Abdominocentesis and intra-abdominal pressure measurement in small animals

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OBJECTIVE
To provide a video tutorial detailing how to perform “blind” and ultrasound-guided abdominocentesis for diagnostic and therapeutic guidance, and to provide a brief demonstration of intra-abdominal pressure measurement (IAP).

ANIMALS
Any cat or dog with suspicion of free abdominal effusion or patients requiring measurement of IAP.

METHODS
Abdominocentesis should be performed when there is high suspicion for peritoneal effusion based on physical exam and/or diagnostic imaging. The 4-quadrant tap uses 20-gauge or larger needles placed blindly in ≥ 1 of the 4 quadrants of the abdomen to collect abdominal fluid. In contrast, ultrasound allows visualization of fluid in the abdomen prior to percutaneous insertion of a needle and syringe to collect fluid. Regardless of collection technique, fluid should have immediate cytologic analysis and later can be submitted for biochemical parameters, additional cellular analysis by a pathologist, and culture and sensitivity (in rare cases if indicated). Intravesicular bladder pressure measurement using a manometer–urinary catheter system approximates the IAP when there is concern for organ hypoperfusion and compartment syndrome.

RESULTS
Abdominocentesis can be performed with and without the use of ultrasound guidance. Intravesicular bladder pressure measurement is used to diagnose and trend IAP values before and after treatments are performed.

CLINICAL RELEVANCE
Abdominocentesis is a simple and safe technique that all small animal clinicians should be comfortable performing. Effusion sampling can guide further diagnostics and treatments. Measurement of IAP is simple and requires no specialized equipment.

Keywords: abdominocentesis, ultrasound, intra-abdominal pressure, 4-quadrant tap, abdominal effusion

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