Non-invasive Testing for Liver Fibrosis

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Developed By: Medical Necessity Criteria Committee

I. Description

Hepatitis C affects 3.5 million Americans and slowly destroys the liver over time leading to serious and potentially life-threatening complications including liver cancer and the need for liver transplants. With the discovery of a new generation of antiviral medications for the treatment of chronic Hepatitis C, there is now a potential cure for patient with the most common form of hepatitis C. Prior to treatment, staging of the extent of liver damage is required.

Hepatic fibrosis is the excessive accumulation of fibrotic connective tissue resulting from prolonged inflammation and progressive scarring of the liver due to a sustained wound-healing response to alcohol or non-alcohol induced liver injury (nonalcoholic liver disease includes, but not limited to hepatitis B and hepatitis C infections). The increased fibrosis and liver stiffness reduce blood flow through the liver, which leads to hardening and death of liver cells. Other chronic liver diseases include alcoholic liver disease, chronic hepatitis B, non-alcoholic steatosis, and chronic viral hepatitis B.

Liver biopsy is considered the gold standard for staging of fibrosis in patients with chronic liver disease, however, is an invasive procedure with associated risks. Liver biopsy is 80% accurate with sampling errors and intra/inter-observer variation in the histological examination. Complications of bleeding, pain and injury to the hepatic system can occur.

Alternatives to invasive liver biopsy have been developed to assess liver damage in patients with chronic liver disease. Radiologic exams include ultrasound-based transient elastography (i.e. Fibroscan), magnetic resonance elastography, acoustic force impulse imaging, and cross-sectional imaging. Fibroscan is the most widely used, often in conjunction with serologic panels.

A variety of serologic markers have been evaluated to predict the degree of fibrosis. They combine assays of multiple markers to improve predictive ability. The most studied panels are the aspartate aminotransferase (AST) to platelet ration (APRI), FibroTest/FibroSure, Hepascore, and FibroSpect. Overall, studies of the various panels suggest they have a good ability to differentiate patients with significant fibrosis (F2-F4) from those without significant fibrosis (F0-F1).

In September 2015, the American Association of Liver Diseases and the Infectious Disease Society of America published updated practice guidance for testing, managing and treating adults infected with hepatitis C. Their recommendation for staging patients with chronic liver disease is as follows:

"The most efficient approach to fibrosis assessment is to combine direct biomarkers and vibration controlled transient liver elastography."

II. Criteria: CWQI HCS-0192

A. Summit Health considers FibroTest-ActiTest/HCV-Fibrosure testing medically necessary for persons with Hepatitis C or other chronic liver diseases (e.g. hereditary hemochromatosis)

   a. To distinguish hepatic cirrhosis from non-cirrhosis
      i. Testing should be done no more than two times per year
   b. FibroTest-ActiTest/HCV-Fibrosure within 6 months after a liver biopsy is considered NOT medically necessary
   c. FibroTest-ActiTest/HCV-Fibrosure is considered experimental or investigational for all other indications

B. Summit Health considers **transient elastography (e.g. Fibroscan) for persons with Hepatitis C or other chronic liver diseases (e.g. hereditary hemochromatosis, NAFLD and NASH)** medically necessary
   a. To distinguish hepatic cirrhosis from non-cirrhosis
      i. Testing should be done no more than two times per year
   b. Transient elastography within 6 months after a liver biopsy is considered NOT medically necessary
   c. Transient elastography is considered experimental or investigational for all other indications

C. Summit Health considers **Magnetic Resonance (i.e. vibration) Elastography (MRE)** of the liver medically necessary for non-alcoholic steatosis (NASH) for the detection and prognosis of liver fibrosis.
   a. Summit Health considers MRE experimental or investigational for distinguishing hepatic cirrhosis from non-cirrhosis in persons with hepatitis C or other chronic liver diseases and for all other indications because its effectiveness for these indications has not been established.

D. Summit Health considers the **Enhanced Liver Fibrosis (ELF)** test medically necessary for the detection and prognosis of liver fibrosis in persons with chronic liver diseases

E. Summit Health considers Acoustic Radiation Forced Impulse (ARFI) experimental or investigational for distinguishing hepatic cirrhosis from non-cirrhosis in persons with hepatitis C or other chronic liver diseases, and for all other indications because its effectiveness for these indications has not been established

F. Summit Health considered Hepatic Artery Resistance Index experimental or investigational for evaluation of fibrosis progression in individuals with non-alcoholic fatty liver disease (NAFLD) because its effectiveness for this indication has not been established

G. Summit Health considers the following serum marker tests experimental or investigational for detecting or monitoring hepatic fibrosis in persons with hepatitis C or other chronic liver diseases (e.g. NAFLD) because their effectiveness for these indications has not been established (not an all-inclusive list):
    a. Angiotensin converting enzyme
    b. FibroMAX
    c. FibroSpect
    d. HepaScore
    e. LIVERFAST
    f. Micro-fibrillar associated glycoprotein 4 (MFAP4)
    g. MicroRNA-21
    h. miR-29a and miR-122
    i. miRNA-221 and miRNA-222
    j. NASH FibroSure
    k. Plasma cytokeratin-18
    l. Signal-induced proliferation associated 1 like 1 (SIPA1L1)

III. Information Submitted with the Prior Authorization Request:

1. Chart notes and documentation of patient's history and physical exam
2. Pertinent laboratory test results and imaging studies.

IV. CPT or HCPC codes covered:

Codes	Description
82977	Glutamiltransferase, gamma (GGT)
76391	Magnetic resonance (e.g. vibration) elastography
76981	Ultrasound, elastography, parenchyma (e.g., organ)
91200	Liver elastography, mechanically induced shear wave (e.g., vibration) without imaging, with interpretation and report
81596	Infectious disease, chronic hepatitis C virus (HCV) infection, six biochemical assays (ALT, A2-macroglobulin, apolipoprotein A-1, total bilirubin, GGT, and haptoglobin) utilizing serum, prognostic algorithm reported as scores for fibrosis and necroinflammatory activity in liver
47000	Biopsy of liver, needle, percutaneous
47001	Biopsy of liver, needle, when done for indicated purpose at time of other major procedure (List separately in addition to code for primary procedure)
47100	Biopsy of liver, wedge

V. CPT or HCPC codes NOT covered:

Codes	Description
83520	Immunoassay, analyte, quantitative, not otherwise specified [if billed for FIBROspect or HCV-FIBROSURE, FibroMAX, HepaScore]
83883	Nephelometry, each analyte not elsewhere specified [if billed for FIBROspect or HCV-FIBROSURE FibroMAX, HepaScore]

88342	Immunohistochemistry or Immunocytochemistry, per specimen; initial single antibody stain procedure [for the evaluation of non-alcoholic fatty liver disease and other liver disease] verify coverage for this code

VI. Annual Review History

Review Date	Revisions	Effective Date
10/28/2015	New Policy adopted from Pharmacy requirements for oral Hepatitis C medication	02/2016
11/16	Annual Review: Added FibroTest	11/30/2016
10/2017	Annual Review: Updated to new template	10/25/2017
10/2018	Annual Review: No changes	10/25/2018
09/2019	Annual review: Updated the guidelines/requirements for coverage of testing for hepatic cirrhosis	10/01/2019
12/2019	Update: Code 76391 added to covered list	12/9/2019
12/2019	Update: Criteria updated to indicate allowing coverage for Magnetic resonance elastography	12/16/2019
10/2020	Annual Review: Added Enhanced Liver Fibrosis (ELF) test	11/02/2020
10/2021	Annual Review: No changes	11/02/2021
09/2022	Annual Review: No changes	10/1/2022
10/2023	Annual Review: Grammar updates. No content changes	11/1/2023

VII. References

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Appendix 1 – Applicable Diagnosis Codes:

Codes	Description
B18.0 – B18.1	Chronic viral hepatitis B
B18.2	Chronic viral hepatitis C

E83.110	Hereditary hemochromatosis
K70.0 – K77	Diseases of the liver (chronic)
Z94.4	Liver transplant status

Appendix 2 – Centers for Medicare and Medicaid Services (CMS)

Medicare coverage for outpatient (Part B) drugs is outlined in the Medicare Benefit Policy Manual (Pub. 100-2), Chapter 15, §50 Drugs and Biologicals. In addition, National Coverage Determination (NCD) and Local Coverage Determinations (LCDs) may exist and compliance with these policies is required where applicable. They can be found at: http://www.cms.gov/medicare-coverage-database/search/advanced-search.aspx. Additional indications may be covered at the discretion of the health plan.

Medicare Part B Covered Diagnosis Codes (applicable to existing NCD/LCD):

Jurisdiction(s): 5, 8	**NCD/LCD Document (s):**

NCD/LCD Document (s):

Medicare Part B Administrative Contractor (MAC) Jurisdictions		
Jurisdiction	Applicable State/US Territory	Contractor
F (2 & 3)	AK, WA, OR, ID, ND, SD, MT, WY, UT, AZ	Noridian Healthcare Solutions, LLC