

ELASTOGRAPHY OF THE LIVER

INFORMATION FOR GPs & PEOPLE WITH HEPATITIS C

Last updated 4 April 2017

OVERVIEW

Accurate diagnosis and staging of liver damage and fibrosis is essential for the prognosis and management of chronic liver diseases. Conventional ultrasound imaging provides only anatomical information. When combined with shearwave technology it can

now evaluate stiffness values in patients with liver fibrosis. In the assessment of chronic HCV hepatitis, the most reproducible biopsy scoring system is the Metavir. On the Metavir scoring system [1], liver fibrosis is evaluated semi-quantitatively and staged on a five-point scale from 0 to 4.

- F0: absent
- F1: enlarged fibrotic portal tract
- F2: peri-portal or initial portal-portal septa but intact architecture
- F3: architectural distortion but no obvious cirrhosis
- F4: cirrhosis.

With increasing fibrosis (liver cell damage and scarring), the liver becomes stiffer, which can be assessed and monitored using shearwave elastography. The relationship between fibrosis and elasticity or stiffness is shown in Figure 1.

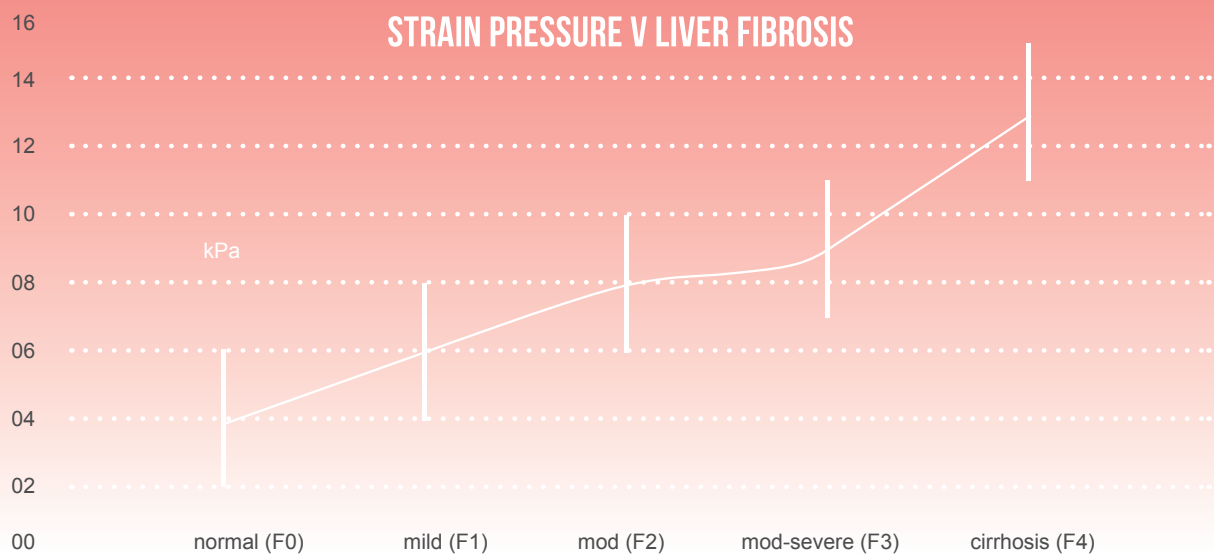


Figure 1: Relationship between liver fibrosis (Metavir) and elastographic strain (kPa).

[1] Bedossa P, Poynard T. An algorithm for the grading of activity in chronic hepatitis C. The METAVIR Cooperative Study Group. *Hepatology*. 1996;24(2):289-93.

WHAT ARE THE BENEFITS OF SHEARWAVE ELASTOGRAPHY?

- Shearwave elastography is real time and has the benefit of visualizing and selecting small samples of liver parenchyma (avoiding vessels, portal triads, etc).
- Recent studies suggest shearwave has a lower failure rate and a greater accuracy, but is less proven in clinical trials.
- Reliable quantitative and non-invasive method of assessing hepatocellular damage.

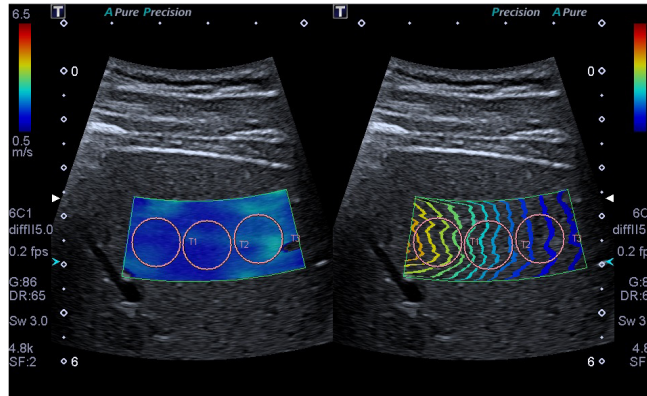


Figure 2:
Regions of Interest in the liver

HOW DOES THE EXAMINATION WORK?

Liver elastography is performed in conjunction with a diagnostic ultrasound. The transducer or probe is placed on the skin and the scan is performed. A region of interest (ROI) is placed in an area of the right lobe of liver (Figure 2) and several measurements are taken while the patient suspends respiration and a report is generated. The procedure is painless. These measurements are then used to estimate the degree of liver stiffness and the reliability of the measurement. The duration of the scan is approximately 20-30minutes.

WHAT SHOULD YOUR DOCTOR REQUEST?

Ask your doctor for a referral for "Liver Ultrasound with Elastography".

HOW MUCH DOES IT COST?

Medicare does not currently cover this service so please contact the providers below for an accurate quote. Their arrangements differ, however best efforts are made to minimise out of pocket costs to patients. People with financial difficulties should ensure they contact all providers as

there may be some compassionate flexibility on a case by case basis in consultation with your doctor.

WHAT RESULTS WILL I GET?

The liver elastography examination will provide an Elastographic Index Score (kPa) and categorisation of the degree of liver fibrosis according to Figure 1. This score is part of the information provided by your GP on a 'remote consultation form' when seeking hepatologists' approval to commence treatment. The examination also produces diagnostic images and a full report.

WHAT IS THE AVAILABILITY OF THE EXAMINATION?



Garran Medical Imaging
Suite 1, 2 Garran Place, Garran, ACT
(02) 6225 7070
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Canberra Imaging Group
Various locations in ACT
Patient Booking Service 1300 788 508
canberraimaging.com.au



Universal Medical Imaging
Various locations in ACT
(02) 6126 5000
admin@umic.com.au
umic.com.au



People living with hepatitis C and their families can access no-cost information, education and support from:

Hepatitis ACT - Canberra's community hepatitis organisation

36 David St, Turner, ACT
(02) 6230 6344
info@hepatitisACT.com.au
hepatitisACT.com.au