

All-Wales Abnormal Liver Blood Test Pathway

A national approach to identify patients with undiagnosed liver disease in the community

Watch the TV show



STEP 1 INFORMATION: Why are the liver blood tests abnormal?

1 When to consider admission or urgent referral

Red flags:

- ALT > 500
- Jaundice
- Weight loss

Acute insult:

- Intercurrent illness (e.g. infection)
- New medications

Non-Liver causes:

- Vitamin D deficiency
- Bone cancer

[Find out more](#)

icst.info/when-to-consider-emergency-admission-or-urgent-referral/

1 Identify risk factors

- Alcohol
- Weight gain, diabetes or hypertension
- Family history of liver disease
- Blood borne virus (IVDU, MSM)

[Find out more here](#)

icst.info/underlying-risk-factors-for-abnormal-liver-blood-tests/

STEP 3: Follow-up plan

1 Refer to Hepatology

Include in your referral:

- Risk factors (BMI, alcohol history, medication history, risk of blood borne viruses)
- Imagery results
- Liver aetiology screen results

[Find out more here](#)

icst.info/making-a-referral-to-hepatology/

1 Manage in primary care

- Alcohol cessation
- Weight loss
- Cardiovascular and diabetes risk prevention
- Consider reassessment in 4 years

[Find out more here](#)

icst.info/managing-a-patient-in-primary-care/

Clinical Pathway

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STEP 1: Why are the liver blood tests abnormal?

YES

- Red flags, systemically unwell?
- Red flags, systemically well?
- Acute insult (no red flags, systemically well)?
- Non-Liver causes?

ADMIT

Urgent referral

Repeat liver blood test

Investigate and treat

NO

Identify risk factors

STEP 2: Further investigations

Cholestatic? (ALP predominant)

▼

Ultrasound/ CT/ MRI

▼

Liver aetiology screen

Hepatic? (ALT predominant)

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Repeat test:

3 months ALT <100	1 month ALT 100-300	Immediately ALT >300
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Fibrosis risk assessment

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Liver aetiology screen

All normal?

NO **YES**

**No clear diagnosis?
Ongoing clinical concern?
Strong family history?**

YES **NO**

STEP 3: Follow-up plan

Refer to Hepatology

Manage in primary care

Designed by The Institute of Clinical Science & Technology

STEP 2: Further investigations

1 Clinical pattern recognition

Cholestatic or hepatic liver disease?

- Cholestatic liver diseases have an ALP result which is more abnormal than the ALT
- Hepatic liver diseases have an ALT result which is more abnormal than the ALP

Understanding the pattern of abnormality will guide the next steps of investigation.

[Find out more here](#)

icst.info/clinical-pattern-recognition/

1 Liver aetiology screen:

A standard liver aetiology screen should include:

- Hepatitis B surface antigen
- Hepatitis C antibody
- Liver autoantibodies (AMA, SMA, ANA)
- Serum ferritin and transferrin saturation
- Serum immunoglobulins
- Abdominal ultrasound scan (USS)

[Find out more here](#)

icst.info/liver-aetiological-screen/

1 Fibrosis Risk Assessment

The FRA used is down to local preference, but examples include:

- NAFLD fibrosis score
- Fib-4 score
- AST:ALT ratio

In Wales, reflex Fibrosis Risk Assessments (rFRA) are automated on repeat Liver blood tests.

[Find out more here](#)

icst.info/fibrosis-risk-assessment/

1 No clear diagnosis, ongoing clinical concern, or strong family history?

A referral to Hepatology is still recommended, even if the further investigations are all normal.

[Find out more here](#)

icst.info/no-clear-diagnosis/