

The Department of Vermont Health Access Medical Criteria

Subject: Vibration-Controlled Transient Elastography

Last Review: May 5, 2023*

Past Revisions: October 6, 2021, January 28, 2020, March 13, 2018, December 29, 2016, and December 30, 2015

***Please note: Most current content changes will be highlighted in yellow.**

Description of Service or Procedure

Vibration-Controlled Transient Elastography is a non-invasive tool that provides assessments of liver stiffness as a surrogate for fibrosis. It measures the velocity of the shear wave generated on the skin. It is used to estimate the degree of liver scarring present. It is very useful in assessment of patients with chronic liver diseases, including chronic hepatitis C (HCV), and chronic hepatitis B (HBV), chronic alcohol abuse, autoimmune disease, and non-alcoholic fatty liver disease. It does not stage fibrosis but rather stratifies risk and correlates very well with fibrosis. The primary benefit of this procedure is the exclusion or inclusion of advanced fibrosis and cirrhosis. In some circumstances, it may reduce the need for an invasive biopsy of the liver. The scan accesses a larger volume of hepatic parenchyma versus a biopsy. It is non-invasive and sedation is not required. It was FDA approved in 2013 and has not been shown to have any side effects. It is simple to use and well-tolerated. The test time is less than 10 minutes. This test allows the physician to make care plans immediately because they do not need to wait for test results as they would with a biopsy.

Disclaimer

Coverage is limited to that outlined in Medicaid Rule or Health Care Administrative Rules that pertains to the member's aid category. Prior Authorization (PA) is only valid if the member is eligible for the applicable item or service on the date of service.

Medicaid Rule

Medicaid and Health Care Administrative Rules can be found at <https://humanservices.vermont.gov/rules-policies/health-care-rules/health-care-administrative-rules-hcar/adopted-rules>

- 7102.2 Prior Authorization Determination
- 4.101 Medical Necessity for Covered Services
- 4.104 Medicaid Non-Covered Services



Coverage Position

Transient Elastography may be covered for members:

- When the Transient Elastography is prescribed by a licensed medical provider, enrolled in the Vermont Medicaid program, operating within their scope of practice as described on the Vermont's Office of Professional Regulation's website*, who is knowledgeable in the use of Transient Elastography and who provides medical care to the member AND
- When the clinical criteria below are met.

* Vermont's Office of Professional Regulation's website: <https://sos.vermont.gov/opr/>

Coverage Criteria

Transient Elastography may be covered for members with the following diagnosis(es):

- Hepatitis C virus HCV
- HBV
- Viral Hepatitis
- Hereditary hemochromatosis
- Alcoholic liver disease
- Non-alcoholic fatty liver disease (NAFLD)
- Nonalcoholic steatohepatitis (NASH)
- Obesity and /or features of metabolic syndrome
- Type1 diabetes with risk factors
- Prediabetes or Type 2 diabetes (T2D)
- Persistent elevated plasma aminotransferase levels over 6 months
- Members undergoing bariatric surgery.

And the following criteria are met:

1. A trained operator is performing the test.
2. The provider knows the members alanine aminotransferase (ALT)
3. The member has an intermediate or high FIB-4 score.
4. The provider knows the member's alkaline phosphatase.
5. An XL probe will be used for members with a BMI ≥ 30 .
6. The member has fasted as directed by the provider in preparation for the test.
7. Alcohol status of member has been determined.
8. The member has been assessed for heart failure.
9. Testing will be performed in conjunction with an assessment of serologic markers of fibrosis.

Consideration that may affect test results:

1. Test result accuracy is improved when the provider has experience and completed over 100 exams.
2. Increased ALT- inflammation with levels above 100 IU/L
3. Alkaline phosphatase - cholestasis is known to increase stiffness of the liver.
4. Congestion from right heart failure may increase liver stiffness.
5. Non-fasting

6. Current alcohol status
7. Ascites
8. Large amounts of chest wall fat
9. Morbid obesity (BMI>30)
10. Narrow intercostal margins

Early and Periodic Screening, Diagnostic and Treatment (EPSDT): Vermont Medicaid will provide comprehensive services and furnish all Medicaid coverable, appropriate, and medically necessary services needed to correct and ameliorate health conditions for Medicaid members under age 21.

Please note, Vermont Medicaid Clinical Criteria is reviewed based on available literature, evidence-based guidelines/standards, Medicaid rule and policy, and Medicare coverage determinations that may be appropriate to incorporate when applicable.

Clinical criteria for repeat service or procedure

Vibration-Controlled Transient Elastography should not be performed more than every six months and is limited to two per year. It should not be performed within 6 months following a liver biopsy.

Type of service or procedure covered

Vibration-Controlled Transient Elastography.

Coding guidelines

Please see the Medicaid Portal at <http://vtmedicaid.com/#/feeSchedule> for fee schedules, code coverage, and applicable requirements.

CPT Code	CPT Code Description
76981*	Ultrasound, elastography; parenchyma (e.g., organ)
76982*	Ultrasound, elastography; first target lesion
76983	Ultrasound, elastography; each additional target lesion (List separately in addition to code for primary procedure)
91200	Liver elastography, mechanically induced shear wave (e.g., vibration), without imaging, with interpretation and report

*Requires prior authorization

References

Ali, A. H., Al Juboori, A., Petroski, G. F., Diaz-Arias, A. A., Syed-Abdul, M. M., Wheeler, A. A., Ganga, R. R., Pitt, J. B., Spencer, N. M., Hammoud, G. M., Rector, R. S., Parks, E. J., & Ibdah, J. A. (2022). The utility and diagnostic accuracy of transient elastography in adults with morbid obesity: A prospective study. *Journal of Clinical Medicine, 11*(5), 1201. <https://doi.org/10.3390/jcm11051201>

Centers for Medicare & Medicaid Services. (n.d.). *Early and periodic screening, diagnostic, and treatment*. Medicaid.gov. Retrieved March 21, 2023, from <https://www.medicare.gov/medicaid/benefits/epsdt/index.html>

- Cusi, K., Isaacs, S., Barb, D., Basu, R., Caprio, S., Garvey, W. T., Kashyap, S., Mechanick, J. I., Mouzaki, M., Nadolsky, K., Rinella, M. E., Vos, M. B., & Younossi, Z. (2022). American Association of Clinical Endocrinology Clinical Practice guideline for the diagnosis and management of nonalcoholic fatty liver disease in primary care and endocrinology clinical settings. *Endocrine Practice*, 28(5), 528–562. <https://doi.org/10.1016/j.eprac.2022.03.010>
- Dietrich, C. F. (2022). Noninvasive assessment of hepatic fibrosis: Ultrasound-based elastography. *UpToDate*. Retrieved March 21, 2023, from <https://www.uptodate.com/contents/noninvasive-assessment-of-hepatic-fibrosis-ultrasound-based-elastography>
- Fang, C., & Sidhu, P. S. (2020). Ultrasound-based liver elastography: Current results and future perspectives. *Abdominal Radiology*, 45(11), 3463–3472. <https://doi.org/10.1007/s00261-020-02717-x>
- Ferraioli, G., & Roccarina, D. (2022). Update on the role of elastography in liver disease. *Therapeutic Advances in Gastroenterology*, 15, 175628482211406. <https://doi.org/10.1177/17562848221140657>
- Ferraioli, G., Wong, V. W.-S., Castera, L., Berzigotti, A., Sporea, I., Dietrich, C. F., Choi, B. I., Wilson, S. R., Kudo, M., & Barr, R. G. (2018). Liver ultrasound elastography: An update to the World Federation for Ultrasound in Medicine and Biology Guidelines and recommendations. *Ultrasound in Medicine & Biology*, 44(12), 2419–2440. <https://doi.org/10.1016/j.ultrasmedbio.2018.07.008>
- Unalp-Arida, A., & Ruhl, C. E. (2022). Prepandemic prevalence estimates of fatty liver disease and fibrosis defined by liver elastography in the United States. <https://doi.org/10.1101/2022.04.05.22273458>
- Vuppalanchi, R., Siddiqui, M. S., Van Natta, M. L., Hallinan, E., Brandman, D., Kowdley, K., Neuschwander-Tetri, B. A., Loomba, R., Dasarathy, S., Abdelmalek, M., Doo, E., Tonascia, J. A., Kleiner, D. E., Sanyal, A. J., & Chalasani, N. (2017). Performance characteristics of vibration-controlled transient elastography for evaluation of nonalcoholic fatty liver disease. *Hepatology*, 67(1), 134–144. <https://doi.org/10.1002/hep.29489>
- Singh, Y., Gogtay, M., Gurung, S., Trivedi, N., & Abraham, G.M. (2022). Assessment of predictive factors of hepatic steatosis diagnosed by vibration controlled transient elastography (VCTE) in chronic hepatitis C virus-infected patients. *Journal of Community Hospital Internal Medicine Perspectives*, 12(4), 59–66. <https://doi.org/10.55729/2000-9666.1071>

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