



The Effect of BMI on eFAST Accuracy in Trauma by Residents in the Emergency Room

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Objective

Quantify accuracy of eFAST with increasing units of BMI.

eFAST Exam

- Quick <5 minutes, noninvasive
- Implemented in 96% of level 1 trauma protocols
- Can decrease need for CT/XLAP/DPL and time to OR

Methods

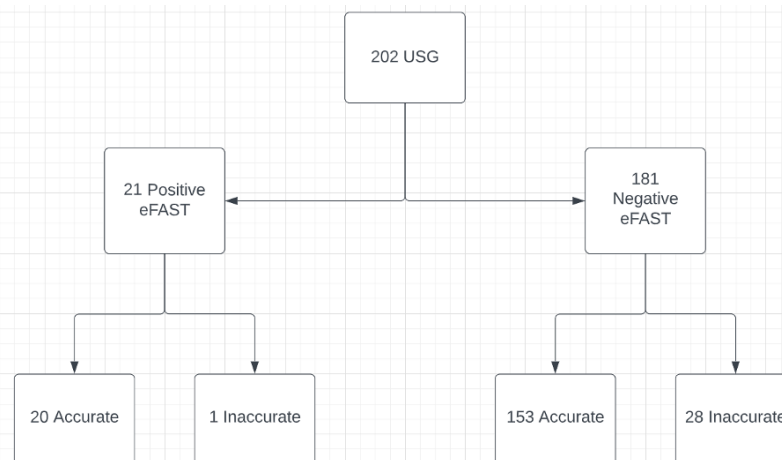
- Prospective Data Collection from 5/13/22-8/18/22
- A negative eFAST was absence of fluid in all 4 quadrants with presence of bilateral lung sliding
- A positive eFAST was presence of fluid in any of the 4 quadrants, the absence of lung sliding on either side, or a positive lung point sign
- All compared to CT/CAP or XLAP for accuracy

Results

- **202** patients fell into the criteria with **69 females** and **133 males**.
- Accuracy was the ability to detect non-physiological fluid in the quadrants **greater than 150cc** or recognize the absence of lung sliding or a positive lung point sign. Compared to **ABC/2 volumetric measurement** for accuracy.

For every increase in 1 kg/m³ of BMI the accuracy of eFAST decreased by 5.65% (CI 0.1% - 10.8%).

Positive vs Negative eFAST Outcomes



The patient sample was not normally distributed so IQR and Median were reported

	25%	Percentile Median	75%
Age	30.50	48.00	61.50
BMI	23.26	26.98	31.75

Conclusions

- Obesity continues to impose challenges on the healthcare system.
- All surgical residents receive ATLS training including a variable amount of exposure to eFAST technique
- Given the data, proceduralist should be cautious in interpreting ultrasound in the obese patient population.
- New training models that allow alteration of BMI should be implemented

