

Post & Pillar Biopsy Method

With a vacuum assisted device

*** Images to the right will help demonstrate the steps and supplies needed. The images were taken on a BBC coil, using an apple in place of the breast, but these steps will work on any Invivo coil.**

*** Remember that with the post/pillar method the needle will not be able to reach as deep, especially if an angulation is used.**

* To perform an MR guided post/pillar biopsy using DynaCAD, you will need the following supplies:

- Pillar Immobilization Plate
- Pillar Assembly
- Needle Hub (sterile)
- Vacuum assisted biopsy needle – Mammotome, Suros, SenoRx and Bard Vacora all work with the post/pillar method. Images in this document show Suros equipment.
- MR compatible clip
- Skin cleanser
- Numbing medication
- Syringes and needles (to include a spinal needle)
- Gauze (sterile)
- Steri-strips
- Tape Sterile Gloves
- Specimen containers
- Ice pack
- Pressure dressing
- Scalpel (there is no such thing as an MR compatible scalpel, so be careful)
- Procedure consent & post biopsy care instructions



BBC Coil



Pillar Immobilization Plate (disposable) & Pillar Assembly (not disposable)



Needle Hub (disposable)

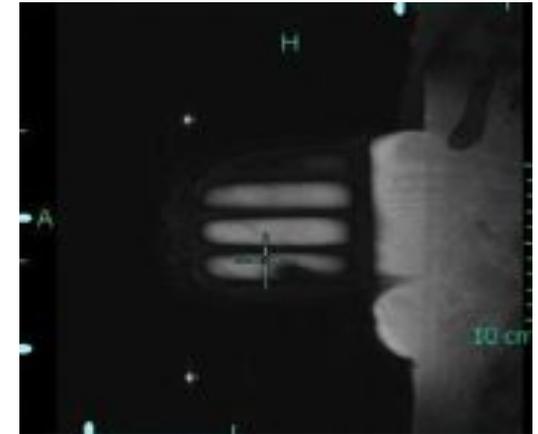


Vacuum assisted biopsy introducer set

* Set up coil with the post/pillar assembly for medial or lateral access. For medial access, place the breast blocker in the contra-lateral side to hold that breast out of the way. (This breast blocker can also be used to rotate the patient up so that the breast of interest drops down into the coil farther – place the blocker in the contra-lateral side of the coil, then place towels or blankets on that side of the coil from clavicle to waist to rotate the patient comfortably)



Breast Blocker



Sagittal Fiducial scan showing fiducials

* Position the patient so that the lesion is accessible and the are of interest is in compression.

* Scanning sequences:

-Localizer

-Sagittal Fiducial Scan: Spoiled Gradient sequence, 3mm thick, approx. 256X128 matrix, NO parallel imaging or imaging options, flip angle of 20, 30-40 slices thru breast and fiducials (15-50 second scan)

-Dynamic – 1 pre and 2 post contrast phases in the same plane as the diagnostic scans were performed with the same contrast and timing

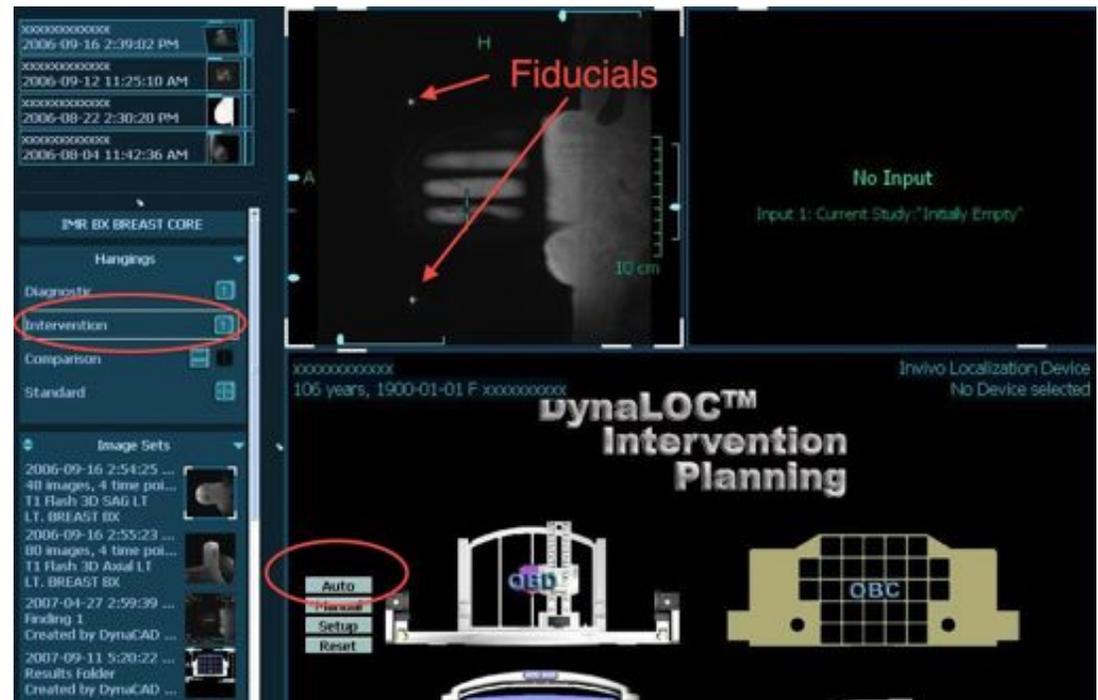
* Send the sagittal fiducial scan and all dynamic phases to DynaCAD

* Target lesion in DynaCAD:

-Open the study into the interventional hanging

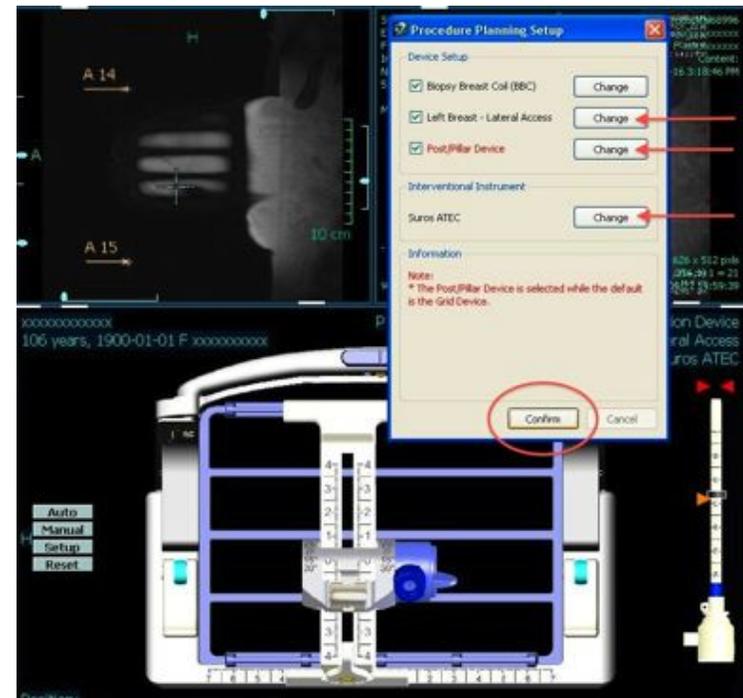
-Scroll to slice of sagittal fiducial scan where the fiducials are both visualized the brightest

-Click "Auto"

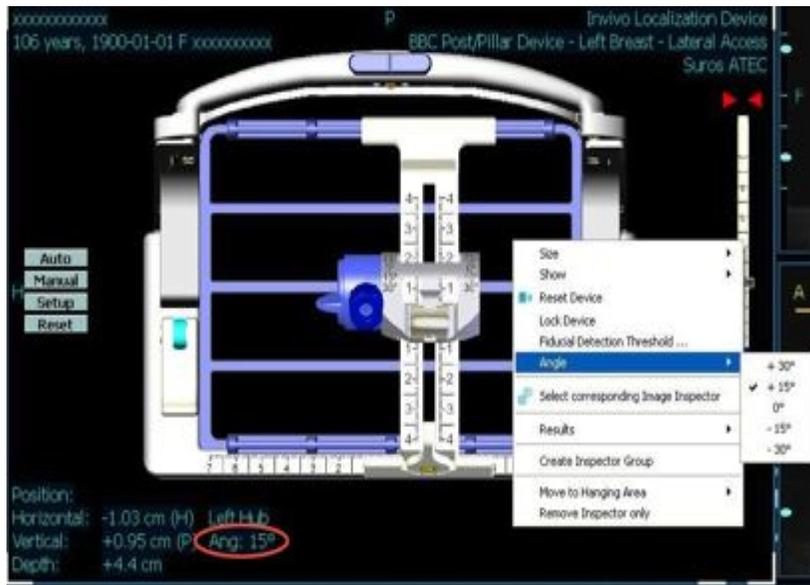


Interventional Hanging with Fiducials Visualized - click on "Auto"

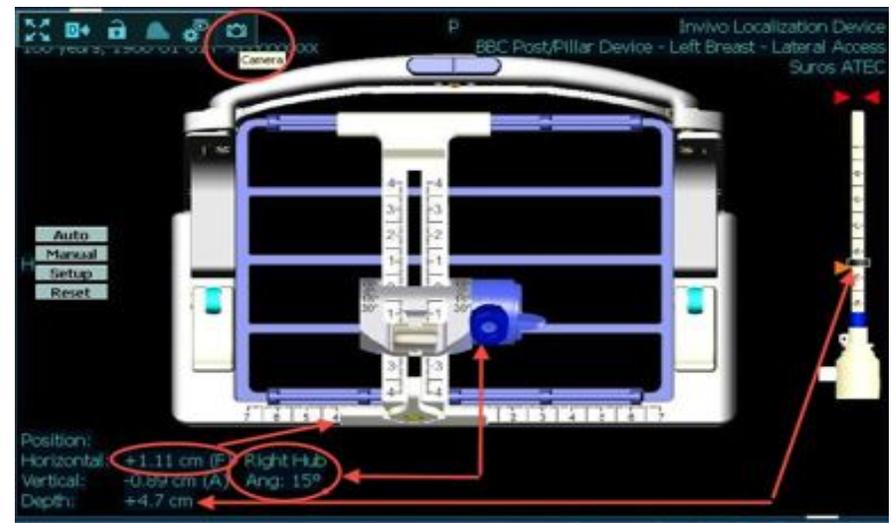
- Confirm coil, side and biopsy devices – if post/pillar is not set as your default, you will need to click on “Change” next to the grid and select Post/pillar
- Place the crosshair on the lesion on the dynamic images
- If the lesion is not accessible, right click in the coordinates window, select “angle” and use either -15 or +15 degrees.
- Take a snapshot of the coordinates window
- Print the coordinates and tape them to the side of the MRI table for the radiologist’s reference



Confirm planning set-up – Make changes if needed



Right click to set the angle



**Coordinates of lesion – camera icon will take snapshot for printing
“Depth” puts the center of the biopsy needle where you targeted
NO MATH NEEDED!**

* Set the Horizontal coordinates: DynaCAD will determine if you are to use the right or the left hub. Unlock the pillar assembly by placing the lever straight out, set the bottom edge of the assembly to the appropriate coordinates. ***If using the right hub, you will set the right edge at the coordinates. If you are using the left hub, you will set the left edge at the coordinates.***

* Set the Vertical coordinates: Unlock the vertical lock by lifting up and set the point at the appropriate coordinates.

* Place the sterile Needle Hub on the appropriate side of the assembly. The round edge goes in first. You may have to turn the insertion tab around so the hub will fit into the appropriate side.



Set Horizontal coordinates



Set Vertical coordinates

Insertion tab - round edge goes down



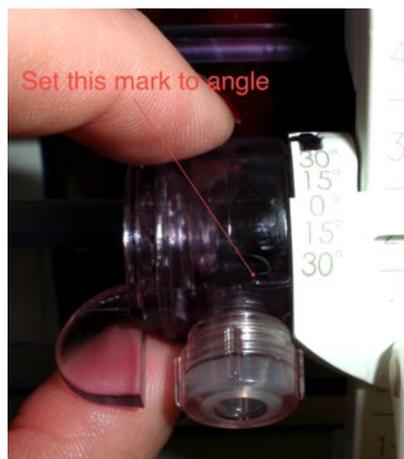
Needle Hub

Rounded edge goes down

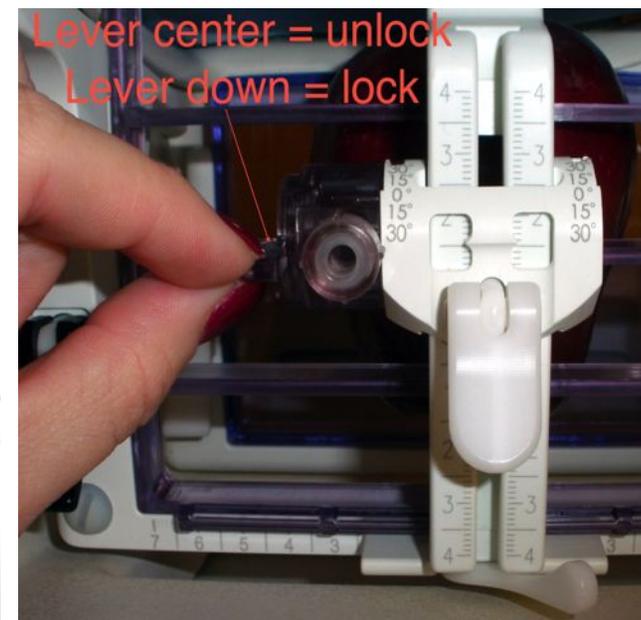
* Set the angle if needed and then lock the hub so it will not move by pushing the lever down.

* Cleanse the skin behind the needle hub

* Numb the skin along the needle trajectory at least 1cm distal to the "Depth" by using a spinal needle and going thru the needle hub.

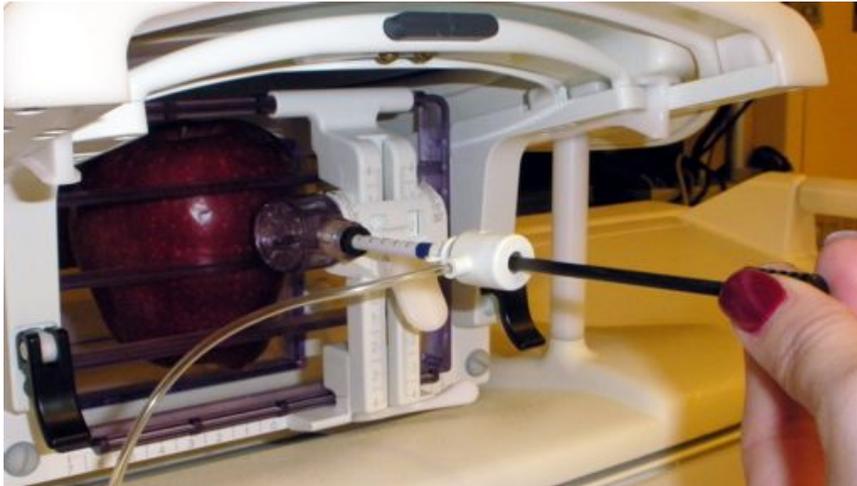


Set the appropriate angle



Lock the hub to preserve the angle

- * Make a skin nick with scalpel behind the needle hub if desired
- * Set the depth on the biopsy needle introducer that is specified by DynaCAD – this depth accounts for the width of the post/pillar assembly and needle hub and will place the center of the biopsy needle exactly to the area that was targeted – **NO Math is Needed!**
- * Place the introducer into the breast thru the needle hub
- * Pull the trocar out of the introducer out and replace it with the obturator.

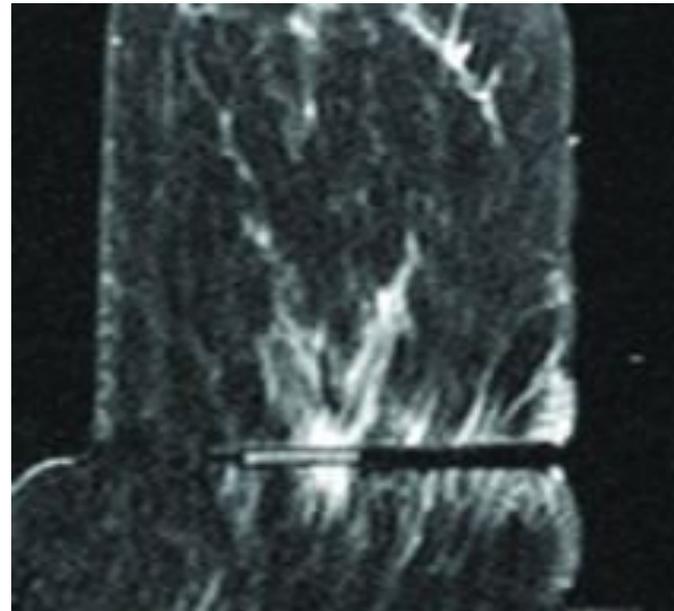


Replace the trocar with the obturator

- * Perform a needle confirmation scan: Copy one of the dynamic phases but turn off fat-sat to minimize the metal artifact
- * Check the placement of the needle to assure that the samples to be taken will include the lesion.
- * Remove the obturator and replace with the biopsy needle and perform the biopsy
- * Place the a clip into the biopsy site to mark the area for future localization.



Place the introducer into the breast thru the needle hub



Needle confirmation scan showing the obturator

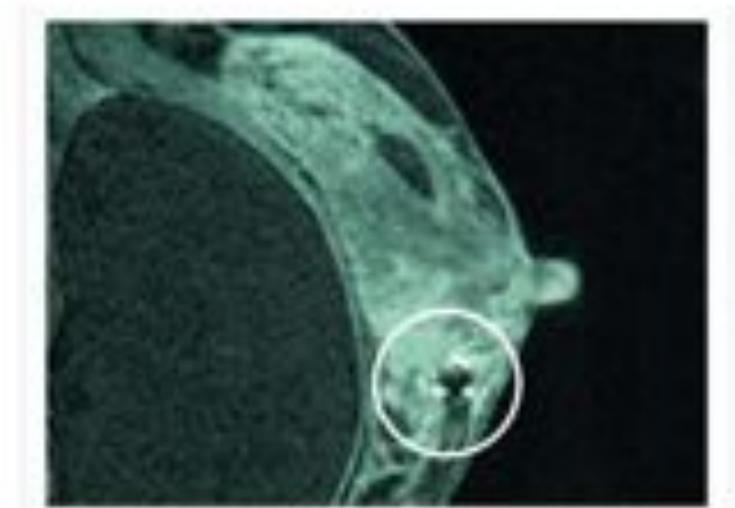
- * If desired, you can perform a clip confirmation scan using the same sequence as the needle confirmation scan. Often the clip is difficult or impossible to visualize because of the void left by the biopsy and the fact that the clip is very small. If possible, perform a 2 view mammogram for clip placement



Magnified images of 2 different types of clips.

- * Remove the biopsy needle, remove the patient from compression and hold pressure on the breast, keeping in mind not only the area the needle entered the skin, but also the area of the breast where the samples were taken. Hold pressure until all bleeding has completely stopped.
- * Clean the biopsy site with saline and sterile gauze.
- * Place steri-strips across the wound if needed and instruct the patient not to pull them off, but to allow them to come off on their own
- * Tape sterile gauze over the wound and place a pressure dressing across the breast.

- * Have the patient dress and then place an ice pack inside their bra on top of the pressure dressing – this ice pack should stay there until the ice is completely melted
- * Give the patient written post biopsy instructions to include:
 - Referring physician's phone number to call in case of an emergency
 - If they experience bleeding or severe pain, to call the referring physician
 - Take Tylenol (not Advil) for their pain
 - No strenuous activity for the next 24 hours



Clip confirmation scan showing the clip (this image is **not** immediately post biopsy)