

# Medical Student Training: Partners 1 View Radiology Workstation

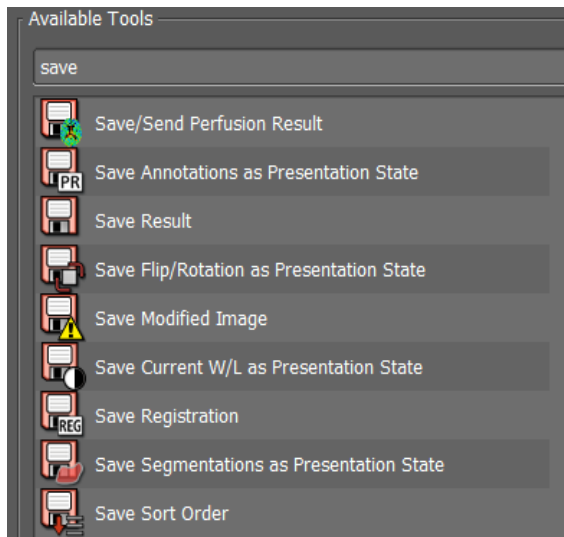
## Overview

This document is designed to get a medical student familiar with some of the tools available on a Partners 1 View workstation.

## Important Note

A medical student profile is setup to emulate a Radiology Resident who has the privilege to save any mark ups (like annotations or measurements). It is important to never save any mark ups as it will overwrite and remove the previous Radiologist's efforts. If this occurs, please contact the Medical Imaging IT group for assistance.

**Please avoid any tool or keyboard shortcut that indicates "save":**



## Basic Information

- A medical student can log into the Partners 1-View workstation using their Partners User ID and Partners password.
- P1V workstations are set to auto-launch:
  - Primordial
  - Power Scribe
    - **Please close Power Scribe.**
    - **Any attempt to use Power Scribe for reporting could result in report addendums and impact patient care.**

- Epic
- Visage
- Once logged in, a user has access to the three monitor display:
  - The left most monitor is the **Navigation Monitor** and will display Primordial.
  - The Primordial application manages:
    - Radiologist Reading Worklists
    - Patient and report searches
    - Identifying and paging of the relevant care team members
    - Conference lists and teaching files
  - Primordial “Welcome” tab contains tip sheets and a link to a one-hour training video.
  - Primordial also manages a mini-application (Communicator).
    - Communicator provides quick links to ANCR (Alert Notification of Critical Results), case lists and teaching files.
- Visage is the image viewing application. Visage has access to the entire patient imaging history. This includes studies performed at MGH, BWH, DFCI and their respective satellite sites. MGH, BWH or local site MRNs can be used to access patient imaging.

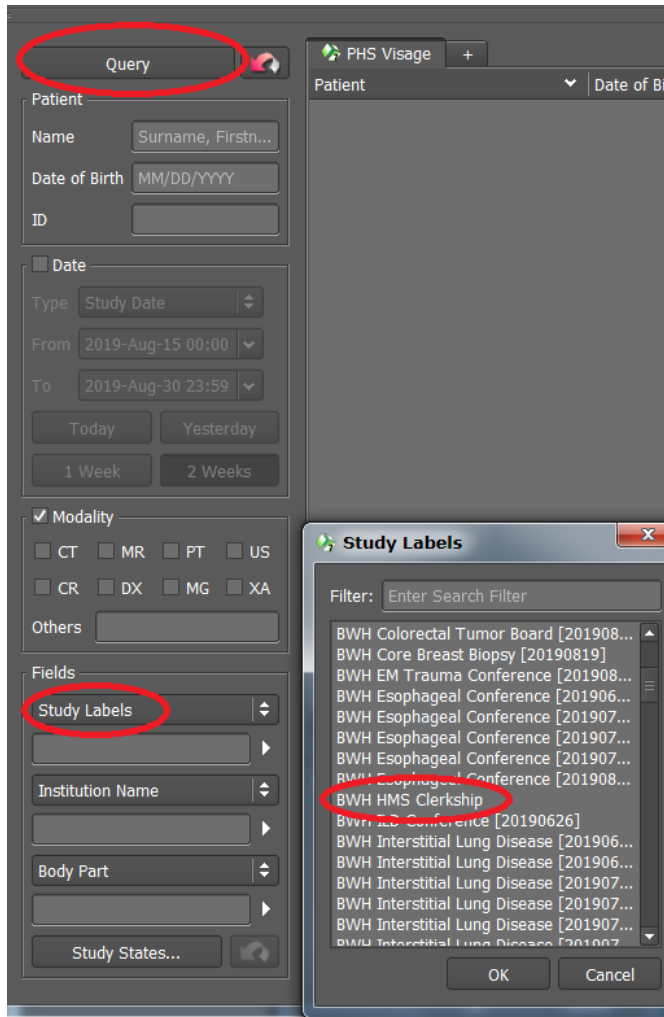
## Visage

- Medical Students are provided with a set of cases by the clerkship coordinator for use during this course.
- To search for the case, enter the patient MRN into the ID field of Visage. Click on the “Query” button. A list of the patient’s imaging available on the Visage server displays.
  - The clerkship cases are identified by modality, study date and study description.
  - If additional studies exist in the deep archive, a notification will appear in the lower right-hand corner of the Visage browser.
  - Click on the notification if additional studies are required.

The screenshot shows the PHS Visage interface. On the left, the 'Query' panel has the 'ID' field populated with '30517494'. The main table lists 53 studies for this patient. The 'Studies / Series Date' column header is circled in red. At the bottom right, a notification indicates '3 additional studies in archive', also circled in red.

Patient	Date of Birth	Issuer	Patient ID	Accession Number	Modality	Images	3D	Study / Series Description	Studies / Series Date	Institution / Status
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E9626263	US	2		US CAROTID DUPLEX BILATERAL	2016-Apr-12 10:11:34	DEFAULT
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E9616556	US	13		US ABDOMEN COMPLETE	2018-Sep-18 08:28:53	DEFAULT
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E8692720	CT OT	2180		CT OUTSIDE CHEST NO INTERPR...	2018-Jun-12 17:20:29	Cape Cod Hospital
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E8670756	CT OT ...	3625		CT OUTSIDE HEAD NO INTERPR...	2018-Jun-08 11:37:00	Cape Cod Hospital
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E7272064	US	1		US CAROTID DUPLEX BILATERAL	2018-Mar-15 13:33:00	DEFAULT
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E4122222	US	3		US LOWER EXTREMITY VEINS D...	2017-Apr-04 10:51:14	DEFAULT
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E4653332	CT	128		CT CHEST	2017-Mar-27 10:15:59	Brigham and Worr
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E4653520	CT OT ...	1748		NM PET CT SKULL BASE TO MID...	2017-Mar-26 10:28:29	Brigham and Worr
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E4653465	CT	731		CT CERVICAL SPINE	2017-Mar-24 11:36:59	BWFH
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E4653398	CT	837		CT CHEST	2017-Jan-24 10:15:20	BRIGHAM AND WC
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E3675682	OT RF	4		XR UPPER EXTREMITY OUTSIDE...	2016-Nov-26 18:28:00	Brigham and Worr
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E3318284	CR	14		XR ANKLE BILATERAL	2016-Oct-12 11:57:31	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E3260995	CR	6		XR ANKLE LEFT	2016-Oct-04 09:52:30	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E3260996	CR	6		XR FOOT LEFT	2016-Oct-04 09:51:31	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E2917203	CT OT	273		XR ABDOMEN OUTSIDE NO INTE...	2016-Aug-13 15:23:00	NORWOOD URGEM
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	2		Unspecified MG BREAST	2016-Jun-22 10:07:21	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 10:07:21	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	2		Unspecified MG BREAST	2016-Jun-22 10:05:23	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 10:05:23	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:56:11	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:52:21	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:52:21	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:52:21	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:51:11	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:51:11	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:43:33	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494		MG	1		Unspecified MG BREAST	2016-Jun-22 09:43:33	Brigham & Wome
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E2517430	MG	2		BI MAMMOGRAM BREAST SPECI...	2016-Jun-21 12:53:00	Brigham and Worr
# OE TEST CATHY	1967-Jan-01	BWH	30517494	E2517429	MG	2		BI MAMMOGRAM BREAST SPECI...	2016-Jun-21 12:52:11	Brigham and Worr

- In addition, the entire list of clerkship studies can be accessed by using the study label feature.
  - In the “Fields” section of the browser, locate the area marked “Study Labels”. Using the right facing arrow, access the study label menu. Select “BWH HMS Clerkship”. Return to the top of the browser and click on the “Query” button.
    - The entire list of cases identified for the clerkship will display.
    - From this list locate the patient MRN and enter it into the ID field. Click “Query” button.
    - The list of imaging for this patient will display as well as the notification of additional imaging in the archive if applicable.
- To display a study, double left click anywhere on the study line.



## Image Display

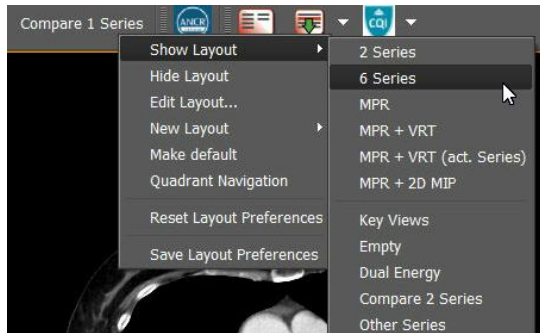
To display a study from the Visage study browser, double left click anywhere on the study line.

- Studies display with the hanging protocol and layouts defined for that monitor configuration.
  - Visage will choose a different display protocol for studies opened on a 1-monitor configuration versus the 3-monitor display of the Partners 1-View workstation.
  - Visage will be available remotely **only** during your clerkship.
    - URL: <https://workspace.partners.org>
    - Select “APPS” -> Visage Imaging Client
    - During other rotations your access will be Centricity ZFP (Epic image link).
  - **Layouts** determine number of viewports, which series display, whether special functionality is available and whether prior studies are automatically hung.
    - MRP and VRT functionality is available but will be not covered in this introduction.

Example of layouts available for a CT abdomen:



- Additional layouts are also available. Right click on any layout. Hover over “Show Layout”. A list of layout options displays. Click on a new layout.



- Current imaging (or the study of interest) will launch on the middle monitor.
- Relevant prior imaging will display on the right monitor. Patient demographic data for a prior or historical study will display in **red text**.
- Images display with full patient demographic data in each corner of the viewport. Click the **spacebar** once to show minimal patient demographic detail.
  - Click the spacebar twice to remove all patient identifying data. This is helpful if you are going to export the image for later use in a presentation or paper.
    - Click the spacebar a 3<sup>rd</sup> time to reset to full patient demographic display.
- To display a viewport in **full screen mode**, double click on image. This temporarily enlarges a viewport to fill the monitor. Double again to return to original viewport size.
- Shift+L or Ctrl+Shift+L will **link** viewports with similar views (axial to axial or sagittal to sagittal). It is not possible to link across views (axial to coronal to sagittal). For that functionality use the Spatial Cursor.

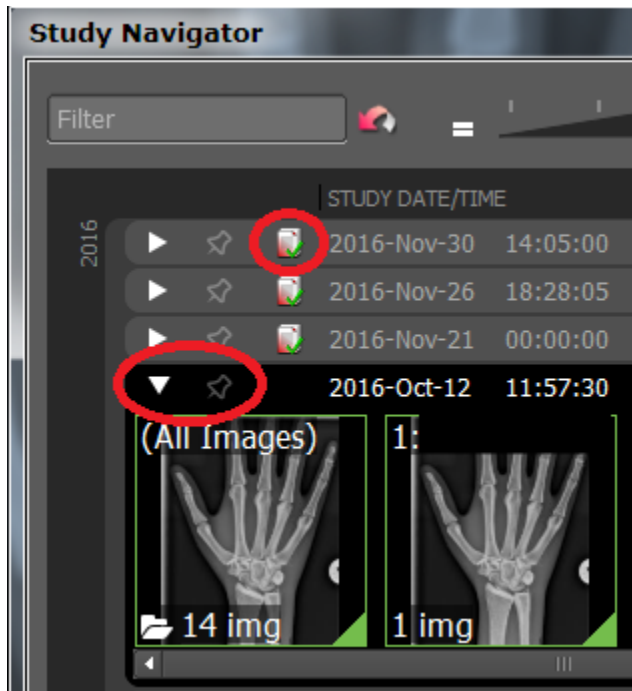
## Patient Jacket

In Visage, the patient imaging history (or patient jacket) is displayed in the Study Navigator.

- The Study Navigator will open automatically when images are opened from the study browser.
  - The Study Navigator is also available by clicking this icon.

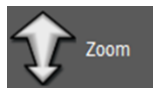


- The link to additional patient studies in the archive is available in the lower right-hand corner.
- Thumbnails for each study listed can be displayed by clicking on the arrow to the left of the study.
  - Thumbnails can be dragged and dropped onto a diagnostic monitor for viewing.
- The finalized report for a study is available with a single left click on the report icon.



## Imaging Tools

Several tools to assist in viewing images are displayed in the top monitor toolbar. Additional tools can be found by a **right-click** on any image. A few of the most useful tools are:



Continuous zoom – once selected the user can hold the left-click button and move the mouse to zoom in and out.



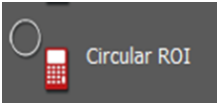
Move/re-center image within viewport.



Window / Level –Hold down the left mouse button to lighten and darken the image.



This icon will allow a user to draw a straight line and measure distance.



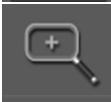
The oval or circular ROI will draw a circle in an area and calculate the Hounsfield value. Hounsfield Units measure the density of a voxel on an arbitrary scale where air is assigned a value of -1000, water a value of 0 and compact bone a value of +1000.



The Spatial Cursor (or Triangulation tool) helps find a common point of reference among series in the same study (usually axial to coronal and sagittal reformats).



Default tool



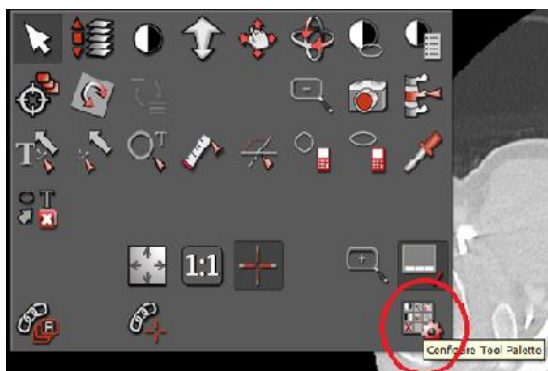
Magnifying Glass operates like zoom but smaller region.



Snapshot of active viewport to export.

**Ctrl+N** re-hangs the study in the original viewports and with the original window/level value.

For additional tools, right click in any viewport. Select the “configure tool palette” icon in the lower right corner. Search the list of available tools. **Note:** Access to tools and their functions depends on your user role. Medical Students may find that not all tools will function properly.



## Mouse Functions

- Click and drag LEFT mouse button **scrolls** through image slices.

- Scroll MOUSE WHEEL scrolls through slices one at a time.
- Click and drag RIGHT mouse button *pan* image
- Click WHEEL as a button and drag the mouse *zoom* image
- Click both LEFT and RIGHT mouse buttons simultaneously and then drag mouse adjusts *window / level (brightness)*. This is the same as using the window/level tool.



## Image Export

To export an image for a presentation or paper:

- Remove all patient identifying information using the spacebar.
- Click on the camera icon. A snapshot of the viewport copies to “export tab”.
- Click on the “Export” tab in the upper right-hand corner of the browser.
- Click on “Export” button in lower left corner. Select destination folder or drive.
- **When finished, delete screenshots from export tab. Snapshots are saved back to the study as a new series.**

## CT Window / Level Presets

Also referred to as CT center/width, these values correspond to the following numbers on the keypad:

- #1 Bone            1500/500
- #2 Organs        370/ 70
- #3 Lung           1500 / -500
- #4 Brain          85 / 35
- #5 Angio          1500 / 500
- #6 Liver          276 / 96
- #7 Stroke        30 / 36
- #8 PE            700/100
- #9 Subdural     130/50
- #0                Reset to original DICOM value