Additional Diagnostic Studies

- **Biopsy techniques**
  - Options for palpable masses
    - **FNA**
      - Provides cells for cytology assessment
      - Appropriate first step for dominant breast mass
      - Less useful for small masses or vague thickening/nodularity
      - Cannot reliably distinguish invasive from noninvasive cancer
      - High false negative rate
      - With negative results, may still need to pursue core needle or excisional biopsy if suspicious clinical or radiographic findings:
        - A negative FNA may be fine if triple test criteria met
          » Negative FNA
          » Physical exam suggests benign lesion
          » Normal mammogram

- **Core-needle biopsy**
  - Removes narrow cylinder of tissue for pathologic analysis
  - Highly accurate when lesion targeted with breast imaging

- **Open incisional or excisional biopsy**
  - Should be limited to cases where percutaneous image guided biopsy cannot be performed, or when such tests identify a high-risk lesion (e.g. LCIS, ADH, radial scar, etc.)
Additional Diagnostic Studies

• Biopsy techniques
  – Options for non-palpable masses
    • Image-guided core-needle biopsy
      – Stereotactic (mammography-guided) core-needle biopsy
        » Performed if lesion not visualized on ultrasound (commonly microcalcifications)
        » Lesions close to chest wall or areola may not be accessible
        » Performed with the patient in the prone position
      – Ultrasound-guided core-needle biopsy
        » Preferred due to simplicity and comfort
        » Real-time visualization of needle position within lesion
      – Open biopsy with wire (needle) localization
        » Should be limited to cases where percutaneous image guided biopsy cannot be performed
        » or when such tests identify a high-risk lesion (e.g. LCIS, ADH, radial scar, etc.)
Additional Diagnostic Studies

• Biopsy techniques
  – Options for non-palpable masses
    • Stereotactic (mammography-guided) core-needle biopsy
Additional Diagnostic Studies

• Biopsy techniques
  – Options for non-palpable masses
    • Open biopsy with wire (needle) localization
      – Lesion localized by inserting thin needle and fine wire under mammographic or ultrasonographic guidance
      – Incision made & portion of tissue excised around and along wire to include the target lesion
      – Perform radiography on specimen to ensure lesion excised

Mammogram shows a spiculated mass transfixed by the guidewire.

Specimen radiograph shows the wire and the localized speculated mass, with a good excision margin