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Medical policies in conjunction with other nationally recognized standards of care are used to make medical coverage decisions.

Elastography Policy

Indication/Usage:

Noninvasive imaging technologies to detect liver fibrosis or cirrhosis for individuals with chronic liver disease are being performed as alternatives to liver biopsy

Transient Elastography

Transient elastography (TE, FibroScan) produces a low frequency wave inducing an elastic shear wave that propagates throughout the liver. Ultrasound tracks the wave to produce a one dimensional image liver stiffness. Increases in liver fibrosis also increase liver stiffness and resistance of liver blood flow. Transient elastography does not perform as well in individuals with ascites, higher body mass index, or narrow intercostal margins. TE is used to measure fibrosis, unlike liver biopsy, it will not provide

information on necroinflammatory activity and steatosis, nor is it accurate during acute hepatitis or hepatitis exacerbations.

Magnetic Resonance Elastography
Magnetic resonance elastography (MRE) involves a pulse sequence sensitive to the transmission of waves through the tissue producing a color-scaled, quantitative, three-dimensional image. MRE has the advantages to analyze larger liver volumes, analyze liver volumes of obese patients or patients with ascites; and analyze viscoelasticity using a 3-dimensional displacement vector.

Acoustic Radiation Force Impulse
Acoustic radiation force impulse (ARFI) elastography is a noninvasive method for detecting and staging hepatic fibrosis. ARFI involves a ultrasound beam creating a two dimensional image. This creates a 'push' technique inside the tissue using the acoustic radiation force from a focused ultrasound beam. Softer tissue is more easily pushed than stiffer tissue, thus creating a map a tissue stiffness and can be performed on individuals with a significant amount of ascites.

Shear Wave Elasticity
Shear wave elasticity (SWE) measures the shear waves produced from focus beams of ultrasound energy from conventional transducers producing movement within the tissue. Providing a 2- dimensional map of tissue elasticity or stiffness.

Real-time Tissue Elastography
Real-time tissue elastography (RTE) evaluates reproducible differences in ultrasound signals that result from compression of tissues and uses color Doppler to generate an image of tissue movement in response to the external vibrations. RTE can be performed in patients with ascites or inflammation but does not work well in members with severe obesity.

Medical Indications for Authorization

Commercial and Medicare Members

1. SummaCare considers these forms of transient elastography (FibroScan) (Acoustic Radiation Force Impulse, Shear Wave Elasticity, Real-time Tissue, Elastography) medically necessary when the following criteria is met

    a. To detect or stage advanced hepatic (liver) fibrosis and cirrhosis in an individual with hepatitis B, hepatitis C, chronic alcoholic liver disease and/or all other chronic liver diseases.
    b. TE can only be performed every 6 months.
    c. TE can't be performed within six months following a liver biopsy.

2. SummaCare considers Magnetic resonance elastography (MRE) medically necessary to diagnose and/or manage advanced hepatic fibrosis or cirrhosis when the following criteria is met.
    a. Members with nonalcoholic fatty liver disease **or** with other established chronic liver diseases when ultrasound elastography can't be performed or is not diagnostic.

b. MRE can only be performed every 6 months.
c. MRE can't be performed within six months following a liver biopsy.

There are currently no NCD or LCD for Elastography for hepatic fibrosis per

CPT Codes

76981 Ultrasound, elastography; parenchyma (eg, organ)
91200 Liver elastography, mechanically induced shear wave (eg, vibration), without imaging, with interpretation and report

Limitations

The following procedures are considered experimental, investigational, or unproven because the effectiveness of these approaches has not been established:

- Any other ultrasound elastography techniques of the liver not listed above
- Acoustic radiation forced impulse (ARFI) and magnetic resonance elastography (MRE) for distinguishing hepatic cirrhosis from non-cirrhosis in persons with hepatitis C and other chronic liver diseases
- TC for members with ascites

Coverage Decisions

Coverage decisions made per CMS Guidelines, Hayes Research and industry standards research

Plans Covered By This Policy

Commercial and Medicare
Self-funded Commercial groups refer to plan document for coverage

Sources Reviewed

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