



# Hepatitis C Diagnosis and Treatment Planning

This job aid is for providers and clinical support staff involved in the diagnosis and treatment of hepatitis C (HCV) patients in the outpatient setting. Please refer to the HCV and HIV Provider Training Series for additional information.

## Diagnostics

### 1.1 Initiate HCV Screening

Begin with an HCV antibody screen that reflexes to an HCV PCR test, if reactive.

**HEPATITIS C ANTIBODY REFLEX(HCREF)**  
Status: Final result (

⚠ **HEPATITIS C ANTIBODY REFLEX(HCREF):**  
Status: Final result Visible to patient: No (inaccessible in MyChart) Next appt: None

**1 Result Note**

Component	Ref Range & Units	
Hepatitis C Ab Screen	Neg	Reactive Screen !
HCV AB Sample/Cut Off Ratio	0.00 - 0.79	>11.00 ^

Comment: A reactive screening test is not diagnostic for hepatitis C infection.  
(Note)  
Confirmatory testing by PCR will be performed as recommended by the CDC for all Reactive Screen or Equivocal results.  
Lab studies performed by: Quest Diagnostics located at CRMH, 1906 Belleview Ave. Roanoke, VA 24014

Resulting Agency Sunquest LIS

Figure 1: Example of reactive HCV antibody screening result (in Epic)

### 1.2 Confirmatory Testing for Active HCV

A reactive HCV antibody screen indicates that the patient has been exposed to HCV in the past. Confirmatory testing with RNA PCR is required to diagnose active HCV infection.

If the antibody screening was reactive, in most cases, an RNA PCR test will automatically reflex to confirm an active infection. If the PCR result is > 15 IU/ml this is considered an active HCV infection.

### 1.3 Pre-Treatment Assessment

Prior to initiating HCV treatment, complete a pre-treatment assessment, including the following:

- Medical history
- Physical exam: s/s liver disease
- Allergies
- Labs
- Immunizations



Assessments for liver fibrosis and evaluation of hepatitis B infection are needed to determine whether the patient can be treated in the primary care setting or if a referral to an Infectious Diseases or Gastroenterology provider is warranted. Both topics are covered in the following sections.

### 1.4 Assess Liver Fibrosis

To evaluate for liver fibrosis, use one or a combination of the following assessments:

- ☐ Option 1: Order LIVER FIBROSIS, FIBROTEST-ACTITEST PANEL (FIBROTEST)
- ☐ Option 2: Fibrosis-4 Calculator

#### Fibrosis-4 (FIB-4) Calculator

Share

The Fibrosis-4 score helps to estimate the amount of scarring in the liver. Enter the required values to calculate the FIB-4 value. It will appear in the oval on the far right (highlighted in yellow).

$$\text{FIB-4} = \frac{\text{Age (years)} \times \text{AST Level (U/L)}}{\text{Platelet Count (10}^9\text{/L)} \times \sqrt{\text{ALT (U/L)}}} = 1.45$$

#### Interpretation:

Using a lower cutoff value of 1.45, a FIB-4 score <1.45 had a negative predictive value of 90% for advanced fibrosis (Ishak fibrosis score 4-6 which includes early bridging fibrosis to cirrhosis). In contrast, a FIB-4 >3.25 would have a 97% specificity and a positive predictive value of 65% for advanced fibrosis. In the patient cohort in which this formula was first validated, at least 70% patients had values <1.45 or >3.25. Authors argued that these individuals could potentially have avoided liver biopsy with an overall accuracy of 86%.

Figure 2: FIB-4 Calculator



*If FIB-4 is more than 3.25 or the liver fibrosis test is more than F2, consider referral to an Infectious Diseases or Gastroenterology provider.*

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## 1.5 Determine Immunity to Hepatitis A or Hepatitis B

**Note:** You can always initiate an eConsult with Infectious Diseases for assistance with interpreting serologic results.

☐ HEP A TOTAL AB

Total antibody test determines if patient is immune to Hepatitis A.

☐ HEP B POST VAC QUANT

Determines the patient been immunized against Hep B and developed immunity.

☐ HEPATITIS B CORE AB TOTAL

Indicates previous or ongoing infection with Hep B in an undefined time frame.

☐ HEPATITIS B SURFACE ANTIBODY (HBSAB)

Indicates recovery and immunity from Hep B infection or successful vaccination against Hep B.

☐ HEPATITIS B SURFACE ANTIGEN (HBsAg)

*If positive indicates active hepatitis B infection*



*If the HEPATITIS B SURFACE ANTIGEN (HBsAg) test is positive, **there is a risk of liver failure if treatment for HCV is started**. Refer patient to an Infectious Diseases or Gastroenterology provider.*



**Reminder:** You can initiate a free e-Consult with a Carilion Clinic Infectious Diseases physician and/or pharmacist if you have questions about immunization results, drug interactions, or anything else relevant to HCV treatment planning.

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## Treatment Planning

### 2.1 Complete Medication Reconciliation

Use Hep Drug Interactions to assess any interactions with other patient medications: <https://www.hep-druginteractions.org>

Figure 3: Hep Drug Interactions Checker

### 2.2 Review Simplified HCV Treatment Regimen

Review the American Association for the Study of Liver Diseases (AASLD)/Infectious Diseases Society of America (IDSA) **Recommendations for Testing, Managing, and Treating Hepatitis C** to determine eligibility: <https://www.hcvguidelines.org/>

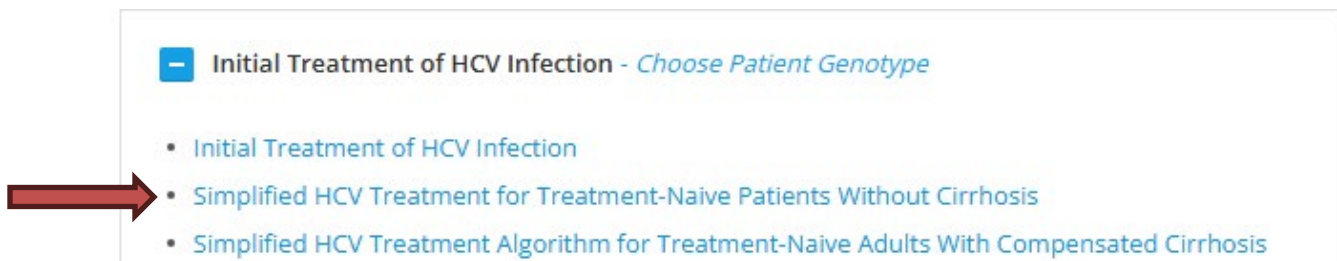


Figure 4: Screenshot for how to access simplified HCV treatment guidance

### 2.3 Document Encounter in the Electronic Medical Record

Recommended documentation includes the following to support insurance billing:

- Diagnosed (year)
- Symptoms (nausea, vomiting, malaise, jaundice)
- Risks factors (IV drug use, snorting cocaine, high risk sexual behavior, tattoos, etc.)
- Alcohol use (Yes/No)
- Prior treatment for HCV infection
- Lab results:
  - HCV viral RNA

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- HCV RNA genotype,
  - CBC w/ diff, CMP
  - HIV 4th gen
  - Hepatitis serology Hep A AB total, Hep B core AB, Hep Bs Ag, HepBSAB,
  - Liver fibrosis test
  - PT/INR
  - Liver Ultrasound if there is evidence of cirrhosis
  - Hep C drugs available: (pending laboratory results as above and insurance approval)
    - Elbasvir-grazoprevir -- Zepatier - geno 3 resistance (Q1095)
    - Ledipasvir /sofosbuvir - Harvoni
    - Sofosbuvir/velpatasvir - Epclusa
    - Glecaprevir/pibretasvir – Mavyret
  - Vaccination recommended based on serologic results: Hep A and B vaccination will be encouraged if medically appropriate based on further lab workup
  - Counseling provided to patient (sample verbiage for insurance purposes):

*Patient was educated on the importance of avoiding any hepatotoxins such as ETOH, excessive Tylenol, herbal therapies, or insecticides / chemicals, etc. They were educated on risk of recurrence and vocalized understanding that treatment is only intended to cure active infection, not prevent from contracting the disease again. The patient was also encouraged to inform sexual partner(s) that they should be tested and treated if positive. Ref: <http://www.hcvguidelines.org/full-report/initial-treatment-box-summary-recommendations-patients-who-are-initiating-therapy-hcv>*