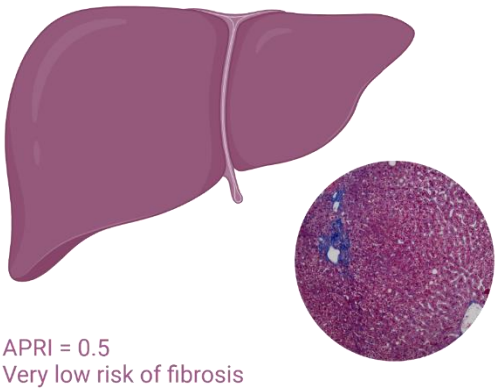
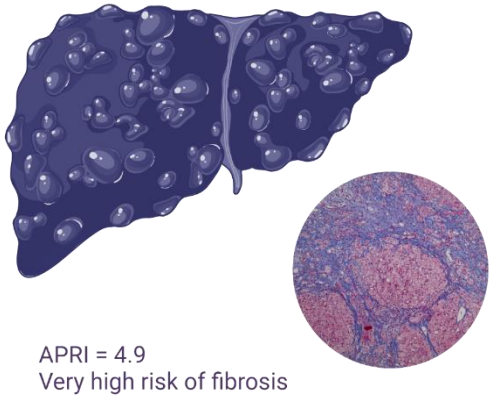


APRI = 0.5
Very low risk of fibrosis



APRI = 4.9
Very high risk of fibrosis

St Vincent's is working to improve detection of occult fibrosis in the community. To promote earlier detection and management of fibrotic liver disease, we've introduced automatic reporting of APRI and a linked pathway for Fibroscan referral.

What is APRI ?

The APRI score is a non-invasive test that can be used to screen for fibrotic liver disease. A persistently elevated APRI score above 1.0 is associated with a higher risk of liver fibrosis.

Interpretation of APRI

A persistently elevated APRI score > 1.0 has 76% sensitivity and 72% specificity for predicting cirrhosis.

Additional tests to identify underlying liver disease when LFT are persistently deranged

For persistent LFT derangement, the following may be useful to investigate underlying liver disease:

- Assessment of metabolic status, including HbA1c and lipids
- Assessment of alcohol consumption
- Hepatitis Serology
- Iron Studies

The following investigations for rarer causes of liver disease should also be considered if clinically indicated:

- anti-SMA, anti-LKM and AMA to screen for autoimmune liver disease
- A1AT to screen for alpha-1 antitrypsin deficiency
- Caeruloplasmin, serum Cu and 24 hour urinary copper to screen for Wilson's Disease

Creatine Kinase (CK) can be useful to clarify underlying skeletal muscle disorders, such as rhabdomyolysis, which can lead to elevated AST and ALT.

Interpretation of APRI in the setting of acute illness

LFT may be transiently abnormal in the setting of acute illness, which can lead to transient elevation in the APRI score. Repeat LFT should be carried out on recovery to ensure normalization of LFT results. A transiently elevated APRI score does not otherwise require follow up.

How is APRI determined?

APRI is a simple calculation based on routine LFT and FBE blood tests. It captures the AST-to-platelet ratio according to the following equation:

$$\text{APRI} = [\text{AST (IU/L)} / \text{upper limit of normal (IU/L)}] / \text{platelet count } (x10^9) * 100$$

The upper limit of AST is sex-specific. St Vincent's Pathology uses the following harmonised reference intervals (RI) endorsed by the Royal College of Pathologists of Australasia:

Upper limit of AST normal RI in adult women	30 IU/L
Upper limit of AST normal RI in adult men	35 IU/L

Do I have to request APRI at St Vincent's Pathology?

No. St Vincent's Pathology will automatically calculate an APRI score for all adult community patients with elevated ALT, provided AST and platelet results are available on the same episode. There is no charge for the APRI score. If the ALT result is normal, the APRI score will not be calculated. St Vincent's Pathology uses the following harmonised sex-specific ALT RI endorsed by the Royal College of Pathologists of Australasia:

Upper limit of ALT normal RI in adult women	35 IU/L
Upper limit of ALT normal RI in adult men	40 IU/L

What should I do with an elevated APRI score?

It is recommended that a persistently elevated APRI score above 1.0 be followed up with a targeted liver ultrasound and transient elastography (Fibroscan) to measure liver "stiffness". To refer for a Fibroscan at SVHM, please follow the link on the APRI report.

What are the limitations of APRI?

Acute illness can cause transient LFT abnormalities and a transiently elevated APRI score. Targeted liver ultrasound and Fibroscan are recommended only for follow-up of persistent APRI elevation. Skeletal muscle disease can cause LFT abnormalities as skeletal muscle necrosis causes release of the transaminase enzymes, AST and ALT. CK can be useful to distinguish skeletal muscle disorders from liver disease. AST is usually higher than ALT in skeletal muscle disease but this is not always the case, as AST half-life is shorter than ALT and it is therefore cleared faster than ALT.

Laboratory Enquiries

Please contact the Biochemistry Laboratory on 9231 4112 for further information and to discuss results with a Chemical Pathologist, please phone 9231 3638.

To learn more about our work at SVHM to improve detection of occult fibrosis in the community, please visit https://www.researchprotocols.org/2024/1/e56607

Flores JE, Trambas CM, Jovanovic N, Thompson AJ and Howell J. Impact of an Automated Population-Level Cirrhosis Screening Program Using Common Pathology Tests on Rates of Cirrhosis Diagnosis and Linkage to Specialist Care (CAPRISE): Protocol for a Pilot Prospective Single-Arm Intervention Study. JMIR Res Protoc. 2024 May 22:13:e56607. doi: 10.2196/56607.