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## Abstract 13:2-2

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### **CT biopsies Relative to other Modalities**

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The role of the different guidance modalities depends upon anatomic location and local expertise. CT has remarkable imaging attributes suited to intervention which include rapid data and image acquisition, high spatial resolution, and the ability to consistently image soft tissue, air, bone and metal without significant artifacts. The procedures best suited to CT are those with difficult anatomic locations, which require multiple samples, and coagulopathic patients. As discussed a guidance cannula facilitates repetitive biopsies and hemostatic techniques.

Relevant anatomic locations include the chest, mediastinum, retroperitoneum, perivascular regions, and deep pelvis. Biopsy of lung lesions is straightforward because parenchymal air doesn't interfere with CT guidance. Movement of lung lesions caused by the diaphragm may be problematic but oxygen supplementation and proper patient positioning may lessen the effect. If the patient lies with the ipsilateral side dependent, mass motion is minimized because the weight of the abdominal viscera on the diaphragm reduces motion. Anterior, middle, and posterior mediastinal biopsies are feasible by using a parasternal or paraspinal approach. Injected fluid and patient positioning facilitates safe access through the uninvolved mediastinum. Optimal cutting needle use involves limiting the cutting gap to the lesion to prevent normal structure damage.

Retroperitoneal and deep pelvic masses can be safely sampled because the vasculature and bowel can be clearly demonstrated. Tumors adjacent to and even between the aorta and vena cava can be sampled using aspiration or cutting needles. Bowel or tissue planes can be moved by air or fluid injection.

While drainages of simple abscesses can be accomplished with other modalities, small, extensive, or irregular abscesses with multiple cavities are best suited to CT. Abscesses may be long and/or have irregular cavities which may tend to recur unless multiple catheters are inserted and adjusted properly.