

Jewish Hospital Fibroscan Interpretation Fibrosis Assessment SOP

SOP's derived primarily from EASL Guidelines (PMID: 25911335) and/or review articles (PMID:24909907, 24452634) unless otherwise noted.

1) Liver Stiffness Interpretation

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Table 1 Recommended values for different stage of fibrosis

Disease	F0-F1 (Kpa)	F2 (Kpa)	F3 (kpa)	F4 (kpa)
Hepatitis B	≤6.0	≥6.0	≥9.0	≥12.0
Hepatitis C	≤7.0	≥7.0	≥9.5	≥12.0
HCV-HIV coinfection	≤7.0	≤10	≥11.0	≥14.0
Cholestatic liver disease	≤7.0	≥7.5	≥10.0	≥17.0
NAFLD/NASH	≤7.0	≥7.5	≤10	≥14.0

*Alcoholic Liver Disease F3 9.5-12.4 and F4≥12.5 kPa if not drinking while 22.7 suggests cirrhosis if drinking (PMID:26791825).

*Rule out Dominant Stricture in PSC as this will influence liver stiffness.

*Insufficient data on noninvasive fibrosis markers for autoimmune hepatitis.

*Screening and surveillance for esophageal varices and HCC are recommended for F4 fibrosis.

*20 kPa suggests HVP >10 and 50.7 kPa suggests high risk for varicele bleeding.

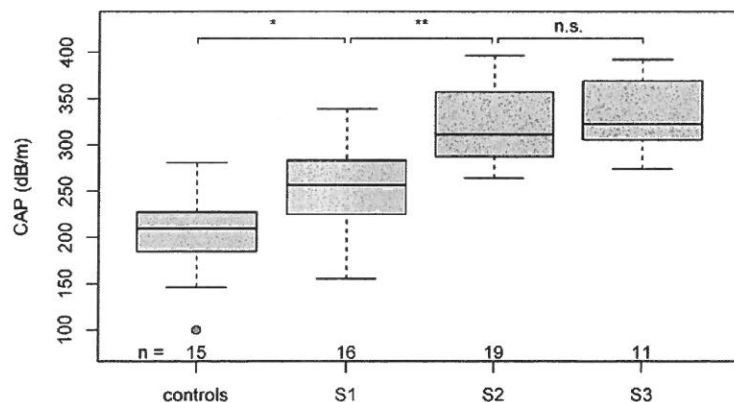
* Baveno VI guidelines suggest that if stiffness < 20 kpa and platelets >150k, then there is no need for screening EGD, but the fibroscan and platelet count should be repeated yearly.

2) Liver Steatosis Interpretation (PMID: 24637477)

Steatosis Category	Hepatic Fat on Biopsy	CAP
Mild	5-33%	225-275 dB/M
Mod-Severe	>33%	275-400 dB/M

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Steatosis quantification using CAP



* p=0.002, ** p<0.001

3) **Fibrosis Biomarkers**

Should be measured for patients with NAFLD or HCV and compared to VCTE results determine concordance for presence or absence of advanced fibrosis (F0-F2 vs. F3-F4). For hepatitis C, AASLD-IDSA guidelines recommend direct biomarkers (e.g. fibrotest or fibrosure) rather than indirect biomarkers (if available).

A) **NAFLD: NAFLD Fibrosis Score (NFS):** PMID:17393509, <http://naflscore.com/>

B) **HCV: FIB-4** <http://www.hepatitisc.uw.edu/page/clinical-calculators/fib-4>

4) **Determine if Fibroscan and Serologic Fibrosis Scores are Concordant or Discordant in NAFLD or HCV** (caution is advised in HIV-HCV coinfection due to HIV related thrombocytopenia and DILI)

Diagnosis	Predicted Biopsy	Liver Stiffness (KPa)	Serologic Fibrosis Score
NAFLD	F0-F2	<10	NFS: <= -1.455
	F3-F4	>=10	NFS: >= 0.675
Hepatitis C*	F0-F2	<9.5	FIB-4: <=1.45
	F3-F4	>=9.5	FIB-4: >=3.25

For HCV, use fibrotest or fibrosure rather than FIB-4 or Apri if available.

*NAFLD Fibrosis Score: Indeterminate Range: -1.456 to 0.674

*FIB-4 Indeterminate Range HCV With or Without HIV Coinfection: 1.46-3.24

If fibrosis stage between VCTE and serologic tests differs or if the serologic test yields indeterminate results, then consider liver biopsy on a case-by-case basis especially if the result would affect patient management.

Chronic Hepatitis C

- Cutoffs to know:
 - 7.3 kPa suggests significant fibrosis
 - 12.5 kPa suggests cirrhosis

Chronic Hepatitis B

- Must know: HBV DNA
- Cutoffs to know:
 - 11.7 kPa suggests cirrhosis
 - If normal ALT: consider treating at 9.0 kPa

NAFLD

- Cutoff to know:
 - 10.3 kPa suggests cirrhosis
- Consider performing CAP assessment
- Consider XL probe for obese patients

Transient elastography: what the clinician needs to know

1. What is the underlying disease?
2. Other evidence of advanced liver disease? (e.g., perform a physical exam and check serological tests for fibrosis)
3. What can affect the test?
 - a. Is the patient fasting?
 - b. What is the body mass index?
 - c. What is the burden of inflammation? (e.g., check ALT)
 - d. Is the patient actively drinking alcohol?
 - e. Is there evidence of cholestasis?

Alcoholic liver disease

- Must also know: drinking status
- Cutoffs to know:
 - 22.7 kPa suggests cirrhosis if drinking
 - 12.5 kPa suggests cirrhosis if abstinent

Biliary liver disease

- Must also know: alkaline phosphatases
- Cutoff to know:
 - 17.9 kPa suggests cirrhosis

Portal hypertension in cirrhotic patients

- Cutoffs to know:
 - 20.0 kPa suggests HVPG ≥ 10
 - 60.7 kPa suggests high risk of variceal bleeding

