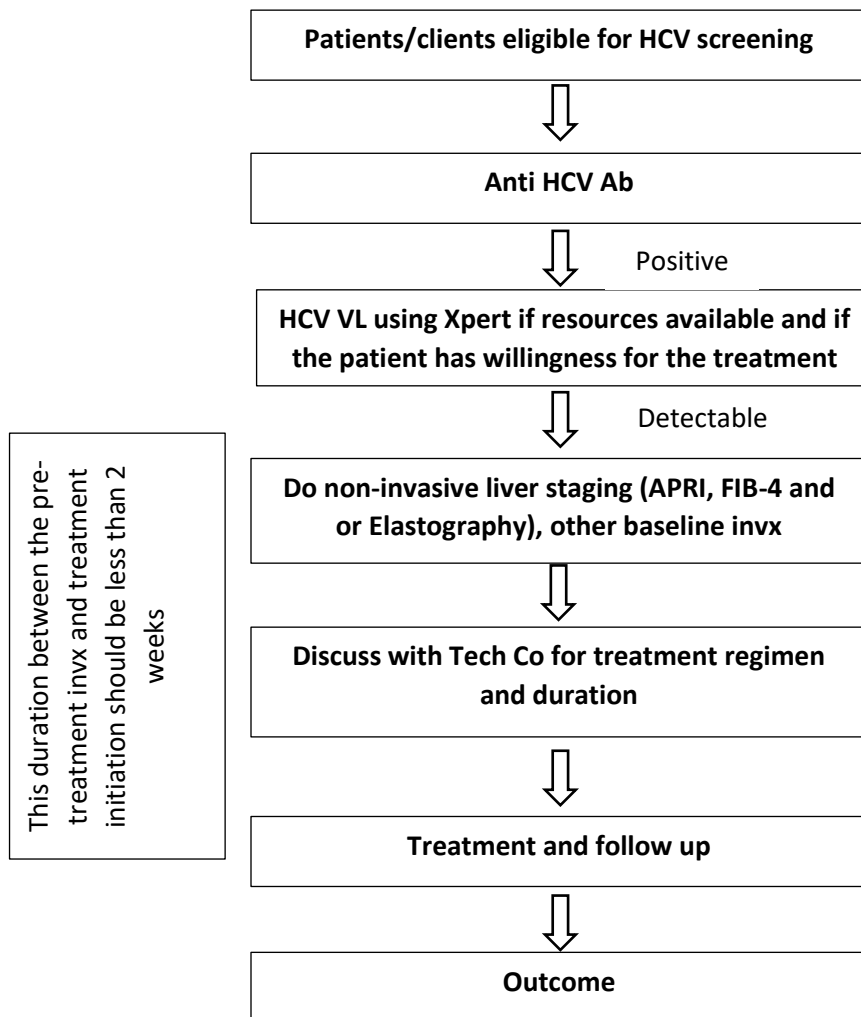


Hepatitis C Treatment Preparation



Pre-treatment Investigation

Examination	Baseline	W4	W12	W24	12 weeks after Rx
Clinical evaluation	X	X	X	X	X
HBsAg	X				
CBC	X				
Hemoglobin	X	Only when indicated			
ALT	X	Only when indicated			
AST	X				
Creatinine	X	Only when indicated			
Total bilirubin ²	X	Only when indicated			
INR ²	X	Only when indicated			
Albumin ²	X	Only when indicated			
CD4 count ¹	X				
HIV VL	X ¹				
Glucose	X				
HCV VL	X				X
Ultrasound (Abd)	Only when requested by hepatologist				
Pregnancy test ³	X	To do 4 weekly if the woman is not on contraception			

¹Do not repeat if the result is within one year.

²Tests to determine Child-Pugh score only in cases with cirrhosis (by APRI, FIB-4 or FibroScan)

³Need to make monthly appointments for pregnancy tests

Confirming Chronic HCV Infection

Patients with anti-HCV Ab positive require further investigations to confirm the active HCV infection and liver disease staging.

For confirmation, NAT tests such as Xpert™ HCV viral load testing will be used. Those tested positive with NAT will be considered as chronic HCV infection and eligible for treatment and referred to HCV-RNA positive post-test counseling.

➤ Assessment of liver fibrosis or cirrhosis (non-invasive approach)

- Fibroscan (if available) and/or
- APRI (blood-based scoring) or
- FIB-4 (blood-based scoring)

➤ Assessment of cirrhosis severity

(it is needed in the patients with cirrhosis according to the above tests)

- Child Pughe scoring

1. FibroScan

- Measurement of liver stiffness by transient elastography is a validated method for the non-invasive assessment of liver fibrosis.
- Note: Transient elastography values may be artificially increased by a number of factors, including acute liver inflammation, liver congestion (e.g., cardiac failure), a recent meal, amyloidosis and cholestasis and may be less accurate in obese patients or when performed by inexperienced operators.

METAVIR fibrosis score (Elasticity threshold)

Stage F0: Corresponds to no fibrosis- normal liver

Stage F1: Initial changes in porta-periportal fibrosis, no septa involved

Stage F2: Periportal fibrosis or portal-to-portal septa, without architectural distortion

Stage F3: Bridging fibrosis with architectural distortion, no obvious cirrhosis

Stage F4: Cirrhosis (probable or definite)

	F0-F1 (kPa)	F2 (kPa)	F3 (kPa)	F4 (kPa)
HCV mono-infection	≤ 7	7.1 – 9.4	9.5 – 12.4	≥ 12.5
HCV-HIV	≤ 7	7.1 – 10	10.1 – 13.9	≥ 14

Note: If FibroScan is not available, blood-based scoring systems: APRI index and FIB-4 will be used for liver fibrosis staging.

2. APRI score (blood-based scoring)

- AST and PLT are needed to calculate APRI index.

$$\text{APRI} = \frac{\frac{\text{AST Level (IU/L)}}{\text{AST (Upper Limit of Normal) (IU/L)}}}{\text{Platelet Count (10}^9\text{/L)}} \times 100 = \text{[Yellow Box]}$$

AST_ULN: upper limit of normal AST result which depends on the local laboratory values used as reference.

APRI score interpretation

APRI Score	Interpretation
>1.5	Cirrhosis
0.5 – 1.5	Fibrosis, risk of fibrosis
<0.5	No fibrosis

3. FIB-4 scoring

- AST, ALT and PLT are needed to calculate FIB-4.

$$\text{FIB-4} = \frac{\text{Age (years)} \times \text{AST Level (U/L)}}{\text{Platelet Count (10}^9\text{/L)} \times \sqrt{\text{ALT (U/L)}}} = \text{[Yellow Box]}$$

FIB-4 score interpretation

FIB-4 Score	Interpretation
>3.25	High risk of advanced fibrosis

1.45 – 3.25	Intermediate risk of advanced fibrosis
<1.45	Low risk of advanced fibrosis

Child-Pugh score

- To do only when the patient has cirrhosis. (i.e., APRI>1.5 OR FIB-4>3.25 OR FibroScan F3/F4)
- to estimate the degree of liver dysfunction and estimate prognosis (survival).
- It is not used for eligibility assessment other than a relative contraindication for treatment in case of the decompensated cirrhosis which should be referred to the specialist. The score employs five clinical measures of liver disease. Each measure is scored 1-3, with 3 indicating most severe derangement.

Child-Pugh score and interpretation

Measure	1 point	2 points	3 points
Total bilirubin, $\mu\text{mol/L}$ (mg/dL)	><34 (<2)	34-50 (2-3)	>50 (>3)
Serum albumin, g/dL	>3.5	2.8-3.5	<2.8
INR	<1.7	1.71-2.30	>2.30
Ascites (see below)	None	Mild	Moderate to severe
Hepatic encephalopathy (see below)	None	Grade I-II (or suppressed with medication)	Grade III-IV (or refractory)

Hepatic Encephalopathy

West Haven Criteria of hepatic encephalopathy	
Grade I	Trivial lack of awareness; euphoria or anxiety; shortened attention span; impaired
Grade II	Lethargy or apathy; minimal disorientation for time or place; subtle personality change;

Grade III	Somnolence to semi-stupor but responsive to verbal stimuli;
Grade IV	Coma (unresponsive to verbal or noxious stimuli)

Ascites

Grades ascites	Criteria
Mild	Only visible on Ultrasound and CT
Moderate	Detectable with flank bulging and shifting dullness
Severe	Directly visible, confirmed with the fluid wave test

Interpretation

Points	Class	One-year survival	Two-year survival
5-6	A	100%	85%
7-9	B	81%	57%
10-15	C	45%	35%

Class A – advanced liver disease compensated.

Class B and C – advanced liver disease decompensated.