X-ray Guided (Stereotactic) Breast Biopsy

A stereotactic breast biopsy takes a tissue sample from the breast with a special instrument. This is done when:

- The problem (*lump, abnormality, mass*) can be seen on X-ray, but not felt on physical exam.
- Suspicious, small calcium deposits (*calcifications*) are seen in the breast.
- There is a change in shape or appearance of the breast, thickening, or asymmetry on mammogram (*breast X-ray*).
- You have nipple changes (unusual or bloody discharge, crusting, retraction, dimpling).
- Your caregiver is making a surgical diagnosis.

The biopsy may be done on a special table, with your face down and your breasts placed through openings in the table. Computerized imaging (*special form of X-rays*) is used. The images are not obtained using regular X-ray film. So, exposure to radiation is reduced. Images are seen through several different angles. The surgeon removes small pieces of the suspicious tissue through a hollow needle. The tissue will be sent to the lab for analysis. The surgeon can look at the pictures right away, rather than wait for an X-ray to be developed. Your caregiver can mark the lesions (*abnormal tissue formations*) electronically. Then the computer can tell exactly where the problem is, or if it has moved.

BENEFITS OF THE PROCEDURE

- This is a good way to see if tiny lumps, abnormal looking tissue, or calcium deposits that you cannot feel are cancerous or require further treatment or follow up.
- Needle biopsy is a simple procedure. It may be performed in an outpatient imaging center. This means you have the procedure and go home the same day, without checking into a hospital.
- It is less painful than open surgery. The results are as accurate as when a tissue sample is removed surgically.
- The procedure is faster, less expensive, less invasive, does not distort the breast, and leaves little or no scar.
- Breast defects, which can make future mammograms hard to read and interpret, do not remain.
- Recovery time is brief. Patients can soon resume their normal activities.
- Using VAD (*vacuum assisted device*) may make it possible to remove entire lesions.
- A breast biopsy can indicate if you need surgery, other treatment, or combined treatment.

LET YOUR CAREGIVER KNOW ABOUT THE FOLLOWING:

- Allergies.
- Medicines taken, including herbs, eye drops, over-the-counter medicines, and creams.
- Use of steroids (by mouth or creams).
- Previous problems with anesthetics or Novocain.
- If you are taking blood thinner medicine or aspirin.
- Possibility of pregnancy, if this applies.
- History of blood clots (*thrombophlebitis*).
- History of bleeding or blood problems.
- Previous surgery.
- Other health problems.

FOR COMFORT DURING THE TEST

- Relax as much as possible.
- Try to follow instructions, to speed up the test.
- Let your caregiver know if you are uncomfortable, anxious, or in pain.

TWO BIOPSY INSTRUMENTS MAY BE USED IN THE PROCEDURE

The conventional biopsy device **(core needle biopsy device)** consists of an inner needle with a trough extending from it at one end, and an overlying sheath. It is attached to a spring-loaded mechanism that propels it forward. The trough fills with tissue. The outer sheath instantly moves forward to cut the tissue and keep it in the trough. Each sample is obtained in a fraction of a second. It is necessary to withdraw the needle after each sample is taken to collect the tissue.

A newer type of instrument, the **VAD (vacuum assisted device)**, uses vacuum pressure to pull breast tissue into a needle and remove it. The needle does not need to be withdrawn after each sampling. Another advantage is that biopsies are obtained in an orderly manner, by rotating the device. This helps make sure that the entire area of interest will be sampled. When using the automated core biopsy needle, sampling is more random.

PROCEDURE

You are awake during the procedure, and you go home the same day (*outpatient*). A specially trained radiologist will do this procedure. First, the skin is cleansed. Then, it is injected with a local anesthetic (*like Novocain*). A small nick is made in the skin, and the tip of the biopsy needle is put into the calculated site of the lesion. A special mammography machine uses ionizing radiation to help guide the radiologist's instrument to the site of the abnormal growth. At this point, stereo images are again obtained, to confirm that the needle tip is at the problem area. Usually 5 to 10 samples are collected when doing a core biopsy. At least 12 are collected when using the vacuum assisted device (VAD). Then, a final set of images is obtained. If they show that the lesion has been mostly or completely removed, a small clip is left at the biopsy site. This is so that it can be easily located, in case the lesion turns out to be cancer. Afterward, the skin opening is stitched (*sutured*) or taped closed, and covered with a dressing. Your caregiver may apply a pressure dressing and an ice pack, to prevent bleeding and swelling in the breast.

X-ray guided breast biopsy can take 30 minutes to 1 hour, or more. The X-rays usually have no side effects, and no radiation remains in your body. There is usually little or no pain. Usually no scar is left from the tiny skin incision. Many women find that the major discomfort of the procedure is from lying on their stomach, or staying in one position for the length of the procedure. This discomfort may be reduced by carefully placed cushions. You should wear a good support bra to the procedure. You will be asked to remove jewelry, dentures, eye glasses, metal objects, or clothing that might interfere with the X-ray images. You may want to have someone with you, to take you home after the procedure.

RISKS & COMPLICATIONS OF THE PROCEDURE

- Infection (*germ growing in the wound*). This can often be treated with antibiotics.
- Bleeding, following surgery. Your surgeon takes every precaution to keep this from happening.
- There is some concern that if a cancerous mass is present, cancer cells might be spread by the needle. Whether this actually happens is not known. It does not appear to be a significant risk.
- X-ray guided breast biopsy is not infallible (*not always correct*). The problem may be missed or the extent of the problem may be underestimated. This would mean the biopsy did not manage to remove a piece of the diseased tissue or enough of the diseased tissue.
- Lesions present, with calcium deposits scattered throughout the breast, are difficult to target by stereotactic method. Those lesions near the chest wall also are hard to learn about by this method. If the mammogram shows only a vague change in tissue density, but no definite mass or nodule, the X-ray guided method may not be successful. Occasionally, even after a successful biopsy, the tissue diagnosis remains uncertain. A surgical biopsy will be needed, if abnormal or precancerous cells are found on core biopsy.
- Altering or deforming of the breast.
- Unable to find, or missing the lesion.
- Rarely, the needle may go through the chest wall into the lung area.

AFTER THE PROCEDURE

- After surgery, if you are doing well and have no problems, you will be allowed to go home.
- You may resume your regular diet, or as directed by your caregiver.

HOME CARE INSTRUCTIONS

- Follow your caregiver's recommendations for medicines, care of the biopsy site, follow up appointments, and further treatment.
- Only take over-the-counter or prescription medicines for pain, discomfort, or fever as directed by your caregiver.

- An ice pack applied to the affected area may help with discomfort and keep the swelling down.
- Change dressings as directed.
- Wear a good support bra for as long as your caregiver recommends.
- Avoid strenuous activity for at least 24 hours, or as advised by your caregiver.

FINDING OUT THE RESULTS OF YOUR TEST

Not all test results are available during your visit. If your test results are not back during the visit, make an appointment with your caregiver to find out the results. Do not assume everything is normal if you have not heard from your caregiver or the medical facility. It is important for you to follow up on all of your test results.

SEEK MEDICAL CARE IF:

- You develop a rash.
- You have problems with your medicines.
- You become lightheaded or dizzy.

SEEK IMMEDIATE MEDICAL CARE IF:

- There is increased bleeding (more than a small spot) from the biopsy site.
- You notice redness, swelling, or increasing pain in the wound.
- Pus is coming from the wound.
- You have an oral temperature above 102° F (38.9° C), not controlled by medicine.
- You notice a bad smell coming from the wound or dressing.
- You develop shortness of breath.
- You develop chest pain.
- You pass out.

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