study modality

The **More** button, which displays in the thumbnail tray after the protocol-specific application thumbnails, is clicked to display the reaminder of the application thumbnails.

Use the scroll bar under the thumbnails to scroll along the thumbnail tray.

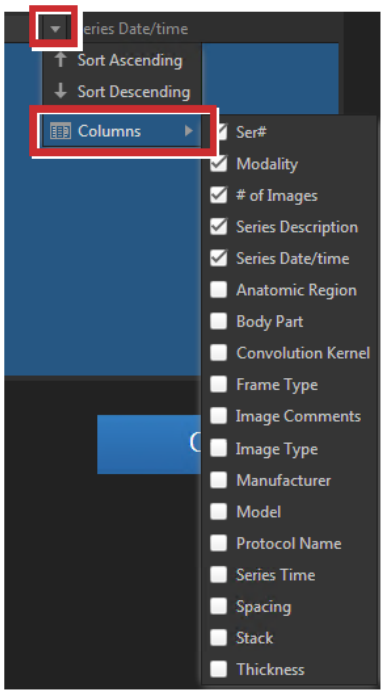
To display all the applications in a dialog box overlay, click the Applications grid button  .



N O T E

The displayed thumbnails are determined by a number of DICOM tags of the selected study. The applications shown for specific DICOM tags can be configured for all users. Contact your system administrator for more information.

2. Click Images to display series images, or click List to display the series list.
3. In series list mode, to sort the list, click any column header.
4. In series list mode, to add or remove columns:



a. Click the dropdown on the right of any column.
b. Select **Columns**.
c. Select or clear the desired column listings.

5. Verify the appropriate application thumbnail is selected, and if necessary, select a different application thumbnail.

   Vitrea software attempts to select the best series or stacks for the application.

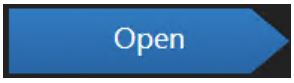
> **N O T E**
>
> Verify any automatic series/stack selection and select series/stacks manually if necessary.

6. If necessary, select the image or series listing.

   OR

   Press CTRL and select multiple images or series.

   The application thumbnail displays the image count in the lower-right corner.

7. Double-click the application thumbnail, or click 

.

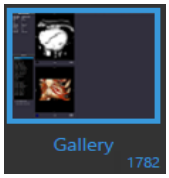
   Vitrea software launches the application in a new tab at the top of the window.

Pick a Protocol and Preset from the Gallery

Use the Gallery to choose a study protocol and a visualization preset.

Load a Series or Stack to the Gallery

1. Select the **Gallery** thumbnail.

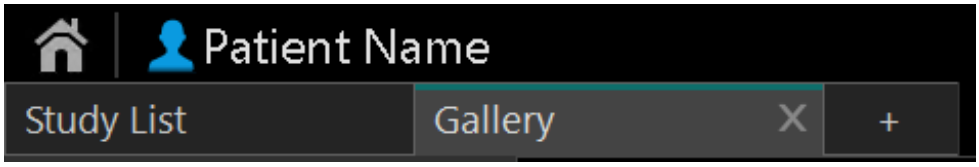


2. Click List or Images.
3. Select the series or image.

   OR

   Press **CTRL** and select multiple series or images.
4. Double-click the Gallery thumbnail.

   Vitrea software launches the **Gallery** in a new tab at the top of the window.



Pick a Protocol and Preset

1. Review the Patient Information area to verify the correct patient study is loaded.
2. Select a Protocol from the protocol list.
3. Click Pick associated with the desired visualization preset.

> **N O T E**
>
> Regard each protocol and preset as a convenient starting point for viewing the study.

See the **Vitrea Gallery** chapter for information on using the Gallery.

Perform Analysis on the Viewer Window

The Viewer Window is the main working area and includes the tools necessary to complete your workflow.

Use the tools in the Viewer window to analyze images, perform measurements, segment anatomy, probe vessels, and take snapshots, batches, and movies.

> Consult the *Education and Reference Guide* for the specific application you are using or the Common Viewer Window Tasks chapter.

- Click  in the upper-right corner of the Viewer window to launch an application-specific Education and Reference Guide.

Export Findings in the Results Tab

The snapshots, batches, and movies you create in the Application window and reports you create in the Report Editor are saved to the Results tab on the Study List and the Results tab on the Application Selector.

From the Results tab, you can:

- Display results in list or images format
- Display a preview of a result or report
- Export results
- Save the results or reports to a local or network location
- Save the results or reports to a media location
- Mark results as published
- Restore workflows
- Launch the Report Page editor
- Edit the results description
- Delete the results

See the **Vitrea Study List** chapter for information on using the Results Tab.

Complete a Report in the Report Editor

The snapshots, batches, and movies you create in the Viewer window are saved to the Findings area of the Report Page Editor. Access the Report Page Editor from the Study List.

- Right-click on a patient name and select **Open Report Page Editor**.

OR

- Select a patient name, click **Tools** in the Applications or Results tab, then select **Open Report Page Editor**.

See the **Report Editor** chapter for information on using the Report Page Editor.

Closing

Close any running application or the entire Vitrea program.

N O T E

Vitrea software automatically closes after a certain period of inactivity. This is a configurable amount of time. The default period is 15 minutes. Be sure to take snapshots throughout your session so you can restore your workflow.

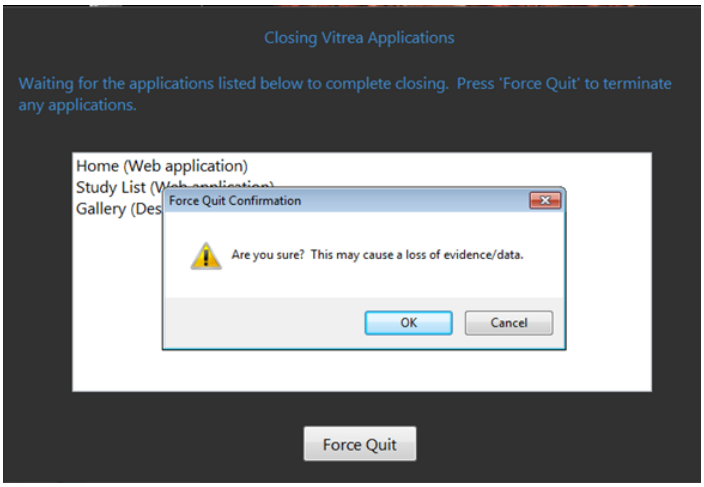
- Close an application by clicking the small X on the application tab.

- Close the entire Vitrea program by clicking the X in the upper-right corner of the window.

N O T E

Certain applications automatically create findings, which may take several minutes to save. The software will display a dialog box if you attempt to close before all the findings

are saved. This dialog box allows you to force the application closed.



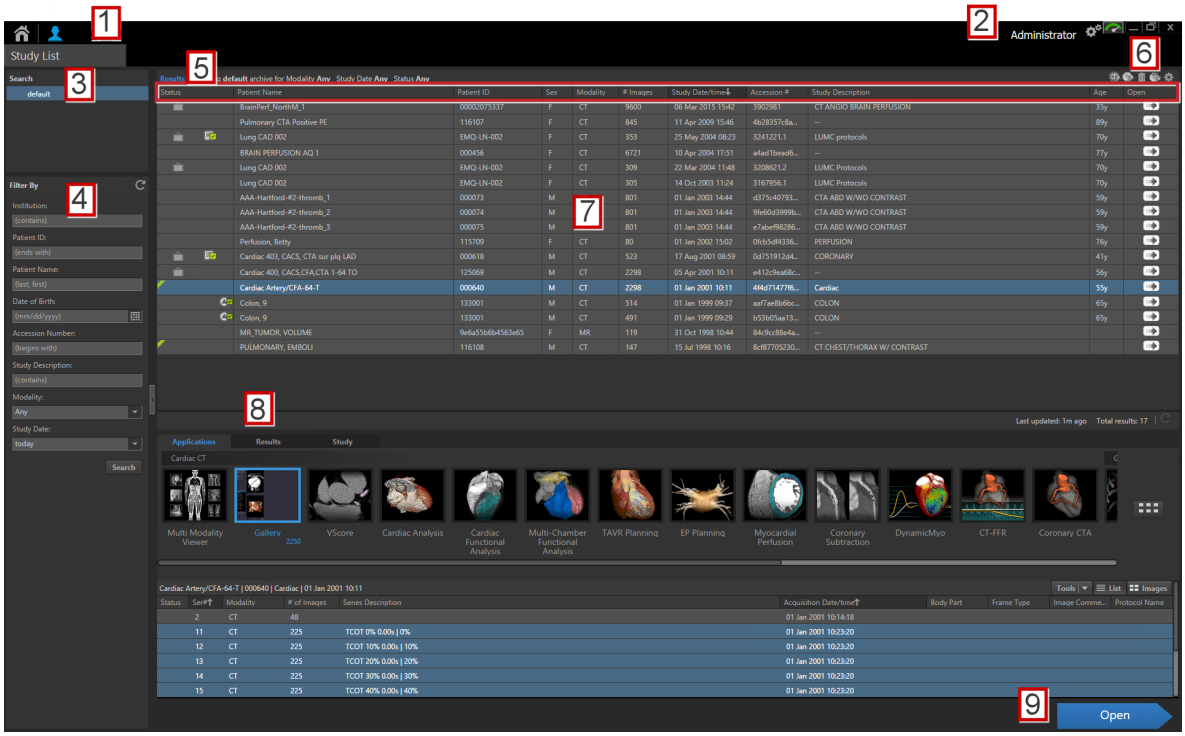
C A U T I O N

Be aware that if you force the application closed before all findings are saved, some findings may be lost or corrupted.

Vitrea Study List

Study List Window

When you start the Vitrea software, the Study List window opens.



No.	Description
1	Home and Patient icons  Click to switch between Applications Home (for administrators) and application (once a patient study is loaded) or Study List
2	System Information area  See the **Vitrea Study List** section

No.	Description
3	Server Search area See the **Server Search Area** section
4	Filter Studies area See the **Filter Studies Area** section
5	Column Headers See the **Column Headers** section
6	Study List tools  See the **Study List Tools** section
7	Patient (studies) List See the **Patient (Studies) List** section below
8	Applications, Results, and Study tabs See the **Applications Tab**, **Results Tab**, and **Study Tab** sections
9	Open button

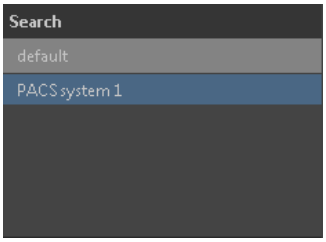
Server Search Area

Query DICOM Servers to Retrieve Studies

Query DICOM servers or archives to retrieve patient studies.

1. From the Search area, select the server or archive to query.

The Study List displays the available studies on that server or archive that match the search criteria.



2. Select a study.
3. Click  to retrieve the study.

OR

Select individual series on the lower half of the window, then click  .

An indicator displays in the study listing that the retrieve is in progress.

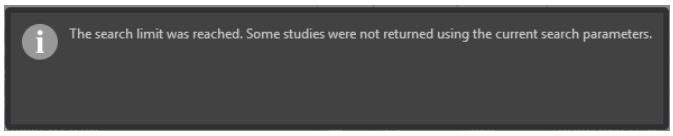
T I P

- Press CTRL to select multiple series.
- To set the study search limit:

a. Click the **Settings** button  .
b. Adjust the **Study search limit** slider.

N O T E

- If there are more studies than the search limit allows, a dialog displays.



- When an external archive is slected, filtering by institution name is disabled.

Filter Studies Area

Filter the Study List

When you set selection criteria to filter the list of studies, the Patient List displays studies matching the selection criteria and studies that are already open.

To further filter the Study List, set the selection criteria for multiple columns. Selection criteria for Modality and Study Date are remembered across user sessions. The default selection criteria for Modality is “Any,” and the default selection criteria for Study Date is “Today.”

N O T E

- When an external archive is selected, filtering by institution name is disabled.
- The “Status” filter is available for Ultrasound studies only and requires a certain configuration. Contact your system administrator.

Example:

1. In the Filter By area click in the field under the **Modality** header and select **MR** from the dropdown list.
2. Click in the field under the Study Date header and select **1 week** from the dropdown list.
3. Click the **Patient Name** box and enter the information.
4. Click Search.

The Patient List displays MR studies, occurring in the last week, with the patient name entered.

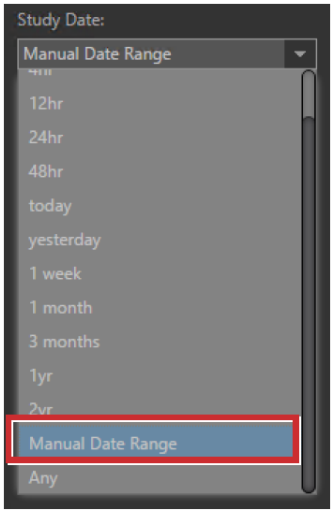
N O T E

Some archives may not respond to certain criteria. If this happens, try broadening some criteria.

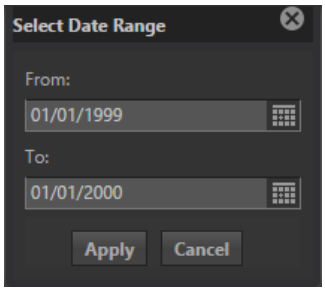
Select a Range of Dates for Study Date

You can select a range of dates for the Study Date field.

1. Click the Study Date dropdown.
2. Select **Manual Date Range**.



3. Enter the dates in the **From:** and **To:** fields.



OR

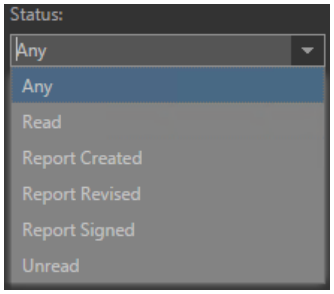
Click  for either field to select a date from a calendar.

Select by Status (Ultrasound Studies Only)

N O T E

The “Status” filter is available for Ultrasound studies only and requires a certain configuration. Contact your system administrator.

1. Click the Status dropdown.
2. Select the status to filter.

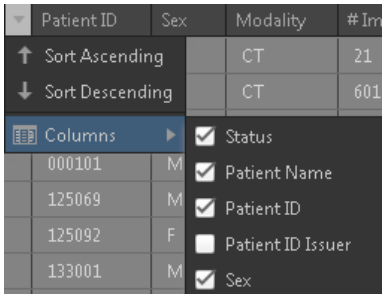


Column Headers

Add or Remove Columns

Manage the columns in the Patient List, Series List, Results List, or Study Tab List.

1. Click the drop down arrow in any column.
2. Hover on **Columns**.
3. Select the columns to include. Clear the columns to hide.



Sort Columns in Ascending or Descending Order

1. Click the drop down arrow in any column.
2. Select **Sort Ascending** or **Sort Descending**.

Adjust the Column Width

- Place the cursor on the line between columns, and drag the line.

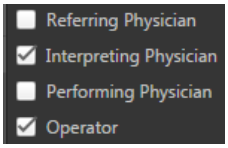
Edit an Interpreting Physician or Operator (Ultrasound Studies Only)

N O T E

- Available for ultrasound studies only.
- Available for users with proper administrative privileges.

1. Add the **Interpreting Physician** or **Operator** columns to the Study List.

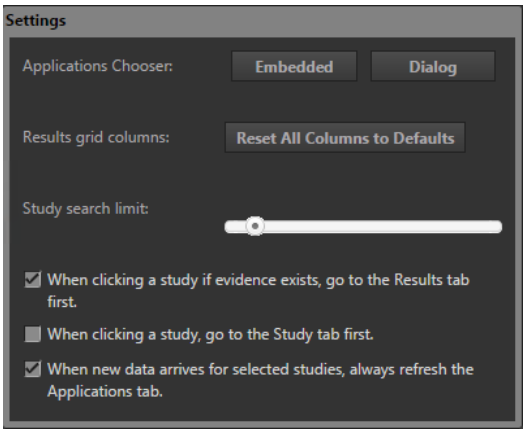
2. Click inside the Interpreting Physician or Operator cell.
3. Make a selection from the dialog box.



Study List Tools

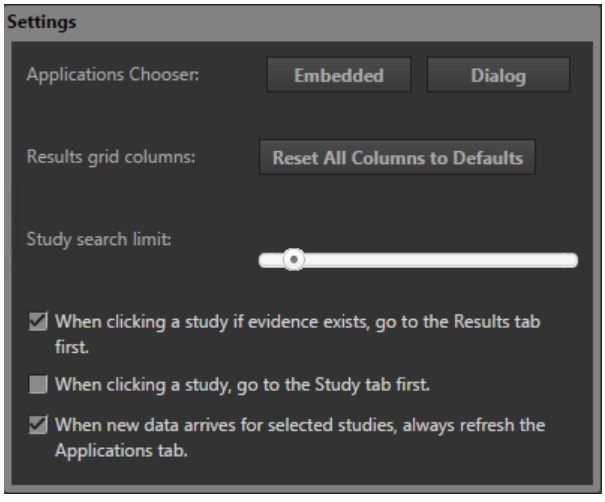
Use the tools located in the upper-right corner of the Patient List to perform the following actions:

Tool	Description
 Export Study	Click to export the selected study(ies)  See **Export Studies, Series, or Results** section below
 Save to Media	Click to export selected study to media (CD/DVD/USB/Local Disk/Network Data)  See **Save Studies, Series, or Results to Media** section below
 Delete Study	Click to delete the selected study from the server

Tool	Description
Import Media	Click to launch the Media Manager where you select studies to import See **Import Studies from Media** section below
Settings	Hover to open the Settings dialog  See the **Settings Dialog** section below

Settings Dialog

Hover on to display the Settings dialog box to control the behavior of the Study List.



- Applications Chooser:

- Click Embedded to display the Applications and Results tabs and the series/stacks list embedded within the larger window (default).
- Click Dialog for the ability to launch a new dialog box to display the Applications and Results tabs and the series/stacks list.

- Results grid columns:
  - Click Reset All Columns to Defaults to reset all the columns in the study list to the default values.
- Study search limit:
  - Adjust the slider  to set the number of results the Vitrea software returns using the search parameters.
- Options:
  - Select the check boxes to set the following options:
    - When clicking a study if evidence exists, go to the Results tab first.
    - When clicking a study, go to the Study tab first.
    - When new data arrives, always refresh the Applications tab.

Patient (Studies) List

Study List Status Column Icons

The Status column displays icons to identify the various states of the studies.

Icon	Description
 (Arrow with yellow clock)	New series receive in progress - please wait before loading **N O T E** Each series of the study will display this icon when loading. The icon may display, stop, and restart a number of times, depending on the number of series in the study.
 (Green flag)	New study received
 (Briefcase)	Study has results
 (Globe with orange pencil)	Study marked for export

Icon	Description
(Globe with yellow clock)	Export in progress **TIP** Hover on the icon to view the percent of progress, time export started, and the user who requested the export.
(Globe with green check mark)	Export complete
(Light gray lock)	Study open in an application (auto-lock) **NOTE** This icon displays only when the study is selected. See the **Lock Studies** section for more information
(Dark gray lock)	Study locked by a user (manual lock) **NOTE** This icon displays only when the study is selected. See the **Lock Studies** section for more information
(Drive with yellow clock)	Study save to media in progress - please wait
(Drive with green check mark)	Study save to media complete
(Paper with yellow clock)	Draft report saved
(Paper with green check mark)	Report complete

Icon	Description
 (CAD mark with yellow clock)	CAD results queued for processing  **N O T E** CAD analysis is available with the separately-licensed Visia™ CT Lung System or separately-licensed VeraLook® iCAD)[1]
 (CAD mark with yellow cycle symbol)	CAD results currently processing  **N O T E** CAD analysis is available with the separately-licensed Visia™ CT Lung System or separately-licensed VeraLook® iCAD)
 (CAD mark with green check mark)	CAD results ready to load  **N O T E** CAD analysis is available with the separately-licensed Visia CT Lung System or separately-licensed VeraLook iCAD)
 (CAD mark with red warning mark)	CAD results processing failed  **N O T E** CAD analysis is available with the separately-licensed Visia CT Lung System or separately-licensed VeraLook iCAD)
 (Paper with red lines and yellow clock)	Report created  **N O T E** Available for ultrasound studies only

[1]Visia and VeraLook are trademarks of MeVis Medical Solutions.

Icon	Description
(Paper with red lines and green check mark)	Report signed **N O T E** Available for ultrasound studies only
(Paper with red plus and green check mark)	Report revised **N O T E** Available for ultrasound studies only
(Red warning symbol)	Error processing the study See the**Study Error Messages** section below for more information

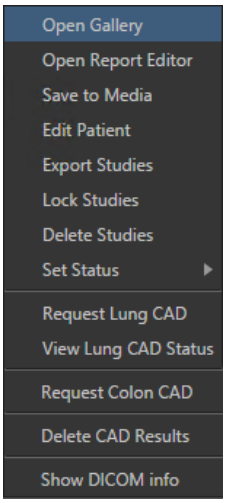
Study Error Messages

If a study listing has an error icon in the status column, hover on the error icon to display the error message associated with the study.

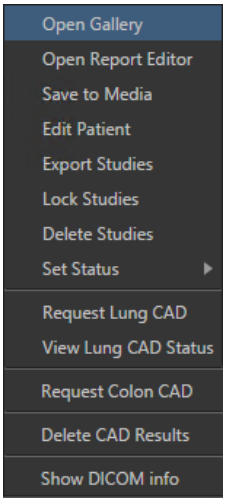
Error Message	Possible reasons
Error receiving study	Any permanent errors during the ingestion process: • Instance received has missing or invalid study/series/"SOPInstanceUID", "SOPClassUID", or transfer syntax • Internal data processing failure • Auto delete fails to delete study from database due to mismatched patient IDs • Patient name doesn't match for same study • No patient name
Error storing study	Unable to store the data permanently. Repushing the studies may not fix the problem. • No DAR\META files generated • Invalid or corrupt DAR files

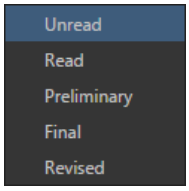
Patient List Right-click Menu

When you right-click on a study, a menu displays containing the following options:



Menu Item	Description
Open Gallery	Open the study in the Gallery application Consult the *Gallery Education and Reference Guide*
Open Report Editor	Open the editor to build a report Consult *Report Editor Education and Reference Guide*
Save to Media	Save data to media (CD/DVD/USB/Local Disk/Network Data) See the **Save Studies, Series, or Results to Media** section below
Edit Patient	Open the Edit dialog where you edit patient information See the **Edit or Reconcile Patient Information** section below.
Export Studies	Open the Export dialog where you select export options and location See the **Export Studies, Series, or Results** section below
Lock Studies	Manually lock studies from deletion See the **Lock Studies** section for more information
Delete Studies	Remove the studies from the server



Menu Item	Description
Set Status	Set the study status for ultrasound studies  **N O T E** • Available for ultrasound studies only. • Available for users with proper editing privileges.
Request Lung CAD	Manually request Lung CAD processing **N O T E** Lung CAD analysis is available with the separately-licensed Visia CT Lung System.
View Lung CAD Status	Launch Lung CAD server status queue web page **N O T E** The web page IP address and port needs to be configured. Contact your system administrator.
Request Colon CAD	Manually request Lung CAD processing **N O T E** Colon CAD analysis is available with the separately-licensed VeraLook iCAD system.
Delete CAD Results	Remove the CAD results from the server
Show DICOM Info	Display a summary of the DICOM tags and values for the selected study

Select a Study

Use the Embedded Applications Method

N O T E

To switch to the Embedded Applications Method, click  and select 

. This is a persistent selection.

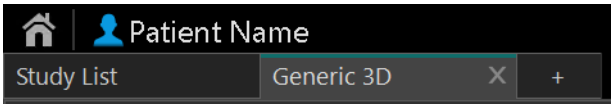
1. Click the study entry to select it and display the Applications tab.

   OR

   Press CTRL and select multiple study entries.

2. To load a study directly into the default application, click  for the study listing.

   The Vitrea software launches the application in a new tab at the top of the window.



   OR

   Continue with the Applications tab.

N O T E

Applications auto-close when another application is opened for a different patient.

Use the Dialog Method

T I P

The **Dialog** option may be beneficial to use with studies that have many series/stacks because more space is allocated to display the series/stacks.

N O T E

To switch to the Dialog Method, click  and select 

. This is persistent selection.

1. Click the study entry to select it.

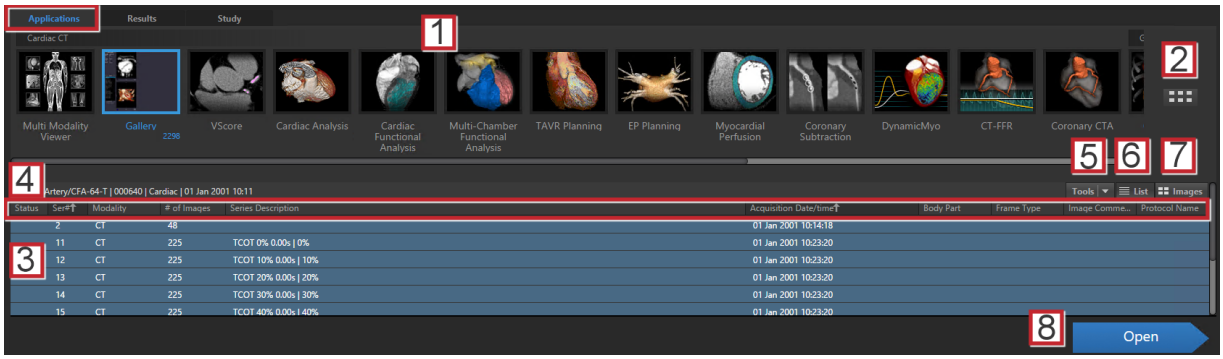
   OR

   Press CTRL and select multiple study entries.

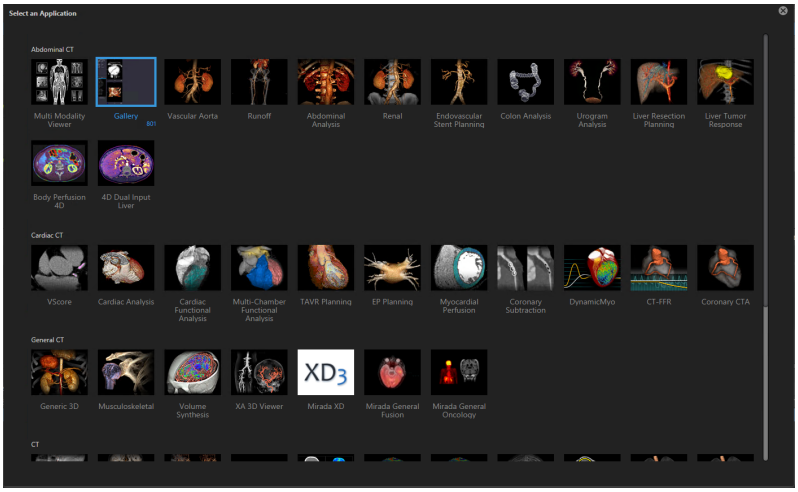
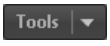
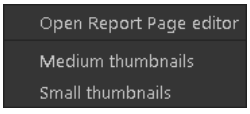
2. Click  on the right side of the study listing to launch the Choose Applications dialog.
3. Continue the same as you would with the Applications tab.

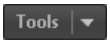
Applications Tab

When you click a study, the **Applications** tab displays. The series are listed below the Applications.



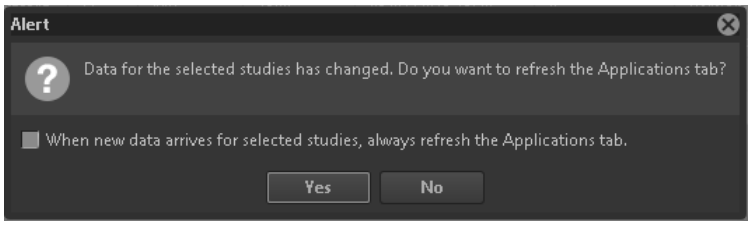
No.	Description
1	Thumbnails representing the licensed applications available for the study type. See the **Application Thumbnails** section below. **N O T E** The lower-right corner of the selected thumbnail displays the total number of images, including multi-frame images, of the selected series. Use the scroll bar under the thumbnails to scroll along the thumbnail tray.

No.	Description
2	Application dialog button  Click the Application dialog button to display all the available application thumbnails in a dialog overlay. 
3	A list of Series that comprise the study.
4	Column Headers See the **Column Headers** section above.
5	Click **Tools**  to open a menu of Application tab options. 
6	Click **List**  to display the series in a list format.

No.	Description
7	Click **Images**  to display the series in image thumbnails. **T I P** For series data, you can adjust the image thumbnail: • To adjust the window/level of the image thumbnail, click and drag in the image. • To scroll through the series slices in the image thumbnail, right-click and drag, or roll the mouse wheel. • To change the size of the thumbnails, click  then select any thumbnail size option. **N O T E** The image thumbnails are not intended for diagnostic viewing.
8	Click **Open** to load the selected series into the selected application.

N O T E

If new data arrives for study(ies) that are selected, a dialog box displays alerting you that the study series have changed. Click **Yes** to refresh the Applications tab.



T I P

To set the Vitrea software to automatically refresh selected studies, select the **When new data arrives for selected studies, always refresh the Applications tab** check box. You can also set this preference in the Settings menu.

Application Thumbnails

Thumbnails representing the licensed applications available for the study type display in the Applications area.

The thumbnails are arranged by relevancy as follows:

- Multi Modality Viewer (if licensed or if appropriate)
- Vitrea Gallery

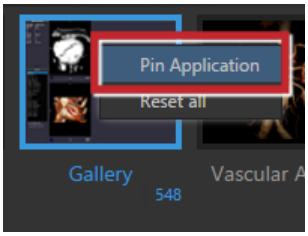
- protocol-specific applications
- general applications for the study modality

N O T E

The displayed thumbnails are determined by a number of DICOM tags of the selected study. The applications shown for specific DICOM tags can be configured for all users. Contact your system administrator for more information.

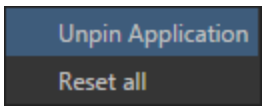
- To display the hidden application thumbnails, click the **More** button (which displays in the thumbnail tray after the protocol-specific application thumbnails).

- To pin favorite or often-used application thumbnails to the left side of the application tray, right-click the thumbnail and select **Pin Application**.



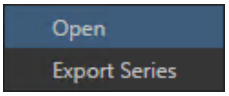
N O T E

- To unpin a pinned application, right-click the thumbnail and select **Unpin Application**.
- To unpin all pinned applications, right-click a thumbail and select **Reset All**.



Series List Right-click Menu

When you right-click on a series, a menu displays containing the following options:



Menu Item	Description
Open	Open the selected series in the default application
Export Series	Opens the Export dialog where you select export options and location See the **Export Studies, Series, or Results** section above

Load a Series or Stack in to an Application

N O T E

To switch the display options for the series list, click List or Images. This is a persistent selection.

1. Select a patient study from the study list as indicated above.

   Vitrea software attempts to select the appropriate application thumbnail and the best series or stacks for the application.

2. Verify the appropriate application thumbnail is selected, and if necessary, select a different application thumbnail.

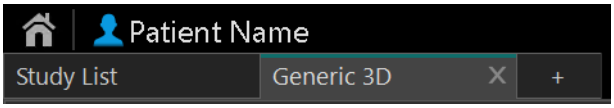
3. Verify any automatic series/stack selection, and if necessary, select the series or image.

   OR

   Press CTRL and select multiple series or images.

4. Click Open.

   Vitrea software launches the application in a new tab at the top of the window.

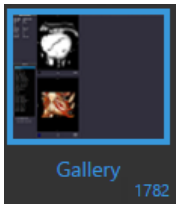


Load a Series or Stack to the Gallery

N O T E

To switch the display options for the series list, click List or Images. This is a persistent selection

1. Select the **Gallery** thumbnail.

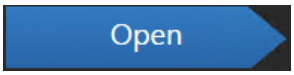


Vitrea software selects all the series.

2. Select the series or image.

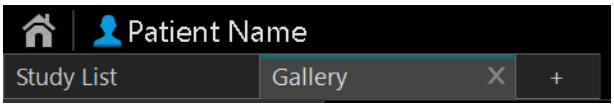
   OR

   Press **CTRL** and select multiple series or images.

3. Click 

.

   Vitrea software launches the **Gallery** in a new tab at the top of the window.



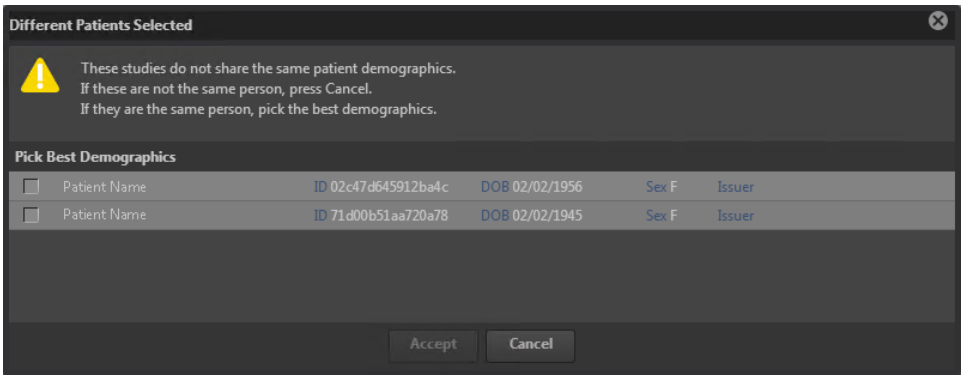
> Consult the *Vitrea Gallery Education and Reference Guide* for instructions on using the Gallery.

Patient and Study Information

When you launch a patient study, series, or stack into the Gallery or an application, Vitrea software displays the DICOM header information at the top of the window.

Always review patient and study information to ensure the correct patient study is loaded.

If multiple studies are selected, but the patient demographics differ, the following dialog displays.



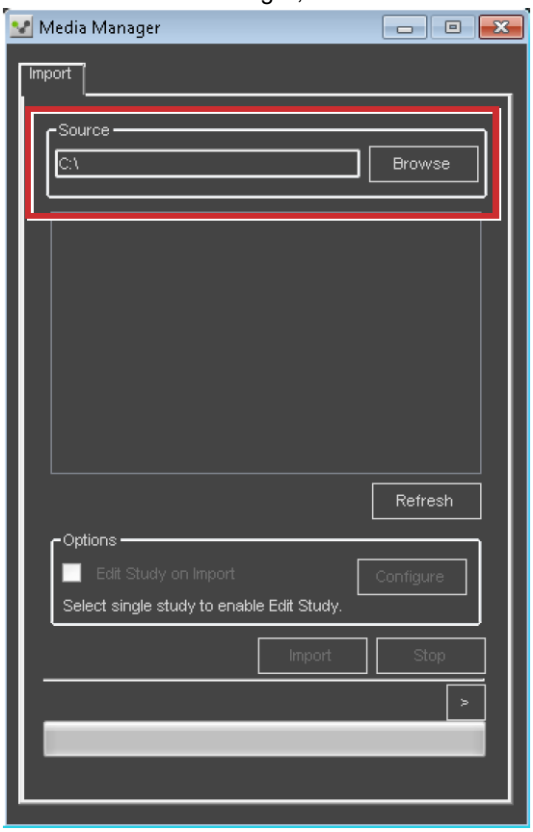
Review the demographics carefully. If the studies are for the same patient, select the demographics that best fit the patient and click Accept. A blue message displays on the Viewer.

If the studies are not for the same patient, click Cancel.

Manage the Study List

Import Studies from Media

1. Click  .
2. From the Media Manager, enter or browse to the source location.

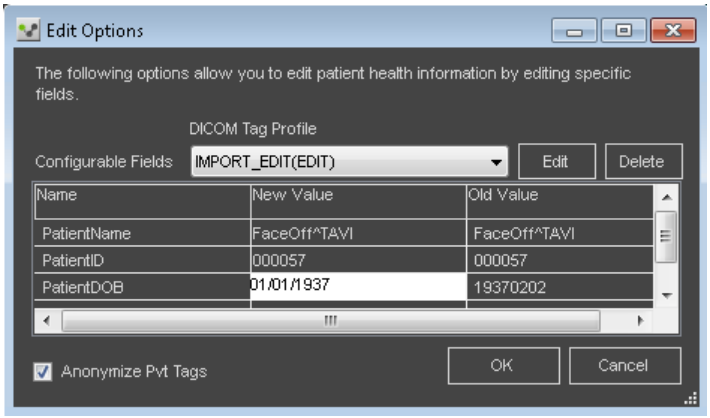


3. Click **Refresh**.

   The study with all its series displays in the Media Manager.

   Optional

   a. To edit the study for import, select the **Edit Study on Import** check box.
   b. Click **Configure**.
   c. From the Edit Options dialog, make the desired edits.



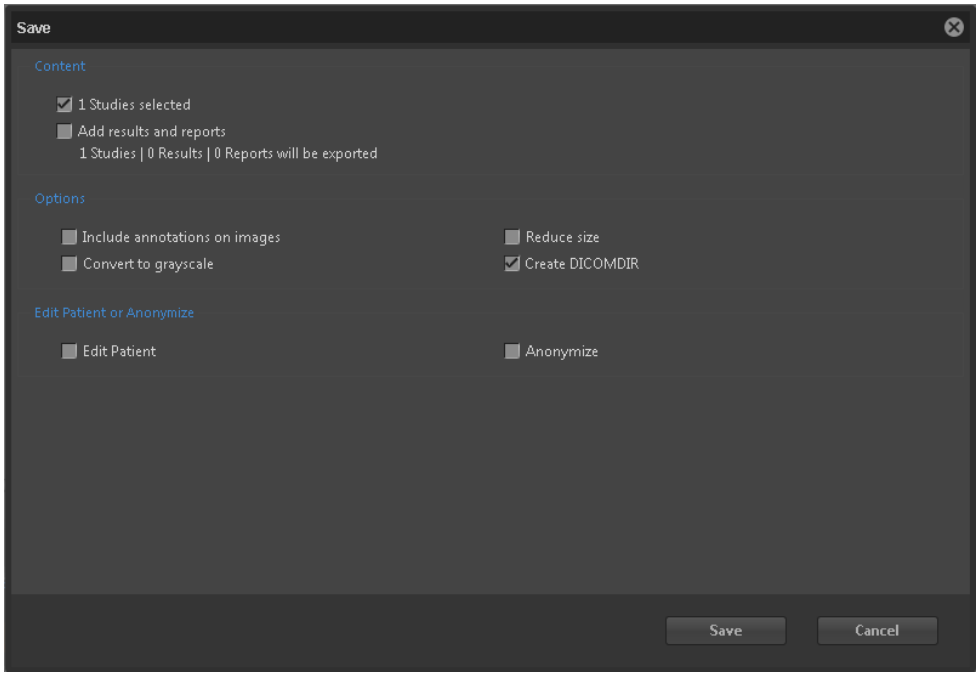
4. Click **Import**.

> **N O T E**
>
> The Media Manager window stays open until you actively close it, even if the Vitrea software is closed or times out. Be sure to close the Media Manager window once the study import is complete.

Save Studies, Series, or Results to Media

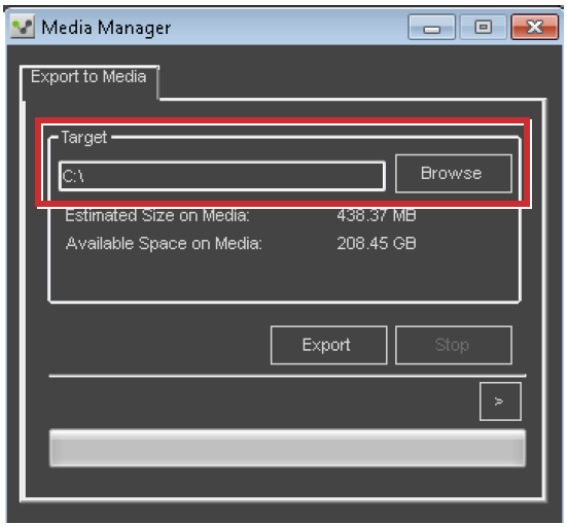
Save Studies, Series, or Results to Media with Edits

1. Right-click the study, series (from the Study tab), or results entry(ies) and select **Save to Media**.
2. From the Save dialog box, select any of the following options:



- Content
  - Number of studies selected
  - Add results and reports
- Options (study or results save only)
  - Include annotations on images
  - Convert to grayscale
  - Reduce size
  - Create DICOMDIR
  - Create DICOMDIR is not available when saving more than one study.
- Edit Patient or Anonymize (single study save only)

3. Click **Save**.
4. From the Media Manager dialog, enter or browse to the target location.



5. Click **Export**.

> **N O T E**
>
> While this Anonymize feature does anonymize some patient information, not all DICOM fields are anonymized. If you require full anonymization, do not use this feature.

See the **Edit or Reconcile Patient Information** section below.

Save Studies to Media with No Edits (study save only)

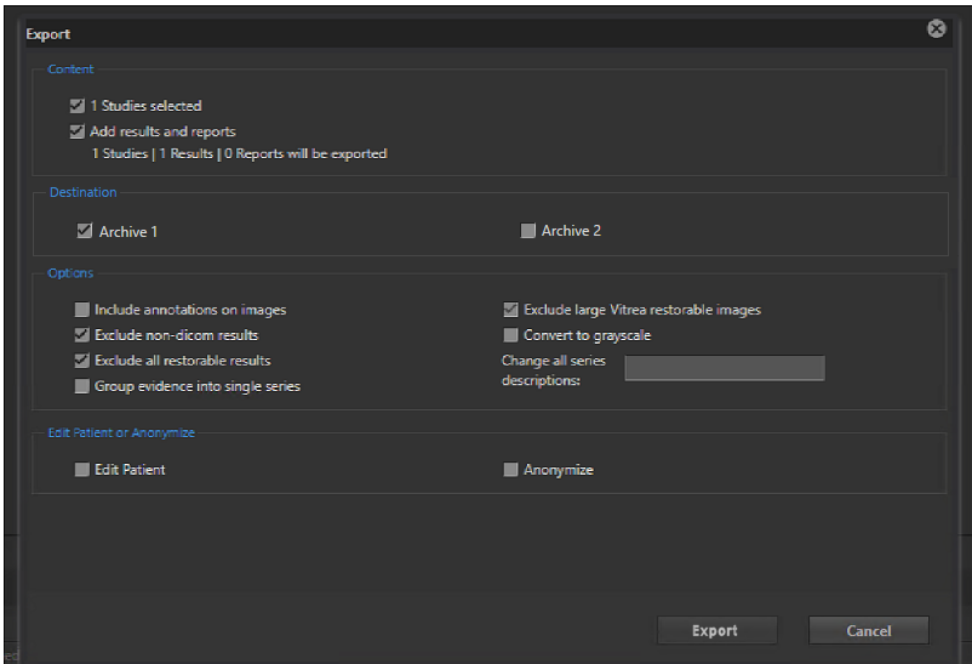
1. Select the study entry, then click  .
2. From the Media Manager dialog, enter or browse to the target location.
3. Verify Media Content selections.
4. Click **Export**.

Export Studies, Series, or Results

1. Right-click the study, series, or results entry and select **Export**.

   OR

   Select study and click  (study export only).
2. From the Export dialog box, select or complete the following fields:



- Content
  - Number of studies selected
  - Add results and reports
- Destination
  - Complete the destination location
- Options (study and results export only)
  - **Include annotations on images** - this option forces all images to DICOM secondary capture
  - **Exclude large Vitrea restorable images** - this option removes the snapshot information, and therefore the ability for snapshots to be restorable on another Vitrea system. Often used because snapshot images can be very large, and sometimes a problem for some PACS systems.
  - **Exclude non-dicom results** - this option excludes non-dicom results (.avi, .pdf, .csv, .stl, etc.) from the export request
  - **Convert to grayscale**
  - **Exclude all restorable results** - this option removes the SR DICOM data that accompanies results, which also removes the ability to restore results in another Vitrea system and will not display results on the Results tab of another Vitrea system. Typically, results such as AVI, DOC and others are removed. DICOM SRs are not removed.
  - **Group evidence into single series** - group Vitrea snapshots into a single series
  - **Change all series description** - enter the series description to be used during export
- Edit Patient or Anonymize (study export only)

See the **Edit or Reconcile Patient Information** section for more information.

C A U T I O N

While this Anonymize feature does anonymize some patient information, not all DICOM fields are anonymized. If you require full anonymization, do not use this feature.While this Anonymize feature does anonymize some patient information, not all DICOM fields are anonymized. If you require full anonymization, do not use this feature.

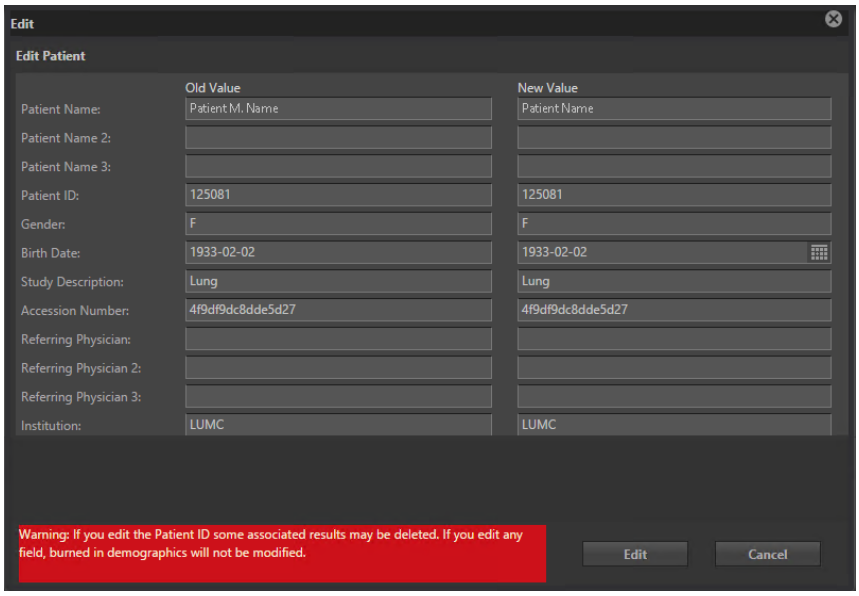
3. Click **Export**.

N O T E

Some export options, such as series sequence numbering, are configurable. Contact your system administrator.

Edit or Reconcile Patient Information

1. Right-click the study entry and select **Edit Patient**.
2. Enter New Values the Edit Patient dialog box.



C A U T I O N

- Do not use the Edit Patient feature to anonymize DICOM data. This method does not fully anonymize patient information. To make this patient anonymous in the DICOM file, Export the study, then select Anonymize in the DICOM Export dialog box.
- Be aware that patient information that is burned into images cannot be edited or

anonymized.

Notes Regarding Study Receive, Edit, and Export

- If the system receives a different patientID for a study, it deletes both results (reports, screen captures, etc.) and the existing series. New data is processed only after the old series and results are deleted from the system.
- If the system receives other differing patient info (except patientID) for a study, it updates the master record in the database to the latest received on a given instance. However, snapshots with “burned-in” demographics will not be modified.
- If the system exports/saves to media and has differing patient info in different images, it does not update all of the images and results to the master record in the database.
- If the patient information is edited and the patientID is modified, draft and published reports will be deleted, evidence is updated with new demographics, and snapshots with “burned-in” demographics will not be modified.
- If the patient information is edited and the patient information (other than patientID) is modified, results will be retained and will be modified. However, snapshots with “burned-in” demographics will not be modified.
- If you edit or anonymize during export/save to media and modify the patientID, results will be retained and modified. Burned in demographics cannot be modified.
- If you edit/anonymize during export/save to media and modify patient info (other than patientID), results will be retained and will be modified. Burned in demographics cannot be modified.
- If a study is edited on media-import into the system, all DICOM files are updated to the new demographics.
- If a study is media-imported into the system, and the study previously existed but demographics have changes (except patientID), results are retained but not updated to the new demographics.
- If a study is media-imported into the system, and the study previously existed but patientID has changed results are deleted.
- If a study is DICOM-received into the system, and the study previously existed but demographics have changes (except patientID), results are retained but not updated to the new demographics.
- If a study is DICOM-received into the system, and the study previously existed but patientID has changed, results are deleted.
- The system may be unstable if study images are re-sent while other users are looking at that same study.

Lock Studies

Study locks protect studies from deletion (either auto-deletion or deletion by another user). Select a study, or up to 20 studies, to display the lock status icons.

When a study is currently selected (by you or another user) or loaded in an application, the software auto-locks the study. The auto-lock icon displays in the Study List.

You can manually lock (or unlock) up to 20 studies. Right-click on the study(ies) and select **Lock** (or **Unlock**) **Studies**. A manual-lock icon  displays in the Study List.

- Lock status is only displayed when the study is selected
- Lock icon will change dynamically if the auto-lock status changes
- If a group of studies are selected with different lock statuses, both **Lock** and **Unlock** will be listed in the right-click menu so you can change the status of all to the selected status
- Locking only applies to the local archive
- Only users with permissions can unlock a manual lock (as the group permissions can be configured)

Results Tab

The snapshots, batches, and movies you create in the Application window and reports you create in the Report Editor are saved to the Results tab of the Study List.

From the Results tab, you can:

- Display results in list or images format
- Export results
- Download the results or reports to a local or network location
- Restore workflows
- Launch the Report Page editor
- Edit the results description
- Delete the results

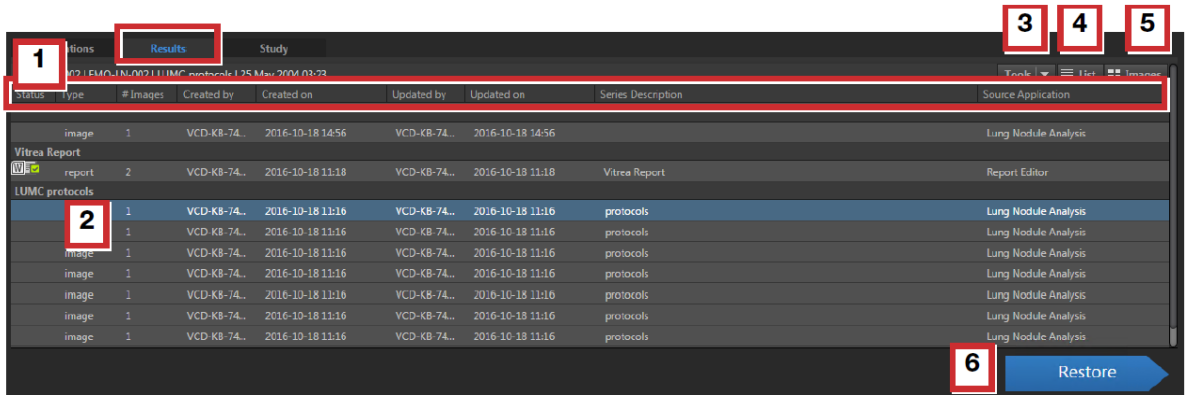
At the bottom of the Study List, select the Results tab.

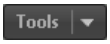
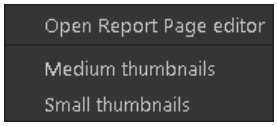
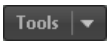
T I P

To automatically display the Results tab when you select a study with evidence (indicated by in the Status column):

a. In the Study List, click the Settings button .

b. Select **When clicking a study if evidence exists, go to Results tab first**.



No.	Description
1	Column Headers  See the **Column Headers** section above
2	Listing of snapshots, batches, movies, and reports.
3	Click **Tools**  to open a menu of Results tab options. 
4	Click **List**  to display the results in a list format.
5	Click **Images**  to display the results in image thumbnails. **T I P** To change the size of the thumbnails, click  then select any thumbnail size option.
6	Click **Restore** to restore a snapshot or draft report.

Results List Status Icons

The Status column and thumbnails display icons to identify the various states of the results.

Icon	Description
 (Paper with yellow clock)	Draft report saved
 (Paper with green check mark)	Report complete and distributed
 (Gray flag with green check mark)	Evidence committed (either in a published report or exported)
 (prim dcm)	Evidence from a primary DICOM image

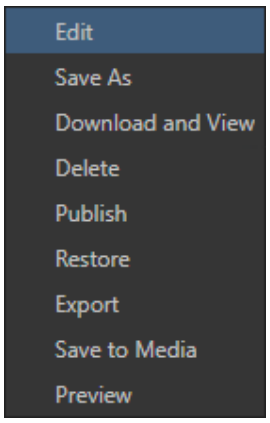
Icon	Description
 (Gray movie icon)	Evidence is a movie.
 (Microsoft® Word icon) Microsoft is a registered trademark of Microsoft Corporation.	Report is viewable in Word format. **N O T E** Viewing the report in Word format is available if you have Word installed on your system.

Results Tab Right-click Menu

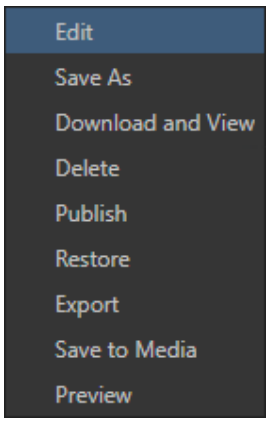
When you right-click on a result, a menu displays containing the following options:

N O T E

Not all options are available for all result types.



Menu Item	Description
Edit	Change the Series Description on a finding. **N O T E** A system setting is required to be set to enable this feature. This setting is disabled by default. Contact your system administrator for information. See the **Edit Series Description** section below
Save As	Save snapshots, movies, or reports to a local or network location **N O T E** Snapshots are saved as .png files, movies are saved as .avi files, and reports are saved as Microsoft Word files. See the **Download Results** section below



Menu Item	Description
Download and View	Save snapshots, movies, or reports to a local or network location and open it in the default file platform See the **Download Results** section below
Delete	Removes the results from the server
Publish	Lock results from deletion See the **Publish Results** section below
Restore	Restore workflow to the point when the snapshot was taken See the **Restore a Snapshot or Session (Workflow)** section below
Export	Opens the Export dialog where you select export options and location See the **Export Studies, Series, or Results** section above
Save to Media	Save results to media (CD/DVD/USB/Local Disk/Network Data) See the **Save Studies, Series, or Results to Media** section above
Preview	Opens an enlarged view of the snapshot, batch, or report

Edit Series Description

N O T E

- A system setting is required to be set to enable this feature. This setting is disabled by default. Contact your system administrator for information.
- Editing the series description for a findings that have been previously published is not supported.
- The edited description is preserved upon export to another Vitrea, but only displayed if the destination Vitrea has the system setting enabled.
- Upon export, if the "Group Evidence into Single Series" option is selected and a series description override is entered in the export dialog, the description override will replace the series description.

1. Click **Images**  to display the results in image thumbnails.
2. Right-click a finding and select **Edit**.
3. Type a new description and press ENTER.

OR

1. Click **List**  to display the results in a list format.
2. Double-click the Series Description for the finding.
3. Type a new description and press ENTER.

Download Results

1. Select the snapshot, batch, or movie.
2. Right-click and select **Save As** or **Download and View**.
3. Browse to the proper file location.
4. Click **Save**.

   If you chose Download and View, a window displaying the result opens.

Publish Results

Use the Publish Results feature to lock snapshots that have been included in a report or exported.

1. Create a report or export results.
2. Right-click the results listing (either list item or image thumbnail).
3. Right-click and select **Publish**.

A green check mark displays on the image thumbnail to indicate its status as Published.

N O T E

Results that are marked Published are locked from deletion.

Restore a Snapshot or Session (Workflow)

1. Click 

if it is not already selected.
2. Select the snapshot to restore.
3. Click 

for the selected thumbnail.

   OR

   Click 

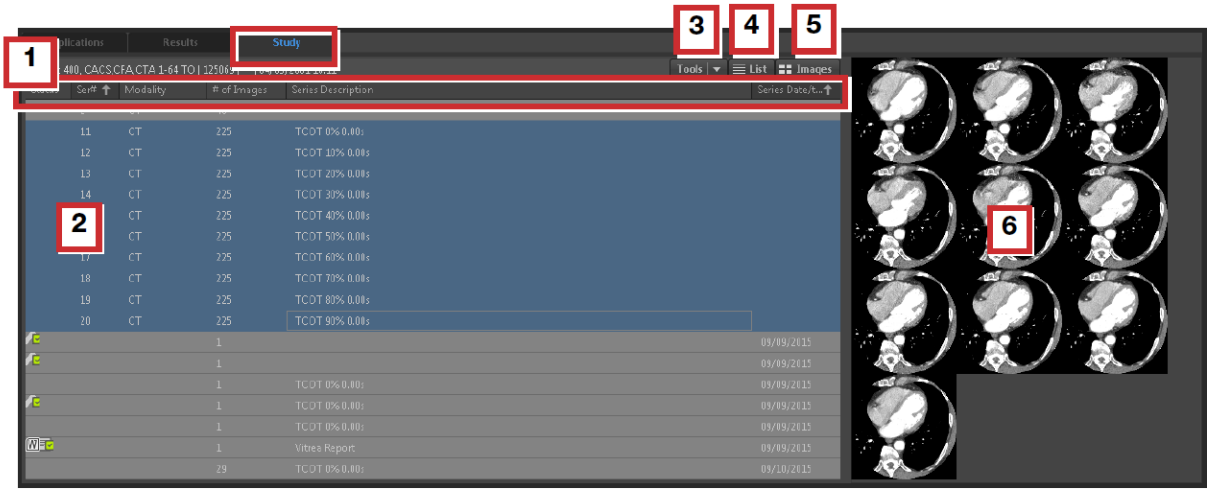
.

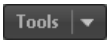
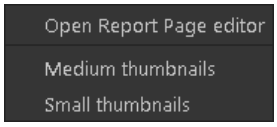
   Vitrea software launches the application in a new tab at the top of the window and restores the workflow to the state when the snapshot was taken.

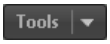
Study Tab

Select the Study Tab to show all DICOM series, results, and Vitrea reports for the currently selected study or studies. This includes all DICOM series created by Vitrea applications and also displayed in the Results tab (for example: secondary captures, structured reports, batched segmented regions, etc.).

Results-based series cannot be loaded from the Study tab, but only exported, saved to media, or deleted.



No.	Description
1	Column Headers  See the **Column Headers** section above
2	Listing of DICOM series, results, and reports.
3	Click **Tools**  to open a menu of Study tab options. 
4	Click **List**  to display the series or results in a list format.

No.	Description
5	Click **Images**  to display the series or results in image thumbnails. **T I P** For series data, you can adjust the image thumbnail: • To adjust the window/level of the image thumbnail, click and drag in the image. • To scroll through the series slices in the image thumbnail, right-click and drag. • To change the size of the thumbnails, click  then select any thumbnail size option.
6	Preview of selected item(s) in list mode For series data, you can adjust the preview: • To adjust the window/level of the preview image, click and drag in the image. • To scroll through the series slices in the preview, right-click and drag. **N O T E** The preview is not intended for diagnostic viewing.

Study Tab Status Icons

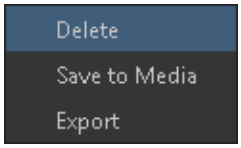
The Status column display icons to identify the various states of the results listed in the Study tab.

Icon	Description
 (Paper with yellow clock)	Draft report saved
 (Paper with green check mark)	Report complete and distributed

Icon	Description
(Gray flag with green check mark)	Evidence committed (either in a published report or exported)
(Microsoft® Word icon) Microsoft is a registered trademark of Microsoft Corporation.	Report is viewable in Word format. **N O T E** Viewing the report in Word format is available if you have Word installed on your system.

Study Tab Right-click Menu

When you right-click on an item, a menu displays containing the following options:

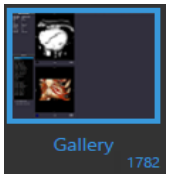


Menu Item	Description
Delete	Removes the series or results from the server
Save to Media	Save series or results to media (CD/DVD/USB/Local Disk/Network Data) See the **Save Studies, Series, or Results to Media** section above
Export	Opens the Export dialog where you select export options and location See the **Export Studies, Series, or Results** section above

Vitrea Gallery

Load a Series or Stack to the Gallery

1. Select a patient study in the Patient List.
2. Select the **Gallery** thumbnail.



3. Click 

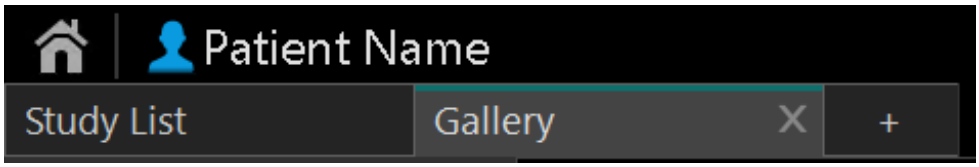
or 

.
4. Select the series or image.

   OR

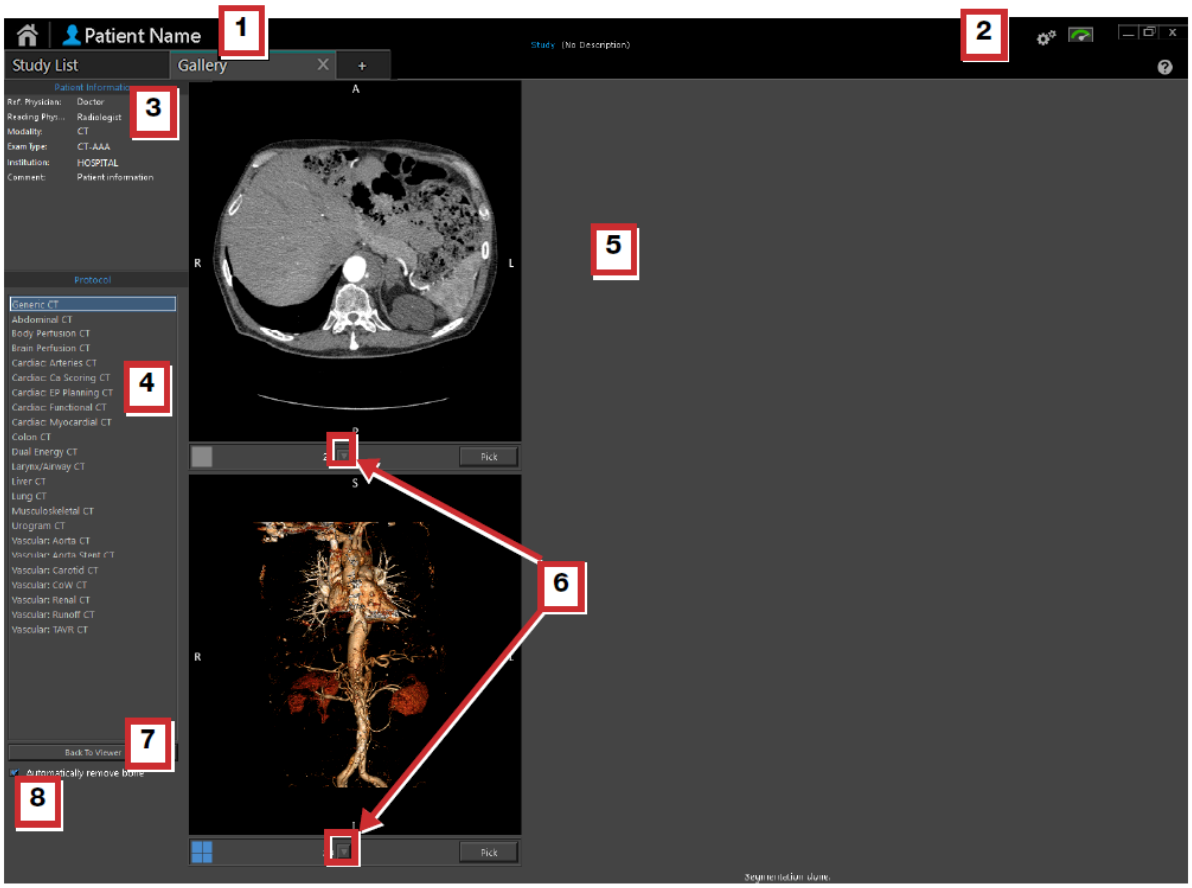
   Press **CTRL** and select multiple series or images.
5. Double-click the Gallery thumbnail.

   The Vitrea software launches the **Gallery** in a new tab at the top of the window.



Gallery Window

After you load a patient study into the Gallery, the **Gallery** window opens. Select the protocol and preset from this window.



No.	Description
1	Global session bar with Home and Patient icons with patient information  Click the icons to switch between Applications Home (for administrators) and the application (once a patient study is loaded) **Always review patient information to ensure the correct patient study is loaded**
2	System Information area  See the **Vitrea Gallery** section below
3	DICOM header information **T I P** If information is truncated, hover over the words. A tool tip with the complete information displays
4	Select a protocol from the Protocol list showing the available licensed Vitrea applications
5	Gallery of available presets Click **Pick** for any of the presets to select **N O T E** The Viewer window layout for each preset is indicated in the lower-left corner. • 2D layouts are indicated with a gray icon • 3D layouts are indicated with a blue icon • Special protocol-specific layouts are indicated with a red icon **It is important that you regard each protocol and preset as a convenient starting point for viewing the data.**
6	Click the **Preset Library** dropdown to display all libraries already created or to create a library See **Preset Library** section below

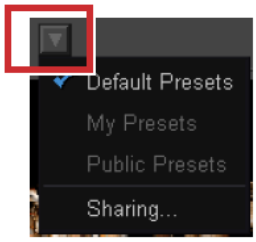
No.	Description
7	Click **Back to Viewer** to return to the current application
8	Select the **Automatically Remove Bone** check box to automatically segment bone (available only with certain protocols) **Always verify the results of semi-automatic segmentation. If necessary, use the sculpting tools to correct segmentation.**

Preset Library

To set your own visualization preferences, create a modified preset available in the Preset Library. The Vitrea software stores multiple modified presets in the Preset Library.

Before you work with the images in the Viewer window, you must select a preset.

1. The presets are located under the views in the Gallery. Click the dropdown.



2. Select a preset.

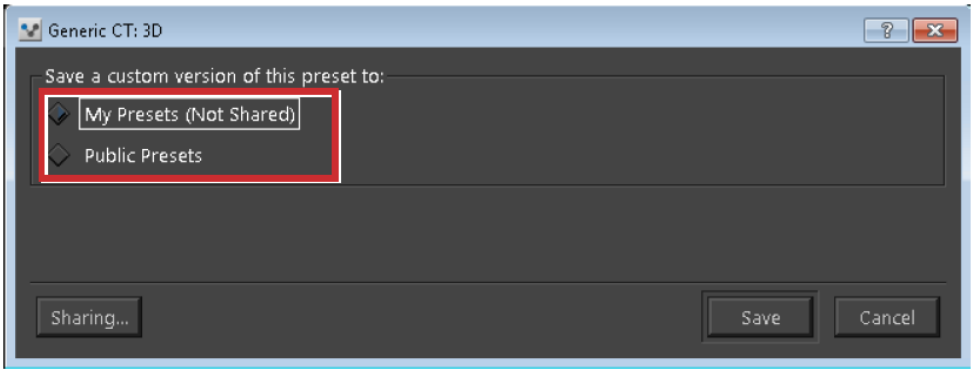
Create a New Modified Preset (from Viewer Window)

C A U T I O N

Wait until segmentation completes before saving a modified preset. The status message at the bottom of the window displays the progress of the segmentation.

1. Select one of the default presets.
2. From the Viewer window, make edits with regard to:
   - Viewer window format
   - Imaging controls
   - Display options
   - View options
   - Image appearance
3. When finished, press **CTRL-P**.

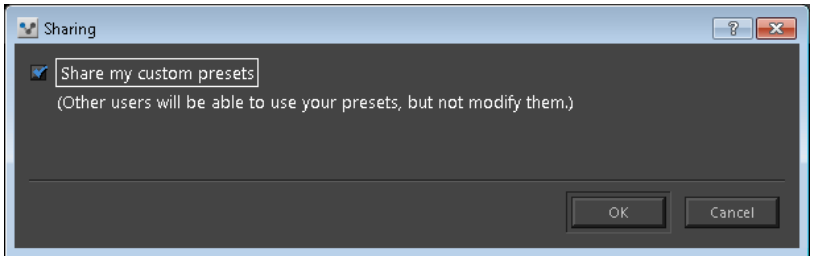
4. Select either **My Presets (Not Shared)** or **Public Presets**.



N O T E

If a version of My Presets or Public Presets already exists, creating a new version will replace the existing version.

Optional: To share your custom preset so others can use them but not modify them, click **Sharing** and select **Share my custom presets**.



5. Click 

.

T I P

This saves the settings as a customized preset. The default presets are unaffected.

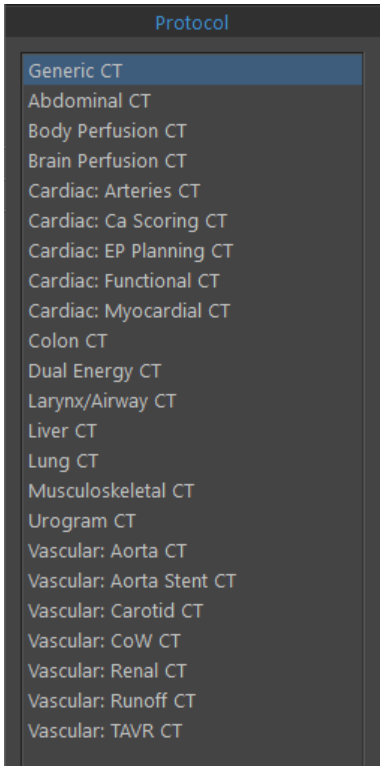
The next time you select the same protocol, the modified preset is available in the gallery of presets.

Choose Protocol and Preset

1. Review the Patient Information area to verify the correct patient study has been loaded.
2. Select a protocol from the Protocol list.
3. To semi-automatically remove bone from the view in the Viewer window, select the **Automatically remove bone** check box.
4. Click 

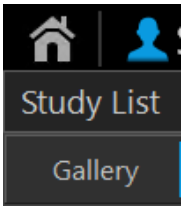
next to the desired preset.

   The Vitrea software launches the patient study into the Viewer window layout for the protocol and preset and performs any semi-automatic functions (such as segmentation or semi-automatic measurements).



N O T E

To return to the Gallery after selecting a preset, click **Gallery**, located at the upper-left corner of the window under the Study List tab.



Common Viewer Window Tasks

Viewer Window

C A U T I O N

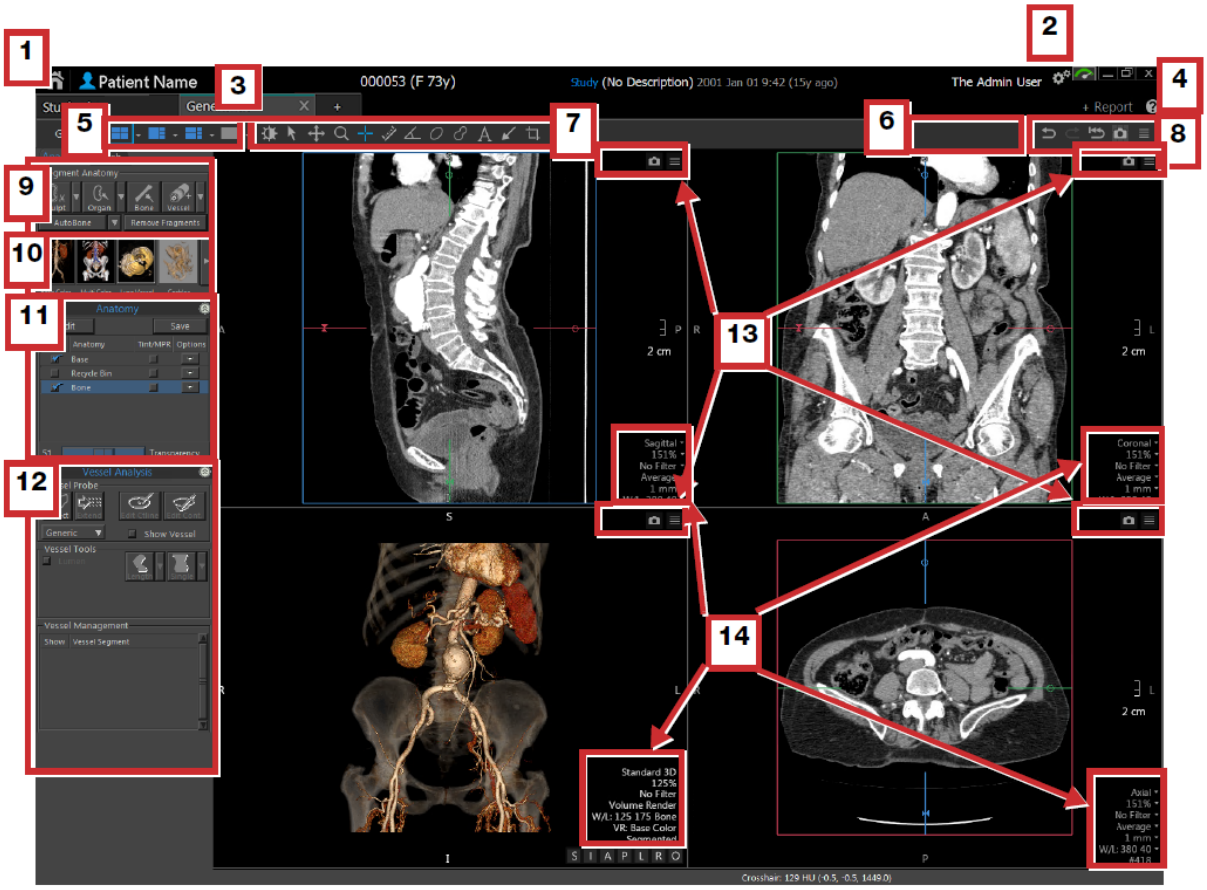
- When variably-spaced series (series where spacing between images is not consistent) are loaded into Vitrea software, the software may interpolate images between the slices to generate a regularly-spaced volume.
  - When displaying the image in the MPRs and 3D view, the Vitrea software may use interpolated images along with original images as part of the entire volume.
  - The 2D Viewer can be used to view any available original images for the series.
- When slices are displayed in 2D, the slice numbers shown are the Vitrea software's internal slice numbers and may not correlate with slice numbers in other applications.
  - Asterisks beside slice numbers indicate that one or more slices for the loaded series are not shown (as a result of interpolation).
  - Interpolated slices are not viewable in the 2D Viewer.

C A U T I O N

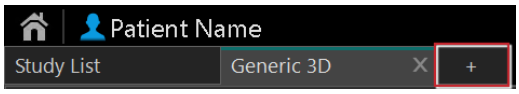
Verify the results of auto-segmentation. If necessary, use the sculpting tools to correct auto-segmentation.

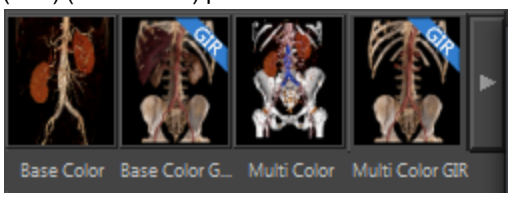
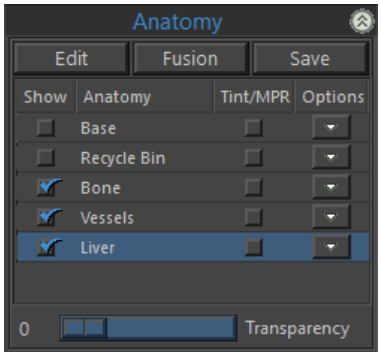
The Viewer Window is the main working area and includes the tools necessary to complete your workflow.

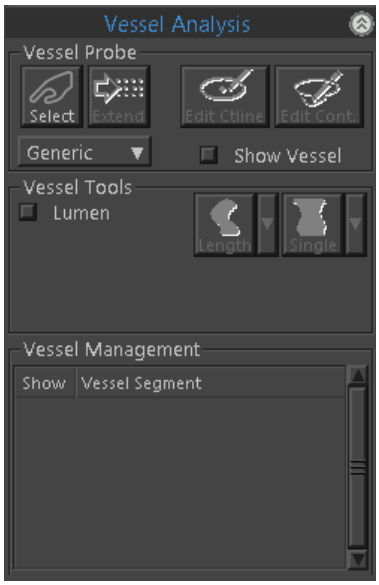
- To return to the Gallery at any time, click Gallery in the upper-left corner.



No.	Description
1	Home and Patient icons  Displays the patient name and study description. **Always review patient information to verify the correct patient study is loaded.** Click the icons to switch between Applications Home (for administrators) and application (once a patient study is loaded).
2	System Information area   See the **Common Viewer Window Tasks** section

No.	Description
3	Tab Header with Application Selector  See the **Tab Header** section
4	Report and Help icons  • Click  to launch the Vitrea Report Editor. Consult the *Vitrea Report Editor Education and Reference Guide* for information regarding using the Vitrea Report Editor • Click  to launch a user guide.
5	Viewer window layout buttons  A border indicates the currently selected layout. See the **Viewer Window Layouts** section
6	Volume Navigation buttons  See the **Volume Navigation** section
7	Common tools  See the **Common Tools** section
8	Display tools  See the **Display Tools** section

No.	Description
9	Segment Anatomy tools  See the **Segmentation** section
10	3D Visualization options for Volume Rendering (VR) and Global Illumination Rendering (GIR) (if available) presets  See the **Change 3D Visualization Presets** section
11	Anatomy area 

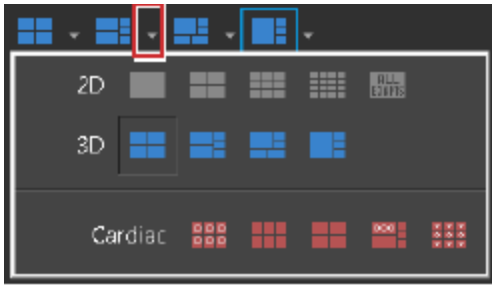
No.	Description
12	Vessel Analysis area (available for certain protocols only)  See the **Vessel Probe** section **N O T E** In protocols in which Vessel Analysis tools are not available, other protocol-specific tools display in this area. Consult the *Education and Reference guide* for the specific protocol for more information on those tools.
13	Image header tools
14	Editable demographics

Viewer Window Layouts

Use the Viewer Window Layout buttons to change the number or kind of views displayed in the Viewer window.

1. To change the Viewer window layout, click one of the Layout buttons.

2. To access all available viewer window layouts for the selected protocol, click one of the dropdown arrows next to a Layout button.



TIP

2D Montage formats use gray layout buttons, MPR/3D formats use blue layout buttons, and special protocol-specific formats use red layout buttons.

Button	Format	Description
	2D Montage Formats	Display 2D slices as acquired by scanner in one, four, nine, or sixteen slice images.
	All Exams	Two to nine 2D views displayed side-by-side.
	Four-up 3D	One 3D view and three MPR views. The 3D view displays in the lower-left, and MPR views display in the upper-left (sagittal), upper-right (coronal), and lower-right (axial).
	Five-up 3D	Two 3D views and three MPR views. The 3D views display in the upper- and lower-left, and the MPR views display in the upper-right (sagittal), middle-right (coronal), and lower-right (axial). This format is useful for: • Flying through a volume in the lower 3D view while maintaining an outside or point-of-interest viewing perspective in the upper 3D view **OR** • Viewing the global perspective in the lower 3D and a focused point-of-interest view in the upper 3D view.

Button	Format	Description
	Five-up Axial	Two 3D views and three MPR views, with one larger than the others. 3D views display in lower-right and lower- left, and MPR views display in upper-left (axial), upper-right (sagittal), and middle-right (coronal). This format is useful for selecting a target, such as an anatomical feature or lesion, in the large MPR view and eye-point in the upper-left, large MPR view, and viewing the target in the lower-left 3D view.
	Runoff	One large 3D view with three MPR images. Use this format to view large datasets.
	Dual Volume	Two volumes displayed side-by-side, two-up (one MPR and one 3D) views. Use this format for side-by-side comparative review of two volumes (prone and supine or temporal comparison for example).

Use the dropdown arrows to customize the four instant-format buttons that display for any preset so they represent formats used most frequently. Then save your changes as a modified preset.

Volume Navigation

Switch Active Volume

With multiple volumes loaded, switch the selected volume by using the **Volume Navigation** buttons at the upper-left of the Viewer window.

Change Button Labels

N O T E

Change button label is available when there are multiple loaded volumes, and is available with all protocols except Brain Perfusion, Body Perfusion, and all CT Cardiac.

1. Click  and select a name or type a new one.

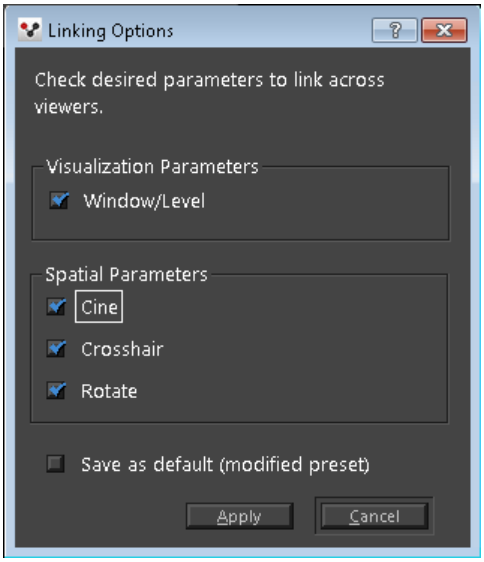
2. Click 

to go on to the next volume, or click 

to finish.

Link All Volumes

1. Click  to link viewers for all series (dual-volume view only).
2. To set the parameters for linking, click the dropdown arrow.



Common Tools

The tools at the top of the Viewer window are common for all protocols.

Many of these tools are also available when you right-click within a view.

Adjust the Window/Level

Adjust the window/level settings of any view. These settings control the brightness and contrast.

1. Select  from the Common Tools toolbar, or right-click and select  .
2. Click in the view and:

- To adjust the **Window** range of densities, drag side to side.
- To adjust **Level**, drag up and down.
- To adjust both at the same time, drag diagonally.

> **T I P**
>
> To specify precise window and level settings, with cursor anywhere in the view, type a number followed by W or L.

3. You can also use this setting when any tool is activated, by pressing both left + right mouse buttons and dragging in the view.

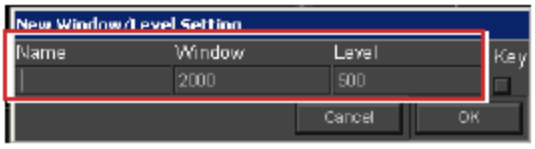
Use Predefined Window/Level Settings

To select a preset window/level setting, click the window/level dropdown arrow in the editable demographics area of a 2D or MPR view and select a value.

1. Click the dropdown menu in the Window/Level area.
2. Select an option from the menu that displays.

Create New Setting

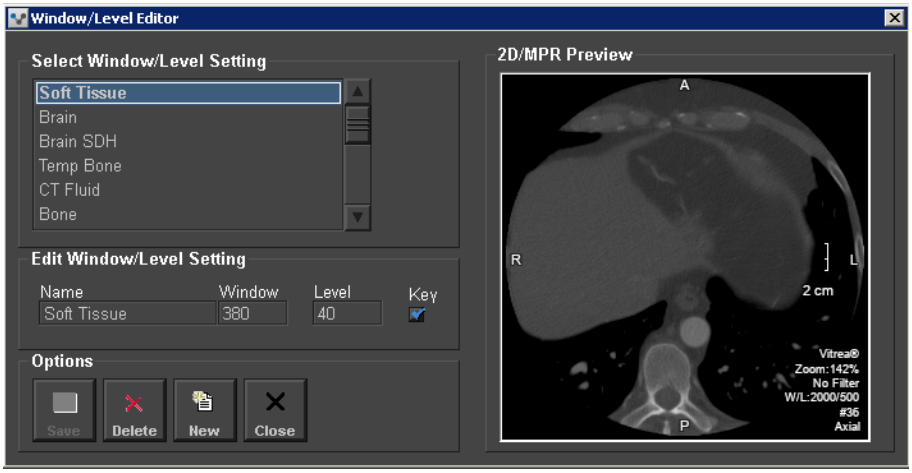
1. Click the dropdown menu in the Window/Level area.
2. Select **New**.
3. Type in a name and the Window and Level settings.
4. Click **OK**.



Edit Existing Setting

1. To edit an existing window/level setting, select **Edit** from the dropdown menu.

2. Select the window/level setting to change.
3. Change the **Window**, and **Level** fields.



4. Click **Save**.
5. When the pop-up screen displays, click **OK** to add this new setting to the existing list.

> **T I P**
>
> To set any window/level setting as “key,” select the **Key** check box.

Key window/level settings display as bold in the Window/Level menu.

Scroll through key settings to quickly view an area of interest at different settings

- Press INSERT to scroll through the key settings.

> **T I P**
>
> For example, to examine a suspected polyp in a colon study, scroll through the other window/level settings to see if there is air in the area of interest.

Scroll in MPRs or Rotate 3D

1. Select  from the Common Tools toolbar, or right-click and select  .
2. Click and drag in an MPR/2D view to scroll.

   OR

   Click and drag in the 3D view to rotate.

T I P

To rotate the 3D view with another tool active, right-click and drag in the 3D view OR press and hold ALT while dragging in the 3D view.

Pan

Move the image within the view.

1. Select  from the Common Tools toolbar.
2. Drag in the view.

OR

- Middle-click and drag in the view.

Zoom In and Out

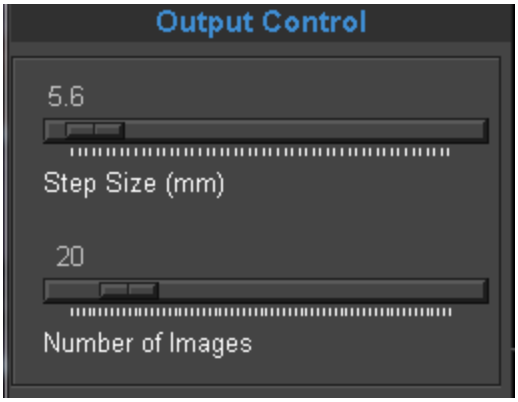
Increase or decrease the magnification of the images.

- Left + middle click and drag in the view.

OR

1. Select  from the Common Tools toolbar.
2. Drag in the view:
   - Drag down to zoom in.
   - Drag up to zoom out.

OR

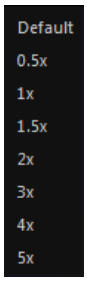
1. Hover on the zoom factor in the editable demographics area until the cursor changes to a pointing finger with up and down arrows. 

2. Drag up or down in the view.

   The zoom factor (in %) is displayed in the view as you scroll.

Select a Zoom Preset

1. Click the zoom dropdown arrow in the editable demographics area.
2. Select a magnification factor.



Use the Crosshairs

Move crosshairs and display data values (HU for CT studies; intensity for MR studies). The coordinates of the crosshairs displays at the bottom of the workspace.

1. Select  from the Common Tools toolbar, or right-click and select  .
2. Click and drag in the view to display HU or SI values.

   OR

   Click in the MPR or 3D view to place crosshairs.

   OR

1. In an MPR view with the reference lines displayed, move the cursor to the intersection of the reference lines.
2. Drag the intersection to display HU or to a new location.

Draw Rulers and Calipers

Add simple rulers to 2D or MPR views

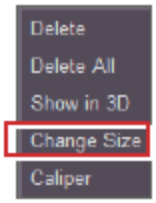
N O T E

Perform linear measurements in 2D or MPR views only. It is possible to add rulers to 3D images. If you do, be sure to fully rotate the 3D view to be sure the ruler is placed where you want it.

1. Select  from the Common Tools toolbar, or right-click and click  .
2. Click in the view where you want the ruler to start and drag to where you want the ruler to end and release.

T I P

- To make a ruler that spans more than one plane, click and release the mouse button on the first plane, then scroll, then click again on the final plane.
- To move the number associated with the measurement, click and drag the number.
- To change the font size of the number associated with the measurement, right-click the ruler, select **Change Size**, and select a new font size.



- To add the 2D or MPR ruler to the 3D view, right-click the ruler or measurement figure and select **Show in 3D**.

Add polyline rulers to 2D or MPR views

N O T E

Perform linear measurements in 2D or MPR views only. It is possible to add rulers to 3D images. If you do, be sure to fully rotate the 3D view to be sure the ruler is placed where you want it.

1. Draw a simple ruler using the steps above.
2. Press CTRL and click on an endpoint.
3. Move to the next location for the line segment, then click and release.
4. Repeat step 3 as many times as necessary.

T I P

The polyline points may be added to different slices.

5. Double-click when you place the last point to end the line.

   The total length of the polyline and the angle between the last two segments display.

Add calipers to 2D or MPR views

A caliper is a ruler or angle drawn on one image that continues to display as you scroll through the view.

N O T E

Calipers are not available in 3D views or curved planar reformatted views.

Calipers cannot be applied to polylines.

1. Draw a ruler in a 2D or MPR view.
2. Place the cursor on the ruler, right-click and select **Caliper**.
3. Scroll through the view.

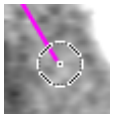
Move Between Rulers and Calipers

1. Press the SPACEBAR to navigate between images with rulers or calipers. If you have made measurements in different planes, these display as you navigate through the images.

   When you are navigating to a caliper, Vitrea software displays the plane where the caliper was last edited.

Edit Rulers/Polylines

1. Click and drag an endpoint to relocate the end of the ruler.



2. Click and drag the center of the ruler to relocate the entire ruler.

   The ruler turns magenta.

N O T E

Relocating the entire ruler is only available on single-plane rulers.

Delete Rulers/Polylines

1. Right-click the ruler or measurement figure to select it.

   The ruler turns magenta.

2. Select **Delete** or **Delete All**.

Draw Angles

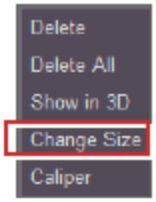
Add angles to 2D or MPR views.

1. Select  from the Common Tools toolbar, or right-click and click  .
2. Click and release in the view to place the first point.
3. Click and release to place the angle point.
4. Click and release to place the final point.

   The angle measurement displays.

T I P

- To change the font size of the number associated with the measurement, right-click the angle, select **Change Size**, and select a new font size.



- To add the 2D or MPR angle to the 3D view, right-click the angle or measurement figure and select **Show in 3D**.
- To set the angle as a caliper so that it continues to display as you scroll through the view, place the cursor on the angle, right-click and select **Caliper**.

The Caliper feature is not available on angles created on more than one slice.

Delete Angles

1. Right-click the angle or measurement figure to select it.

   The angle turns magenta.
2. Select **Delete** or **Delete All**.

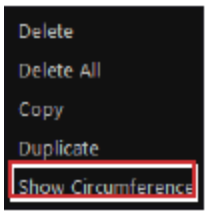
Draw Elliptical Contours

Add elliptical contours to 2D and MPR views. Surface area measurements display once you draw the contour lines.

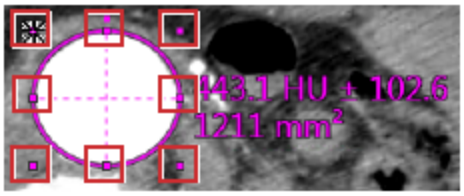
1. Select  from the Common Tools toolbar, or right-click and click  .
2. Click and drag in the view to draw.

The area measurements display once you draw the ellipse.

3. To display the circumference, right-click the ellipse and select **Show Circumference**.

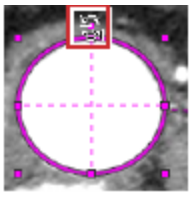


4. To edit an ellipse, click one of the corner points or axis endpoints and drag to the new location.

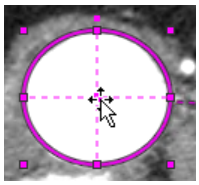


> **T I P**
>
> To change the size of the ellipse while maintaining the aspect ratio of the axes, press SHIFT and drag one of the axis endpoints.

5. To rotate an ellipse, click the top-center point and drag using the rotating handles.



6. To move an ellipse, click the center square and drag to the new location.

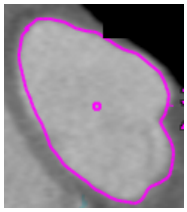


7. To copy an ellipse to paste on a different slice:
   a. Right-click the ellipse and select copy.
   b. Scroll to the desired slice.
   c. Right-click and select **Paste ROI**.
8. To duplicate an ellipse on the same slice, right-click the ellipse and select **Duplicate**.
9. To delete the ellipse, click the ellipse to select it, right-click and select **Delete** or **Delete All**.

Draw Freehand Contours

Add contours to 2D and MPR views. Surface area measurements display once you draw the contour lines.

1. Select  from the Common Tools toolbar, or right-click and click  .
2. Click and drag in the view to draw.

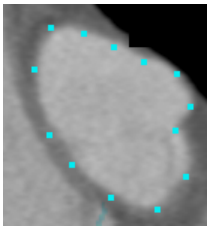


N O T E

When drawing a freehand figure, do not intersect the contour line. If the drawn contour has any intersecting lines, the ROI will be adjusted to remove the intersection.

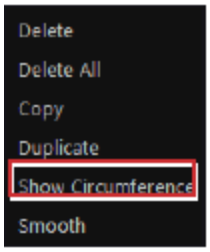
OR

Click around the perimeter of the area of interest placing anchor points, then double-click to place the final anchor point.



Surface area measurements display once you draw the contour.

3. To display the circumference, right-click the ellipse and select **Show Circumference**.



4. To edit a freehand contour, put the cursor on the contour, then drag the edge to the new location.

OR

Click outside the boundary to add more anchor points.

The boundary will automatically reform around this new point.

5. To smooth the contour line right-click the line and select **Smooth**.
6. To copy a contour to paste on a different slice:
   a. Right-click the contour and select copy
   b. Scroll to the desired slice.
   c. Right-click and select **Paste ROI**.
7. To duplicate an ellipse on the same slice, right-click the contour and select **Duplicate**.
8. To delete the contour, click the contour to select it, right-click and select **Delete** or **Delete All**.

Add Labels and Annotations

Type text directly onto any image in the Viewer window.

1. Select  from the Common Tools toolbar, or right-click and click  .

2. Click the image where you want to place the label.
3. Select a term from the list.

OR

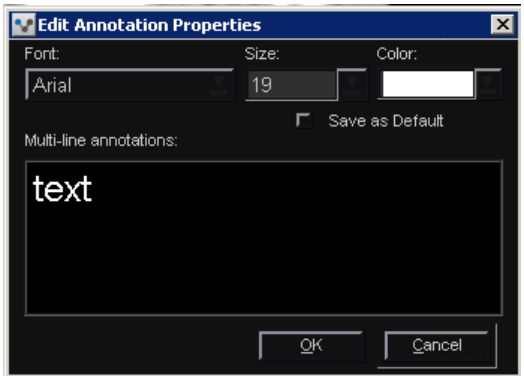
Type the annotation in the text area.

> **T I P**
>
> To remove a user-created listing from the annotation directory, right-click it and select **Delete**. Default listings cannot be deleted.

4. Click **OK**.

> **T I P**
>
> To add an arrow to the corner of the label, click the label, position the cursor at the corner where you want the arrow, and drag.

- To edit a label, double-click the label and make font, size, color, or text changes in the dialog box that displays.



- To reset the font size of a 3D label, right-click it and select a new font size.
- To delete a label, right-click it to select, then press **Delete** or **Delete All**.
- To move a label, click and drag it.
- To add a 2D or MPR annotation to the 3D view, right-click it, then select **Show in 3D**.

> **N O T E**
>
> - For MPR views, text created by annotations, measurements, or labels will fully display on the screen without running off the viewport. If the text is too large to fit within the MPR viewport with the font size selected, the font size will dynamically change to a lower setting which does fit.

- For 3D views, all or part of the text may move or be displayed off the viewport. During rotation or panning of the 3D view, part of the text may be obscured by the volume or overlay views.
- Undo/redo operations are not available for font changes. Re-edit the text to apply changes.

Add Arrows

Add arrows to 2D, MPR, or 3D views

1. Select  from the Common Tools toolbar, or right-click and click  .
2. Click in the view where you want the point and drag to where you want the end.

   All views where the arrow intersects display the arrow.

Delete Arrows

1. Right-click the arrow to select it.

   The arrow turns magenta.
2. Select **Delete** or **Delete All**.

Jump between images that contain arrows

- Press SPACEBAR to jump forward in sequence through images that contain arrows.
- Press SHIFT-SPACEBAR to jump backward in sequence through images that contain arrows.

Trim the Image

Trim data from an image to isolate areas of interest in 2D and MPR views.

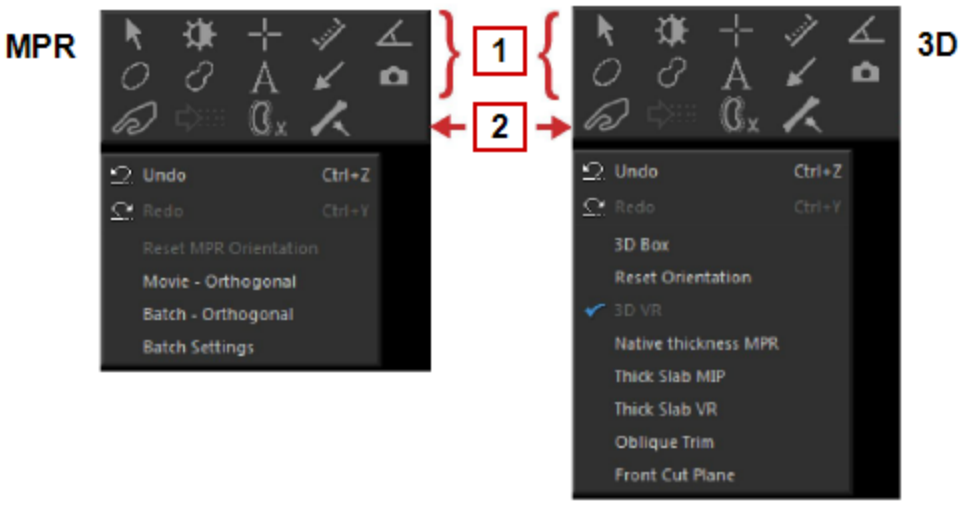
T I P

Trimming MPR views also trims the 3D view.

1. Select the Trim tool  from the Common Tools toolbar.
2. Hold the crosshair tool over one of the colored borders in the MPR image.
3. When the crosshair turns to  , click and drag the borders in the MPRs to trim.
4. To undo the trim, right-click and select **Undo**, or press **F11**.

Right-click Menu and Tool Pane

For easy access to common tools used for the selected protocol, right-click within a view.



Number	Description
1	Common Tools
2	Protocol-specific Tools

Display Tools

Undo/Redo

Undo the last action or redo the last undone action in the following ways:

- In the Display Tools bar, select  to undo or  to redo.
- Right-click in the view, and select  or  .
- Press CTRL-Z to undo or CTRL-Y to redo.

N O T E

Undo/redo is not available for all functions.

Reset the Study

Reset the study to the viewing state as it was first loaded.

- In the Display Tools bar, select  .

N O T E

This action will remove any measurements, annotations, segmentation, and probed vessels.

Take a Snapshot of the Entire Viewer Window

Capture images of the entire Viewer window to save, add to a report, or restore workflow.

- In the Display Tools bar, select  .

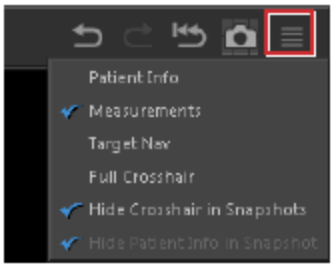
N O T E

To take snapshots of the individual views, use the snapshot tool in the image headers.

Select Display Options

Set display options for all the views in the workspace.

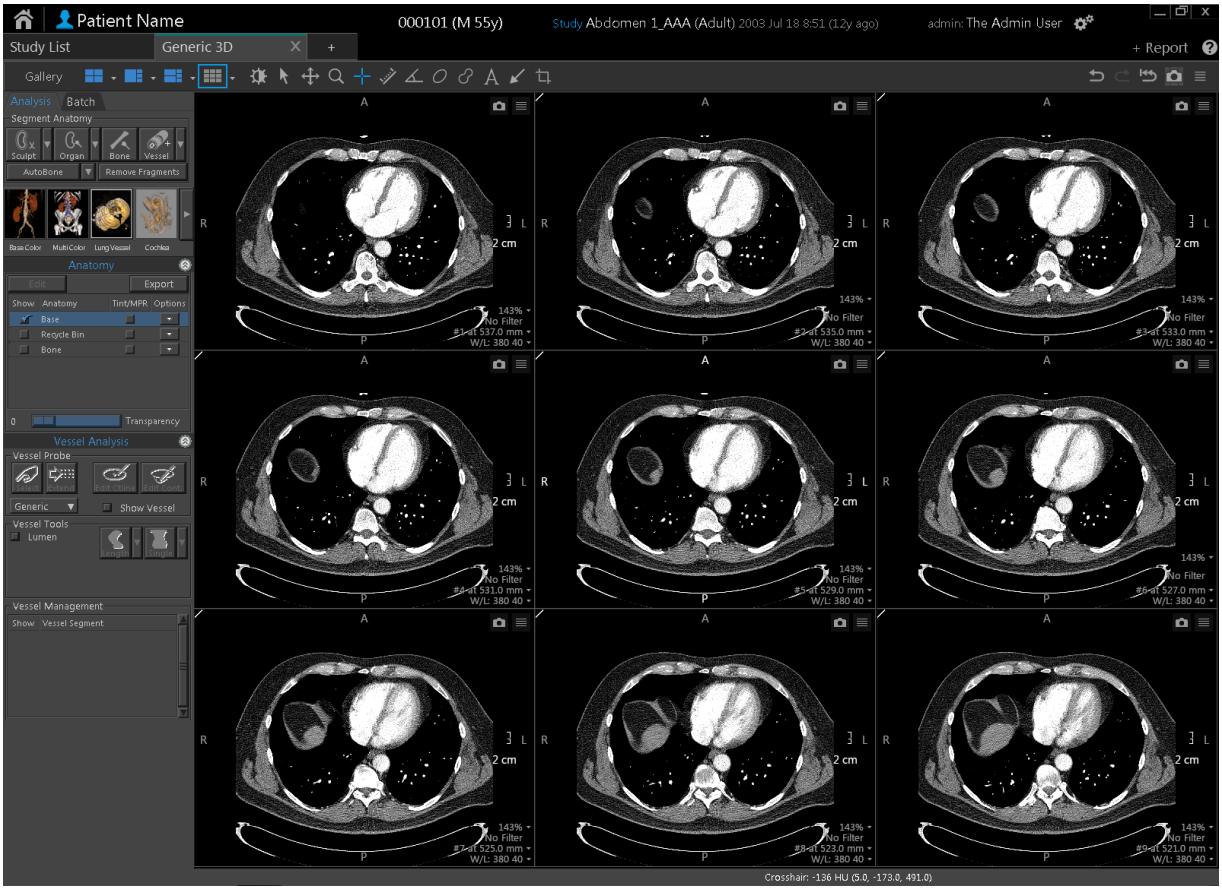
- In the Display Tools bar, select the display options icon  and select the appropriate option.



- Show or hide **Patient Info** on the views
- Show or hide **Measurements** on the views
- Activate or disable **Targeted Navigation** in Flythrough mode
- Display **Full Crosshairs** (including intersection) or standard crosshairs (not including intersection)

- **Hide** or show **Crosshairs in Snapshots**
- **Hide** or show **Patient Info in Snapshots**

2D Viewer



Use the 2D formats to view slices as they were acquired by the scanner.

Four labels display along the sides of the views indicating orientation of the image:
S - Superior, I - Inferior, A - Anterior, P - Posterior, L - Left, R - Right.

T I P

- Change the view orientation placing the cursor over the upper-left corner of the view at the / symbol 

until the  displays.

  Drag to another corner of the view  .

- To re-sequence views, click and drag the upper-left corner of a view pane to another view pane.

N O T E

Always review the orientation labels when reorienting the views to avoid confusion.

2D Workspace

Scroll Through Slices

Scroll through slices in a particular montage slice view. Scroll manually or autoscroll through 2D slices.

Scroll by:

- Right-click and drag up or down
- Roll the mouse wheel up or down
- Press RIGHT or LEFT ARROW
- To autoscroll, press SHIFT, then right-click and drag
- To page through images, press PAGE UP or PAGE DOWN

Display a 2D Montage

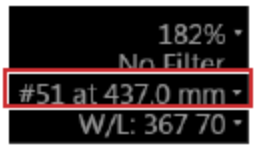
1. Select a Viewer window layout that shows four, nine, or sixteen slices.
2. Roll the mouse wheel in any of the 2D slice views to scroll through the slices.

3. Use any of the Analysis tab buttons to complete workflow.

Stack Images

Create 2D images from the average data values of up to 10 slices. This is useful when viewing a volume scanned using a very small slice thickness.

- Hover on the slice number in the editable demographics area and drag the cursor right to increase the number of slices you want to use in the stack.



T I P

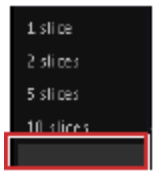
Drag the cursor to the left to decrease the number of slices in the stack.

OR

1. Click the slice number dropdown arrow in the editable demographics area.
2. Select a number of slices.

OR

1. Click the slice number dropdown arrow in the editable demographics area.
2. In the text box, enter a number from 1 to 10.



Perform 2D Comparative Review

Review multiple exams for the same patient ID using the 2D All Exams Viewer window format ALL EXAMS.

1. Load multiple volumes (2 - 25) from the Study List.
2. Select the desired protocol.
3. Select a window format that includes the ALL EXAMS format.

T I P

Adjust individual visual settings, such as window/level, and orientations.

4. To group the images, click the upper-left corner of each view to include in the group.

T I P

The corner and border of the view turns yellow to indicate that it is included in the group.

5. Right-click and drag in any grouped image to scroll through all grouped images.

T I P

- All images scroll side-by-side locked at the slices you selected when you grouped the images.
- To remove a volume from the group, click the upper-left corner of each view containing an image you want to remove from the group.
- To return to viewing a single volume, click any viewer window format button.

Cine through Exams

With multiple exams loaded, cine through all the exams while using a single exam Viewer window format.

1. In the image header area, click  .

T I P

To change the speed of the cine, adjust the speed slider.

2. Click  to stop.

Take a Snapshot of the View

- Click  from the image header tools.

OR

1. Right-click and select  , or press S to activate the Camera tool.
2. Click in the view.
   - Hold **ALT**, then click in multiple views to take multiple snapshots.
   - Hold **CTRL**, then click in a view to take one snapshot of the whole viewer window.

Set View Options

1. Click  from the image header tools.
2. Select an option from the menu.

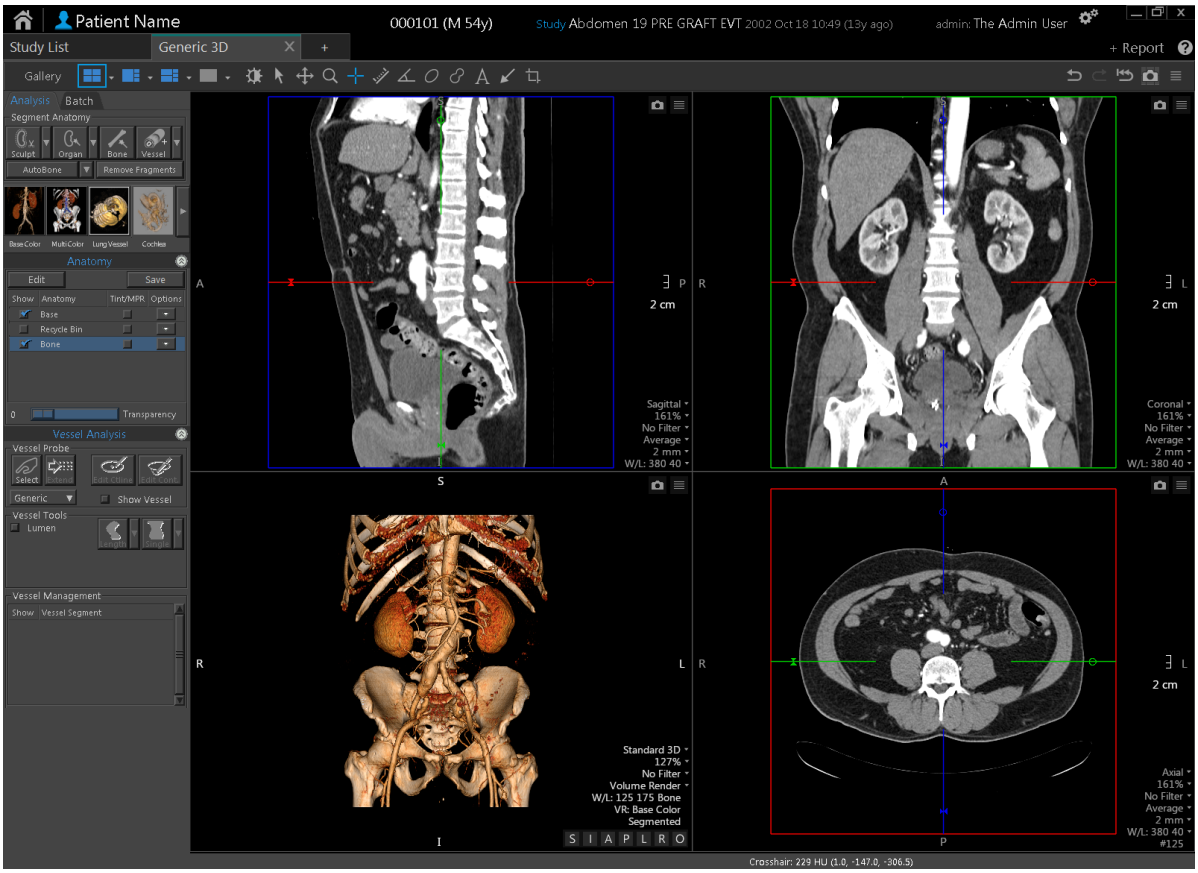
- Flip Horizontally: flips the images on a horizontal axis
- Flip Vertically: flips the images on a vertical axis
- Show Segmentation: shows the result of region segmentation

N O T E

When using the flip options, be sure to review the orientation labels along the sides of the views to avoid confusion.

MPR Imaging

With most 3D view format options, three MPR (Multi-Planar Reformatted) images also display in the Viewer window along with the 3D view.



In Orthogonal MPR mode the three MPR images lie in sagittal, coronal, and axial planes. When the Crosshair tool is active, the border color indicates the plane the image lies in while the colors of the reference lines indicate the other two MPR views. The reference lines display when the Scroll/Rotate, Pan, Zoom, W/L are active, but the borders do not.

T I P

To display the border and MPR reference lines while a tool other than the Crosshair tool is activated, press the right ALT button.

Orientation	Border	Reference Lines	Labels
Sagittal	Blue	Vertical: Green (coronal) Horizontal: Red (axial)	A-P S-I
Coronal	Green	Vertical: Blue (sagittal) Horizontal: Red (axial)	S-I R-L
Axial	Red	Vertical: Blue (sagittal) Horizontal: Green (coronal)	A-P R-L

MPR Workspace

Scroll Through MPRs

Scroll through the MPRs to view multiple images within the plane.

- Roll the mouse wheel in the view
- Right-click and drag in the view
- Press LEFT or RIGHT ARROW.

OR

Use the MPR reference lines to scroll through associated orthogonal and oblique planes.

1. In one of the MPR views, decide on the reference line of the same color as the border of the plane you wish to scroll.

   To scroll through the coronal view, hover on the green reference line in either the axial or sagittal view.

2. Hover on the reference line until the cursor changes to a hand.

T I P

Hover toward the center, but not exactly in the center, of the reference line.

3. Drag the reference line along the plane.

   The referenced view scrolls.

Maximize / Minimize (1-up/Return)

Maximize a view to full-screen size, then minimize to its original size.

1. In the image header area, click  to maximize the view. 

2. To minimize the 1-up view, click  .

OR

1. Double-click in the view.
2. To minimize the 1-up view, double-click in the view again.

Rotate MPRs

Rotate the placement of the three MPR views.

1. In the image header area, click  in the upper-left corner of an MPR view.

> **TIP**
>
> This is useful for switching MPR views in 1-up MPR viewing.

Link a View with Other Series

Link views with respect to scroll location, crosshair location, window/level, pan, and zoom (dual-volume layouts only).

1. Scroll in both series to the same location, using anatomy (such as bone) as a guide.
2. Click  in the upper-left corner of both views. 

Take a Snapshot of the View

- Click  from the image header tools.

OR

1. Right-click and select  , or press S to activate the Camera tool.
2. Click in the view.
   - Hold **ALT**, then click in multiple views to take multiple snapshots.
   - Hold **CTRL**, then click in a view to take one snapshot of the whole viewer window.

Show Segmentation in MPRs

Show the result of region segmentation in the MPRs.

1. Click  from the image header tools.
2. Select an option from the menu.

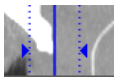
Adjust MPR Thickness

Create “mini-slabs” of MPR views containing multiple slices.

1. In one of the MPR views, position the cursor over the double arrowheads at the end of one of the reference lines until the cursor changes to a split double arrow.

2. Drag perpendicularly to the reference line to pull the arrowheads apart to the desired thickness.

   The slab is indicated by dotted reference lines.



   The slab thickness is indicated in the editable demographics area.

OR

1. Hover on the thickness value in the editable demographics area until the cursor changes to a pointing finger with left and right arrows.

2. Drag until you reach the desired slab thickness:
   - Drag right to increase thickness
   - Drag left to decrease thickness

OR

1. Click the thickness dropdown arrow.

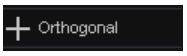
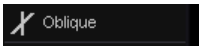
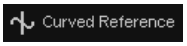
2. Select a value from the menu.

OR

Enter a value in the text box.

Switch MPR Imaging Modes

There are three imaging modes for MPR views.

Mode	Description
	The three MPR views display in exactly the sagittal, coronal, and axial planes.
	One or more MPR views display in an oblique plane. Useful for features that lie in a plane other than one of the orthogonal planes.
	Curved MPR mode creates curved multi planar images.

1. Click the orientation marker in the editable demographics area.
2. Select an MPR imaging mode.

Use Oblique MPR Mode

In Oblique MPR mode, change the orientation of the MPR views by rotating the reference lines in one or two of the MPR views.

1. In one of the MPR views, position the cursor over the circle at the end of one of the reference lines until the cursor changes to two curved arrows.

2. Rotate the reference line in the view while watching the other views.

T I P

- As you drag, the reference lines rotate around their intersection point, staying perpendicular to each other.
- Rotate reference lines in more than one view.
- To move the reference lines intersection point, click the spot where you want the lines to intersect.

3. To “walk” a vessel,  click and drag in the view.

T I P

The center of the reference lines act as a fulcrum point.

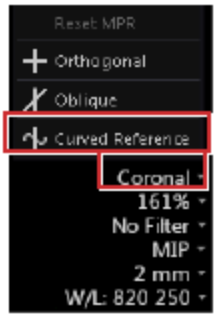
Use Curved MPR Mode

In Curved MPR mode, use one of the MPR views to define a curve and display the reformatted (“flattened”) curve in another view.

1. Decide which plane is the reference view where you direct the reference line to follow the curve.
   - For coronal images of the renal arteries, work in the axial plane.
   - For sagittal reformats of a spine and aorta, work in the coronal plane.
   - For coronal reformats of a spine or aorta, work in the sagittal plane.
2. In the Imaging Mode of the reference view, select **Curved Reference**.

   The labels in the lower-right corner change to Reference, Curved, and Transverse.

3. In the upper-right corner of the Reference view, click  .
4. Roll the mouse wheel in the view until you see the beginning point of the curve you want to define.
5. Click the endpoint of the axis line and drag it to the beginning point of the curve.
6. Follow the curve by clicking on the curved line and dragging it to various points along the center of the anatomy.



T I P

- An X displays where you place the curved line.
- Use the mouse wheel to scroll up and down in the view to follow the center of the anatomy.

7. Continue along the entire curve.
8. Click the endpoint of the green line and drag it to the end of the curve.

9. In the upper-right of the Reference view, click  to minimize the view.

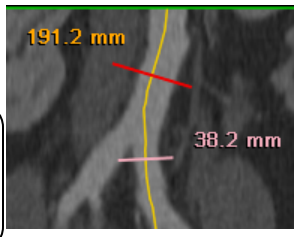
10. In the upper-right corner of the Curved view, click  to maximize.

11. Review the centerline to be sure it follows the center of the curved region.

> **T I P**
>
> If necessary, click and drag the centerline to reposition it.

12. Drag the smaller, lighter line (Measuring line) to a point along the centerline to measure.

13. Drag the longer, darker line (Transverse line) to the other point along the centerline to measure.



> **T I P**
>
> The measurement between the two lines and the measurement of the entire centerline display.

14. To rotate the curved view along the centerline,  click and drag in the view.

Render MPR

Select MPR rendering modes to change the appearance of the MPR views.

1. Click the rendering mode dropdown in the editable demographics area.

2. Select a rendering option.

- **Average** — A rendering setting that displays data using the average data values for all voxels in an image.

  This setting is particularly useful for viewing coronal and sagittal views of noisy images, or for simulating a slice thickness other than what was scanned. Using slice thickness and averaging also allows you to scroll through the dataset quicker.

- **MIP (100 mm max thickness)** — A rendering setting that displays data using only the highest data values for each voxel of the image. MIP is a good setting to use when competing features composed of voxels with similar or higher values might be obscuring the feature of interest.

  With the separate MPR MIP option you can view a volume rendering side-by-side with MPR MIP images.

  This setting is particularly useful when performing these operations:

- Differentiating between contrast and calcium in vessels
- Viewing thick slab MPRs with many tiny, loose body bone fragments
- Viewing carotids, the Circle of Willis, renals, runoffs, or any vessel to show plaque
- Viewing a thick slab MPR, showing all liver vessels in one plane

- **Volume Render (100 mm max thickness) —** uses all voxel values.

  The separate MPR Volume Render option gives you the capability of viewing a 3D MIP rendered volume side-by-side with MPR volume rendered images.

  This setting is useful for showing vessel depth.

- **Colored and Lit (100 mm max thickness) —** The color provides different attenuation factors on a thick slab view. The lit portions cast shadows to produce brilliant colors.

N O T E

If you are using the **Colored and Lit** MPR option, the same color, transparency, and lighting settings applied to the 3D image(s) also apply to the MPR images. This is most noticeable when you have slice thickness set higher than 1.

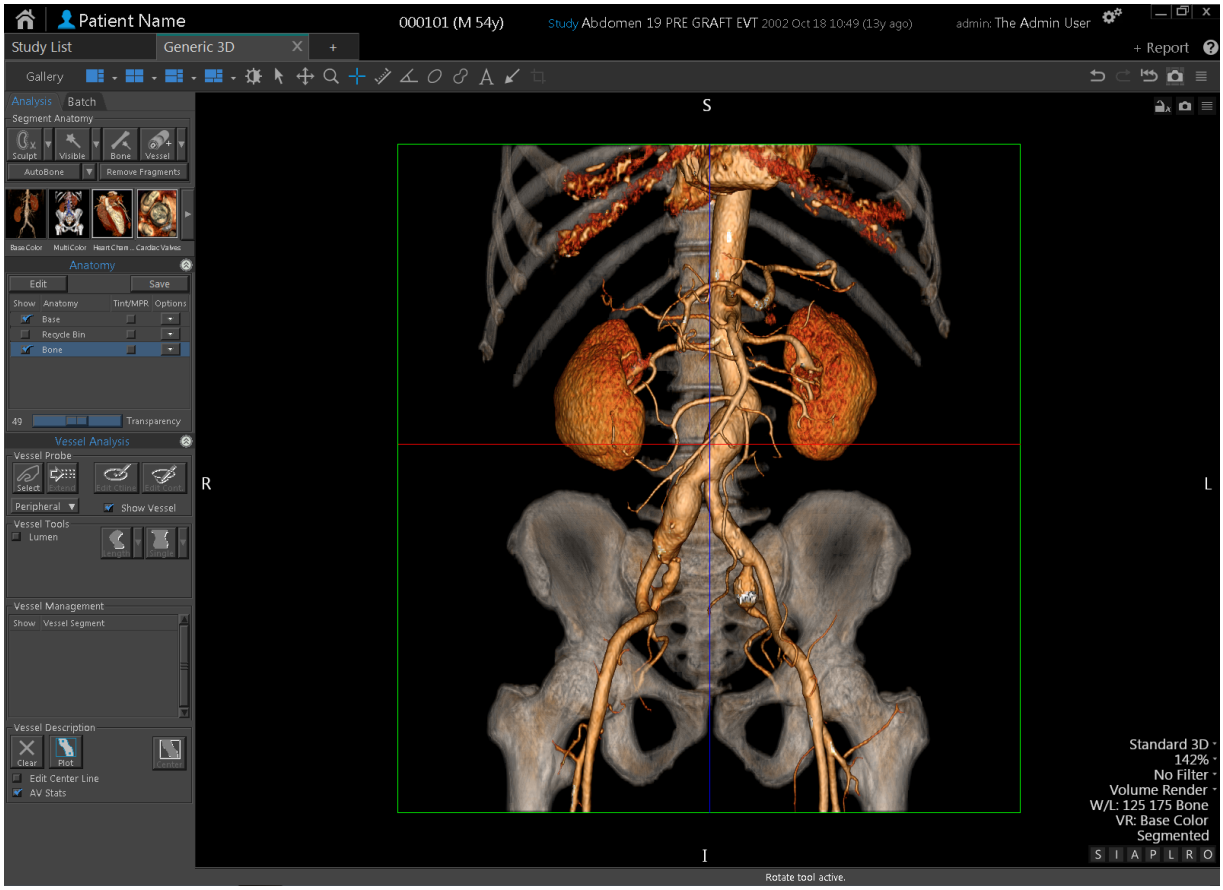
  The colored and lit setting is useful for the same applications as volume rendering, with the additional slice thickness setting for mini-slabs.

- **MinIP (100 mm max thickness) —** A rendering setting that displays data using only the lowest data values for each voxel of the image. MinIP is a good setting to use when features composed of similar or higher voxel values might be obscuring a feature of interest composed of lower voxel values in a scanned image.

  This setting is particularly useful when looking at air or fluid in mini-slabs. For example, lung airways or dilated pancreatic or bile ducts.

3D Imaging

The 3D volume views can be viewed from the outside or inside. Turn them and view them from any angle, trim them, add arrows, and much more. Apply various visualization presets using Volume Rendering (VR) or Global Illumination Rendering (GIR) (if available).



3D Workspace

Rotate

Rotate Using Rotation Shortcut Buttons

Click the rotation shortcut buttons at the lower-right of the 3D view to rotate the image.

- **S**uperior
- **I**nferior

- **A**nterior
- **P**osterior
- **L**eft
- **R**ight
- **O**blique

Rotate Using Keyboard Shortcuts

Press the following keyboard keys to rotate the 3D image:

Key	Rotate
F2 or SHIFT-S	S-I
F3 or SHIFT-I	I-S
F4 or SHIFT-A	A-P
F5 or SHIFT-P	P-A
F6 or SHIFT-L	L-R
F7 or SHIFT-R	R-L
F8 or SHIFT-O	Oblique

Rotate by Dragging

1. From the Common Tools bar, select  and drag in the view.

   OR

   With any other tool selected, press ALT and drag in the view.

   OR

   Right-click and drag in the 3D image to free-rotate in any direction.

   A tool-tip displays how far (in degrees) you have rotated in a single direction. Each time you click the image to drag, the tool-tip starts
   at 0.

2. While holding SHIFT, right-click and drag at the edge of the 3D view to spin the image on the same plane.

Rotate with the Arrow Keys

Press any of the ARROW keys to rotate the image 5 degrees in that direction.

A tool-tip displays the cumulative amount you have rotated. If 10 seconds elapses after you press an ARROW key, the tool-tip restarts at 0.

Rotate by Entering Exact Positions

Type rotation values to rotate the volume to exact positions:

- **Azimuth (a)** [valid values -180 to 180] - degree of rotation right or left around the center of volume
- **Elevation (e)** [valid values -90 to 90] - degree of rotation forward or backward from the center of volume
- **Twist (t)** [valid values -180 to 180] - degree of tilt left or right around the center of the volume

- To adjust the rotation to a specific value, type the value followed by the appropriate letter.

Play All Exams

With coincident volumes loaded, play through the 3D images while using a single volume Viewer window format.

1. In the image header area, click  .

T I P

To change the speed of the cine, adjust the speed slider.

2. Click  to stop.

N O T E

With Global Illumination Rendering images, the rendering quality level for playback is set by default at "medium." This value is configurable ("low," "medium," or "high"). The lower the rendering value, the faster the playback speed; the higher the rendering value, the slower the playback speed. Contact your system administrator for more information.

Maximize / Minimize (1-up/Return)

Maximize a view to full-screen size, then minimize to its original size.

1. In the image header area, click  to maximize the view. 
2. To minimize the 1-up view, click  .

OR

1. Double-click in the view.
2. To minimize the 1-up view, double-click in the view again.

Synchronize 3D View with MPRs

Synchronize the 3D view with the MPR views.

- Click  from the image header tools.

Link a View with Other Series

Link views with respect to scroll location, crosshair location, window/level, pan, and zoom (dual-volume layouts only).

1. Scroll in both series to the same location, using anatomy (such as bone) as a guide.
2. Click  in the upper-left corner of both views. 

Take a Snapshot of the View

- Click  from the image header tools.

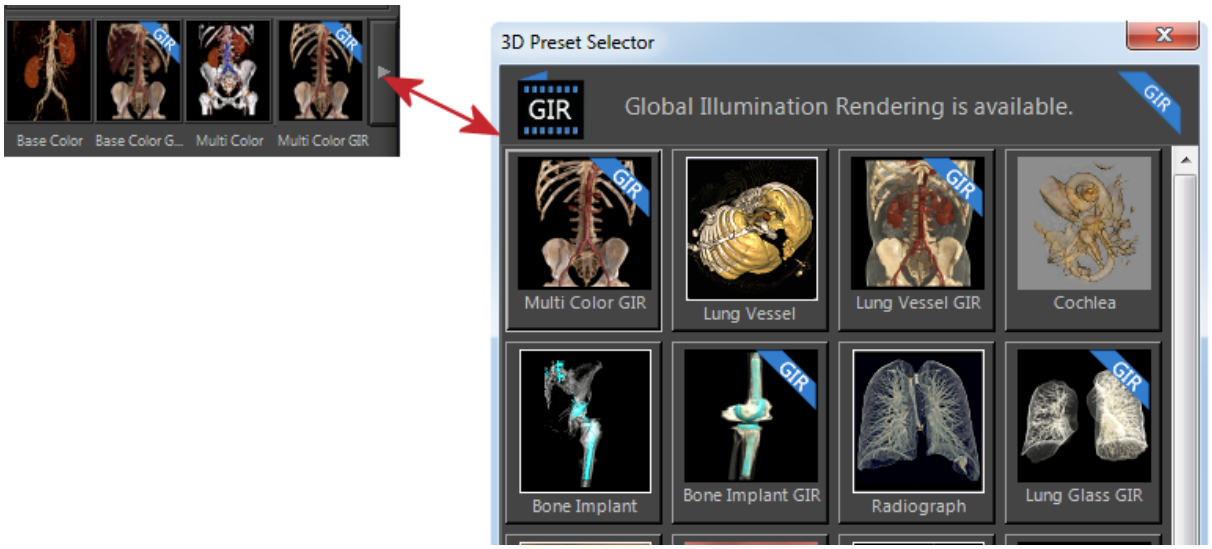
OR

1. Right-click and select  , or press S to activate the Camera tool.
2. Click in the view.
   - Hold **ALT**, then click in multiple views to take multiple snapshots.
   - Hold **CTRL**, then click in a view to take one snapshot of the whole viewer window.

Change 3D Visualization Presets

Visibility Presets control how 3D images display.

- In the Preset Selector area, click one of the preset visibility options, or click the arrow to display a panel of additional choices.



If Global Illumination Rendering is available, GIR combo thumbnails display with a "GIR" banner. The unmarked thumbnails are for Volume (3D) Rendering options. The rendering type ("VR" or "GIR") is listed with the visualization preset name in the lower-right corner of the view.

Notes regarding Global Illumination Rendering

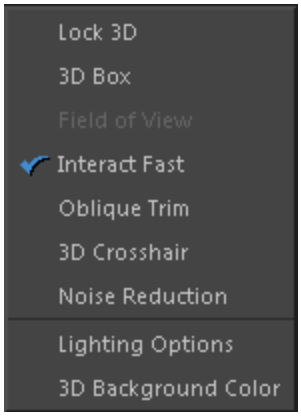
- Global Illumination Rendering is a cinematic-quality visualization technology.
- There are minimum hardware, software, memory, and licensing requirements in order to enable GIR. Contact your system administrator for more information.
- The rendering of GIR images may take a few moments to process. An orange box displays in the lower-left corner of the view until the image is rendered at the highest quality. As you interact with GIR images (such as rotating, panning, etc.), the quality level resets.
- GIR may not be available for large datasets.
- GIR is not available for all protocols/presets or for all clip modes.
- GIR is not available for flythrough, MIP, or MinIP views.
- You can save GIR views as modified presets.
- Volume Rendering and Global Illumination Rendering views are the result of two distinct rendering techniques which can display anatomy and pathology in very different ways. Keep these differences in mind when viewing images.

N O T E

It is advised that you wait until the Global Illumination Rendering images reach full quality before taking snapshots, although it is possible to create snapshots before the view has reached highest quality. Views rendered at less than full quality display an orange box in the lower-left corner of the view and the snapshots.

3D View Options

Click the  button in the upper-right corner of the 3D view to display the 3D View Options Menu.



- **Lock 3D** — Lock or unlock the 3D view while working with MPRs.
- **3D Box** — Show or hide an outer box in the 3D view.

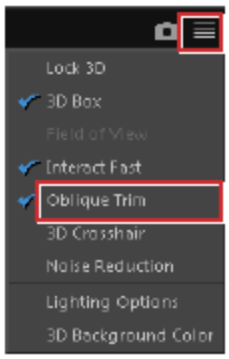
- **Field of View** — Show or hide the field of view cone in the MPRs.
- **Interact Fast** — Activate or disable fast interaction of 3D views.
- **Oblique Trim** — Activate or disable trimming on an oblique plane.
- **3D Crosshair** — Show or hide the crosshairs in the 3D view.
- **Noise Reduction** — Activate or disable automatic reduction in visual noise in the 3D view.

> **T I P**
>
> With GIR images, Interact Fast and Noise Reduction may have no affect or an undesirable affect.

Perform Oblique Trim

Trimming along orthogonal planes does not always reveal the image you want. Select **Oblique Trim** to trim the volume along an oblique plane.

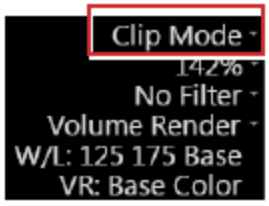
1. In the 3D view, click the View Options Menu button in the upper-right corner of the view.



2. Select **Oblique Trim**.

   All data ‘closer to you’ than the trim plane is removed.

   The 3D mode switches to **Clip Mode**. The **3D Box** check box is checked automatically, and a red 3D box displays around the volume indicating the oblique trim plane position.



3. In the upper-right of the 3D view, click  to maximize the view.
4. With the Crosshair tool  active, click in the 3D view to place the “focal point” (indicated by a yellow cross).
5. Click and drag in the 3D view to rotate the view about the point indicated by the yellow cross.
6. Click and drag the yellow cross to move the axis of rotation.
7. Middle-click and drag the volume to rotate the plane around the yellow crosshairs.
8. Right-click and drag to move trim plane forward or backward.
9. Press and hold ALT, then drag in the view to rotate the 3D view without changing the clip plane.

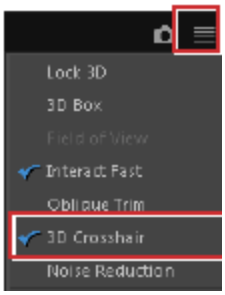
T I P

- Trim in Flythrough views. To display the portion that was trimmed in Flythrough views, switch to a 5-up Viewer window format and set the upper 3D view to Reverse View mode.
- To redisplay the full volume after using oblique trim, clear the **Oblique Trim** check box.

Display 3D Crosshairs in the MPR Views

To change images displayed in the MPR views, move the 3D crosshairs in a 3D view to a new position. As a result, MPR views automatically update to display slices corresponding to the 3D crosshairs intersection.

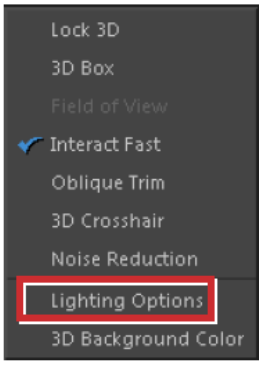
1. In the 3D view, click the View Options Menu button in the upper-right corner of the view.
2. Select **3D Crosshair**.
3. Click in the 3D image at the new location.



Use Lighting Options

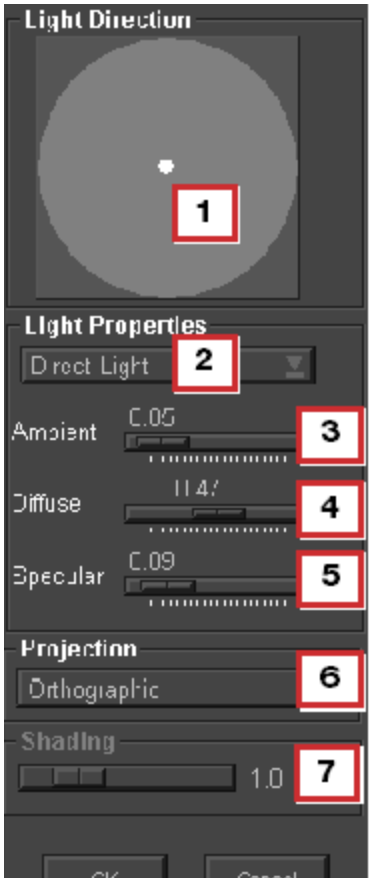
Lighting illuminates an image to allow you to see it more clearly.

1. Click the button in the upper-right corner of the 3D view to display the 3D View Options Menu.
2. Select **Lighting Options** from the option dropdown list.



N O T E

Use Light Direction and Light Properties for the **Volume Render**, **Global Illumination Rendering**, and **Normal - Cut Plane** 3D rendering options. Use Shading for **Normal**, **MIP**, **MinIP**, **Inverse MIP**, and **Inverse MinIP** 3D rendering options. Projection is available for all rendering options.



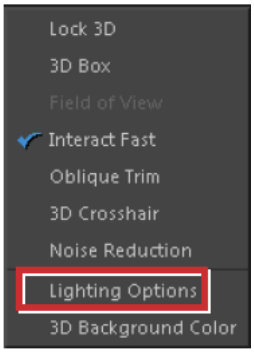
No.	Description
1	**Light Direction** control — Drag the white dot to adjust the direction of the light source.
2	**Light Properties** dropdown menu —Select a light properties option.
3	**Ambient** slider — Adjust the ambient light.
4	**Diffuse** slider — Adjust the diffuse light.
5	**Specular** slider — Adjust the specular light.
6	**Projection** dropdown menu —Select a field-of-view option.
7	**Shading** slider - Adjust the shading of the 3D and MPR views.

T I P

Click and drag the header bar of the Lighting Options dialog box to move it.

Change the Field of View

1. Click the button in the upper-right corner of the 3D view to display the 3D View Options Menu.



2. Select **Lighting Options**.

3. Click the **Projection** dropdown.

The Orthographic mode displays the view as if the object lines are perpendicular to the projection plane.

In the other modes, the object lines have perspective applied, making distant parts of the object appear smaller.

- **Orthographic** — view with no perspective applied
- **Moderate (45°)**— view with a field of view greater than Telephoto
- **Telephoto (15°)**— eliminate peripheral image data from view
- **Wide (60°)**, **Very Wide (90°)**, **Extremely Wide (110°)**, and **Ultra Wide (120°)**— view with wide fields of view

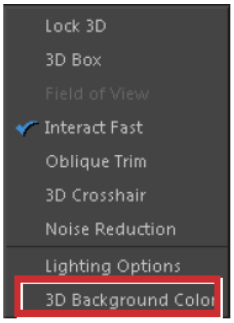
N O T E

- Specific options available are associated with the protocol selected on the Gallery window. The initial setting is determined by the view you chose. The width of the field of view (in degrees) is listed in the menu for each view option.
- If you select **Orthographic** in the Projection list, and you change a 3D view to Flythrough mode, the Projection list automatically changes to a perspective option.

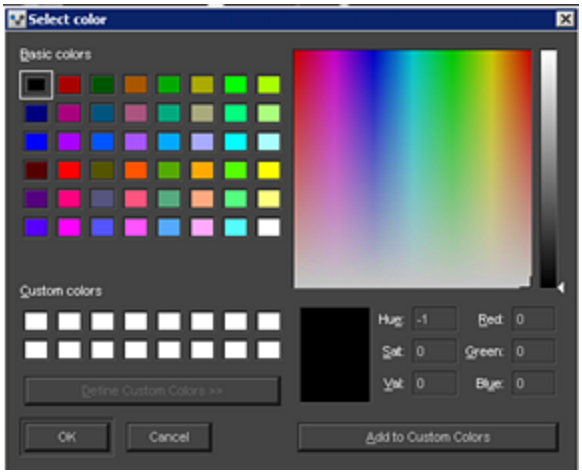
- If you change the field of view when you are in Flythrough mode, this causes a significant change in the appearance of the volume. Decreasing the field of view makes the volume appear much larger. Similarly, increasing the field of view makes the volume appear much smaller. If you later switch to Standard mode, the volume image remains the same size as it was in Flythrough mode.

Change the 3D Background Color

1. Click the button in the upper-right corner of the 3D view to display the 3D View Options Menu.

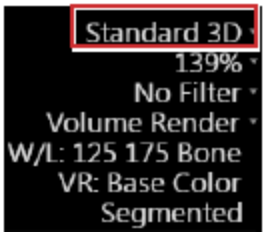


2. Select **3D Background Color**.
3. Choose a color from the color palette.



Switch 3D Imaging Modes

There are four imaging modes for 3D views. Access the 3D imaging modes in the editable demographics area.



Some modes are not available in some situations.

Mode	Description
Standard 3D	To view the volume from the outside.
Flythrough	To view the inside of an air or contrast-filled lumen.
POI Cube	To view a small amount of the image immediately surrounding the crosshair position.
Clip Mode	To trim in an oblique plane. **T I P** To activate the Clip Mode, right-click in the 3D view and click **Oblique Trim**.

Apply Denoising Filters

Use Denoising to filter images with regard to noise reduction. Denoising is only available with certain CT

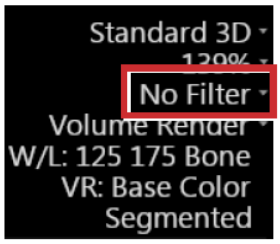
and XA protocols. Denoising is not available with perfusion, dual energy, or calcium scoring protocols because applying a filter may alter results.

N O T E

Be sure to view images with Denoising applied in conjunction with the original images by switching between the primary image and the denoised image.

- After you have applied a Denoising filter, press D to switch between an image with Denoising applied and the image with no filter.

1. Click the Denoising dropdown arrow to display the menu.



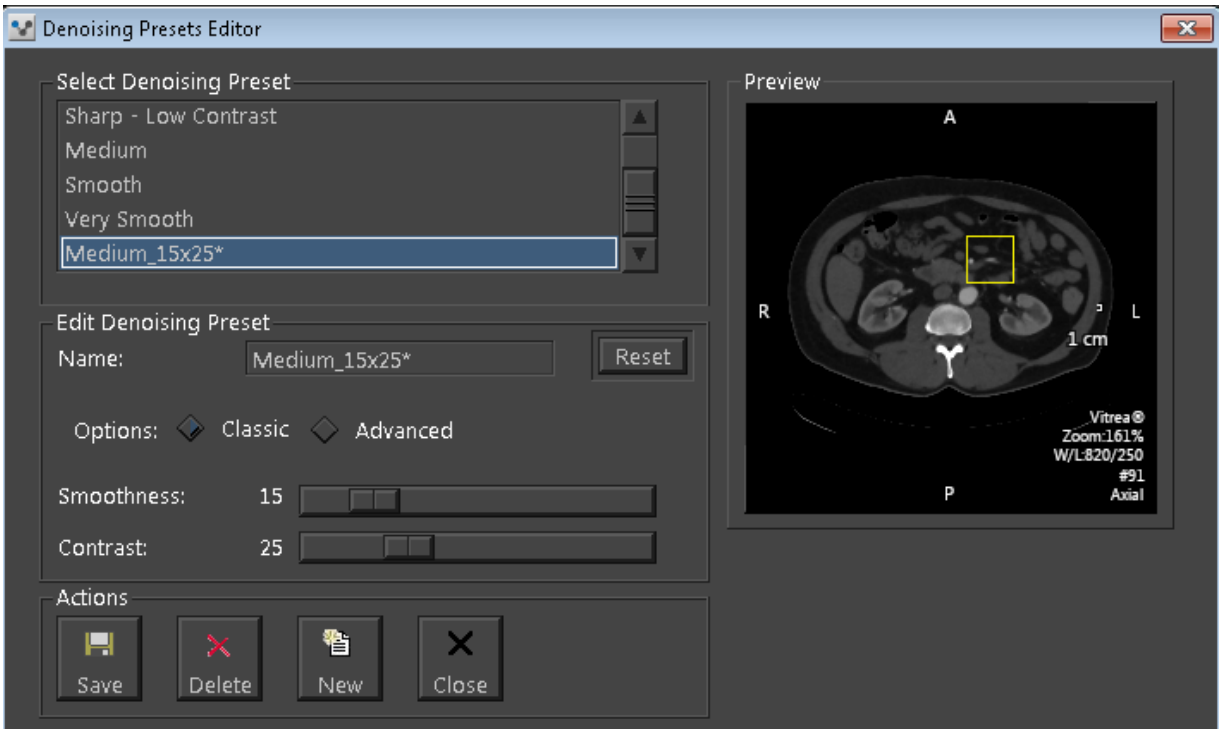
2. Choose a preset denoising filter value.

Create a New Preset

1. Select **Presets**.

T I P

You can select preset to use as a starting point, or just select Presets.



2. In the Denoising Preset Editor, adjust the required settings.
3. Click **New**.
4. Rename the preset if desired.
5. To edit the denoising strength, select **Advanced** and choose a value from the dropdown arrows.
6. Click **OK**.

Edit a Custom (User-created) Preset

N O T E

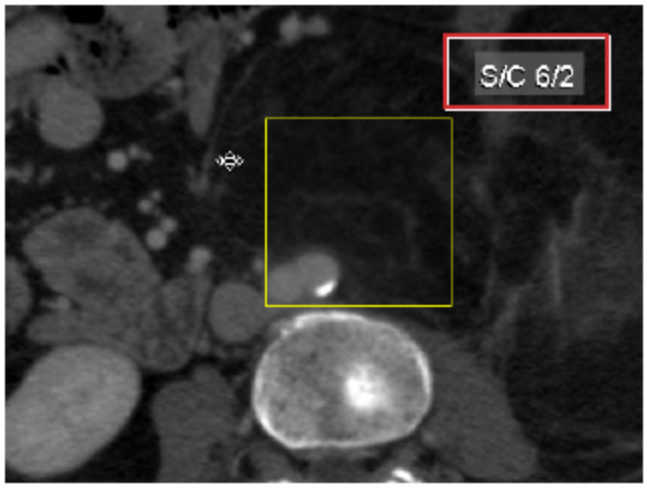
To edit a predefined preset, create a new preset using the predefined preset as a starting point.

1. Select the preset.
2. In the Denoising Preset Editor, adjust the Smoothness or Contrast settings.
3. Click **Save**.

Change the Filter Settings Interactively in the MPR View

> **N O T E**
>
> Interactive filter setting is only available in orthogonal crosshair mode. In protocols, such as Cardiac Analysis or TAVR, which have default views in oblique mode, switch to orthogonal mode to display the **Interactive** menu item.

1. Select **Interactive**.



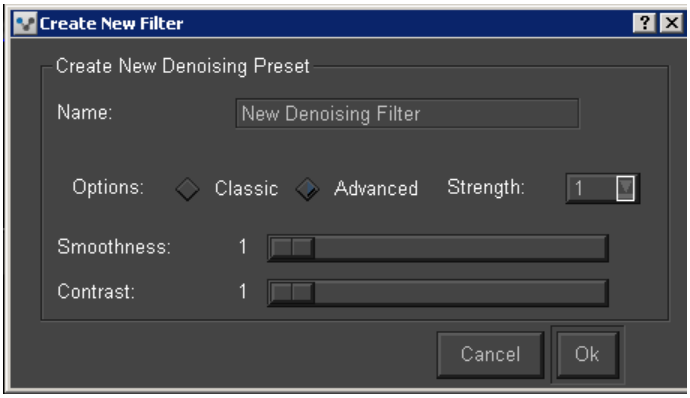
2. Drag the cursor in the view using the S/C (Smoothness/Contrast) value as a guide.

> **T I P**
>
> The area inside the yellow box will interactively change as you move the cursor.

3. Release the mouse button to set the denoising value.
4. Select another tool, such as **Crosshair**, to exit interactive denoising.

Create New Denoising Filter

1. To save interactive settings as a new preset, select **Save As** in the dropdown filter list.



2. In the Create New Filter box, enter a name for the new filter.
3. Adjust the Smoothness or Contrast settings.
4. To edit the denoising strength, select **Advanced** and choose a value from the dropdown arrows.
5. Click **OK**.

Save New Filtered Series of MPR Images

N O T E

Save new filtered batch series is only available in orthogonal crosshair mode. In protocols, such as Cardiac Analysis or TAVR, which have default views in oblique mode, switch to orthogonal mode to display the **Save new series** menu item.

1. In an MPR view, click the Denoising dropdown arrow to display the menu.
2. Select **Save new series** from the dropdown filter list.

The series can be exported from the **Results** or **Study** tab on the Study List.

Consult the *Study List Education and Reference Guide* for information regarding exporting series.

Display Volume Rendering Options

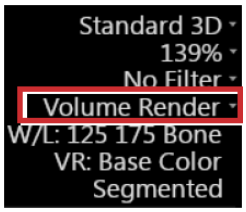
Use the **Volume Render** dropdown to change the appearance of the 3D view.

N O T E

These rendering options are not available with GIR.

1. Click the **Volume Render** dropdown from the editable demographics area.

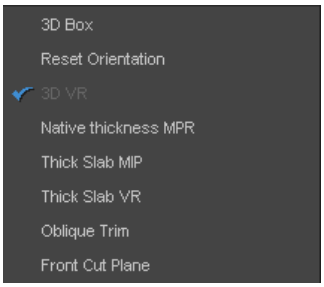
2. Select a volume rendering option.



   - **Normal** — Turns lighting off.
   - **Volume Render** — View a 3D colored and lit rendered volume side-by-side with MPR volume rendered images. Useful to show vessel depth.
   - **MIP** (Maximum Intensity Projection) — A shading setting that displays data using only the highest data values for each voxel of the image. A voxel is the smallest resolvable cubical area of an image on a screen. MIP is a good setting to use when competing features composed of voxels with similar or higher values might be obscuring the feature of interest.
   - **MinIP** (Minimum Intensity Projection) — A shading setting that displays data using only the lowest data values for each voxel of the image. This is useful when features composed of similar or higher voxel values might be obscuring a feature of interest composed of lower voxel values in a scanned image.
   - **Inverted MIP** — A MIP setting that displays inversely.
   - **Inverted MinIP** — A MinIP setting that displays inversely.
   - **Normal-Cut Plane** — Removes the rendering artifact. The normal-cut plane provides a clean surface.

3D Viewer Functions

Use the 3D-specific options in the right-click menu.



Menu Option	Description
3D Box	Displays a yellow 3D box around the volume indicating the oblique trim plane position.
Reset Orientation	Returns you to the initial orientation.
3D VR	This option is grayed out in normal mode. If you are in one of the bottom 4 modes on the right-click menu, select 3D VR to return to normal mode and turn off the cut planes.
Native Thickness MPR	Displays an image with original scan thickness.

Menu Option	Description
Thick Slab MIP	Displays a 10 mm thick MIP image.
Thick Slab VR	Displays a 10 mm thick volume rendered image.
Oblique Trim	To trim in an oblique plane.
Front Cut Plane	Displays a 1-cut plane. Use this option to view heart chambers.

N O T E

Not all options are available with Global Illumination.

If you select the Native Thickness MPR, Thick Slab MIP, Thick Slab VR, or Front Cut Plane option from the right-click menu, it allows you to view a different part of the volume by clicking and dragging. The center of rotation is in the middle of the volume view.

- Click and drag in the center of the volume view to pivot the view on the cut plane.
- Pan to move the volume and change the center of rotation.
- Right-click and drag up and down to move the cut plane closer or farther away from the eye.
- Right-click and drag right and left to adjust the slab size.
- Click and drag on an outer edge of the view to rotate the volume.

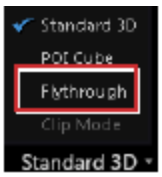
Fly Through Volumes

Use the Flythrough feature to navigate through passageways in the anatomy.

On the Gallery window, select a preset that has **Flythrough** in the name.

> **N O T E**
>
> Flythrough is not available with all protocols or for Global Illumination Rendering.

1. Be sure the Viewer window format includes a 3D view.
2. Zoom in and rotate the 3D view as necessary to position the area to fly through to the center of the view.
3. Click the 3D Mode dropdown from the editable demographics area and select **Flythrough**.



OR

From the Preset Selector, select **Flythrough Contrast** from the Preset Selector dialog box.

OR

Return to the Gallery and select the Flythrough preset.

4. With Crosshair tool active, click on the area in one of the MPR views where you want start the fly through.

   The 3D view navigates to the point you clicked.
5. Begin flying using one of these methods:
   - Right-click and drag
   - Roll the mouse wheel
   - Use a keyboard shortcut

Press:	To:
>	Fly forward
<	Fly backward
SHIFT >	Fly forward with continuous assisted navigation

Press:	To:
SHIFT <	Fly backward with continuous assisted navigation
ARROW	Change the direction by a small amount
SHFT + ARROW	Change the direction by a larger amount
?	Flip the view direction 180 degrees
middle-click and drag in fly through	Rotate the fly through view
left-ALT + click	Move the eyepoint. Also works during batch creation.
right-ALT + click	Move the view direction. Also works during batch creation.

N O T E

ALT keys available in standalone deployments only.

T I P

To fly continuously, press SHIFT, then right-click and drag.

6. To turn within the Flythrough view, middle-click and drag in the direction to turn.

Change the Field of View While Flying

When you enter Flythrough mode, the 3D Zoom editable demographic switches to View Angle.

1. Click the View Angle value in the editable demographics area of the Flythrough view.

2. Select a value.

N O T E

Orthographic is not available in Flythrough mode.

Examine a Feature of Interest in the MPR Views

1. With the Crosshair tool active, click the point of interest in the 3D view.

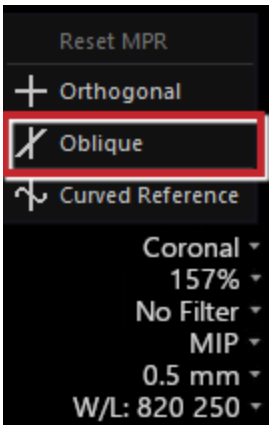
T I P

The reference lines in the MPR views change to the spot you clicked. The eye point in the 3D view does not change. This causes the eye point to be temporarily out-of-sync with the MPR reference lines.

2. To re-sync the MPR and 3D views, fly to a new position.

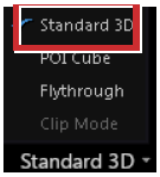
Fly in Dynamically Changing Oblique MPR Planes

1. Click MPR mode dropdown from the editable demographics area and select **Oblique**.



2. Fly into the volume.

   Use these navigational aids:

Method	Steps
MPR crosshairs	• With  active, click in an MPR view.
Field of View Cone	1. Click  in the 3D view. 2. Select **Field of View**. **T I P** • To change the eye point of the cone, click  , then click in the MPR view. • To change the direction of the cone, click  , then press left-ALT and click in the MPR view. **N O T E** Left-ALT available in standalone deployments only.
3D Crosshairs	1. Select a 5-up Viewer window format 2. Change the upper 3D view to Standard 3D mode. 3. Click  in the image header in the upper 3D view. 4. Select **3D Crosshair**. 5. Fly through the lower 3D view.  **T I P** The 3D crosshairs in the upper 3D view change as you navigate in the lower 3D view.
Reverse View	1. Select a 5-up Viewer window format.  2. Change the upper 3D view to Reverse mode. 3. Fly forward in the lower 3D view.  **T I P** The upper 3D view displays from the same point as the lower view, but looking backward.

Segmentation

Segmentation is a way of isolating some parts and removing other parts of a volume. With Anatomy Segmentation, you assign definitions to various regions and apply visualization settings to each region.

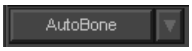
Segment Bone Automatically

The automatic bone segmentation will perform best when the HU intensity of the vessel lumen is below 1550 HU. If there are artifacts, such as metal artificial joints, present in the image, the automatic segmentation will perform best when the HU intensity of the artifacts is below 1976 HU.

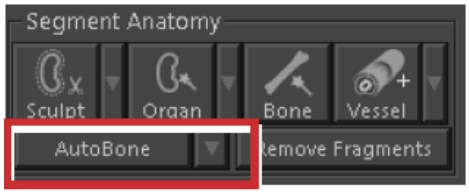
N O T E

Automatic Bone Segmentation is available for the following protocols:

- Vascular: Aorta CT
- Vascular: Carotid CT
- Vascular: CoW CT
- Vascular: Runoff CT
- Vascular: Renal CT
- Generic CT
- Abdominal CT
- Larynx/Airway CT

1. In the Segment Anatomy area, click 

.



T I P

If you have multiple volumes loaded, click the dropdown to choose:

- **This Volume** - applies bone segmentation to the currently selected volume only.
- **All Volumes** - applies bone segmentation to all loaded volumes.
- **Current - Apply all Volumes** (for coincident studies only) - applies bone segmentation to the current volume then segments the same voxel locations in the other volumes.

N O T E

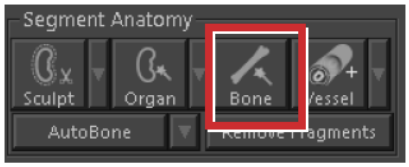
If there was previously-performed bone segmentation, a dialog will display that allows you to replace the existing bone region or to merge the bone regions.

2. Review the segmentation and use the Manually Segment Bone technique to segment any additional bone regions.

Segment Bone Manually

1. In the Segment Anatomy area, click 

.



2. In the 3D view, click on a bony area.

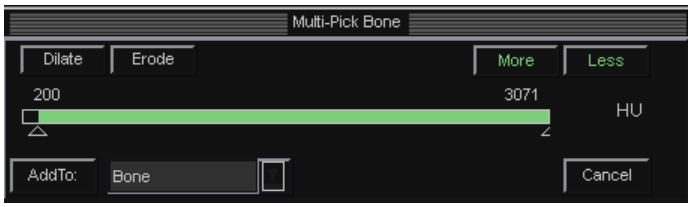
   OR

   In the 2D view, click a portion of cortical (brightest white) bone.

   Vitrea software displays a blue overlay on areas that will be segmented. Use this as a guide to determine if you need to include more or less to the selected area.

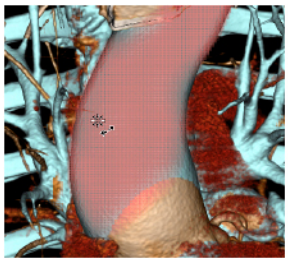
T I P

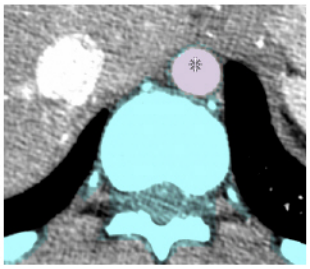
Be sure the blue overlay is on bone areas only. If it displays on vessels, click Less, or adjust the HU slider, to select a smaller HU range.



3. To remove a portion of the selected (blue) area:

   a. Place the cursor over the area until a purple overlay displays.





   b. In the 3D view, roll the mouse wheel to increase or decrease the size of the purple overlay.

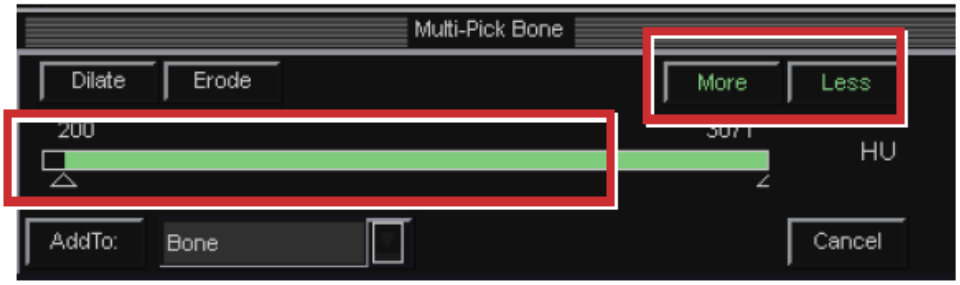
   OR

   In the MPR views, press the **+** or **-** keyboard keys.

   c. Click the purple overlay.

   That area will not be segmented with the rest of the Bone area.

4. From the **Multi-pick Bone** box, click Less or More as needed.



T I P

The **Less** and **More** buttons decrease or increase the HU range by 20.

5. Adjust the HU slider bar to adjust the HU range as needed.

T I P

You can also click an HU number and enter a specific value.

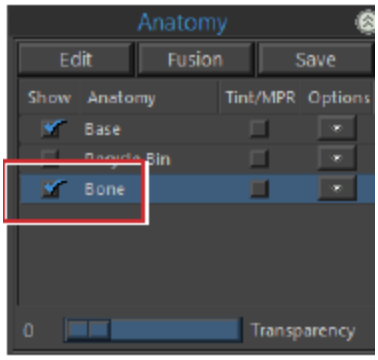
6. Click Dilate or Erode as needed.

T I P

- The **Dilate** and **Erode** buttons decrease or increase the selected area by 1 pixel in the 2D views and 1 voxel in the 3D views per click.
- When you use the **Dilate** button, be sure the blue overlay does not “bleed” into an area you do not want selected.

7. Repeat from step 2 to segment all the bones in the view.

8. Click AddTo: in the Multi-Pick Bone box.



Vitrea software adds a listing to the Anatomy Regions area. The default show setting for **Bone** is unselected, so it does not display in the view.

N O T E

- With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.
- Vitrea software does not save a manually adjusted HU range. The next time you click on a bone region, the default HU range is used.

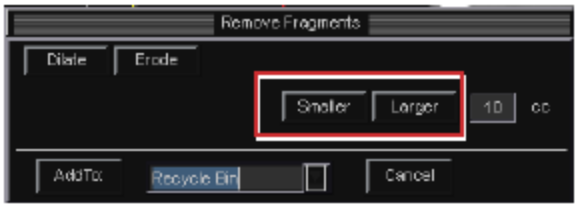
Remove Fragments

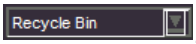
1. To remove fragments, click Remove Fragments.

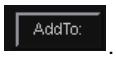
2. Review the blue overlay to be sure all the fragments are selected.

T I P

- Review the blue overlay to be sure only fragments, and not vessels, are selected.
- To adjust the size of the fragments selected, click the **Smaller** or **Larger** buttons.



3. Verify that the Add To dropdown displays **Recycle Bin** 

, then click 

.

   Vitrea software adds a listing to the Anatomy Regions area. The default show setting for **Recycle Bin** is unselected, so it does not display in the view.

Automatically Segment Skin

N O T E

Automatic Skin Segmentation is available for the following protocols:

- Vascular: Aorta CT
- Vascular: Carotid CT
- Vascular: CoW CT
- Vascular: Runoff CT
- Vascular: Renal CT
- Generic CT
- Abdominal CT
- Larynx/Airway CT
- Liver CT

1. In the Segment Anatomy area, click the dropdown arrow next to AutoBone, then select 

.

T I P

If you have multiple volumes loaded, click the dropdown to choose:

- **This Volume** - applies skin segmentation to the currently selected volume only.
- **All Volumes** - applies skin segmentation to all loaded volumes.
- **Current - Apply all Volumes** (for coincident studies only) - applies skin segmentation to the current volume then segments the same voxel locations in the other volumes.

N O T E

- If there was previously-performed skin segmentation, a dialog will display that allows you to replace the existing skin region or cancel the request.
- The show or hide properties of the skin region is dependent upon the selected visibility option.

Segment Vessels

Segment Vessels Using Single-click Picking

1. In the Segment Anatomy area, click the Vessel arrow.

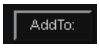
2. Click 

.
3. Click a vessel in the 3D view.
4. Adjust the selection area as necessary, using the blue overlay as a guide.

T I P

Click on more vessels to add them to the Vessels listing.

5. In the Multi-Pick Vessel box, select from the dropdown, or type in **Vessels**.

6. Click 

.

Vitrea software adds a listing to the Anatomy Regions area.

N O T E

With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded. check box displays so you can select to have the segmentation apply to all phases loaded.

Segment Vessels Using Dynamic Growing

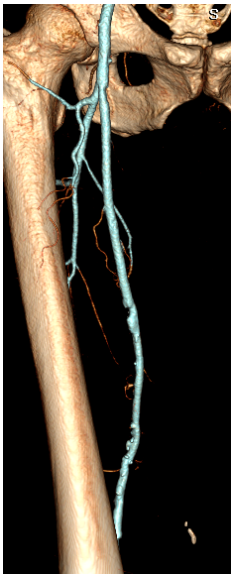
1. In the Segment Anatomy area, click the Vessel arrow.

2. Click 

.

3. Click and hold on the vessel to grow the vessel branches.

4. Adjust the selection area with the Vessel Grow slider. Use the cyan area in the image as a guide.



> **TIP**
>
> Apply MIP rendering and some thickness to the MPR views to better visualize the selected area.

5. Click AddTo:.

> **NOTE**
>
> The W/L settings of the view determine what is selected. Before beginning this workflow, adjust the W/L so the vessel is visually distinct from surrounding tissue. Doing so will reduce the chance of accidentally selecting other nearby tissue.

Vitrea software adds a listing to the Anatomy Regions area.

> **NOTE**
>
> With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.

Segment Organs

> **TIP**
>
> If necessary, adjust the Base window/level settings so the organ appears to be full and solid.

1. In the Segment Anatomy area, click **Organ**.

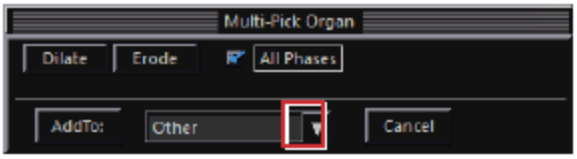
> **TIP**
>
> If necessary, click the dropdown to select the **Organ** button.

Click on the organ. A blue overlay displays around the selection.

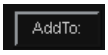
It is possible to perform organ segmentation in the oblique MPR mode; however, the blue overlay will not display.

2. To increase or decrease the HU density range of the voxels to be included in the selected region, press the **+** or **-** key.

3. If only a portion of the organ is selected (blue), keep selecting the organ until the segmentation is complete.
4. Scroll through the view to verify the organ is correctly selected.
5. In the dropdown box, click the dropdown next to **Other** and select an organ name.

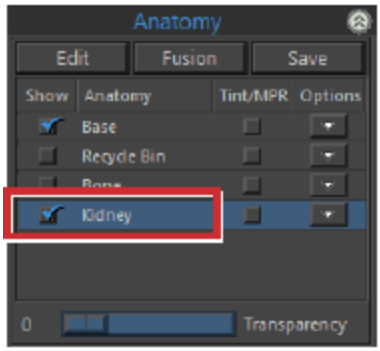


> **N O T E**
>
> With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.

6. Click 

.

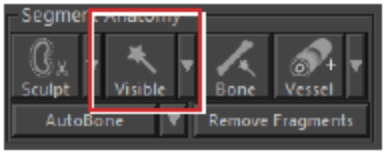
   Vitrea software adds a listing to the Anatomy Regions area.



Segment a Single Visible Region

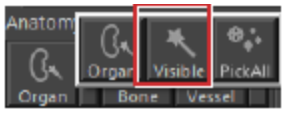
> **N O T E**
>
> The Visible method segments a single region of contiguous data based on the displayed HU range.

1. If necessary, adjust the **Base** window/level settings so the region appears to be full and solid, and if possible, isolated.
2. In the Segment Anatomy area, click **Visible**.



T I P

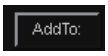
If necessary, click the dropdown to select the **Visible** button.



3. Click the region.
4. If only a portion of the region is selected (blue), keep selecting the region until the segmentation is complete.
5. Scroll through the view to verify the organ is correctly selected.
6. In the dropdown box, click the dropdown next to **Other** and select a name or type a new name.

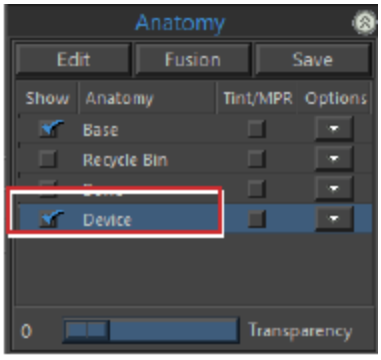
N O T E

With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.

7. Click 

.

Vitrea software adds a listing to the Anatomy Management area.

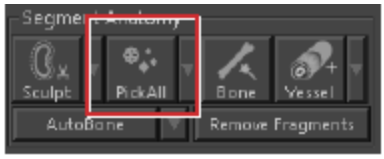


Segment a Non-contiguous Visible Region

N O T E

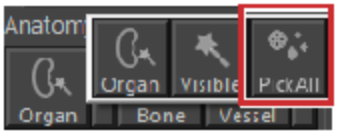
The Pick All method segments a region of non-contiguous data based on the displayed HU range.

1. If necessary, adjust the **Base** window/level settings so the region appears to be full and solid, and if possible, isolated.
2. In the Segment Anatomy area, click **Pick All**.

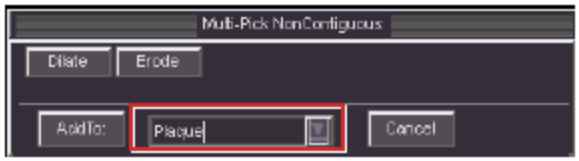


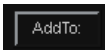
T I P

If necessary, click the dropdown to select the **Pick All** button.



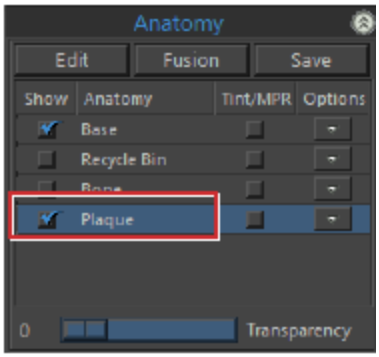
3. Click the region.
4. If only a portion of the region is selected (blue), keep selecting the region until the segmentation is complete.
5. Scroll through the view to verify the organ is correctly selected.
6. In the dropdown box, select and highlight **Other** in the box and type the name of the region.



7. Click 

.

   Vitrea software adds a listing to the Anatomy Management area.



N O T E

With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.

Sculpt in 3D

N O T E

Vitrea software does not allow using the Sculpt tool to edit any of the following existing regions: nodules, tumors, liver resection regions, or brain perfusion summary map regions. Use the Edit tool to edit these regions.

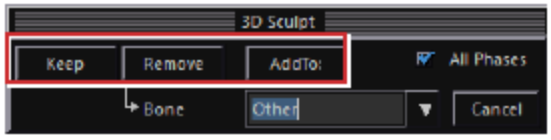
Sculpt in the 3D view to create a new region or add to the Base or Recycle Bin regions.

1. In the Segment Anatomy area,

   click 

.

2. In the 3D view, draw a contour around the region to sculpt.
3. In the 3D Sculpt dialog, choose an option:
   - **Keep** - adds the data within the contour to the region listed below the button (a region that is showing)
   - **Remove** - adds the data within the contour to the region listed below the button (a region that is hiding)
   - **AddTo:** - adds the data within the contour to the region listed in the dropdown. Click the dropdown arrow to change the region.



N O T E

With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.

Sculpt in an MPR

N O T E

Vitrea software does not allow using the Sculpt tool to edit any of the following existing regions: nodules, tumors, liver resection regions, or brain perfusion summary map regions. Use the Edit tool to edit these regions.

Sculpt in the MPR view to create a new region or add to the Base or Recycle Bin regions.

1. In the Segment Anatomy area, click **Sculpt**.

2. Click in a MPR image.

T I P

In the upper-right of a MPR view, click  to maximize the view.

3. Draw a contour around the region of interest.
   - Click, hold, and drag to draw a true freehand contour.
   - Click, release, and drag to draw a contour that attempts to automatically define the edge of the region (based on HU units).

T I P

To aid drawing the automatic contour, click along the region to drop anchor points.

4. Scroll a few slices, then repeat step 3.

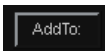
N O T E

Interpolated contours between automatic contours are truly interpolated and do not necessarily follow the edge of the region. Edit interpolated contours if necessary.

5. Continue to scroll and draw until you reach the last slice displaying the region.

T I P

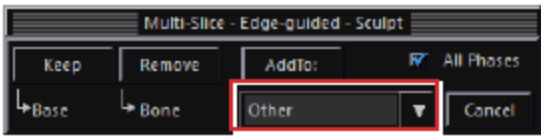
Vitrea software automatically displays a colored surface on the 3D view.

6. If you had the MPR maximized, minimize it to see the 3D view.
7. Rotate the 3D view to verify that the surface contains the whole area to sculpt.
8. Verify the correct region name is listed in the Region dropdown, then click 

.

T I P

Click the dropdown to change the region.

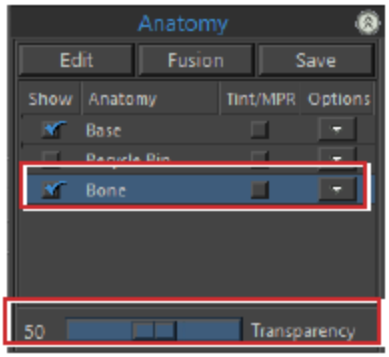


N O T E

With more than one coincident volume loaded, an **All Phases** check box displays so you can select to have the segmentation apply to all phases loaded.

Re-display the Bone Region and Make It Semi-Transparent

1. In the Anatomy list, select **Bone**.

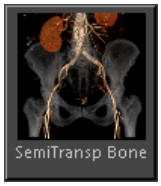


2. Drag the **Transparency Slider** to the desired value.

   The bone in the view changes transparency as you drag the slider.

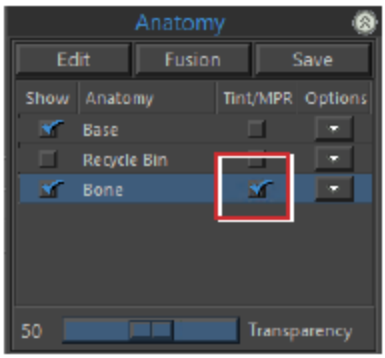
   OR

   Click the **SemiTransp Bone** visibility preset button from the Preset Selector.



Tint Regions in MPRs

1. In the Anatomy Regions area, select a region.
2. Select the **Tint/MPR** check box for that region.



T I P

The MPR views display a tinted overlay for the selected region(s).

N O T E

The tinted area may appear to be too big, too small, or to overlap in certain cases, for example, in oblique orientations or extremely zoomed views. This is a result of the sub-voxel rendering. The contours that define the tinted area are still correct, regardless of how the tinting appears to display.

Show Segmentation in MPRs

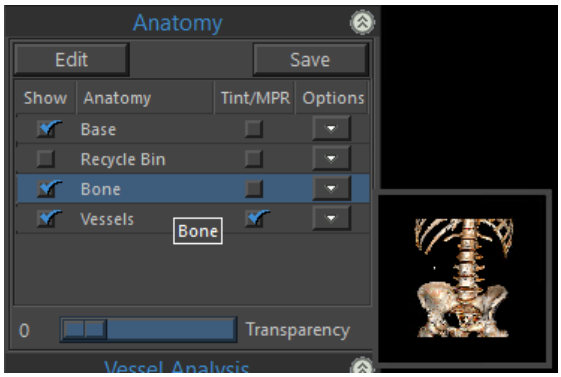
To display only the visible (Show check box selected) regions on the MPRs, click the View Menu button in the upper-right corner of any MPR view and select **Show Segmentation**.

Apply Window/Level Settings to a Single Region

1. Select the region in the Anatomy list.
2. Select from the Common Tools toolbar, or right-click and select .
3. Click and drag in the view to adjust the window/level settings for the region.

Display a Thumbnail of a Region

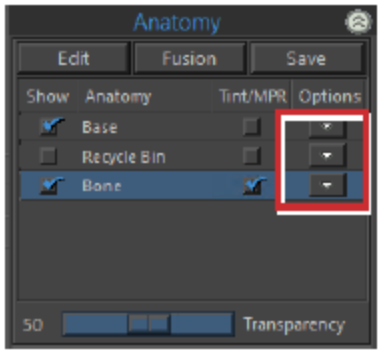
1. In the Anatomy list, hover over a listing.



   A small view of the region displays, even if the region is currently hidden.

Manage the Regions

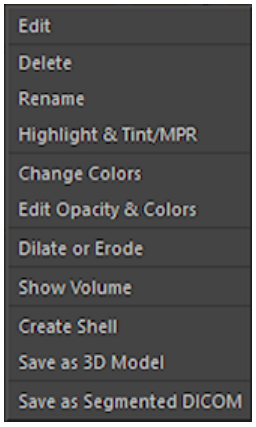
1. In the Anatomy Regions area, click the **Options** dropdown for a listing.



   OR

   Right-click a region name.

2. Select an option:



Edit—Edit the contours defining the region. Same as the **Edit** button. See the **Edit Regions** section.

Delete—Delete the region from the list and return it to the Base region.

Rename—Rename the region. See **Rename a Region** section.

Highlight & Tint/MPR—Tint the region in the MPR views. Same as the **Tint/MPR** check box. See the **Tint Regions in MPRs** section.

Change Colors—Change the color of the region. See the **Change the Appearance of a Region** section.

Edit Opacity & Colors—Create a custom color scheme. See the **Create a Custom Color Scheme** section.

Dilate or Erode—Dilate or Erode the region.

Merge—Merge two regions. See the **Merge Regions** section.

Show Volume—Display the volume measurement of the region in the 3D view. See the **Perform Volume Measurements in the 3D View** section.

Create Shell — Create a custom-sized shell for a segmented region. See the **Create a Region Shell** section.

Save as 3D Model —Save the region as a 3D Model file to the Results Tab of the Study List or Application Selector. See the **Region Save and Export** section.

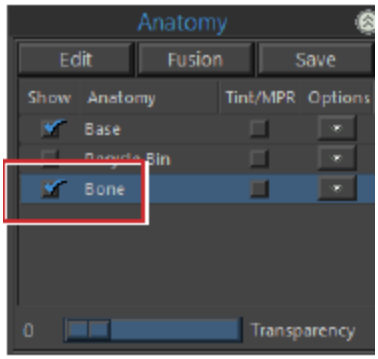
Save as Segmented DICOM — Create a new DICOM series in which all voxels outside the segmented region are masked (“blacked out”) and save it to the Applications or Study tab of the Study List. See the **Region Save and Export** section.

N O T E

Not all options are available for the Base region.

Edit Regions

1. In the Anatomy Regions area, select the region to edit.



2. Click 

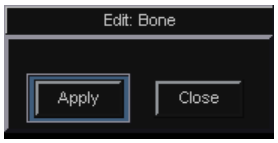
.

OR

Select **Edit** from the Options menu.

Contours defining the region display in the MPR views.

3. In an MPR view, click and drag the edge of the contour.
4. Scroll and continue editing.
5. Click 



Rename a Region

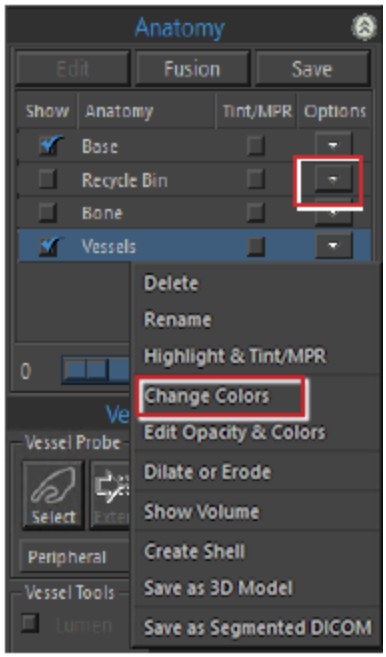
- Right-click the region name and select **Rename**.

N O T E

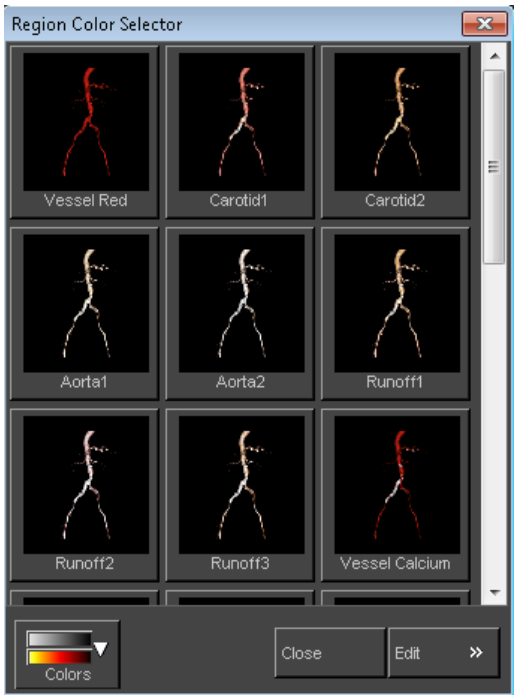
Vitrea software reserves certain names (depending on the protocol) for protected or non-editable regions. If you attempt to name a non-protected region to a protected region name, the software will include a numeral at the end of the name. For example, if you attempt to rename a region called “Other” to “Tumor,” the Vitrea software will change it to “Tumor-0.”

Change the Appearance of a Region

1. In the Anatomy Regions area, select a listing.



2. Click the **Options** dropdown in the listing.
3. Select **Change Colors**.
4. Choose a preset.



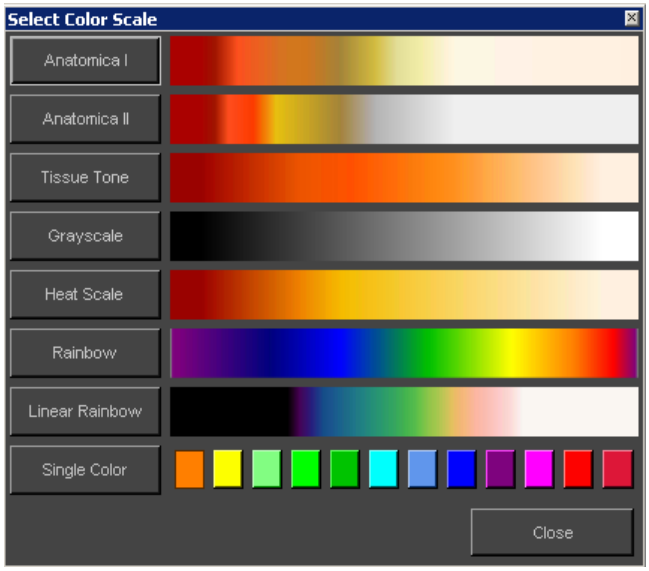
The selected region changes to match the preset you clicked.

OR

Click 

.

5. Select a color scheme from the menu.



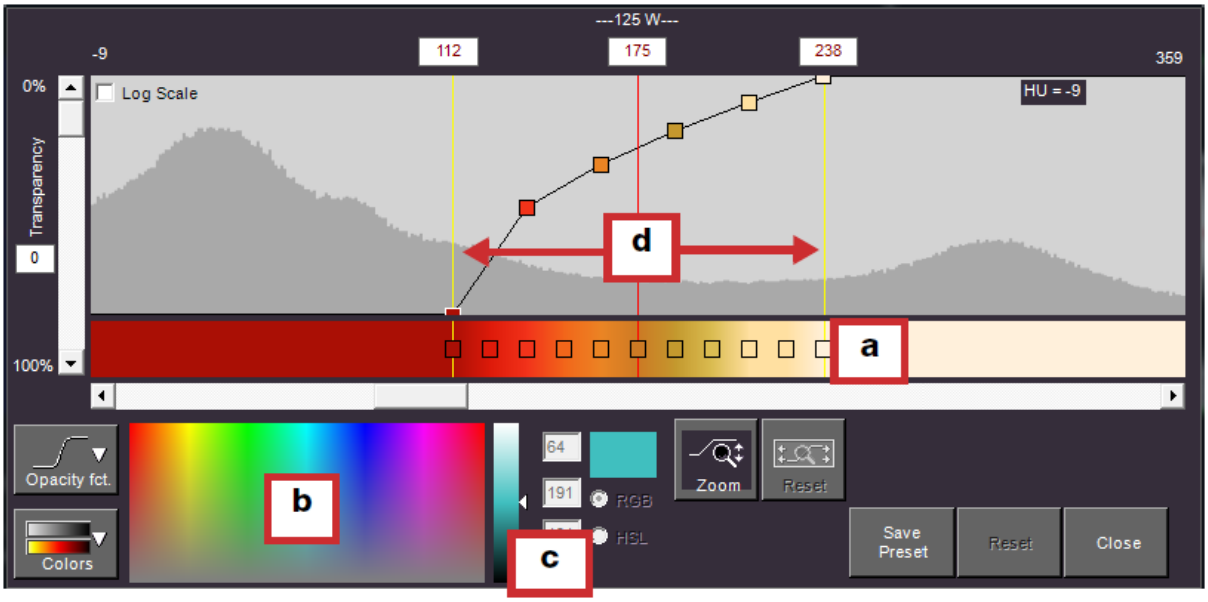
N O T E

For GIR views, the preset color schemes and solid colors control both the Reflected and Transmitted colors.

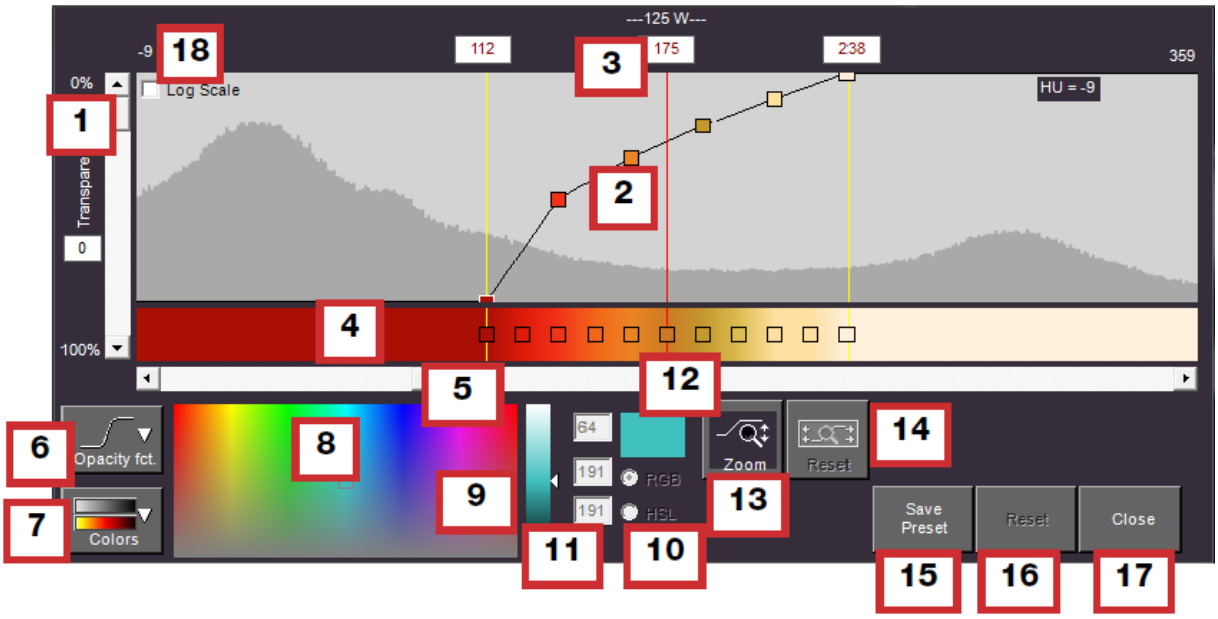
6. Click **Close**.

Create a Custom Color Scheme

1. In the Anatomy Regions area, select any listing.
2. Click the Options dropdown.
3. Select **Edit Opacity and Colors**.
4. Change the color and opacity settings as desired.



a. Click a box in the color point bar.
b. Choose a color in the color panel.
c. Adjust the hue.
d. Click and drag the W/L bars to adjust the HU.



No.	Description
1	**Transparency Setting** — Drag the slider (or type a value) to adjust the percent opacity.
2	**Curve Editor** area — Drag control points to adjust opacity curve. Double-click along curve line to add control points.
3	**Window/Level Range** — Drag the yellow lines to adjust the window width. Drag the red line to adjust the level. **OR** Enter values in the text boxes that correspond to the lines.
4	**Color Gradient** — Click a box in the color scale, then choose a color for that point. **N O T E** With a Global Illumiation Rendering view, there are two color gradient bars: • The top bar controls the Reflected color. The selected color is reflected by the material and defines the main color of the anatomy. • The bottom bar controls the Transmitted color. The selected color propagates through a non-opaque material, unlike complementary colors that are absorbed. The transmitted color is accentuated on the anatomy.
5	**Curve** scroll — Drag to scroll along the length of curve.
6	**Opacity fct. (function)** button — Click to display preset opacity curve options.
7	**Colors** button — Click to display preset color gradient options.
8	**Color Picker** — Click a color to set the selected point of the curve. See **Change the Appearance of a Region** above.
9	**Shade Selector** — Drag the arrow along the bar to adjust the shade of the selected color.
10	**Color Model** options — Select **RGB** to use the Red Green Blue color model. Select **HSL** to use the Hue Saturation Lightness color model.
11	**Color Model Values** — Type specific values for the RGB or HSL color models. The range is 0 to 255.
12	**Sample Color Swatch** — Displays the sample color you selected.
13	**Zoom** button — Click and drag upward to zoom in on the Curve Editor. Click and drag downward to zoom out.

No.	Description
14	**Reset Zoom** button — Click to reset the Curve Editor zoom level.
15	**Save Preset** button — Click to save the settings as a preset.
16	**Reset** button — Click to reset the settings to the default.
17	**Close** button — Click to close the VR Editor.
18	**Log Scale** — Select this box to apply logarithmic scaling.

5. Click 

and choose an opacity curve.

6. Click 

and select a color gradient.

> **N O T E**
>
> For GIR views, the preset color schemes control both the Reflected and Transmitted colors. The solid colors control the Reflected color while the Transmitted color is gray.

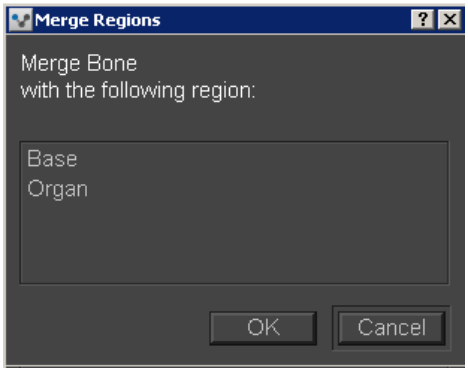
> **T I P**
>
> To save your changes as a new preset, click 

. Type a name and click **Save**.
>
> 

7. Click 
.

Merge Regions

1. In the Anatomy Regions area, click the **Options** dropdown and select **Merge**.
2. From the list in the Merge Regions box, select another region to merge with the first.



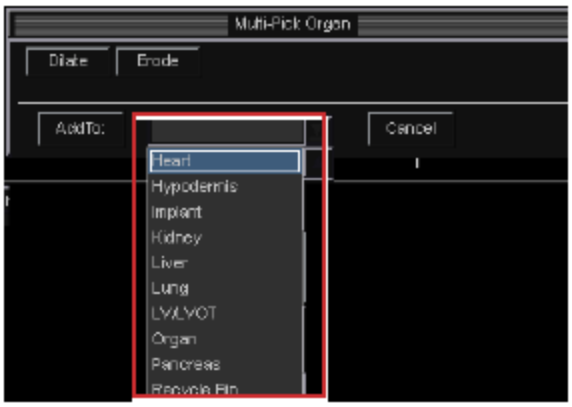
3. Click **OK**.

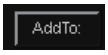
Perform Volume Measurements in the 3D View

To measure the volume of a 3D region, first segment the region and display a surface.

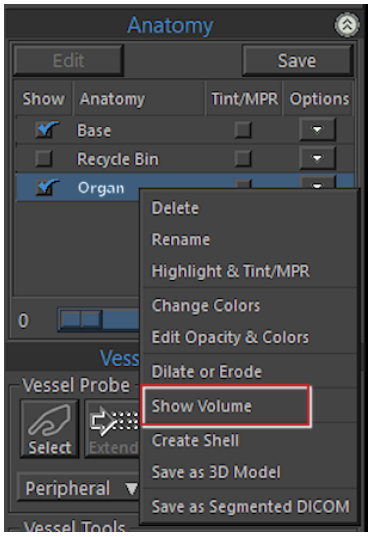
1. In the Segment Anatomy area, click 

.
2. In an MPR view, locate and click on the anatomy.
3. Rotate the 3D view to verify the surface is accurately defined.
4. If necessary, use the tools in the in-viewer Multi-Pick Organ box to adjust the selection area.
5. In the in-viewer Multi-Pick box, click the Anatomy dropdown to select a name for the region.



6. Click 

.
7. In the Anatomy area, right-click the region and select **Show Volume**.



The volume measurements display in the 3D view.

N O T E

For CT studies, mean HU and the standard deviation display. For MR studies, signal intensity mean value and the standard deviation display.

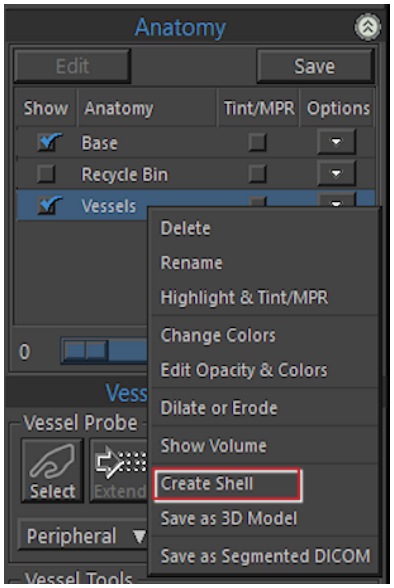
Create a Region Shell

Create a custom-sized shell for a segmented region for use in STL export. Create a shell to represent vessel walls or tumor margins, for example.

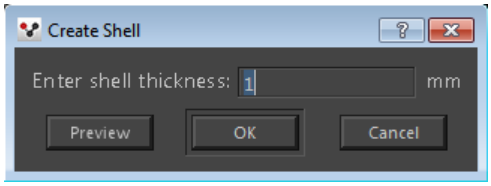
N O T E

Region shell creation is not available when multi-volume fusion is activated.

1. Select region and right-click.
2. Select **Create Shell**.



3. Enter a thickness value for the shell.

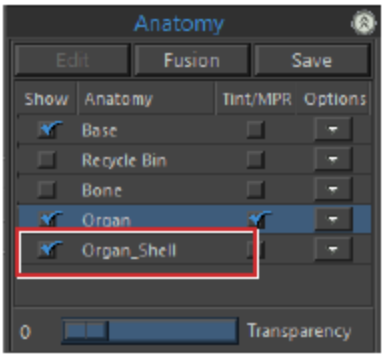


4. To preview the shell region in the MPRs and 3D, click **Preview**.

> **N O T E**
>
> If you change the shell thickness, or edit the source region, click **Re-compute Preview** to view the changes.

5. Click **OK**.

   Vitrea software creates a new region for the shell.



6. Show, hide, change color, and export the shell region as desired.

N O T E

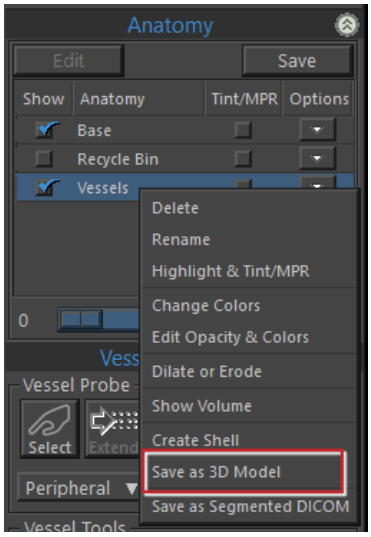
For purposes of STL export, consider the shell region separate from the source region. Once the shell region is created, edits to the source region will not affect the shell region.

Region Save and Export

Save a Single Region as a 3D Model

Save a single segmented region as a 3D Model file to the Results tab of the Study List or Application Selector.

1. From the Anatomy area, select a segmented region.
2. Right-click on the region name and select **Save as 3D Model**.

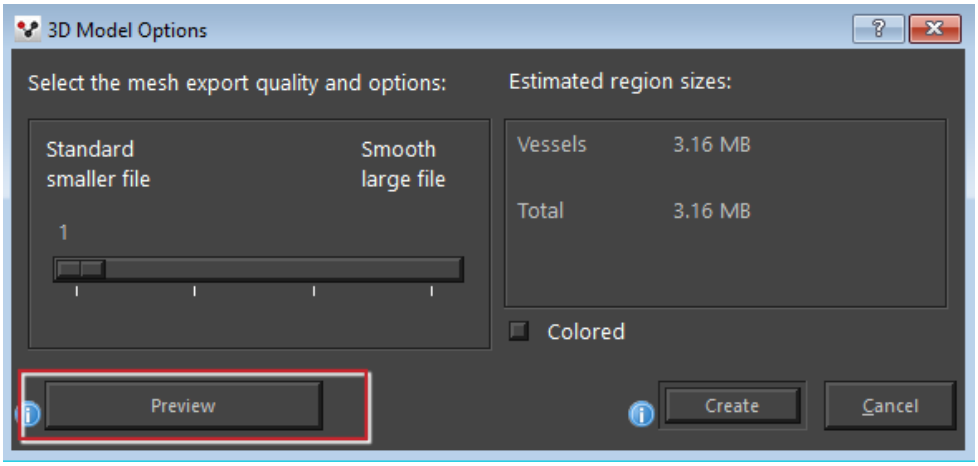


Vitrea software displays the volume measurements for the selected region.

N O T E

If multiple volumes are loaded, the 3D Model is displayed for the active volume only. If you wish to switch volumes, close the dialog box and re-open it in the selected volume. The listing in the dialog box displays the applicable volume.

3. Verify the segmented area in the MPR and 3D views.
4. Use the slider bar to select the desired quality options.
5. To preview the 3D Model, click **Preview**.



A mesh displays in the 3D view of the active volume.

It may take a few moments to create the 3D Model preview. The status bar at the bottom of the Viewer window indicates the progress. The preview will reflect the quality selected. If you change the 3D Model quality setting, re-compute the preview.

N O T E

To stop the preview generation, close the dialog box.

T I P

Rotate, pan, and zoom the model in the 3D view and scroll in the MPR views to verify the mesh.

6. If necessary, use the segmentation or probe/extend tools to edit the selected regions.

N O T E

If you delete, merge, or rename the region, or if you edit the region contours, the dialog box closes with no 3D Model file created.

7. If you made edits to the region, click Re-Compute Preview.

N O T E

Displayed 3D meshes are based on current regions when the preview is generated. Be sure to re-compute if any segmentation changes are made.

T I P

Take snapshots or batches of the 3D Model for reporting. Snapshots of 3D Models are secondary capture and are not restorable.

8. Click **Create**.

T I P

If you previewed the 3D Model, the button is labeled **Save** .

The 3D Model is saved to the Results tab of the Study List or Application Selector where you can save it to a file location or media.

N O T E

The final 3D Model generated may look different than what is visualized in the software. The export quality will also influence how much detail will be included in the final 3D Model. Verify the 3D Model in an external viewer.

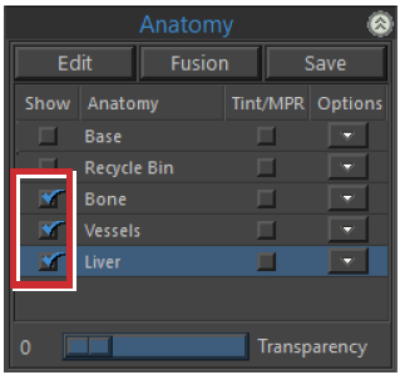
Save Multiple Regions as a 3D Model

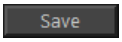
Save multiple segmented regions as separate STL files to the Results Tab of the Study List or Application Selector.

N O T E

Not available when multi-volume fusion is applied.

1. In the Anatomy area, select **Show** for each segmented region to be exported.

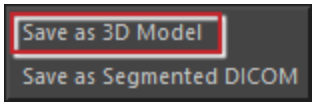


2. Click 

.

3. Select **Save as 3D Model**.

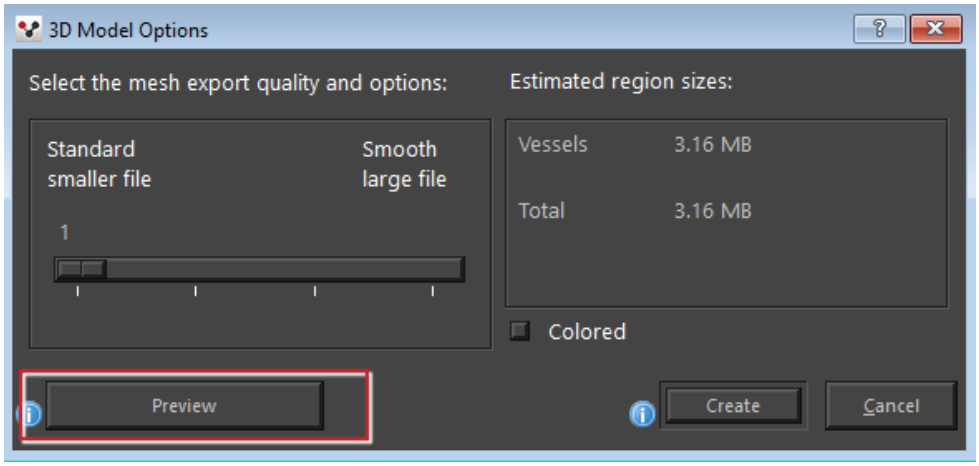
   Vitrea software displays the volume measurements for the selected regions.



N O T E

If multiple volumes are loaded, the 3D Model is displayed for the active volume only. If you wish to switch volumes, close the dialog box and re-open it in the selected volume. The listing in the dialog box displays the applicable volume.

4. Verify the segmented area in the MPR and 3D views.
5. Use the slider bar to select the desired quality options.
6. To preview the STL model, click **Preview**.



A mesh displays in the 3D view of the active volume.

It may take the software a few moments to create the preview. The status bar at the bottom of the Viewer window indicates the progress. The preview will reflect the quality selected.

N O T E

To stop the preview generation, close the dialog box.

T I P

Rotate, pan, and zoom the model in the 3D view to verify the mesh.

7. If necessary, use the segmentation or probe/extend tools to edit the selected region.

N O T E

If you delete, merge, or rename one of the regions, or if you edit the region contours, the dialog box closes with no 3D Model file created.

8. If you made edits to the regions, click Re-Compute Preview.

N O T E

Displayed 3D meshes are based on current regions when the preview is generated. Be

sure to re-compute if any segmentation changes are made.

T I P

Take snapshots or batches of the 3D Model for reporting. Snapshots of 3D Models are secondary capture and are not restorable.

9. Click **Create**.

T I P

If you previewed the 3D Model, the button is labeled **Save**.

The 3D Model is saved to the Results tab of the Study List or the Application Selector where you can save the 3D Model to a file location or media.

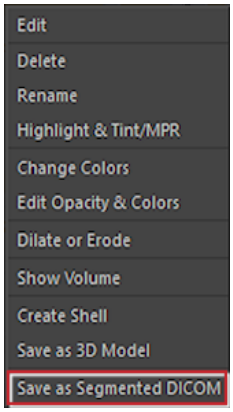
N O T E

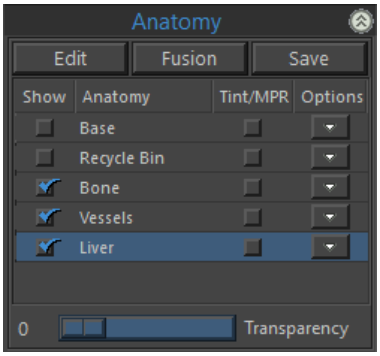
The final 3D Model generated may look different than what is visualized in the software. The export quality will also influence how much detail will be included in the final 3D Model. Verify the 3D Model in an external viewer.

Save a Single Region for DICOM Export

Create a new series of only a single segmented region. Voxels outside the segmented region are “blacked out.”

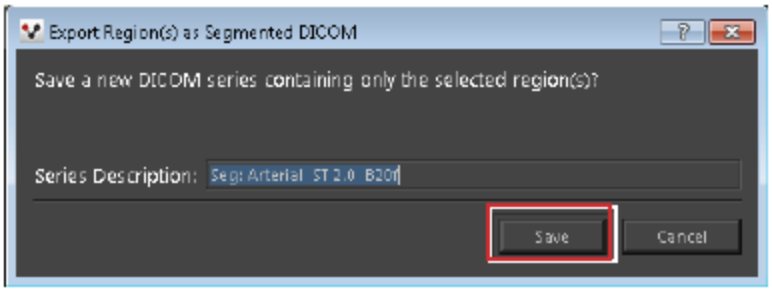
1. From the Anatomy area, select a segmented region.
2. Right-click on the region name and select **Save as Segmented DICOM**.





Vitrea software displays the volume measurements for the selected region.

3. Verify the segmented area in the MPR and 3D views.
4. In the dialog box, enter a name for the series description then click **Save**.



5. Click **OK** in the next dialog box.

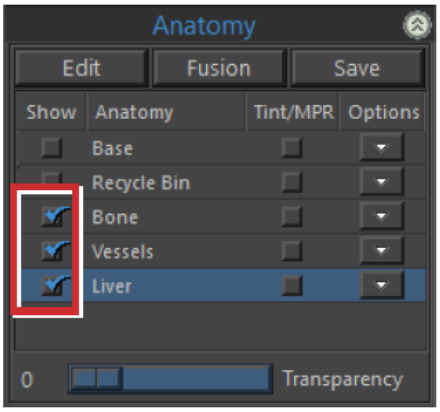
   Vitrea software creates a new series which will display in the Study List (on both the Applications tab and the Study tab). From there, you can export the series to a DICOM location.

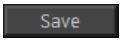
6. Verify the resulting series is built as you expect.

Export Multiple Regions for DICOM Export

Create a new series of only segmented regions. Voxels outside the segmented regions are “blacked out.”

1. In the Anatomy area, select **Show** for each segmented region to be exported.

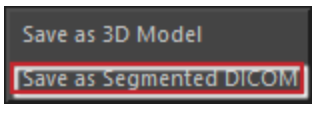


2. Click 

.

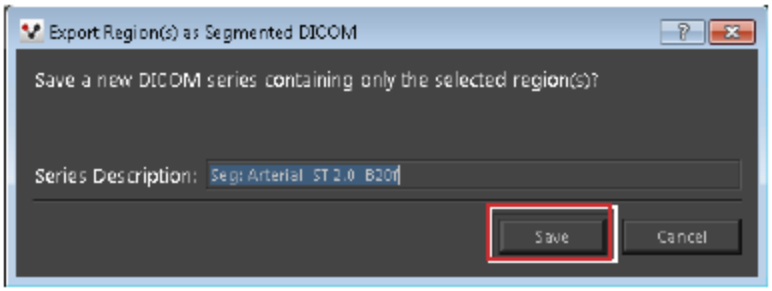
3. Select **Save as Segmented DICOM**.

   Vitrea software displays the volume measurements for the selected regions.



4. Verify the segmented area in the MPR and 3D views.

5. In the dialog box, enter a name for the series, then click **Save**.



6. Click **OK** in the next dialog box.

   Vitrea software creates a new series which will display in the Study List (on both the Applications tab and Study tab). From there, you can export the series to a DICOM location.

7. Verify the resulting series is built as you expect.

Multi-Volume Fusion

Create a fused 3D image by combining two to four series. Fusion is available with all rendering modes, and with Orthogonal, Oblique, or Curved MPR modes.

Fuse Volumes

1. Load 2, 3, or 4 volumes.

> **N O T E**
>
> - The volumes must have the same frame of reference or be coincident (for comparative viewing).
> - Multi-volume Fusion is not supported for Global Illumination Rendering views.

2. In the upper-right corner of the view, select the DUAL VOL preset.

> **N O T E**
>
> Multi-Volume Fusion is only available with the following protocols:
>
> - Generic CT
> - Abdominal CT
>   - Except Fat Measurement
> - Larynx/Airway CT
> - Liver CT

- Lung CT
  - Airway Analysis and Pulmonary Analysis presets only
- Musculoskeletal CT
- All Vascular CT protocols
  - Except TAVR and Stent Planning
- All MR protocols
  - Except Brain MR protocol/2D Tumor Measurement preset
- All XA protocols

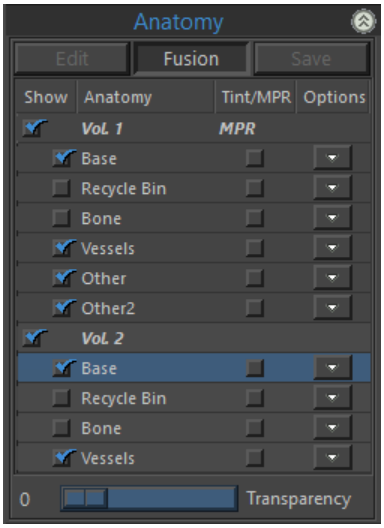
3. Perform segmentation and trimming to best display the desired regions in all volumes.

T I P

To switch the currently selected volume, click the volume buttons at the upper-left of the viewer window.

4. In the Anatomy area, click Fusion.

A fused 3D volume displays in the selected volume (with "**Fusion**" indicated in the lower right corner) and region listings for all the volumes display in the Anatomy list.



The volume that was active when the volumes were fused is the base volume. The fused MPR view displays as a single image registered to the same point of reference.

When two volumes are fused, the MPR view displays with both volumes at 50% visibility, which can be

adjusted. When three volumes are fused, the MPR view displays with the volumes at 33% visibility each, and when four volumes are fused, the MPR view displays with the volumes at 25% visibility each.

N O T E

With fusion applied, the 3D image may appear slightly less concentrated than the non-fused image.

5. Use any of the Anatomy Segmentation features (transparency, tint MPRs, preset options, etc.) with any of the regions.

N O T E

Keep the following information in mind while working with fused volumes:

- The crosshair location will be determined by the first visible intersection point in the fused view.
- Regional window/level and visualization settings still apply in the fused view.
- Arrows, rulers, and annotations placed in a single volume will display in the fused volume.
- Arrows drawn on the fused volume will be associated with the base series.
- Ellipse and freehand ROI are not displayed on the fused volume.
- Thickness is determined by the base series.
- Region shell creation is not available when multi-volume fusion is selected.
- STL preview and export is not available when multi-volume fusion is selected.

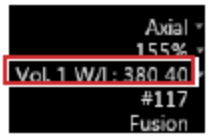
Adjust the Visibility of the MPR Fusion View

When two series are fused, you can adjust the visibility of the volumes in the MPR view.

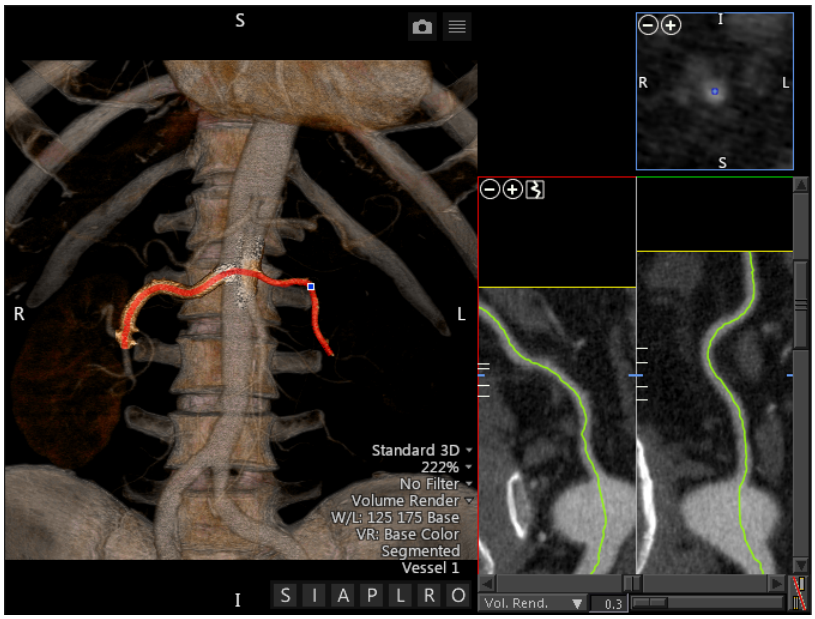
1. Hover at the bottom of the MPR fusion view to display the fusion slider.

2. Drag the slider toward one of the volume labels to increase the visibility of that volume.

   The volume that displays the greater percent, and its w/l value, is indicated in the editable demographics area.



Vessel Probe



When you probe a vessel, the software traces the vessel lumen, highlighting it with a vessel indicator line. The vessel indicator displays in the 3D view. If you work in Curved MPR mode, the software plots a line through the center of the vessel lumen in one of the views. If you work in Oblique MPR mode, the software automatically displays the best view of the vessel in an oblique plane, along the length of the vessel.

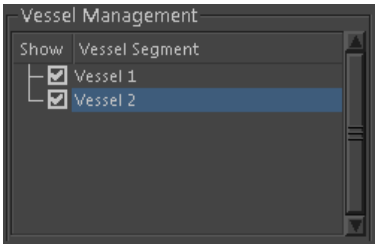
N O T E

- Because of the high HU value of contrast media in 100kV scans, the reliability of calcium detection within the vessel lumen is expected to be lower than that of 120 kV scans.
- Vessel Probe is not recommended for probing the aorta.

1. Select 

from the Common Tools toolbar, or right-click and click  to activate the Probe tool.
2. Click the vessel.

   Vitrea software adds a listing to the Vessel Management area and displays an inset CPR view and one or more inset cross-sectional views (depending on the layout).



3. If the probe tool did not select enough of the vessel, extend it:

   a. Right-click in the view, then click  .

   b. To extend the vessel, click a point farther along the already selected vessel.

   c. To refine the vessel indicator line, drag the cursor along the vessel indicator line to a desired end point and click.

> **N O T E**
>
> As you drag the cursor, the vessel indicator line disappears. It will not be removed until you click.

4. To edit what the probe tool selected:

   a. Click 

   .
   The cursor changes to a pen.

   b. Assess the centerline to verify accuracy.

   c. Move the cursor (pen) to a specific point along the centerline and click to plot a point to modify the path of the vessel centerline.

> **N O T E**
>
> As you plot points, a new red line displays to show you how the final centerline will be positioned. This line displays as a reference line in the 3D view.

   d. If necessary, move the cursor (pen) to a different point along the centerline and click to plot a point. Continue to plot all additional points. As you plot additional points, the line updates to go through all the user control points.

> **N O T E**
>
> - Click and drag the line and it dynamically shows the resulting line as you drag. The point displays after you release the mouse button.
> - Rotate, zoom, and scroll the curved view while the line is being created.
> - Hover over a plotted point. The pencil changes to a hand. Click to move the plotted point.
> - Click 

 if you want to clear the red centerline and start over.

   e. Click 

 to apply the modified (red) centerline to be the final centerline.

N O T E

Be sure to click Apply before navigating away from the centerline editing view, or your edits will be lost.

5. To select a probed vessel, click the entry for the vessel in the Vessel Management area.

   OR

   With the crosshair tool active, click the vessel in the 3D view.

Switch Vessel Probe Layouts

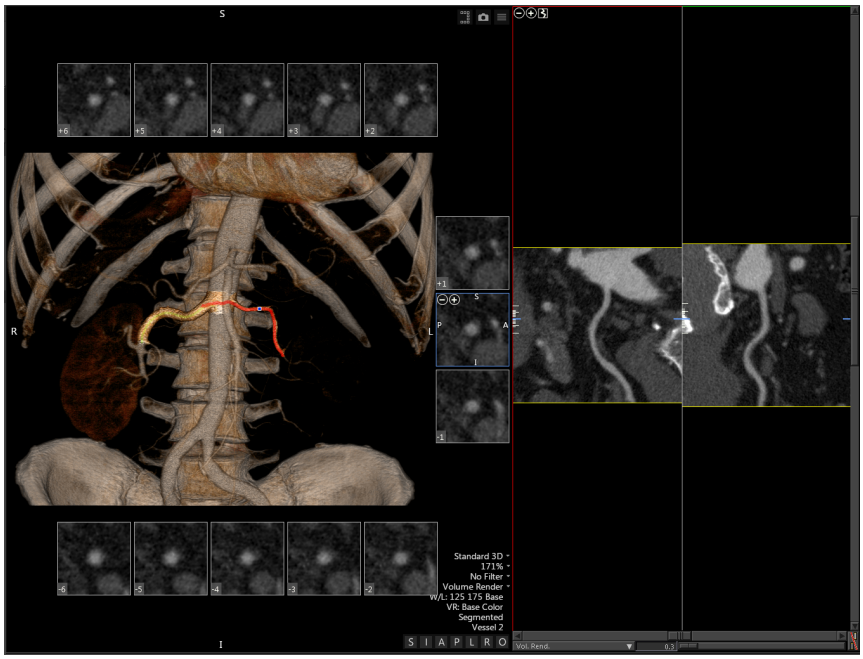
1. Click the 1-up arrow in the upper-right corner of the 3D view.

   The mode button displays in the upper-right corner of the view.

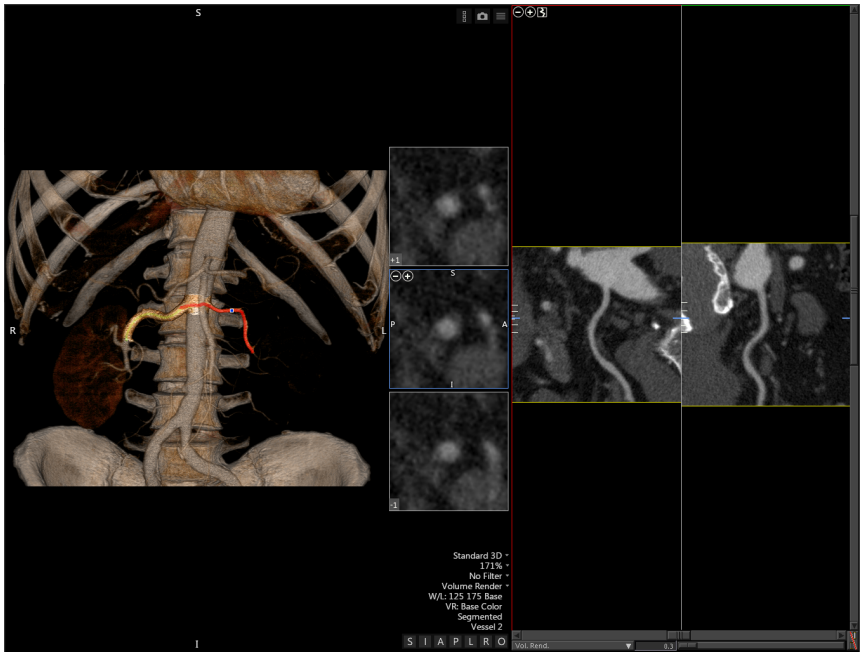
2. Click the mode button to switch modes.

   The icon for the currently selected mode displays on the button.

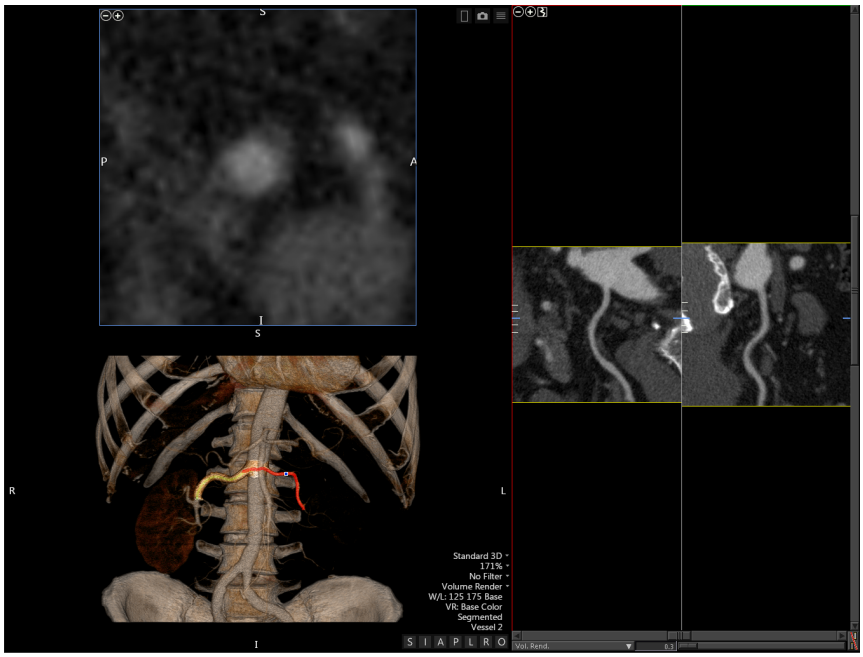
Montage Layout — This is the default in the 1-up format. This view displays several 1 mm cross-sectional views of the vessel.



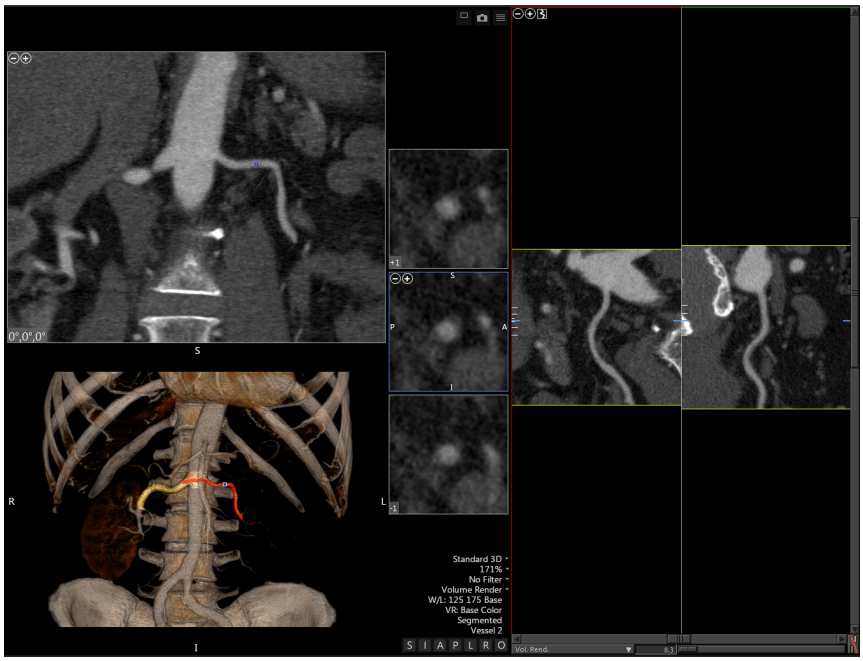
Large Cross-sectional Layout — Three larger viewing insets.



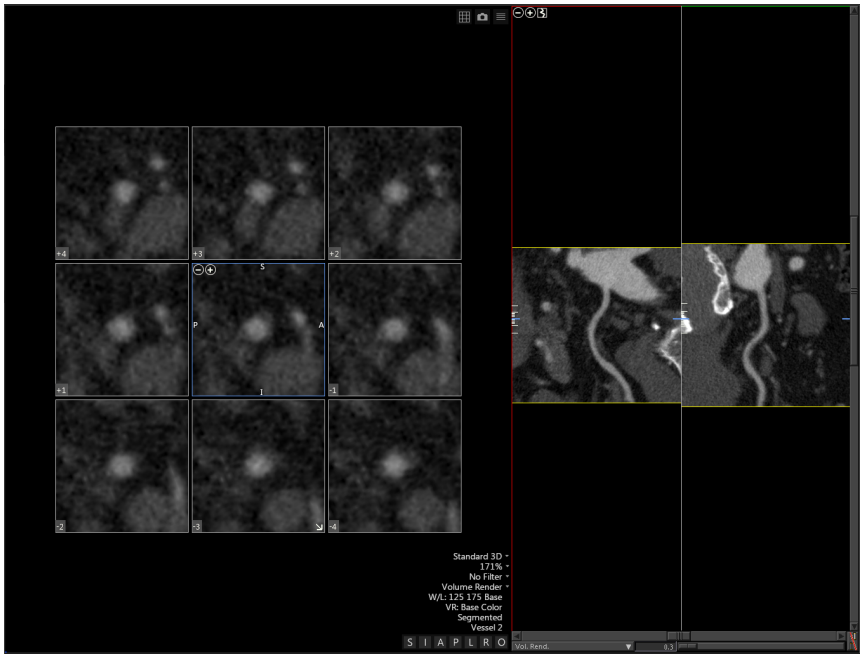
Large Transaxial Layout — One large viewing inset.



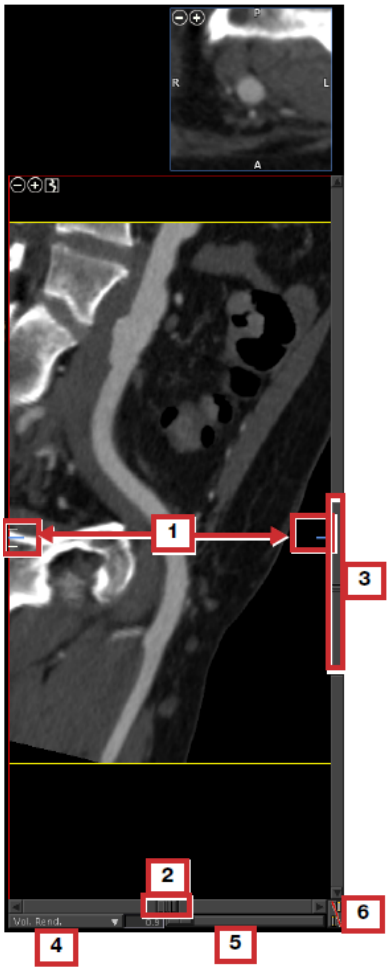
Cath View Layout — Interactive display that updates when rotating either the cath view or 3D view.



Contour Editing Layout — This view displays several transverse views spaced at 1 mm increments. Use this view for contour editing. The 3D or MPR views are not displayed for this mode.



Explore the Lumen



No.	Description
1	Blue Indicator Lines — static lines that correspond to the blue-outlined cross-sectional view. **N O T E** The 3D view displays a blue dot that corresponds to this location on the vessel.
2	Rotate slider — move the slider to rotate the vessel view left and right. **N O T E** Additionally, with  active, click and drag in the CPR view to rotate.
3	Scroll slider — move the slider to slide the vessel proximally and distally in the viewer. **N O T E** Additionally, right-click and drag or roll the mouse wheel to slide the vessel.
4	Rendering dropdown — Click to choose the MPR rendering for the CPR view.
5	Thickness slider — Drag the slider to adjust the thickness of the CPR view.
6	Display mode button  — click this button to toggle between the display modes: • Normal CPR view • Dual CPR view • Straightened vessel view with graph

Maximize or Minimize CPR and Cross-sectional Views

1. Click either the - or + icon in the upper-left corner of the view. 
2. To zoom the CPR vessel view to fill the viewer, click  .

Display the Histogram

1. Click  in the lower-right corner of the CPR view to display a straightened vessel view with a graph.
2. Click the dropdown at the top of the graph to select the graph data.

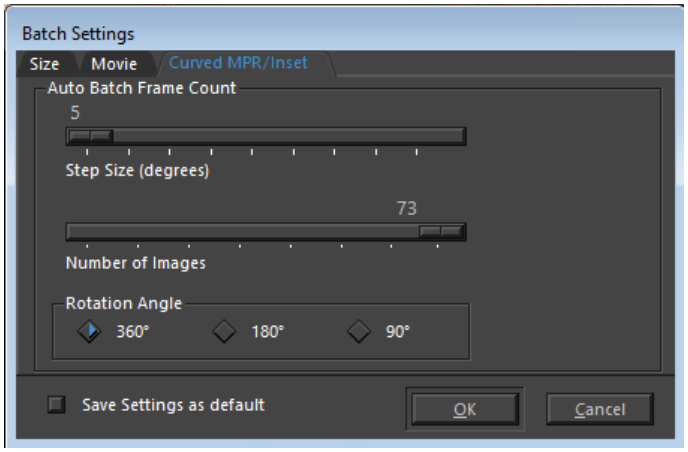
Create a Batch or Movie of the Single Curved Vessel or Straightened Vessel View

1. Click  in the lower-right corner of the CPR view to display the single curved vessel or straightened vessel view.
2. Right-click in the vessel view and select **Batch - Rotation** or **Movie - Rotation**.

Vitrea software displays the batch or movie in a new window and the batch or movie is saved with the findings.

N O T E

- To edit the settings for the batch or movie, select **Batch Settings**.

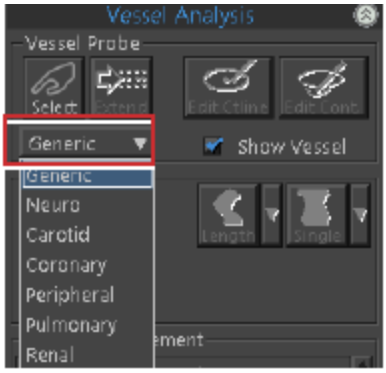


- Visible centerlines, vessel rulers, and SUREPlaque measurements will be included in the batch/movie.

- Lesion analysis measurements will not be included in the batch/movie.

Change Vessel Type

The vessel type is determined by the protocol you select. In the Vessel Analysis area, select the Vessel Type dropdown.



For example, if you select the **Carotid CT** protocol, the Carotid vessel type is selected by default.

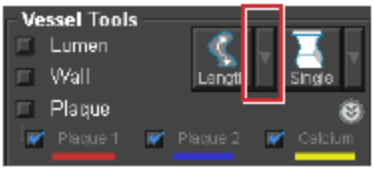
The Vessel Type dropdown list specifies the type of vessel you are probing according to the following maximum diameters:

Generic	18.0mm
Neuro	7.0mm
Carotid	14.0mm
Coronary	7.0mm
Peripheral	10.0mm
Pulmonary	9.0mm
Renal	8.0mm

Measure Centerline Length

The Length tool measures length along the centerline between two points on the vessel centerline.

1. In the upper-right of the view, click  to maximize the view.
2. In Vessel Tools click the first dropdown.



3. Click 

.

4. Click and drag to draw a length measurement between two points on the vessel.

5. Click and drag either end to edit the length.

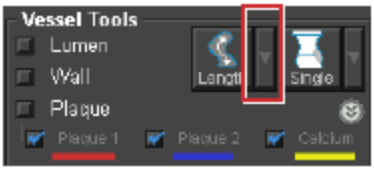
   The value of the length displays at the proximal end of the length measurement. It represents the length along the centerline between the two specified points.

Create Centerline Angles

The Angle tool creates an angle along the centerline.

1. In the upper-right of the view, click  to maximize the view.

2. Click the dropdown for the first button located under Vessel Tools.



3. Click 

.

4. In the curved view, click and release to start the angle.

5. Move the cursor to the vertex location on the centerline and click and release.

6. Move the cursor to the end point of the angle and click and release to complete the angle.

Define a Lesion

The Lesion tool defines a lesion in the vessel in either of the CPR views.

1. In the Vessel Tools area, click the second dropdown.

The dropdown contains the following tools:

Single — When you draw a lesion using the Single method, the software identifies a point as the reference point. It displays the area and minimum diameter at the narrowest point and at the reference point, and uses these measurements to calculate the area and diameter stenosis.

T I P

The reference point may need to be moved manually.

NASCET (carotid vessel type only) — When you draw a lesion using the NASCET method, the software uses the NASCET stenosis measurement formula using minimum (A) and reference maximum (B) diameters.

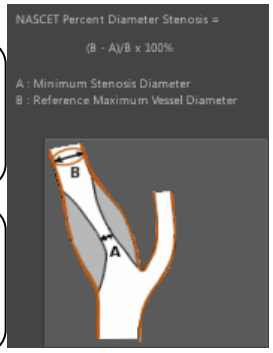
(B - A)/B x 100%

T I P

Hover on the NASCET button to view a tool tip with the formula.

N O T E

The reference point may need to be moved manually.



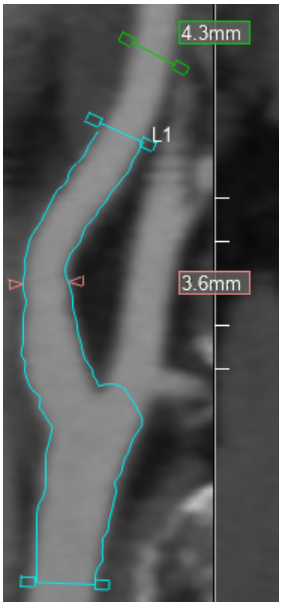
Average — When you draw a lesion using the Averaged method, the software calculates the average of the area and minimum diameter for the start and end points. It compares these measurements to the area and minimum diameter at the narrowest point to create stenosis measurements.

Dual — When you draw a lesion using the Dual Reference method, the software calculates the average of the area and minimum diameter for the reference points marked with green lines. It compares these measurements to the area and minimum diameter at the narrowest point to create stenosis measurements.

Volume — When you draw a region using the Volume method, the software displays the volume of the lumen and outer wall. It also identifies the maximum outer wall diameter. Use this option for thrombosed regions.

Landing Zone — Use the Landing Zones option to define specific regions for in-depth analysis.

2. Select a tool.
3. Click in the CPR view just above the start of the lesion and drag to just below the end.



Vitrea software adds an entry in the Vessel Management area.

Vitrea software identifies these features:

Feature	Identified by
Identified lesion	Cyan lines
Point of maximum narrowing (stenosis)	Red arrows
Lumen diameter at the stenosis point	Number in the curved view with red border, corresponding to the red arrows (displays in the two-up curved view)
Reference point(s) for single or dual-reference lesions	Green line(s) • Be sure to review the locations of each reference line and decide if it is accurate for the identified lesion. If necessary, drag the green line to move it to the nearest normal section of vessel.
Lumen diameter at the reference point	Number(s) in the curved view with green border, corresponding to the green line(s) (displays in the two-up curved view)
Stenosis measurements	Table at the bottom of the CPR view Stenosis: Area: 64% Diam: 51% Length: 44.7mm

Define a Landing Zone

Use the Landing Zone option to define specific regions for in-depth analysis.

1. In the upper-right of the view, click  to maximize the view.
2. In the Vessel Tools area click the second dropdown.
3. Click 

.
4. Click and drag in the curved view to define the proximal and distal ends of the zone.

> **T I P**
>
> After you define the landing zone, it displays in the Vessel Management box. Right-click to rename the landing zone.

5. View the diameters for the landing zone.

Image Batches and Movies

Make batches of 2D, MPR, and 3D images. Batches can be printed or saved to a DICOM server. Like snapshots, they are stored on the Results tab. Make image batches into digital movies.

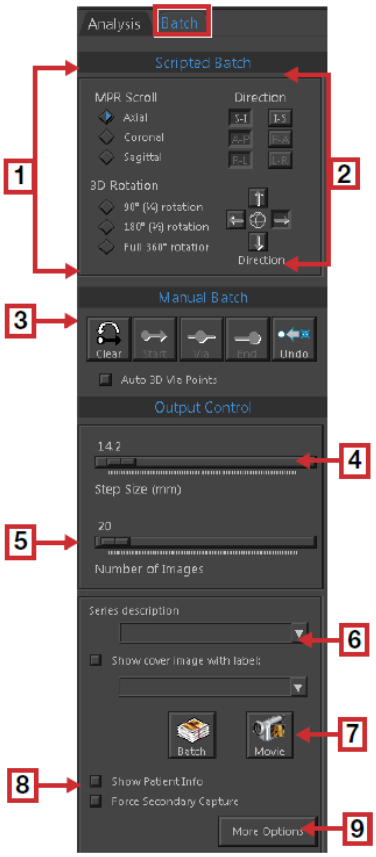
Make batches and movies on the Batch tab of the Viewer window.

N O T E

With Global Illumination Rendering images, the rendering level used for batch/movie creation is set by default at "medium." This value is configurable ("low," "medium," or "high"). The lower the rendering value, the faster the batch/movie creation speed; the higher the rendering value, the slower the batch/movie creation speed. Contact your system administrator for more information.

C A U T I O N

When playing back a movie file, the movie playback software can affect the quality of the displayed images. Be sure to select movie playback software that is appropriate for how the movie is used.



No.	Description
1	Scripted batch controls.
2	Directional controls for scripted batches.
3	Manual batch buttons.
4	Step Size slider —control the interval (in mm) between images in the batch.
5	Number of Images slider — control the total number of images in the batch.
6	Entries for changing the series description or adding a cover page.
7	Buttons for creating a batch or movie.
8	Controls for including patient information or forcing to secondary capture.
9	Button to display more batching options.

Create Quick MPR Batches and Movies

Create batches or movies of orthogonal or oblique MPR views.

1. Right-click in the MPR view.
2. Select **Movie** or **Batch**.

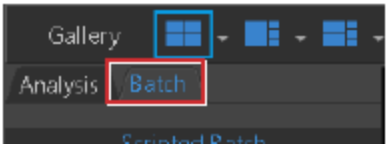
Batches and Movies are saved to the Results tab.

Create MPR or 2D Batches and Movies

To access the batch tools, select the **Batch** tab located under the Viewer window layout buttons.

Create Scripted MPR Batches

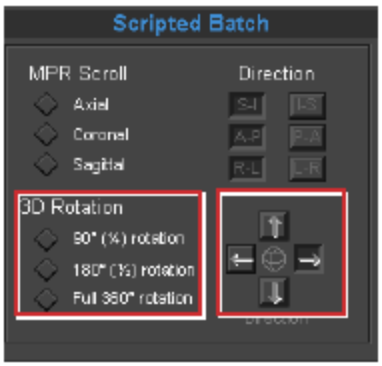
Create a scrolling batch of MPR images based on the selected settings.



1. Set up the MPR view in the Viewer window the way you want the images to display in the batch.

> **TIP**
>
> Scripted MPR batches are available in orthogonal mode only.

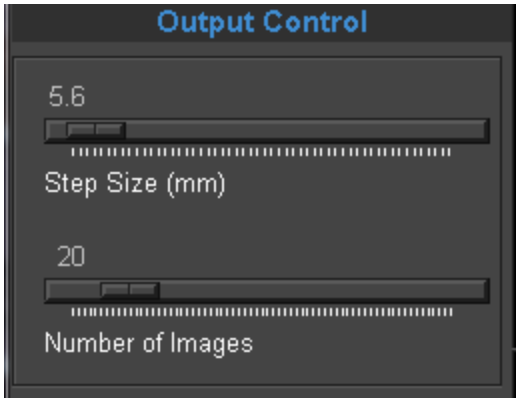
2. Select the Batch tab.
3. In the Scripted Batch area, under MPR Scroll, select one of the MPR planes.



T I P

The other two planes display cross-reference lines showing the slices of the batch.

4. Under Direction, select a scroll direction.
5. If desired, adjust the Step Size or Number of Images sliders.



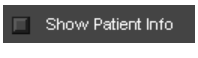
The cross-reference lines on the other two planes adjust accordingly.

T I P

In orthogonal or oblique MPRs, the other two planes display cross-reference lines showing the slices of the batch.

6. To reposition the start and end points of the batch, click and drag the starting or ending cross-reference lines in one of the other views.

   EXAMPLE: You are creating a batch of the coronal view. Click and drag the starting or ending cross-reference lines in either the axial or sagittal view to edit the batch. The batch will be created in the coronal view.

7. To anonymize the batch or movie, clear the 

check box.
8. Click 

to create a batch that is saved to the Report window.

OR

Click 

to create a digital movie that is saved to the Report window.

> **T I P**
>
> After you click one of the output buttons, a preview of the batch displays in a separate window.

Create Manual 2D and MPR Batches

To make batches of 2D images, portions of MPR images, or oblique or curved MPRs, create a manual batch.

1. Set up the 2D or MPR view in the Viewer window the way the images should display in the batch.
2. Select the Batch tab.

> **T I P**
>
> The 

button is automatically activated.

3. In the view to batch, scroll to the starting point.
4. Click in the view.

> **T I P**
>
> - A green check mark displays in the view.
> - The 

button is automatically activated.

5. Scroll to the ending point.
6. Click in the view.

> **T I P**
>
> In orthogonal or oblique MPRs, one or both of the other views display cross-reference lines showing the slices of the batch.

7. To reposition the start and end points of the batch, click and drag the starting or ending cross-reference lines in one of the other views.

   EXAMPLE: You are creating a batch of the coronal view. Click and drag the starting or ending cross-reference lines in either the axial or sagittal view to edit the batch. The batch will be created in the coronal

view.

8. If desired, adjust the Step Size or Number of Images sliders.
9. To anonymize the batch or movie, clear the 

check box.
10. If you make a mistake, click 

to start over.

> **N O T E**
>
> If you clear the batch, everything, including series descriptions and cover page labels, is cleared.

11. Click 

OR 

.

Create 3D Batches and Movies

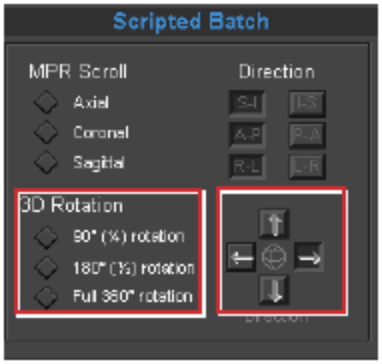
Create Scripted 3D Batches

Create a rotating batch of 3D images based on the selected settings.

1. Set up the 3D view in the Viewer window the way the images should display in the batch.

> **T I P**
>
> Scripted 3D batches are available in Standard and POI mode only.

2. Select the Batch tab.
3. In the Scripted Batch area, under 3D Rotation, select the degree of rotation.



4. Under Direction, select a rotation direction.
5. To anonymize the batch or movie, clear the

check box.

6. Click 

OR 

.

Create Manual 3D Batches

For 3D rotations in varying directions, or for Flythrough batches, create a manual batch. Select starting, intermediate, and ending images, and the software adds images in between to create smooth transitions.

1. Set up the 3D view in the Viewer window the way the images should display in the batch.
2. Select the Batch tab.

> **T I P**
>
> The 

button is automatically activated.

3. In the 3D view, rotate or scroll to the starting point.
4. Click in the view.

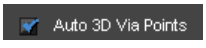
> **T I P**
>
> - A green check mark displays in the view.
> - The 

buttons are automatically activated.

5. For rotation batches, rotate view in desired direction.

   OR

   For Flythrough batches, begin flying.

6. Click in the view to capture an intermediate image.
7. For Flythrough batches, check the Auto 3D Via Points check box 

to automatically capture intermediate images. If this is selected, the Via icon will be grayed out.
8. Repeat steps 5 and 6 until you have captured all intermediate images.
9. Click 

.
10. Click in the view.
11. To anonymize the batch or movie, clear the

check box.

12. If you make a mistake, click 

to start over.

    If you clear the batch, everything, including series descriptions and cover page labels, is cleared.

13. Click 

OR 

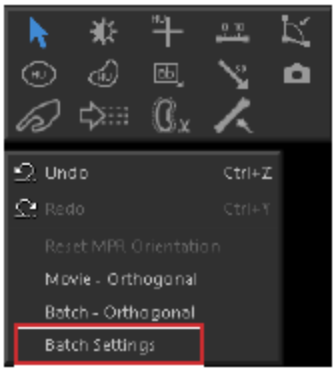
.

> **N O T E**
>
> With Global Illumination Rendering images, the rendering level for creating batches/movies and for playback is set by default at "medium." This value is configurable ("low," "medium," or "high"). The lower the rendering value, the faster the playback speed; the higher the rendering value, the slower the playback speed. Contact your system administrator for more information.

Access the Batch Settings

You can access the batch settings from the right-click menu, or from the More Options button on the Batch tab. The Batch Settings dialog box contains the Size, Movie, and Curved MPR/Inset tabs.

Batch Settings - Right-click menu

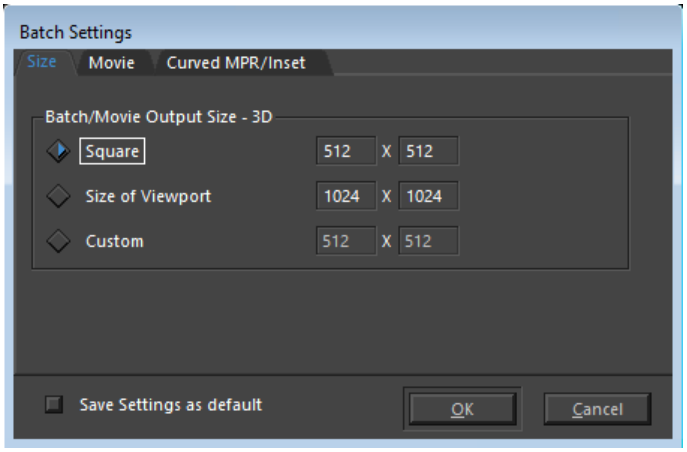


The batch settings are available when in a MPR or straightened vessel view from the right-click menu. This provides you with the ability to change the batch settings without having to go to the Batch tab.

Batch Settings - More Options button

1. From the Batch tab, select the **More Options** button to access the Batch Settings dialog box.

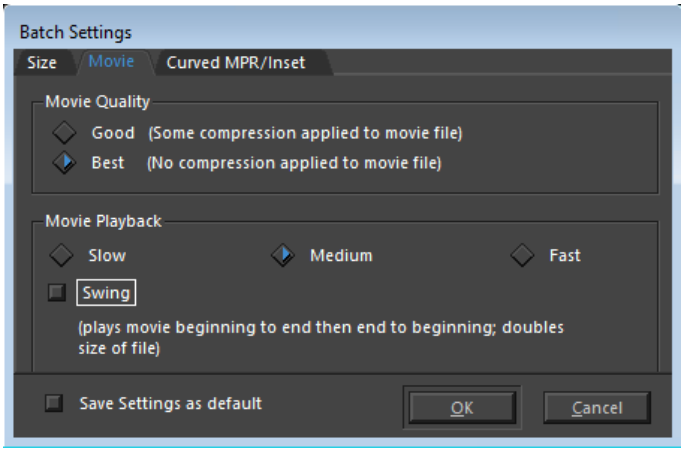
- The **Size** tab contains the existing batch output size settings.



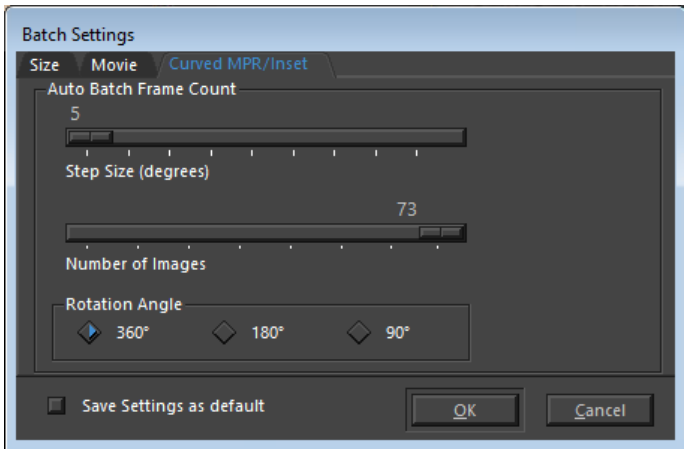
T I P

There are separate options for slice and 3D batches. The Batch Output Size will display either “3D” or “Slice”.

- The **Movie** tab allows you to view and edit the existing movie settings.



- The **Curved MPR/Inset** tab allows you to change the step size (degrees), number of images generated, and the rotation angle for an auto curved MPR or straightened vessel inset batch that is accessible from the right-click menu.



2. The **Save Settings as default** option saves any modified settings for a future Vitrea software session. Otherwise, the new settings will only be available for the current session.

3. Click **OK** to save the settings.

T I P

Click **Cancel** to go back to the modified settings.

Annotate Batches

Add a series description that displays in the Findings Tray and when the batch is exported.

1. In the **Series description** field, enter a value.

   OR

   Select a value from the dropdown.

   Add a cover page with a label to the front of the batch or movie.

2. Select the **Show cover image with label:** check box.
3. Add a value to the field.

   OR

   Select a value from the dropdown.

N O T E

Take care to label series descriptions and cover pages with correct and appropriate information.

Tab Header

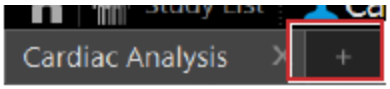
Launch a New Application

Once you load a study or stack into an application, you can launch additional applications for the same patient.

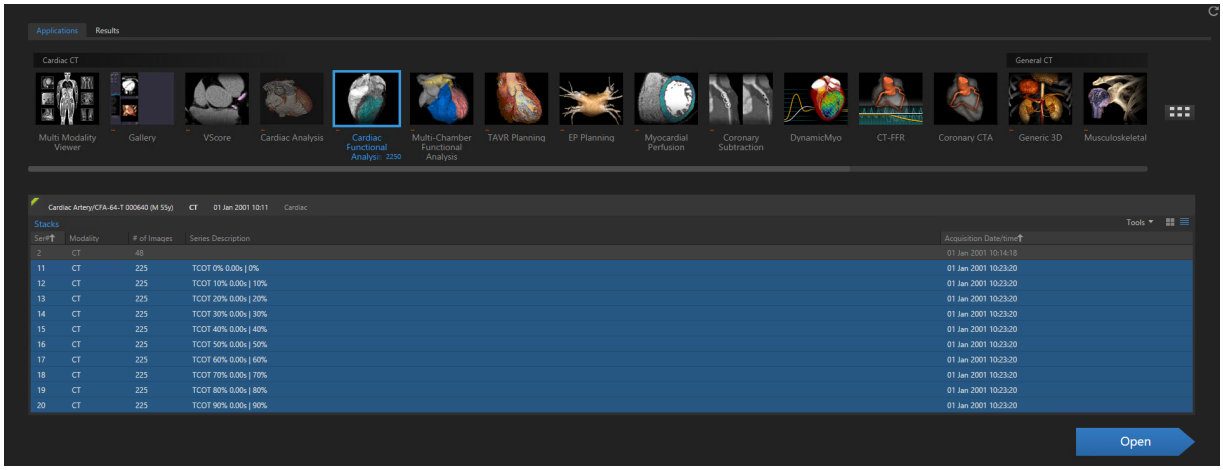
N O T E

Launching multiple applications from the same suite is not supported. For example, if you have a Vitrea application launched, you will not be able to launch another Vitrea application. A red mark on the application thumbnails identifies applications from the same suite. If you still wish to launch the new application, you will have the option to close the first application.

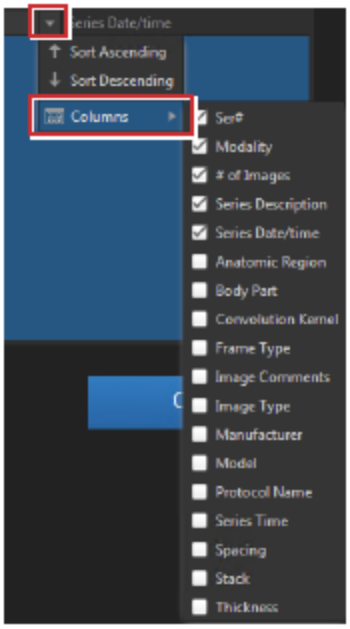
1. Click the **+** icon next to the application tab.



A new tab opens displaying the Application selector. Thumbnails for the licensed applications display.



2. Click Images to display series images, or List to display the series list.
3. In series list mode, to sort the list, click any column header.
4. In series list mode, to add or remove columns:



a. Click the dropdown on the right of any column.
b. Select **Columns**.
c. Select or clear the desired column listings.

5. Select the appropriate application thumbnail.

> **T I P**
>
> To see additional application thumbnails, click the **More** button to the right of the thumbnail panel.

Vitrea software attempts to select the best series or stacks for the application.

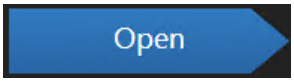
> **N O T E**
>
> Verify any automatic series/stack selection and select series/stacks manually if necessary.

6. If necessary, select the image or series listing.

OR

Press CTRL and select multiple images or series.

The application thumbnail displays the image count in the lower-right corner.

7. Double-click the application thumbnail, or click 

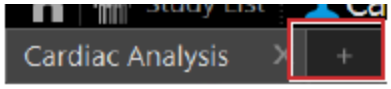
.

Vitrea software launches the application in a new tab at the top of the window.

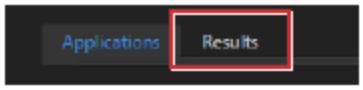
Export or Restore Results

The snapshots, batches, and movies you create in the Application window and reports you create in the Report Editor are saved to the Results tab of the Application Selector.

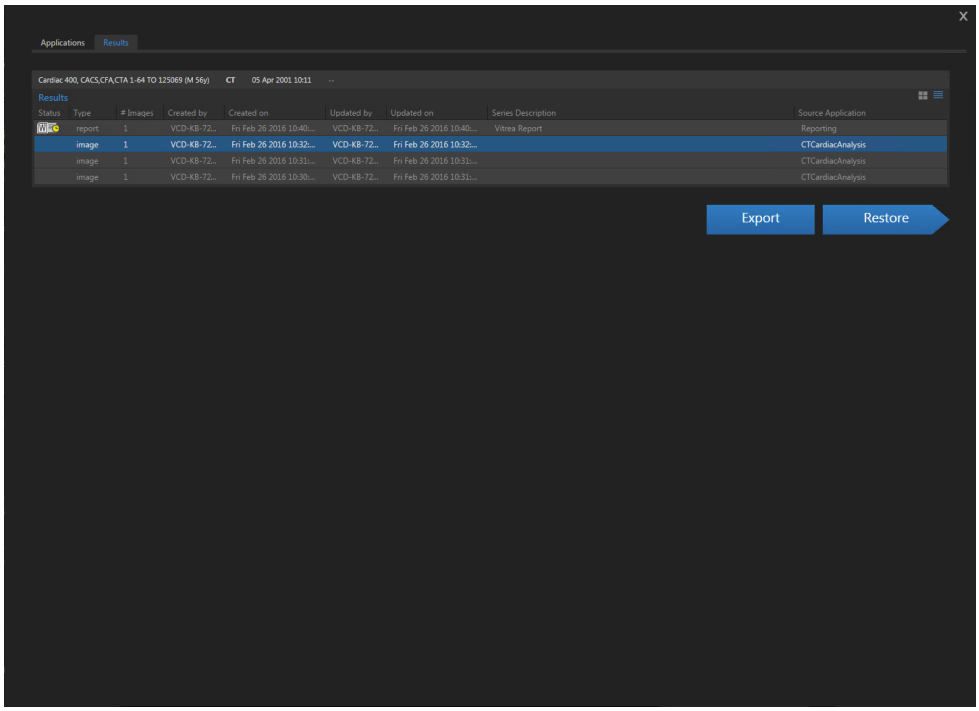
1. Click the **+** icon next to the application tab.



2. Select the **Results** tab at the top of the Application Selector window.



The Results Selector window displays.



Export Results

1. Select the results entry or report.

> **T I P**
>
> Click  to see the results images.

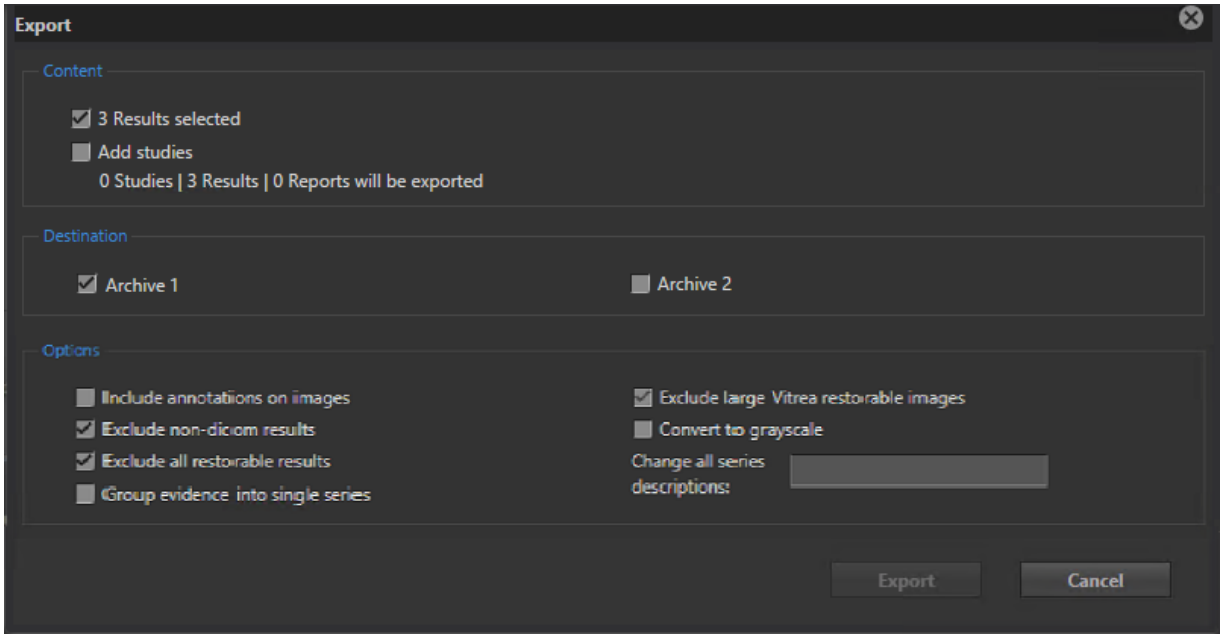
2. Click

Export.

OR

Right-click and select **Export**.

3. From the Export dialog box, select or complete the following fields:



- **Content**
  - Number of studies selected
  - Add studies
- **Destination**
  - Complete the destination location
- **Options**
  - **Include annotations on images** - this option forces all images to DICOM secondary capture
  - **Exclude large Vitrea restorable images** - this option removes the snapshot information, and therefore the ability for snapshots to be restorable on another Vitrea system. Often used because snapshot images can be very large, and sometimes a problem for some PACS systems.
  - **Exclude non-dicom results** - this option excludes non-dicom results (.avi, .pdf, .csv, .stl, etc.) from the export request
  - **Convert to grayscale**
  - **Exclude all restorable results** - this option removes the SR DICOM data that accompanies results, which also removes the ability to restore results in another Vitrea system and will not display results on the Results tab of another Vitrea system. Typically, results such as AVI, DOC and others are removed. DICOM SRs are not removed.

- **Group evidence into single series** - group Vitrea snapshots into a single series
- **Change all series description** - enter the series description to be used during export

4. Click **Export**.

Restore a Snapshot (Workflow)

1. Click  if it is not already selected.
2. Select the snapshot to restore.
3. Click  for the selected thumbnail.

   OR

   Right-click and select **Restore**.

   Vitrea software launches the application in a new tab at the top of the window and restores the workflow to the state when the snapshot was taken.

N O T E

- Launching multiple applications from the same suite is not supported. For example, if you have a Vitrea application launched, you will not be able to launch another Vitrea application. If you still wish to launch the new application, you will have the option to close the first application.
- Restoring snapshots with Global Illumination Rendering applied is not supported on workstations not licensed for Global Illumination Rendering.

Export Reminder

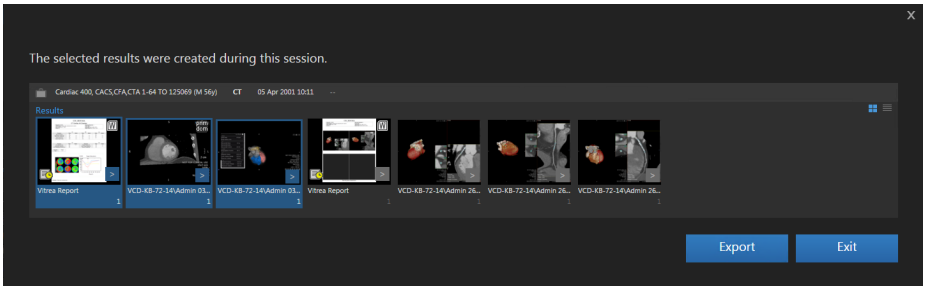
Use the export reminder dialog to save your findings and reports.

N O T E

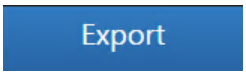
Export Reminder is a configurable feature. Contact your System Administrator for information.

1. Create your findings (snapshots or batches) and reports.
2. Close all the applications.

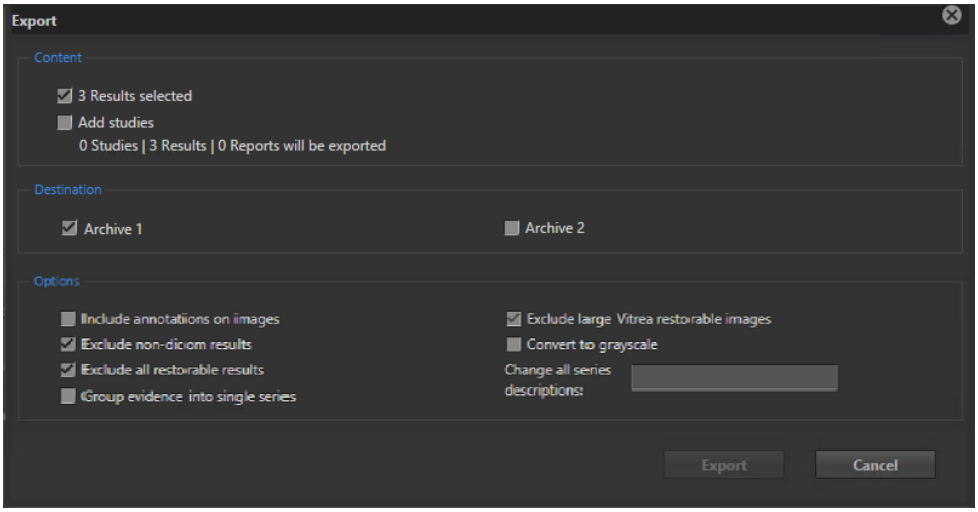
   The Export Reminder Dialog displays.



   The findings and reports from the current session are selected.

3. To select additional findings and reports, press CTRL and click the thumbnails.
4. Click 

.
5. From the Export dialog box, select or complete the following fields:



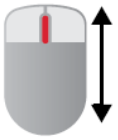
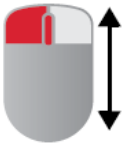
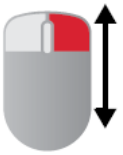
- Content

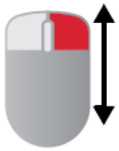
    - Number of results selected
    - Add studies and reports
- Destination
    - Complete the destination location
- Options (study and results export only)
    - **Include annotations on images** - this option forces all images to DICOM secondary capture
    - **Exclude large Vitrea restorable images** - this option removes the snapshot information, and therefore the ability for snapshots to be restorable on another Vitrea system. Often used because snapshot images can be very large, and sometimes a problem for some PACS systems.
    - **Exclude non-dicom results** - this option excludes non-dicom results (.avi, .pdf, .csv, .stl, etc.) from the export request
    - **Convert to grayscale**
    - **Exclude all restorable results** - this option removes the SR DICOM data that accompanies results, which also removes the ability to restore results in another Vitrea system and will not display results on the Results tab of another Vitrea system. Typically, results such as AVI, DOC and others are removed. DICOM SRs are not removed.
    - **Group evidence into single series** - group Vitrea snapshots into a single series
    - **Change all series description** - enter the series description to be used during export

6. Click **Export**.

Mouse and Keyboard Functions

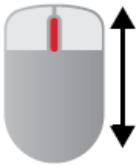
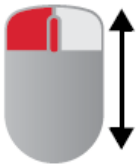
2D and MPR Mouse Functions

Mouse Button		Press to:
	Click	Activate Tool
	Middle-click and drag	Pan
	Left + Middle click and drag	Zoom
 	Right-click and drag **OR** Roll the mouse wheel	Scroll

Mouse Button		Press to:
SHIFT + 	Press SHIFT, right-click and drag	Auto-scroll
	Left + Right click and drag	Window/Level

3D Mouse Functions

Mouse Button		Press to:
	Click	Activate Tool
ALT + 	Press ALT, click, and drag	Rotate
	Right-click and drag	**Standard 3D view**: Rotate **Fly through view**: Fly through

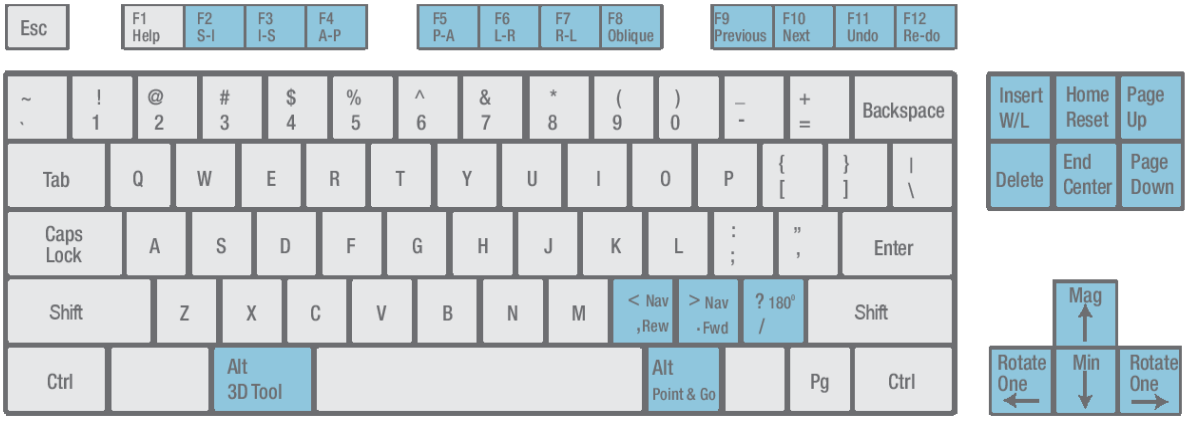
Mouse Button		Press to:
SHIFT + 	Press SHIFT, right-click, and drag	Auto-rotate
	Middle-click and drag	**Standard 3D view**: Pan **POI Cube view**: Adjust size of POI cube **Fly through view**: Rotate
	Left + Middle click and drag	Zoom
	Roll the mouse wheel	**Standard 3D view**: Zoom **POI Cube view**: Adjust size of POI cube **Fly through view**: Fly through
	Left + Right click and drag	Window/Level

Keyboard Shortcuts

Adjust views and perform other operations using keyboard shortcuts.

Key	Function
ESC	Cancel any current operation that supports cancellation
[	Show previous series
]	Show next series
W	Activate Win/Lev tool
X	Activate Scroll/Rotate tool
P	Activate Pan tool
Z	Activate Zoom tool
H	Activate Crosshair tool, or with Crosshair tool active, toggle full crosshairs on/off
R	Activate Ruler tool
V	Activate Angle tool
E	Activate Ellipse tool
F	Activate Freehand tool
L	Activate Label tool
A	Activate Arrow tool
T	Activate Trim tool
S	Activate Snapshot tool
SHIFT - or **SHIFT +**	Incremental zoom
CTRL-Z	Undo last action (repeat to undo multiple actions)
CTRL-Y	Re-do last undone action
CTRL-I	Toggle the patient information on or off

Some Vitrea systems include keyboard shortcuts, identified with blue keycaps, for certain functions.



Key	Function
S-I [F2] **OR** **SHIFT + S**	Rotate volume Superior to Inferior -- 180° azimuth, 90° elevation, 0° twist
I-S [F3] **OR** **SHIFT + I**	Rotate volume Inferior to Superior -- 0°, -90°, 0°
A-P [F4] **OR** **SHIFT + A**	Rotate volume Anterior to Posterior -- 0°, 0°, 0°
P-A [F5] **OR** **SHIFT + P**	Rotate volume Posterior to Anterior -- -180°, 0°, 0°
L-R [F6] **OR** **SHIFT + L**	Rotate volume Left to Right -- -90°, 0°, 0°
R-L [F7] **OR** **SHIFT + R**	Rotate volume Right to Left -- 90°, 0°, 0°

Key	Function
OBLIQUE [F8] **OR** **SHIFT + O**	Rotate volume to oblique orientation -- 40°, 30°, 0°
PREVIOUS [F9] **OR** [key	Display previous image, or previous series or volume if multiple series or volumes loaded
NEXT [F10] **OR**] key	Display next series or volume if multiple series or volumes loaded
UNDO [F11]	Undo last action in Viewer window. Press repeatedly to undo multiple actions.
REDO [F12]	Redo last “Undo” in Viewer window
W/L [INSERT]	Toggle through predefined window/level values
HOME [RESET] (not available with the Colon CT protocol)	3D: Reset view to default presentation as defined by the preset (pan, zoom, and orientation) 2D/MPR: Reset view to default pan, zoom, and orientation, and center the crosshairs in the image where the cursor is located Heart Mode: • Cardiac: Arteries protocol: resets crosshair to snap to heart axis as defined by segmentation • Cardiac: Myocardial CT protocol: resets crosshair to snap to last modified heart axis • Cardiac: Functional CT protocol: resets crosshair to snap to set heart axis
ARROW	3D: Press an ARROW key to rotate volume by 10 degree increments 2D/MPR (Single Volume): Scroll one step, corresponding to current MPR thickness • UP or RIGHT ARROW scrolls in positive direction (S,A,R) • DOWN or LEFT ARROW scrolls in negative direction (I,P,L) Multi-series or Dynamic MPR: Scroll one step • RIGHT ARROW scrolls through volumes in ascending order • LEFT ARROW scrolls through volumes in descending order

Key	Function
SHIFT + ARROW	3D: Press and hold SHIFT and press an ARROW key to rotate volume by 90 degree increments
SPACEBAR	Navigate through images containing arrows, annotations, rulers, and contours in the order they were added. Press repeatedly to cycle through the objects
Left SHIFT **AUTO-VIEW**	3D: Auto-rotate 2D/MPR: Auto-scroll
> **NAV FWD**	Fly forward
< **NAV REV**	Fly backward
? **180°**	Flip the Flythrough view direction 180°
SHIFT+ >	Fly forward with continuous assisted navigation
SHIFT + <	Fly backward with continuous assisted navigation
Right SHIFT **MULTI-CONTOURS**	Press and hold, then press DELETE to delete **all** contours
Right ALT **POINT & GO**	Press and hold for point-and-go navigation
Left ALT	MPR views: Press and hold to temporarily activate the Crosshair tool (while pressing) 3D view: Hover in a 3D view, press left ALT then drag in the 3D view to rotate
Numeric value, then **A, E,** or **T**	Adjust the 3D rotation to a specific Azimuth, Elevation, or Twist value. Type a valid value followed by the appropriate letter: • **Azimuth (a)** [valid values -180 to 180] - degree of rotation right or left around the center of volume • **Elevation (e)** [valid values -90 to 90] - degree of rotation forward or backward from the center of volume • **Twist (t)** [valid values -180 to 180] - degree of tilt left or right around the center of the volume

3D Cardiac Quick Views

Press	Rotation	To View
SHIFT-F2	Right 25°, caudal 20°	CX and LAD
SHIFT-F3	Right 30°, cranial 25°	CX
SHIFT-F4	35° cranial	LAD
SHIFT-F5	Left 45°, caudal 20°	Left Main (SpiderView)
SHIFT-F6	Right 10°, cranial 30°	LAD
SHIFT-F7	Right 30°	RM
SHIFT-F8	Left 30°	Ostium of RCA and PDA/PLA
	To switch the Viewer window to display the...	
F9		Previous loaded volume
F10		Next loaded volume

Report Editor

Report Editor Overview

The snapshots, batches, and movies you create in the Viewer window are saved to the Findings area of the Report Editor.

You can:

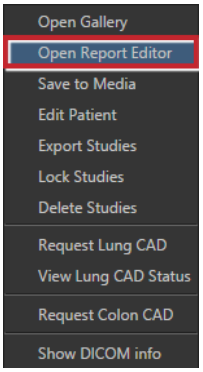
- Create, save, print, publish/post, or copy reports containing up to 24 patient images per page.
- Use protocol-specific templates with editable text fields.
- Add image batches and digital movies.
- Filter the list of snapshots to review and select based upon workflow.

Access the Report Editor

- From within any application, click + Report in the upper-right corner.

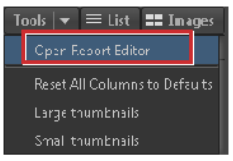
OR

- Right-click on a patient name in the Study List and select **Open Report Editor**.

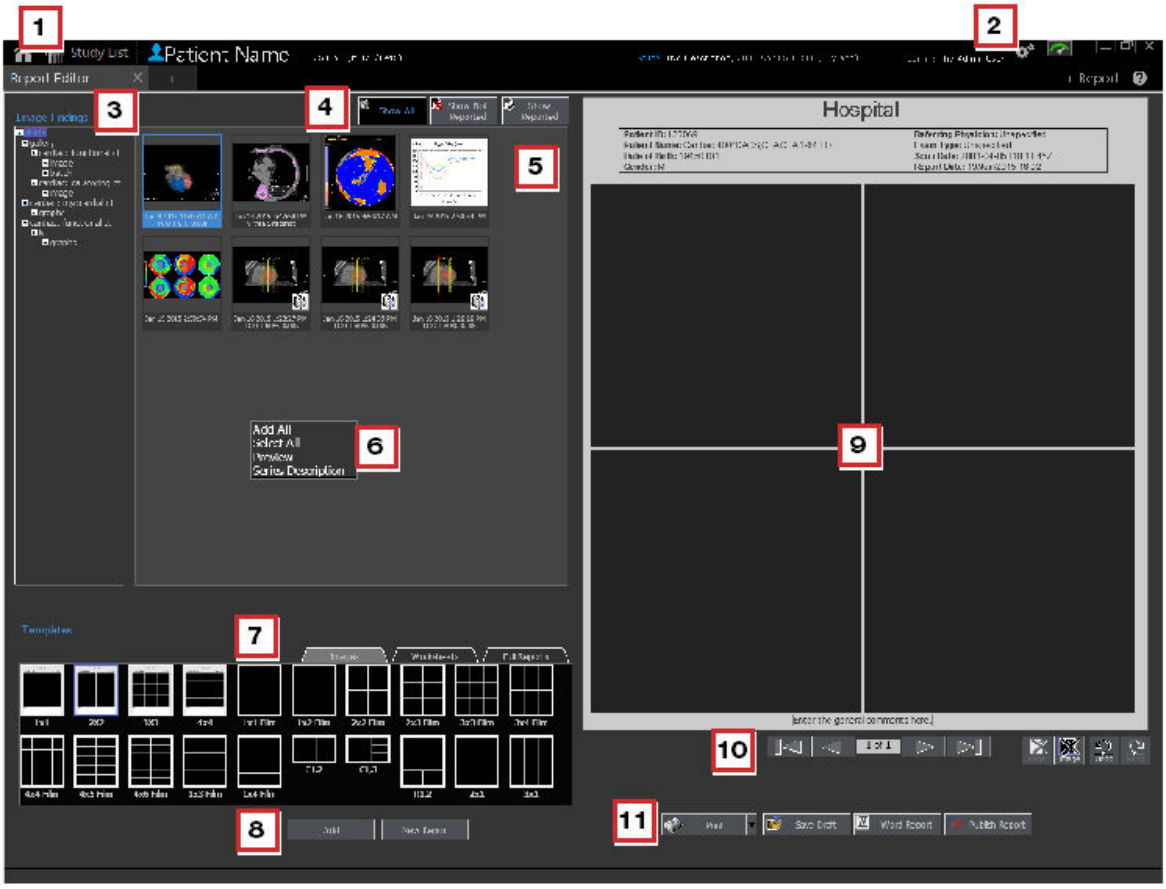


OR

- Select a patient name, click Tools in the Applications or Results tab, then select **Open Report Editor**.



Report Editor Window



No.	Description
1	Home, Study List, and Patient icons  Click to switch between Applications Home (for administrators), Study List, and Report Editor
2	System Information area  See the **Report Editor** section below

No.	Description
3	Findings list  See the **Findings List** section below
4	Filtering buttons  See the **Filtering Buttons** section below
5	Findings tray  See the **Findings Tray** section below
6	Findings management right-click menu  See the **Findings Management Right-Click Menu** section below
7	Template Layouts  See the **Template Layouts** section below
8	Templates buttons  See the **Template Buttons** section below
9	Report page  See the **Create the Report** section below
10	Report tools and navigation buttons  See the **Manage the Report** section below
11	Report distribution buttons

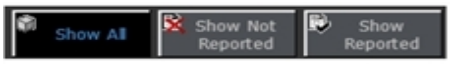
Findings List

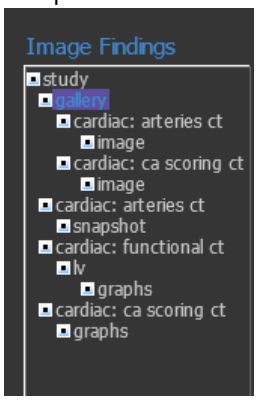
N O T E

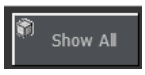
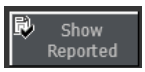
Click a line in the Findings list to filter snapshots, batches, and movies that display in the Tray.

Filtering Buttons

Use the snapshot filtering buttons to display snapshot currently in or not currently in the report.

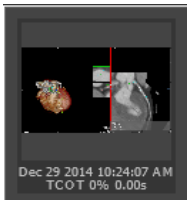




Click:	To:
	Display all snapshot, batch, and movie thumbnails for the patient study.
	Display only snapshots, batches, or movies not currently included in the report.
	Display only snapshots, batches, or movies currently included in the report.

Findings Tray

Displays thumbnail images of snapshots, batches, and movies.

1. To select a finding, click the thumbnail image. 

T I P

To select more than one finding, press **CTRL** and click the thumbnail images.

2. Double-click the thumbnail to preview a larger image of a finding.
3. To preview a movie, double-click the movie thumbnail, or click the Movie link.
4. To review a batch of images, double-click the batch thumbnail then right-click and drag on the image.

Findings Management Right-Click Menu

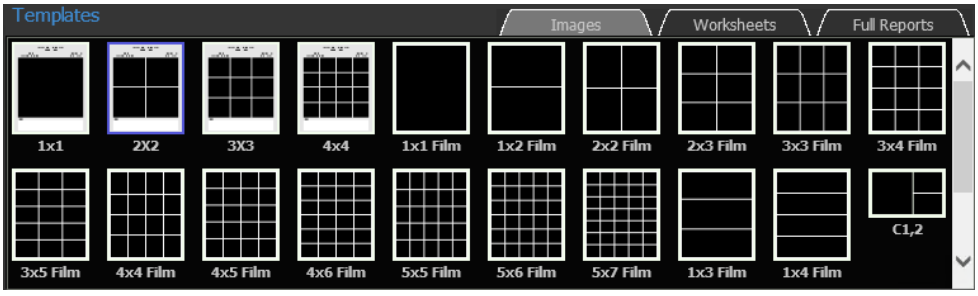
Select the Findings icon in the Reporting page and use the right-click menu to perform various tasks.

Select:	To:
Add All	Places all snapshots at the end of your report, or press **CTRL** and click to select snapshots and drag to the report template.
Select All	Select all of the snapshots in the Findings tray.
Preview	View the selected snapshot, batch, or movie.

Template Layouts

Select a tab to display the different template types: Images, Worksheets, Full Reports. Use the Templates area to select general and protocol-specific report templates.

Select the **Images** tab to select a layout for the images.

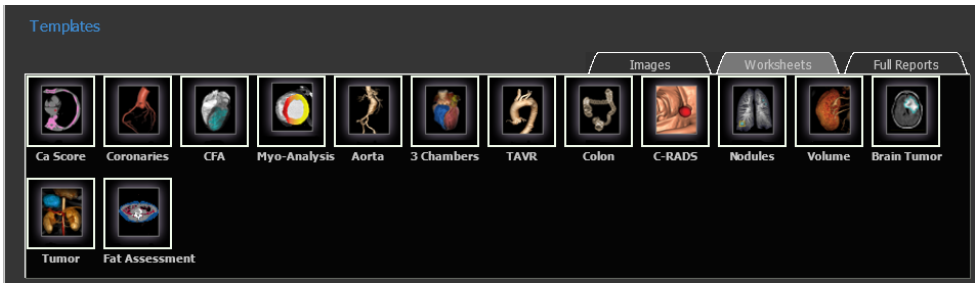


Select the **Worksheets** tab to select a worksheet template. The worksheets are a one-page report.

T I P

Select the worksheet template that is appropriate for the study you are working on. For

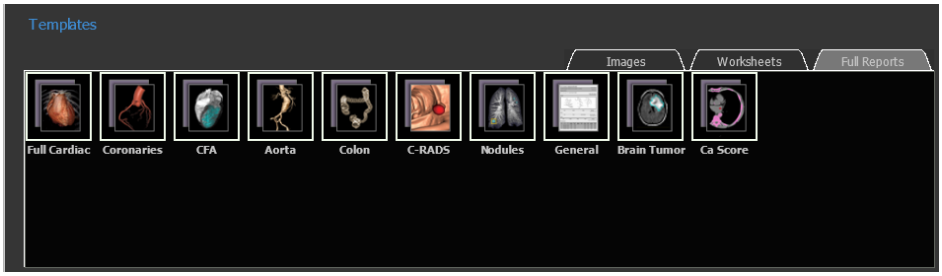
example, select the CA Score worksheet for Calcium Scoring VScore.



Select the **Full Reports** tab to select a specific report template.

N O T E

The Full Cardiac template contains a comprehensive report of CA Score, CFA, and Coronary Artery.



Template Buttons

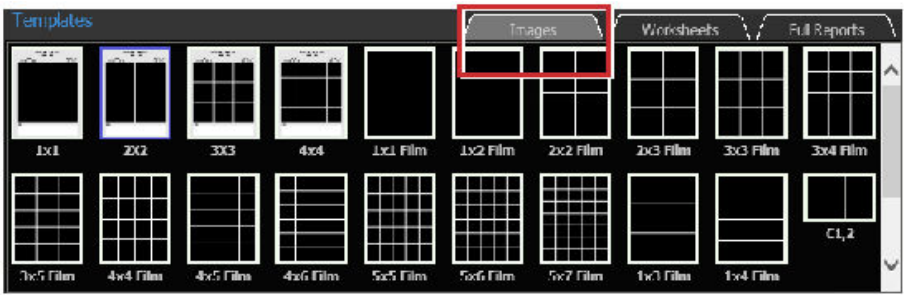
Use the Template buttons to change or add pages to the report.

Click:	To:
Add	Add a new page of the selected template to the end of the report.
New Report	Replace the current report with the selected template/layout.
Right-click on a Template icon and select New Report Insert Page Before Insert Page After Append Page	Create a new report, insert a new page of the selected template before or after the report page displayed, or append a page.

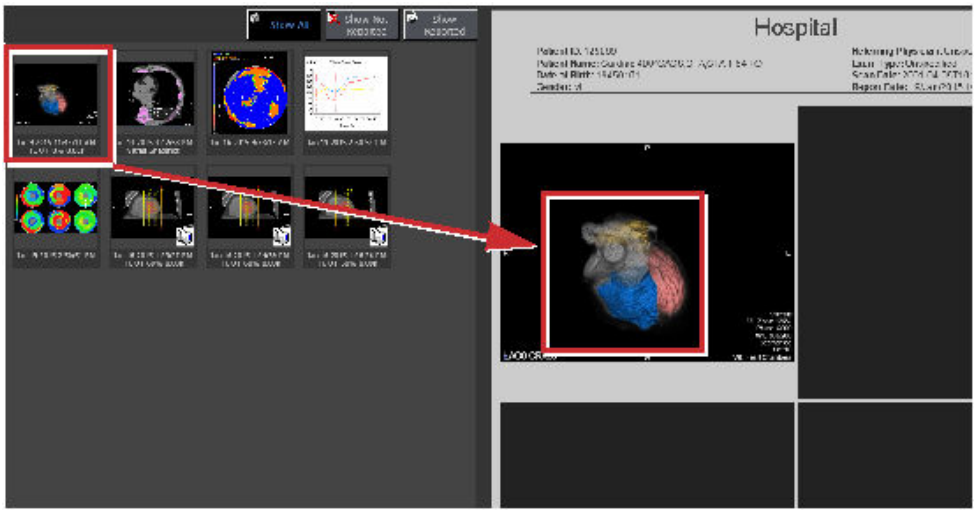
Create the Report

Add Images to the Report Page

1. In the Templates section, select the **Images** tab.



2. Select a template and click **Add**.
3. To add snapshots, batches, or movies, drag the thumbnail to an image area of the report.



N O T E

- To replace an image in one of the frames, drag and drop a different thumbnail on top of it.
- When you place an image in a frame, be sure that the margins do not cut off important information such as anatomy or measurements.

Including Snapshots from Multiple Studies on One Report

The Report Editor supports multi-study reporting for comparison purposes.

1. In the Study List, select the desired studies from the patient list.

2. Right-click one of the selected studies and select **Open Report Editor**.

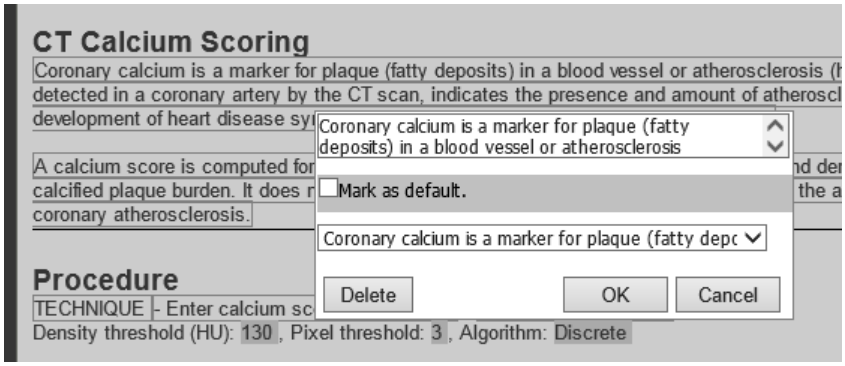
   If the studies have differing patient demographics, a warning dialog box displays. **Review the demographics carefully.** If the studies are for the same patient, select the demographics that best fit the patient and click Accept. If the studies are not for the same patient, click Cancel.

3. Continue with creating the report.

> **C A U T I O N**
>
> Always review patient demographics listed in the Image Findings area to ensure you know the study from which each finding comes.

Customized Templates

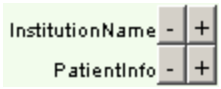
Customize the text areas on the report templates.



1. Click a heading or text area enclosed by a box.
2. Enter the new text.
3. Click outside the box.

> **T I P**
>
> To delete text, select the text from the dropdown, and click **Delete**.

Certain templates allow you to show or hide the Institution Name and the Patient Info in the header.



- Click + to include the Institution Name or Patient Info.
- Click - to hide the Institution Name or Patient Info.

Customized Report Page

N O T E

The default report page can be customized with your facility name, address, and logo. Contact your system administrator for more information.

Manage the Report

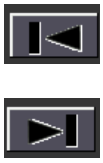
Report Tools

Use the Report Tools buttons to edit the report.

Click:	To:
	Delete the current report page.
	Delete the selected image from the report page.
	Undo the last action.
	Redo the last undone action.

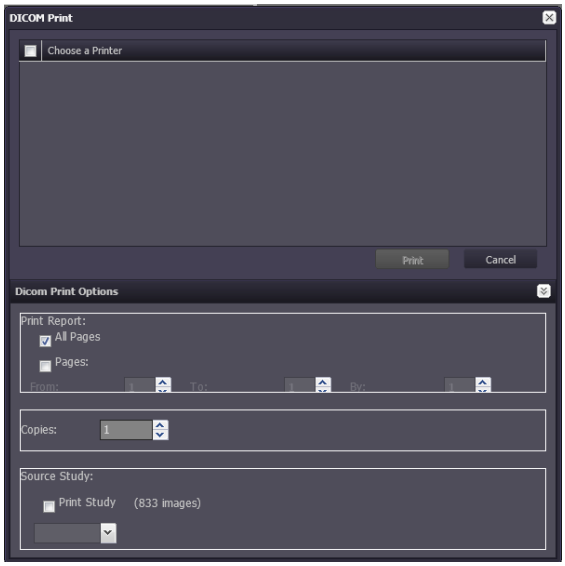
Report Navigation

Use the Report Navigation buttons to navigate between pages of a report.

Click:	To:
	Jump to first or last report page.
	Jump to previous or next report page.

Distribute the Report

Use the Report Distribution buttons to distribute the report.

Click:	To:
	Print a paper report for distribution. **T I P** • Use the Print dropdown menu to toggle between printing to either a paper or a DICOM printer. • Use the **Preferences** button on the Print dialog box to set the orientation to landscape if desired (for example, templates C1,2 and C1,3 may print better in landscape orientation).
	Print the report to a DICOM printer. 
	Save a draft of the report. **N O T E** Results tab thumbnails for draft reports display  .

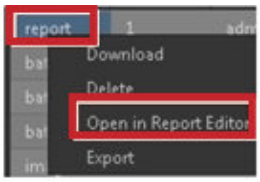
Click:	To:
Word Report	Save the report as a Microsoft[1] Word document.
Publish Report	Post the report to the Results tab. **N O T E** Results tab thumbnails for published reports display

N O T E

The size of the printed object may not be the same as the actual size. Always refer to the scale marks on the snapshot to determine the size of the object.

Save and Restore a Draft Report

1. Click Save Draft to save the current report as a draft.
2. Restore the report from the Results tab on the Study List:
   a. Click List.
   b. Right-click a list item of type “report.”
   c. Select **Open in Report Editor**.



   OR

   a. Click Images.
   b. Select the report thumbnail.

   c. Click > on the report thumbnail.

[1]Microsoft is a registered trademark of Microsoft Corporation.

T I P

Restore a report before adding new findings. If restoring a workflow from a snapshot, both the workflow snapshot and the report need to be restored.

N O T E

Take care when restoring draft reports created by other users. Thumbnails for draft reports display  .

Export Report

Export a report from the Results tab on the Study List or the Results tab on the Application Selector.

1. Right-click on a report.
2. Select Export from the drop-down menu.
3. Select the Export options in the dialog box.
4. Click **Export**.