Step 1: Select the exam to be processed

•Left mouse click on the exam in the patient browser you wish to post process. This exam should have been acquired using an EPI pulse sequence coupled with a stimulus paradigm.

•Left mouse click on **"Functool 2"** or **"Functool Performance"** software key on the left side of the control panel.

•Select the **"Functional**" icon from the Functool Performance Protocol library.

Step 2: Review Exam Data

•Adjust your **W/L** using the **middle mouse key** in the left upper view port.

•Select your **slice location** in the left upper view port.Click and drag your **middle mouse key** in the left upper view port over the **red slice location annotation** . Scroll left or right to select a slice location that most closely correlates with the area of activation.

•Adjust your **FOV** in the left upper view port. Click and drag your **middle mouse key** over the red **FOV annotation** to adjust the magnification factor if necessary.

Step 3: Adjust the Threshold Value

•Click and drag the slider bar located on the Functool Performance window until all desired anatomy in the brain is outlined in green and displays green diagonal lines.

This threshold value is used as a mask during the calculation to remove unwanted background noise.

•Click **"Next"** to continue

Step 4: Enter the Paradigm Information

•Enter a value for the number of images to skip "NS" **(12)**

•Enter a value for the number of active images "NA" **(10)**

•Enter a value for the number of inactive images "NB" **(10)**

•Click **"Next"** to continue

FYI-

 The paradigm entered must match that used to deliver the stimulus to the patient. Entry of incorrect paradigm values may result in inaccurate parametric maps or a complete failure of the software to produce a functional map.

 In this quick step example, the patient performed a paradigm or task that produced **10 active** data points followed by **10 inactive** data points. This cycle was repeated several times.

The **"NS"** value is selected to remove any unwanted data from your calculation. In our example above we chose to remove the first **10** data points of the inactive state, plus a couple extra to ensure that we began our calculation with the **positive activation state.** Conversely, to begin your calculation in the **negative activation state**, you would enter **2 as the "NS" value.**

For more detailed information on BOLD paradigms, please refer to the Functool Performance Operator Documentation.

Step 5: Review Your Final Settings

•Check all values on the Functool Performance panel. To make adjustments in any value, click the back arrow key to return to the previous menus.

•Click **"Compute"**

•Click **"Close"**

FYI-

The two bottom view ports will automatically display parametric maps for both "**Correlation Coefficient**" and "**Activation Magnitude"** .

If maps do not automatically display go to step 8.

Step 6: Create Parametric Map/ Anatomical Reference Overlay

•Click on the **"Browser"** icon on the Functool performance control panel.

•Highlight the anatomical series you wish to use as a reference for your parametric map overlay. This series should be the same FOV, Slice Thickness and Spacing as your EPI functional exam to help ensure accurate correlation.

•Select the **Functool Performance** software key to return to the Functool Performance window.

•Use a **right mouse click** in one of the two lower view ports and choose **"Set Reference Image"** and **"Selection"** from the pull down menu. Your parametric data will now be displayed over your anatomical reference image.

Step 7: Adjust the WW/WL- Parametric and Reference Image

•Click and drag the **middle mouse** in the view port of interest to change WW/WL values of the **parametric maps**.

•Hold the **"Ctrl"** key on the keyboard and click and drag the **middle mouse** in the view port of interest to change the WW/WL values of the **reference image**.

•Select **"W"** on the keyboard to return to the default settings

Step 8: Change the Activation Map Display

•Place your Mouse over the Red Activation Map Annotation in either of the lower view ports. **Right Click** and select the map of interest from the pull down menu.

A. Select Positive Activation Magnitude / Positive Correlation Coefficient :

 If you included the first inactive data points in your calculation. For example, you entered **(2) as the NS value.**

B. Select Negative Activation Magnitude / Negative Correlation Coefficient:

•If you did not include the first inactive data points in your calculation. For example, you entered **(12) as the NS value.**

 •Select the **"Functool Performance"** button and use your back arrow key to return to the paradigm settings if adjustments are necessary.

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