



Clinical Protocol

Liver Elastography

1. Patient must be 4-6 hours NPO.
2. Patient should not be acutely ill, especially not in acute congestive heart failure. If patient appears acutely ill, or in CHF, please note on worksheet or on image.
3. Patient should be imaged supine or in slight left lateral oblique position (30 degrees) with intercostal approach. Image or worksheet should be labeled with patient position.
4. Right arm should be raised above head, if possible, to improve intercostal access.
5. Measurements should be obtained with shallow breath hold (no deep inspiration, no Valsalva, no expiration). Lock transducer in place.
6. ROI should be placed in right hepatic lobe, typically segment VII or VIII, about 2 cm deep and perpendicular to liver capsule.
7. ROI should avoid any large vessels, bile ducts, and rib shadows. ROI should not be within mass.
8. Use best B-mode image to place ROI. Do not move transducer between measurements. Lock transducer in place.
9. Ten good measurements should be obtained at same location/ROI. If measurement is not good, "X.XX" will appear. If X.XX appears, repeat measurement.
10. Median measurement (m/sec) should be reported.
11. Interquartile range (IQR) should be reported as measure of quality. (IQR automatically calculated on US machine.)
12. IQR/median value ratio should be calculated and reported. This should be less than 0.30. If ratio greater than or equal to 0.30, second attempt at protocol should be performed. This ratio must be manually calculated.
13. Make sure patient position and transducer frequency noted on image and/or worksheet so that follow-up can be performed with same parameters.

INDICATIONS	DATE/TIME	
	SONOGRAPHER	

Important Patient Factors (Known HCC, Hepatitis, NAFLD, Cholestasis, CHF, on CTX, etc.)		
Patient NPO 4-6 hours?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Transducer
Patient Positioning	<input type="checkbox"/> 30 degree left lateral oblique <input type="checkbox"/> Supine <input type="checkbox"/> Right arm over head <input type="checkbox"/> Other	If Other, why?
AFRI Median Value (from machine)	m/sec	Calculated Ratio of IQR/Median Value <i>If > 0.30, please repeat measurements</i>
IQR (from machine)		

Please circle stage based upon median value of ARFI

ARFI Median Value	< 1.20	1.2 - 1.6	1.6 - 2.0	> 2.0
Stage	FO	F1-2	F3	F4

STAGE	ARFI MEDIAN VALUE	FOR REPORTING PURPOSES
≤ F2	< 1.34 m/sec	<i>Minimal risk of fibrosis. No follow-up.</i>
Middle Ground	1.35 – 2.2	<i>Moderate risk of fibrosis. Additional testing appropriate.</i>
F4 and Some F3	≥ 2.2 m/sec	<i>Clinically significant fibrosis. Recommend follow-up.</i>

SONOGRAPHER CONFIRMATION: My signature confirms that instructions have been provided to the conscious patient regarding this exam, that US utilizes sound waves rather than ionizing radiation, and that coupling gel is used to improve the quality of the exam.	_____ Sonographer's Signature
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FMC KMC CMC TMC NHSC KIC MIC PI TI MFP SFP Other	Name / MR # / Label
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US Liver Elastography Worksheet