

AEROMED OUTREACH

OCTOBER 2017

BREAST CANCER AWARENESS MONTH

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Aeromed crew recently participated in Tampa Bay Buccaneers fourth annual Treasure Chest 5K Run/Walk. This event supports breast cancer awareness, research and patient services.



FIRST ANNUAL AEROSCAR

Aeromed held their first annual AeroScare Halloween event. This event included costume contests and give-aways. Proceeds were donated to Valor Service Dogs and Operation Second Chance.



PHYSICIAN ARTICLE

Use of Portable Ultrasound by Helicopter Emergency Medical Services (HEMS)

Over the past 10-15 years, portable ultrasound devices have become smaller, lighter, and (relatively) cheaper, with better image resolution. Parallel to this trend, some HEMS and other EMS agencies began to adapt this technology to the prehospital environment.

The key concept has been developing the competencies to perform **focused** ultrasound exams. While no one is expected to become as skilled as a radiologist, what has been shown time and time again is that with some training, most staff can learn enough to rapidly answer important clinical questions.

FAST and eFAST-Clinical Questions and Manage-



Ultrasound machine 1980: 300 lbs. Ultrasound machine now: 3 lbs.



UPCOMING OUTREACH ACTIVITIES

- **TGH Pediatric Trauma Update** October 27th 8am-4pm. Contact Jennifer Mefford at jmefford@tgh.org for more information.
- **Aeromed Community Education Session** November 2nd at 0900. Contact Jennifer Mefford at jmefford@tgh.org for more information.
- **TGH Trauma Symposium** November 17th 8am-4pm at CAMLS. Contact Jennifer Mefford at jmefford@tgh.org for more information.

PHYSICIAN'S ARTICLE CONTINUED

ment Implications

The most useful ultrasound exams for HEMS staff to learn, are the FAST and eFAST exams, which can be incorporated into an initial trauma survey. FAST stands for "Focused Assessment with Sonography for Trauma," while the "e" in eFAST stands for "extended."

The three yes/no questions to answer in the FAST exam are:

1. Is there free fluid in the abdomen?
2. Is there fluid around the heart?
3. Is there fluid under the lungs? (hydro or hemothorax)

The additional question to ask in the eFAST exam is: "Is there a pneumothorax?"

Beyond trauma, the FAST exam may be useful for any condition that may cause internal bleeding (ex. dissection, AAA, ectopic pregnancy).

Information gained from these exams may aid HEMS staff in making important management decisions (depending on local guidelines and practices), such as:

- Where to transport a patient

and how quickly.

- Whether to place a chest tube or perform a finger thoracostomy.
- Whether a pericardiocentesis or thoracotomy is indicated.
- Whether or not to give blood or start a massive transfusion protocol.

Additionally, the presence or absence of cardiac activity noted on the FAST may help inform any discussion about termination of resuscitation on patients undergoing CPR.

How to Perform the FAST and eFAST Exams

There are four views to the FAST exam and six views to the eFAST exam. As the diagram shows, these include the right and left flank, the suprapubic area, and the subxiphoid view (solar plexus) view of the heart. The eFAST adds on one view of each lung. Instead of writing about it, I'll just link to this six-minute video by the University of Minnesota to show how it's done:

<https://www.youtube.com/watch?v=Yg78aU93SZE&feature=youtu.be&t=117>

A more detailed video,

from UC-Davis, is available here:

<https://www.youtube.com/watch?v=ao5dG4vvgzI>

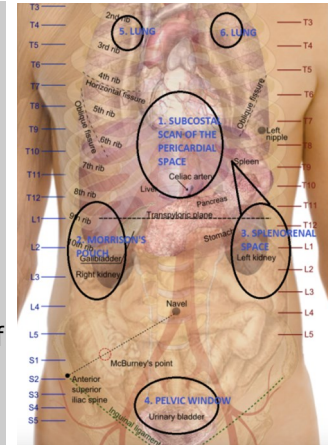
Some Tips:

1. You may need a lot of gel. Gel allows the probe to "see" into the body. It may speed things up to squirt a big pool of gel on the patient before starting, so you don't have to keep grabbing the gel bottle.
2. Perform the exam the same way every time.
3. If you're not sure about what you're seeing (very possible with large patients), call the exam "indeterminate" rather than "false".

Prehospital Ultrasound Beyond the FAST

Ultrasound may assist in a number of other situations that prehospital providers may find themselves in. Although learning other ultrasound exams may take more training, it is certainly feasible for the motivated learner to do so. Some immediate examples include:

- Identifying veins for



IV access.

- Confirming placement of an endotracheal tube after intubation.
- Differentiating between COPD vs. CHF exacerbation in dyspneic patients.
- Identifying the cricothyroid membrane for a surgical airway when landmarks are distorted.

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