

AAFP/EveryCat Feline Infectious Peritonitis Diagnosis Guidelines

Instructions for AFAST and TFAST



AFAST

Abdominal-focused assessment with sonography for trauma, triage and tracking (AFAST) is a widely used first-line screening test that allows the attending clinician to quickly identify whether free fluid and soft tissue abnormalities of its target organ are present. The technique involves the placement of the ultrasound probe in four different locations on the abdomen and is relatively easy to learn. Cats are placed in lateral recumbency requiring minimal restraint without any shaving of hair. Depending upon whether the cat is placed in right or left lateral recumbency will determine the order of probe placement to perform the exam. If the cat is placed in right lateral recumbency, the AFAST (1) begins at the Diaphragmatico-Hepatic (DH) view and is continued in a counter-clockwise direction with the Spleno-Renal (SR) view next, followed by the Cysto-Colic (CC) view, and finally the Hepato-Renal Umbilical (HRU) view. If the cat is placed in left lateral recumbency, the AFAST would again begin at the DH view, but instead of the SR view being next, the probe would be placed at the HRU view followed by the CC view, and finishing at the SR view (See Figure 1). Since many cats do not initially present with a noticeable abdominal fluid wave or their disease transitions from being primarily non-effusive to effusive (2–5), serial AFAST examinations are an excellent diagnostic tool to identify these cases. Multiple studies have demonstrated that certain diagnostic tests performed on effusions rather than on serum have a higher diagnostic accuracy at identifying whether the clinical presentation is more likely FIP rather than other conditions (6).

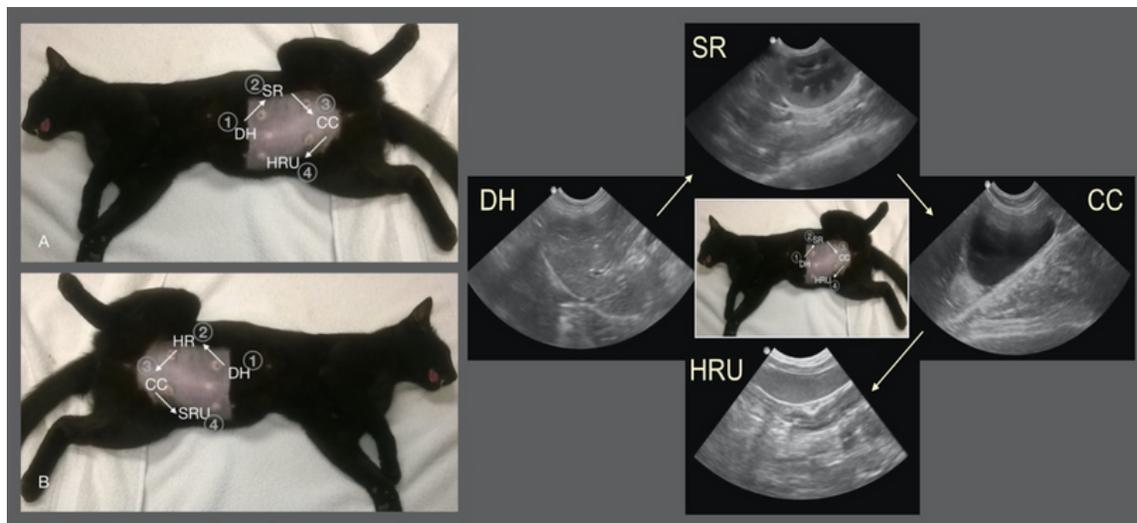


Figure 1: Four views of the AFAST fluid scoring system in a cat with the target organs shown. All views are negative for free fluid or any obvious soft-tissue abnormalities. The order is shown with arrows and numbering of 1 through 4. The hepato-renal 5th bonus view and the focused spleen view are not shown. The cat shown here was sedated and shaved for an ovariohysterectomy and photographed for didactic purposes; sedation and shaving are not performed in most patients. CC, Cysto-Colic; DH, Diaphragmatico-Hepatic; HRU, Hepato-Renal Umbilical; SR, Spleno-Renal.

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Figure 2 represents a DH-positive AFAST image demonstrating anechoic free fluid that, if found in a cat suspected of having FIP, should be immediately sampled and analyzed.

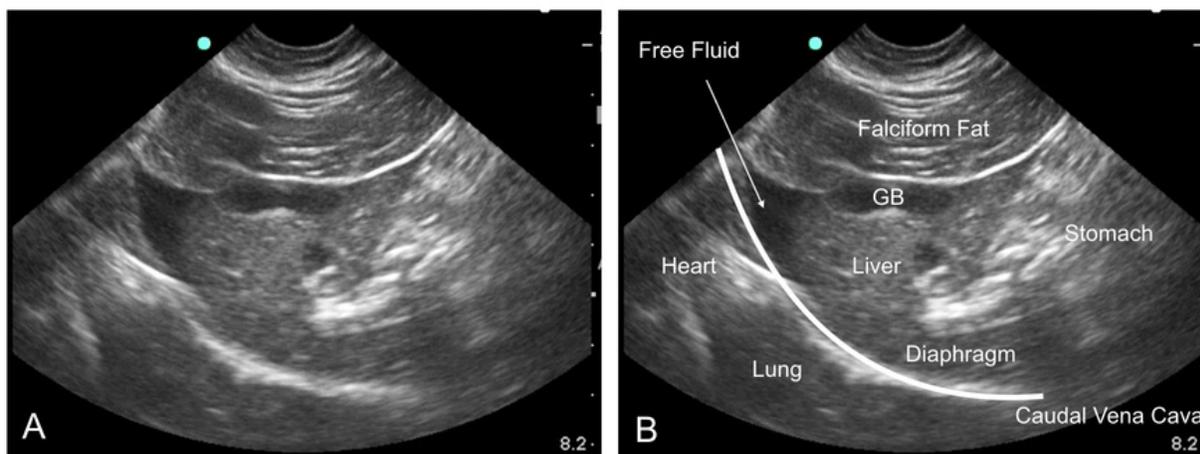


Figure 2: Positive AFAST at the subxiphoid Diaphragmatico-Hepatic view demonstrating a typical anechoic accumulation of free fluid between the diaphragm and liver. By looking cranial to the diaphragm, pleural and pericardial effusion and lung pathology may also be detected.

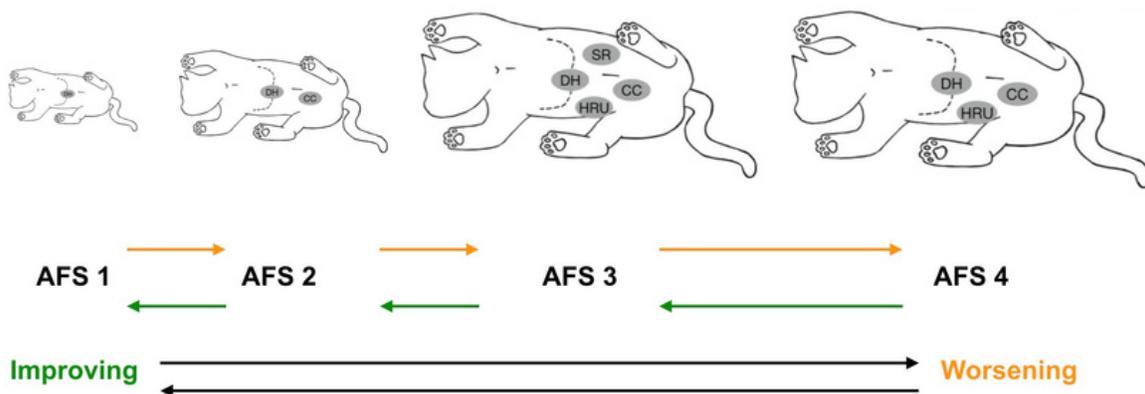
In the emergent trauma and non-trauma feline patient that initially or serially presents with free fluid in the abdomen, the amount of free fluid is scored using the AFAST-assigned abdominal fluid scoring system and serially monitored. With FIP, this ability to track the amount of effusion in the cat as different management plans are instituted may serve to assist the clinician in not only evaluating whether particular management choices are effective but also as a prognostic indicator that could be shared with the owner. Figure 3 is an example of how the AFAST-assigned abdominal fluid scoring system may be used for tracking over subjective terms of trivial, mild, moderate, and severe. Moreover, on AFAST goal-directed templates for data entry, individual views are scored which may be clinically helpful as well (see <https://fastvet.com/most-updated-global-fast-goal-directed-templates/>). Depending upon how many and/or the combination of AFAST views that are positive for fluid, determines whether the patient's condition is improving, stable, or worsening.

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Key

CC = Cysto-Colic, DH = Diaphragmatico-Hepatic, HRU = Hepato-Renal Umbilical, SR = Spleno-Renal.

Figure 3: AFAST and its abdominal fluid scoring system serve as a tracking tool when used in serial fashion. Score changes moving in either direction help determine if the effusion is static, worsening, or resolving in hemorrhagic or nonhemorrhagic effusions (e.g. septic, transudate, modified transudate). Using AFAST and its abdominal fluid scoring system has clear advantages over physical examination, vital signs, and radiographic serosal detail by “seeing” the amount and locations of ascites.

TFAST

In cases where there is not obvious respiratory distress, but fluid is still suspected, thoracic-focused assessment with sonography for trauma, triage, and tracking (TFAST) should be performed, since like with abdominal effusions, ultrasound is more likely to be able to detect small amounts of fluid (7). When performing the TFAST, the sonographic appearance of the chambers of the heart, pleural effusion, and pericardial effusion must be known. By using the “TFAST slide” technique, the cardiac diaphragmatic pouch and the cardiac cervical pouches, which are the most gravity-dependent areas in the standing or sternal patient positions, can be visualized. It is important to make sure all chambers of the heart are visible during this technique in order to help avoid mistaking a heart chamber for pleural effusion. As mentioned in the Guidelines, the AFAST DH view can be combined with the right pericardial site (PCS) TFAST view to identify whether pleural effusion is present. The entire heart is imaged so that the hyperechoic pericardium is visible. If fluid has accumulated between the heart and the pericardium, the apex of the heart will appear rounded (see Figure 4) (8,9).

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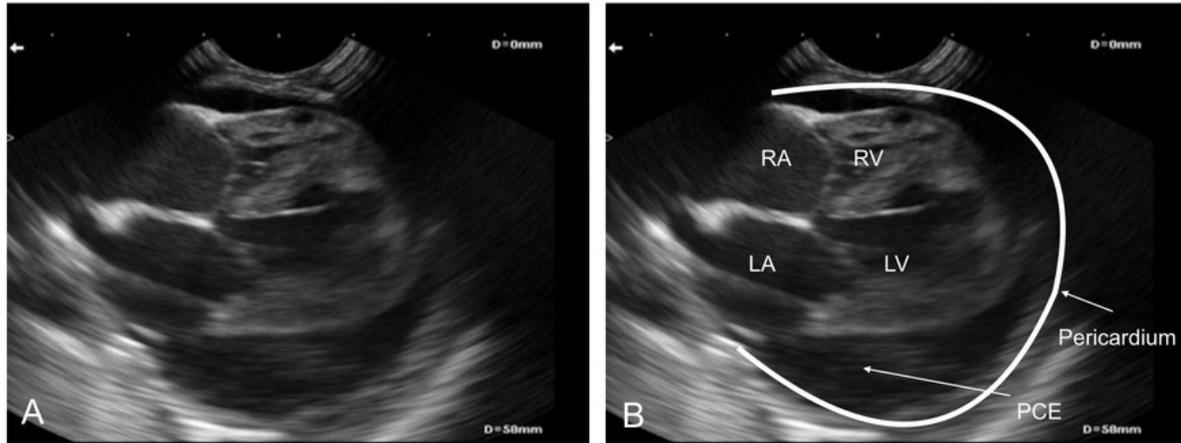


Figure 4: Pericardial effusion in a cat. The entire heart is seen with the effusion located between the heart and the hyperechoic pericardium.

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