



Stark C, DeStigter KK, Matovu A, Shadrack PA. Ultrasound-guided breast biopsy in the resource-limited setting: an initial experience in rural Uganda. J Glob Radiol. 2017;3(1):Article 4.

Appendix A

Core Biopsy Supplies

- Ultrasound probe cover/condom
- Ultrasound gel
- Formalin
- Tissue sample container
- Ethanol/antiseptic solution
- Sterile drapes
- Non-sterile gloves
- Disposable 14 gauge core biopsy needle
- Lidocaine
- 20 cc syringe for lidocaine
- 21 gauge needle to draw lidocaine into syringe
- 23 gauge needle for lidocaine injection
- Adhesive bandage
- Scalpel blade for skin incision
- Sterilizable metal forceps
- Sterile gauze
- Antibiotic cream

Equipment Setup

- 1) On an equipment tray or table, place down a sterile drape. On the drape, place the above listed supply items with the exception of the tissue sample container and formalin, which can be placed on a non-sterile surface.
- 2) Turn on the ultrasound machine, select the linear transducer, and optimize settings for breast imaging

Patient Preparation and Biopsy Procedure

- 1) Obtain informed consent
- 2) Position the patient on their back with the arm on the side of the breast lesion over head and the other arm by the side. For lateral lesions, a foam wedge or towels under the ipsilateral shoulder can help flatten the breast as the patient rolls toward midline.

- 3) Scan the breast to confirm lesion location prior to cleaning (familiarize yourself with lesion location and nearby sensitive anatomy such as skin, pectoralis muscle, and large vessels)
- 4) Plan needle approach
 - a. Shortest distance from skin to lesion is ideal
 - b. Needle path should be parallel to chest wall
- 5) Clean the skin over the breast lesion with antiseptic solution and place sterile drape(s) around lesion
- 6) Draw up lidocaine into syringe
- 7) Place sterile ultrasound probe cover on probe
- 8) Place a small amount of ultrasound gel on breast over target lesion
- 9) Under ultrasound-guidance, make a small skin wheal with lidocaine and anesthetize tissues around target lesion
- 10) Make a small incision with scalpel blade at center of wheal
- 11) Under ultrasound-guidance advance coaxial trocar needle tip through incision to margin of lesion (ideal needle tip position will vary depending on lesion size – goal is for sample notch to traverse the lesion)
- 12) Remove trocar needle from cannula, making sure to hold cannula in place
- 13) Load biopsy needle into cannula
- 14) Prepare the patient (countdown, 1-2-3, etc.) then deploy needle with ultrasound-guidance making sure to visualize the needle in its entirety
- 15) Remove biopsy needle, holding cannula in place, and place sample into formalin with aid of sonographer
- 16) Repeat for a total of 3 cores
- 17) Remove both needles and hold pressure at skin entry site
- 18) Place Band-Aid at skin entry site
- 19) Dispose of sharps