

Hanging Protocol Overview

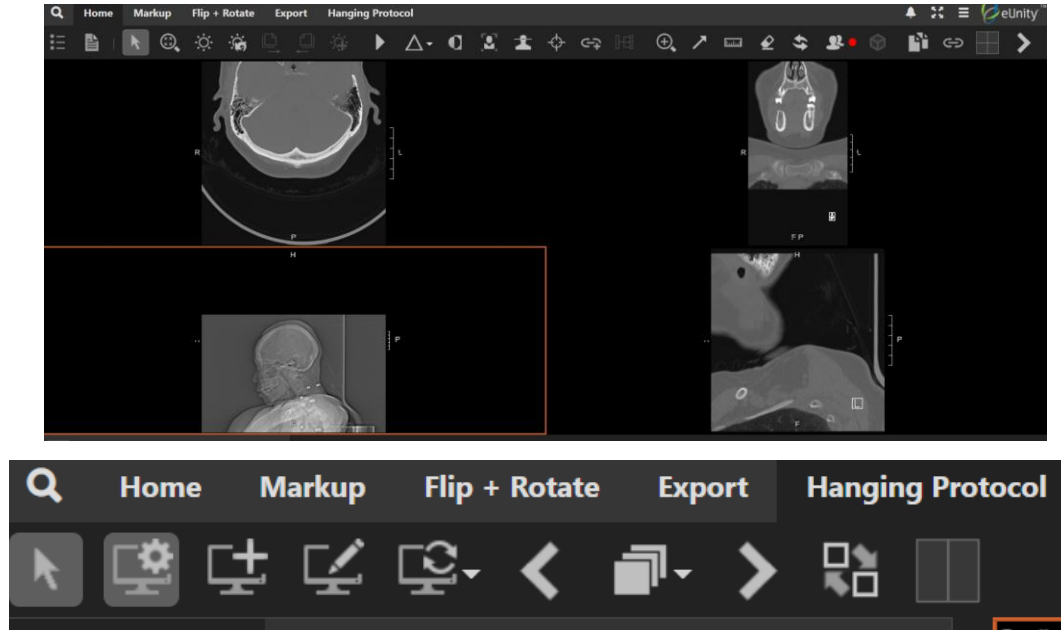



Agenda

- ✔ Create a New Hanging Protocol
- ✔ Display Sets
- ✔ Presentation Steps
- ✔ Copying Hanging Protocols
- ✔ Launching Hanging Protocols



Create a New Hanging Protocol



- To create a new Hanging Protocol, open a study and arrange imaging in View Ports as desired
- Next on the Hanging Protocol Toolbar tab, click the **Add Hanging Protocol** icon 
- The hanging protocol editor will open and automatically capture the viewer state as the first Presentation Step

Priority, Study Selectors, Study refinements and Selection Criteria

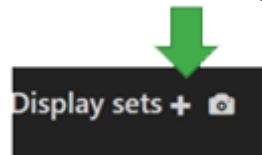
- Priority - can be changed to High, Low or Normal if needed
 - **Priority should only be changed if the desired HP is not auto loading**
- Device – Can be used to create phone/tablet specific HPs
 - **The default setting of Desktop browser will allow the HP be used on all devices**
- Study Selectors – Specifies which study types will be applicable for the HP
 - **Example: CT or MR**
- Study Selector Refinements – Used to make modifications to the selected Study Selectors
 - **This allows for additional flexibility with broad Study Selectors**
- Selection Criteria - Adds additional criteria
 - **Example: Number of studies can be used to create an HP to load only if priors are available as shown in the screenshot**

The screenshot displays a configuration interface for a study. It includes the following sections:


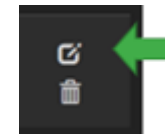
- Name:** A text input field containing "CT".
- Priority:** A dropdown menu set to "Normal".
- Device:** A dropdown menu set to "Desktop browser".
- Screens:** A dropdown menu set to "Any".
- Study selectors:** A search bar containing "CT" with a close button (x) and a dropdown arrow.
- Study selector refinements (optional):** A section with a toggle for "AND" and two checked items:
 - Modalities in study contains CT
 - Modalities in study does not contain PT
- Selection criteria (optional):** A section with a toggle for "AND" and a condition:
 - Number of studies is greater than or equal to 2










Display Sets


- Display Sets identify the imaging in the study & allow it to be arranged in the viewer
- Display Sets can be automatically created by eUnity based upon the imaging loaded in the viewer at the time of HP creation
- The camera Icon is used to automatically make Display Sets, if none are available
- To manually create a Display Set, click the plus sign next to Display Sets



- To edit an existing Display Set, click edit icon next to it
- The trash can will delete a Display Set.



Display sets + 		
Name	Selection criteria	
Axial & Axial Thick Slice CT	Axial and Axial Thick Slice CT	 
Coronal	Coronal	 
Sagittal	Sagittal	 
Scout	Scout	 



Presentation Steps

- Presentation steps are individual views that make up the hanging protocol
- Each HP must contain at least one Presentation Step
 - **Multiple Presentation Steps can be created to allow the user to step through different views quickly**



- Presentation Steps can be created by clicking the plus sign next to Presentation Steps
- Existing Presentation Steps can be edited by clicking the edit icon
- To make a copy of a Presentation step click copy icon located to the right of the edit icon




Presentation Step Details

- When creating/editing a Presentation step, the following properties can be modified:
 - **Presentation Step Name**
 - Default of “New step” is auto applied
 - **Number of monitors**
 - **Monitor layout – sets the viewport layout**
 - Each monitor can have a distinct layout
 - **Study compare mode – sets the layout for displaying current & priors**

Presentation step

Name:

New step  Get viewer sta...

Monitor mode: Study compare mode:

Single monitor ▼ Display only 1 st... ▼

Monitor study layout:

2x2 Series ▼

- To modify position imaging in the HP layout, click on desired cell in the Study Slots section

Study slots *Click on the cells to change the series selection*

Axial & Axial Thick Slice CT	Coronal
Scout	Sagittal

Properties (optional) ▼

OK Cancel

Presentation Steps - Study Slots

- As previously described, click on desired cell in the Study Slots section to modify imaging position in the View Ports
- Select the appropriate Display Set from drop down to set the desired imaging
- Multiple Display Sets can be added by clicking the plus icon
 - Any additional Display Sets will act as “backups” and will only be loaded if imaging corresponding to higher priority Display Sets is not available
- Properties can be set for each cell in the Property Overrides section
 - Enabling **Strict Selection** will cause the specific View Port to be blank if no applicable imaging is in the loaded study

The image displays two screenshots of a software interface, likely for medical imaging, showing the configuration options for study slots.

Top Screenshot: Series selection dialog

- Series selection**: A section with a plus icon (+) and a dropdown menu.
- Display sets:** A label followed by a plus icon (+).
- 1:** A dropdown menu showing "Axial Bone".
- Property overrides (optional)**: A section with a downward arrow (v).
- Buttons:** "OK" and "Cancel".

Bottom Screenshot: Property overrides (optional) ^

- Window level preset**: A dropdown menu showing "No override".
- Image rotation**: A dropdown menu showing "No override".
- Sharpening**: A dropdown menu showing "No override".
- Strict selection**: A checkbox that is checked.
- Invert image (No override)**: A checkbox that is unchecked.

Presentation Step Properties

- Properties can be applied to a Presentation step and will supersede properties applied at the hanging protocol level
- The properties displayed in parenthesis are the default settings
 - These are indicated by (Action: true) or (Action: false)
 - The default action is being applied if there is a minus sign in the checkbox

Properties (optional) ^

Navigate mode

Action: Navigate through images ▾

Series linking

Action: No series linking ▾

Mammography view

Action: Same size ▾

☒ Display demographics (Action: true)

☒ Display reference lines (Action: false)

☒ Display CAD markers (Action: false)

☒ Auto shuffle mode (Action: false)

☒ Spine label (Action: false)

☒ Show report (Action: false)

☒ Show study list (Action: false)

☒ Play cine (Action: false)

☒ Allow skipping (Action: true)

OK

Cancel

Hanging Protocol Properties

- Additional properties can be applied to the overall HP
- Toolbar Mask allows a specific tool to be hidden from the toolbar
- Navigate Mode sets the behavior when scrolling through series/images
 - The default behavior is **Navigate through images**
 - **Navigate through series** will allow the user to scroll through single images and is useful for X-Ray HPs
- Series Linking allows all imaging of the same plane to scroll in sync
- Mammography View allows the desired zoom for mammography imaging to be set. This includes: fit to window, quadrant and same size
- Modalities to breakout or combine allow imaging to be broken out into a distinct series or combined into a single series
 - This is useful for XR or US modalities that send imaging combined or broken out

Properties (optional) ^

Toolbar mask
Empty

Navigate mode
Default: Navigate through images

Series linking
Default: No series linking

Mammography view
Default: Same size

Modalities to breakout to separate series [,]
Default: CR,DX

Modalities to combine to a single series [,]
Empty

☐ Display demographics (Default: true)

☐ Display reference lines (Default: false)

☐ Display CAD markers (Default: false)

☐ Auto shuffle mode (Default: false)

☐ Spine label (Default: false)

☐ Show report (Default: false)

☐ Show study list (Default: false)

☐ Play cine (Default: false)

☐ Allow skipping (Default: true)

☐ Apply newest presentation state (Default: true)

☐ Presentation steps wrap around (Default: false)

☐ Ignore saved zoom (Default: false)

Saving the Hanging Protocol

- Hanging protocols can be saved at the Site, Group or User level
- The Save button will display the level at which the HP will be saved
 - Site will display **Save for Site**
 - Group will display **Save for GROUP NAME**
 - User will display **Save for USERNAME**


The image displays three sequential screenshots of a software interface's 'Properties (optional)' dialog box, illustrating the save options available for hanging protocols at different levels.

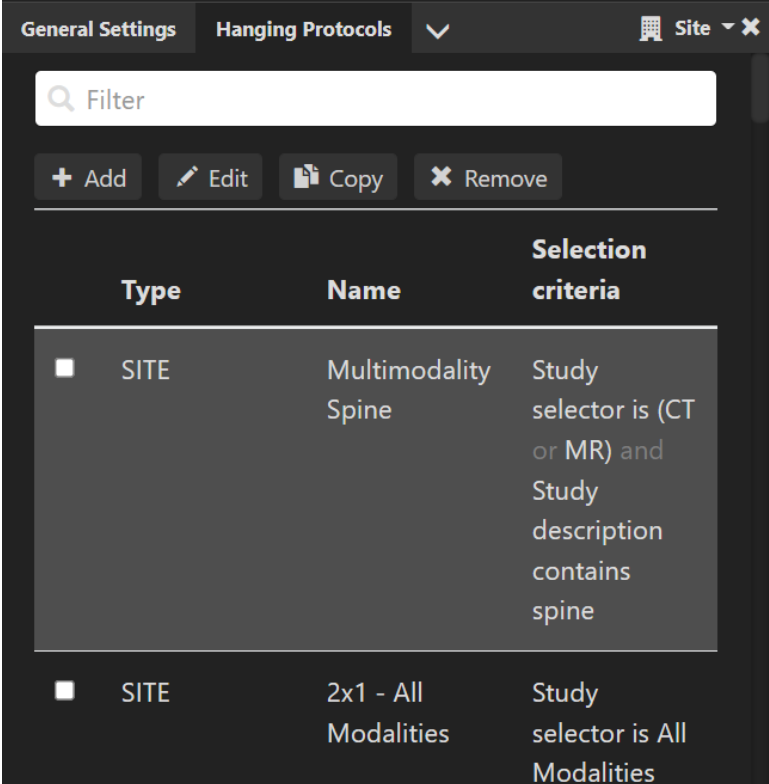
Top Screenshot: The dialog box shows the 'Save for Site' button, indicating the protocol is saved at the site level.

Middle Screenshot: The dialog box shows the 'Save for Radiologists' button, indicating the protocol is saved at the group level.

Bottom Screenshot: The dialog box shows the 'Save for both' button, indicating the protocol is saved at the user level.

Copy a hanging protocol

- If a non administrator modifies a site or group HP, eUnity creates a copy of the HP that will be available only for that user. The Save button will be updated to say **Save for me** to indicate that HP will be saved at the user level
- On the Hanging Protocol toolbar tab, click  to open the hanging protocol panel
- The Filter field at the top of the hanging protocol panel can be used to search for the desired hanging protocol
- Select the checkbox beside the hanging protocol that you want to edit
- To edit the hanging protocol, click Edit button
- To make a copy of the hanging protocol so that the original hanging protocol is not changed, click the Copy button

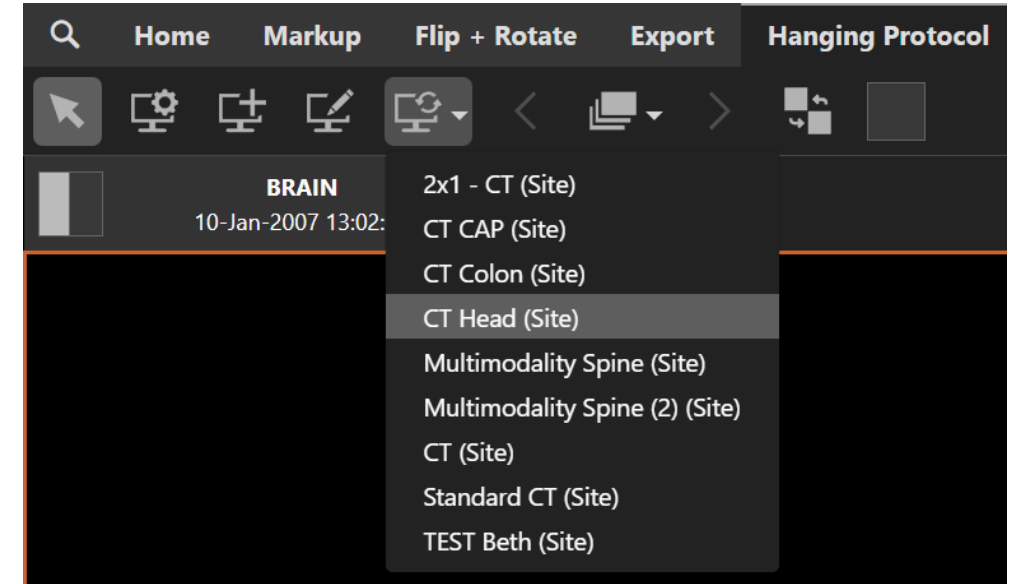


The screenshot shows the 'Hanging Protocols' panel in the eUnity interface. At the top, there are tabs for 'General Settings' and 'Hanging Protocols', with a dropdown arrow next to the latter. A 'Filter' search bar is located below the tabs. Below the search bar is a toolbar with four buttons: '+ Add', 'Edit' (with a pencil icon), 'Copy' (with a document icon), and 'Remove' (with an 'X' icon). The main area contains a table with three columns: 'Type', 'Name', and 'Selection criteria'. There are two rows of data, each with a checkbox in the 'Type' column.

Type	Name	Selection criteria
<input type="checkbox"/> SITE	Multimodality Spine	Study selector is (CT or MR) and Study description contains spine
<input type="checkbox"/> SITE	2x1 - All Modalities	Study selector is All Modalities

Launching Hanging Protocols

- eUnity will auto launch the most appropriate HP when opening imaging
- If multiple HPs match the opened study, the user can choose a different HP by clicking the Select Hanging Protocol dropdown
- The currently loaded HP is highlighted
- The HP's level (site, group or user) is displayed in parenthesis to the right of the HP name
- Level priority is as follows
 1. User
 2. Group
 3. Site



Thank you!

