

# 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

*Curr Gastroenterol Rep* (2014) 16:372

**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.

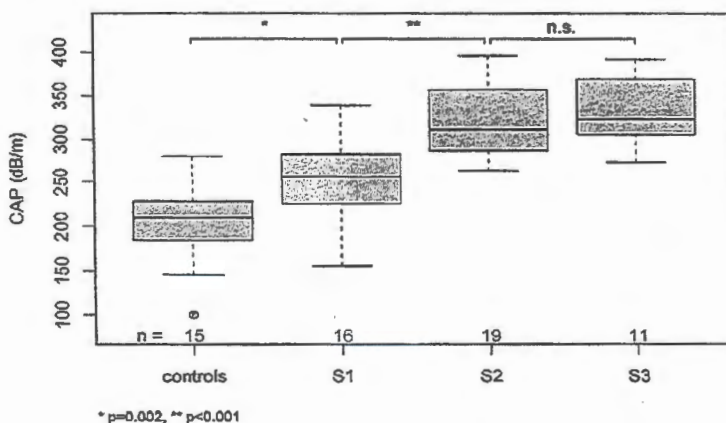
\* Baveno VI guidelines suggest that if stiffness < 20 kpa and platelets >150k, then there is no need for screening EGD, but the fibroscan and platelet count should be repeated yearly.

## 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

**A**

**Steatosis quantification using CAP**



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://nafldscore.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 HVP  $\geq 10$
  - 50.7 kPa suggests high risk of variceal bleeding

