



What is AFAST?

DID YOU KNOW?

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"AFAST" is the abbreviation for "Abdominal Focused Assessment using Sonography for Trauma." The technique has become the diagnostic test of choice for the early evaluation of humans with blunt abdominal trauma¹. The AFAST protocol was modified from the protocols for humans and is designed to focus on areas where free abdominal fluid is often detected sonographically in dogs after blunt abdominal trauma. AFAST has been found to be a simple, rapid, and non-invasive technique that is 96% sensitive and 100% specific in diagnosing very small amounts of free abdominal fluid². It can be performed by veterinarians with minimal ultrasonographic experience and is easily repeatable¹. In dogs that have free abdominal fluid detected by AFAST, needle guided abdominocentesis is recommended to determine the type of fluid. Serial examinations are beneficial as a way to monitor progression of intra-abdominal injury and response to treatment.

The AFAST exam consists of two ultrasonographic views (transverse and longitudinal) at four sites. Right lateral recumbency is recommended because it is the standard positioning for electrocardiographic and echocardiographic evaluation but is not necessary if the patient's condition will be compromised. The ultrasound probe is fanned through an angle of 45 degrees from the long and short axis positions and is moved 1 inch in each of 4 directions (ie. cranial, caudal, left, and right) from the starting point. The AFAST sites are: 1) Diaphragmatic-Hepatic view- the probe is placed just caudal to the xiphoid process for detection of free fluid between the liver lobes and between the liver and the diaphragm, 2) Spleno-Renal view- the non gravity dependent location in right lateral recumbency for fluid accumulation between the spleen and the body wall, between the spleen and the liver, between the spleen and the left kidney, and the retroperitoneal space, 3) Cysto-Colic view- the probe is placed on the midline over the bladder for detection of free fluid at its apex, 4) Hepato-Renal view- the most gravity dependent area of the abdomen in right lateral recumbency between the intestinal tract and the right kidney, and between the intestinal tract and the body wall. It is a good site for abdominocentesis.

A 4-point scale has been developed as an abdominal fluid scoring system and has been used both as a quantitative measurement to monitor progress and progression of injury as well as a prognostic indicator.² One point is assigned to each of the AFAST sites found to contain free fluid. An abdominal fluid score (AFS) of 0 (AFS 0) means no fluid at all 4 sites. The highest score (AFS 4) means a positive fluid at all 4 sites. Dogs with an AFS of 1 or 2 rarely become anemic from the intra-abdominal hemorrhage. An AFS of 3 or 4 due to hemorrhage often become anemic (25% decrease in PCV from baseline) with 25% becoming severely anemic (PCV < 25%) often requiring blood transfusions but rarely requiring laparotomy².

The AFAST procedure is often used at SOVSC to detect the presence of free abdominal fluid during emergency assessment for trauma patients and to assist resuscitation efforts. The AFAST exam is not intended to replace a detailed diagnostic ultrasound exam of the abdomen.

References:

- 1 - Boysen, SR, Rozanski EA, Tidwell AS, et al: Evaluation of a focused assessment with sonography for trauma protocol to detect free abdominal fluid in dogs involved in motor vehicle accidents JAVMA 2004(8): 1189-1204.
- 2 - Lisciandro GR, Lagutichik MS, Mann KA, et al. Evaluation of an abdominal fluid scoring system determined using abdominal focused assessment with sonography for trauma (AFAST) on 101 dogs with motor vehicle trauma J Vet Emer Crit Care 2009;19 (5):426-437.

