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Ultrasound-Guided Tissue Sampling

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INDICATIONS MAY BE DIAGNOSTIC OR THERAPEUTIC. These include (1) an ultrasonographic lesion, (2) a radiographic lesion accessible by ultrasound [peripheral], (3) biochemical abnormalities associated with an organ that may be normal on ultrasound, (4) a neoplastic process that warrants staging, (5) cholecystocentesis, (6) pyelocentesis/pyelography, and (7) an abnormal collection of fluid that warrants removal for therapeutic reasons [pericardial, pleural, peritoneal effusion or cyst].

A **FINE NEEDLE ASPIRATE (FNA)** is obtained by passing a small-gauge (22g) needle through tissue, with or without negative pressure. The sample obtained is *cellular* and submitted for *cytology*. The procedure may require *sedation* if the patient is not still.

A **CORE BIOPSY** (core needle biopsy or "Tru-Cut") is obtained by passing a large-gauge (14-18g) automated or semi-automated needle through tissue. The sample obtained is a *core of tissue*, submitted for *histopathology*. The procedure always requires *anesthesia*.

COAGULOPATHY *must* be ruled-out prior to ultrasound-guided *core biopsies* by evaluating platelet count and PT/PTT. This is *not* necessary for fine needle aspirates.

Aspirates and core biopsies can also be performed to sample **INTRATHORACIC NON-CARDIAC LESIONS** if they are *peripheral*. These procedures can be ultrasound-guided or CT-guided.

CT-GUIDED SAMPLING is most useful where ultrasound is limited, i.e. when lesions cannot be seen due to gas (air-filled lung) or mineral (skeletal structures).

IF A DOG HAS MAST CELL TUMOR, ultrasound-guided fine needle aspiration should be performed of the liver and spleen for prognostic reasons *regardless* of whether or not lesions are noted.

IF A DOG HAS LYMPHOMA, ultrasound-guided fine needle aspiration should be performed of the liver for the purpose of staging, *regardless* of whether or not lesions are noted. This is not true for the spleen, in which lymphoma is unlikely to be present if no abnormalities are detected with ultrasound.