

Shear Wave Elastography

Mayfair Diagnostics Regina offers a sub-specialized, multidisciplinary ultrasound service called shear wave elastography (SWE) - a non-invasive assessment of liver fibrosis by quantifying liver tissue stiffness.

This procedure directs painless, low-frequency vibrations into the liver, creating a visual map of liver stiffness and providing a quantitative measurement. The preparation for this study is the same as an abdominal ultrasound exam.

When to Refer for Elastography

Elastography is appropriate for the following indications:

- Suspected or known NAFLD:
 - Risk factors for NAFLD (obesity, Type II diabetes, hyperlipidemia, metabolic syndrome, etc.).
 - Fatty liver found on imaging (CT, MRI, ultrasound, etc.).
 - Abnormal ALT or AST.
- Excessive alcohol consumption.
- Other causes of chronic liver disease (e.g. viral hepatitis, hemochromatosis, autoimmune disorders, etc.).
- Any patient if concerned about liver fibrosis, or if you want reassurance that the liver is normal.
- Patients with unknown liver disease, but with abnormal liver enzymes.

Recommendations for Liver Stiffness Values for NAFLD

LIVER STIFFNESS VALUES	RECOMMENDATION ¹
≤5 kPa (1.3 m/sec)	High probability of being normal
<9 kPa (1.7 m/sec)	In the absence of other known clinical signs, rules out cACLD. If there are know clinical signs, many need further tests for confirmation.
9-13 kPa (1.7-2.1 m/sec)	Suggestive of cACLD, but need further tests for confirmation. Refer to a gastroenterologist.
>13 kPa (2.1 m/sec)	Rules in cACLD. Refer to a gastroenterologist.
>17 kPa (2.4 m/sec)	Suggestive of CSPH. Refer to a gastroenterologist.

Note: NAFLD – nonalcoholic fatty liver disease, cACLD – compensated advanced chronic liver disease, CSPH – clinically significant portal hypertension.

1. Barr, R.G.; Wilson, S.R.; Rubens, D.; et al. "Update to the Society of Radiologists of Ultrasound Liver Elastography Consensus Statement." *Radiology* 2020; 296:263-274.