**People who should be offered testing:**
- People born in intermediate or high prevalence country (offer interpreter)
- Aboriginal and Torres Strait Islander peoples
- Patients undergoing chemotherapy or immunosuppressive therapy (risk of reactivation)
- Pregnant women
- Infants and children born to mothers who have HBV (>9 months)
- People with clinical presentation of liver disease and/or elevated ALT/ALP of unknown aetiology
- Health professionals who perform exposure prone procedures
- Partner/household/sexual contacts of people with acute or chronic HBV
- People who have ever injected drugs
- Men who have sex with men
- People with multiple sex partners
- People in custodial settings or who have ever been in custodial settings
- People with HIV or hepatitis C, or both
- Patients undergoing dialysis
- Sex workers
- People initiating HIV pre-exposure prophylaxis (PrEP)

**Additionally, testing should be offered to anyone upon request.**

---

**To determine hepatitis B status, order 3 tests.**

<table>
<thead>
<tr>
<th>Request:</th>
<th>HBSAg anti-HBc anti-HBs</th>
<th>HBSAg anti-HBc anti-HBc IgM* anti-HBs</th>
<th>HBSAg anti-HBc anti-HBs</th>
<th>HBSAg anti-HBc anti-HBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBsAg</td>
<td>positive positive negative</td>
<td>positive positive negative</td>
<td>negative negative negative</td>
<td>negative negative positive</td>
</tr>
<tr>
<td>anti-HBc</td>
<td>(hepatitis B surface antigen)</td>
<td>(hepatitis B core antibody)</td>
<td>(hepatitis B surface antibody)</td>
<td>(hepatitis B core antibody)</td>
</tr>
<tr>
<td>anti-HBs</td>
<td>(hepatitis B surface antigen)</td>
<td>(hepatitis B core antibody)</td>
<td>(hepatitis B surface antigen)</td>
<td>(hepatitis B core antibody)</td>
</tr>
</tbody>
</table>

If acute HBV is suspected (through recent risk, presentation, or both), anti-HBc IgM can also be ordered.

**When gaining informed consent before testing, discuss:**
- Need for an interpreter
- Reason for testing
- Personal implications of a positive test result
- Availability of treatment

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**Baseline screening to assess phase of disease:**
- HBsAg and anti-HBe
- HBV DNA (quantitative)
- Full blood count
- LFT, INR and alpha fetoprotein (AFP)
- Liver ultrasound

Refer to graph on next page to determine phase of disease:

**In addition:**
- Test for HAV, HCV, HDV and HIV to check for co-infection. Discuss vaccination if susceptible to HAV and discuss transmission and prevention of BBVs.
- Screen household contacts and sexual partners for HBsAg, anti-HBs and anti-HBc, then vaccinate if susceptible to infection.
- Vaccination is recommended for all high-risk groups and is provided free in many cases.
- Contact your local Health Department for details.

**Assess liver fibrosis – cirrhotic status:**
- Signs of cirrhosis
- Non-invasive assessment of fibrosis:
  - Serum biomarkers such as APRI (1.0 or less, cirrhosis unlikely)†
  - FibroScan assessment if available (>12.5 kPa consistent with cirrhosis)

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**For more information:** [testingportal.ashm.org.au/hbv](testingportal.ashm.org.au/hbv)


† Refer to [hepatitisc.uw.edu/page/clinical-calculators/apri](hepatitisc.uw.edu/page/clinical-calculators/apri) for an APRI calculator
DECISION MAKING IN HEPATITIS B

5 Assess phase of infection

Patients with CHB must be regularly re-evaluated to determine which phase they are in and managed accordingly.

- **HBeAg-positive chronic infection** (Immune tolerance)
  - HBV DNA: high† >10⁷ IU/mL
  - ALT: normal
  - HBeAg positive
  - Treatment not required

- **HBeAg-negative chronic infection** (Immune control)
  - HBV DNA: low† <2000 IU/mL
  - ALT: normal
  - HBeAg negative
  - anti-HBe positive
  - Treatment not required

- **HBeAg-positive chronic hepatitis** (Immune escape)
  - HBV DNA high† >2000 IU/mL
  - ALT: elevated
  - HBeAg positive
  - anti-HBe positive

6 Provide ongoing monitoring

Regular monitoring is required to identify virological response, resistance and hepatitis flares, and to encourage adherence.

<table>
<thead>
<tr>
<th>Indication</th>
<th>Monitoring specific to phase</th>
<th>PLUS, monitoring for all phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBeAg-positive chronic infection (Immune tolerance)</td>
<td>- Liver function tests (6-monthly)</td>
<td>• Periodic review of household contacts and sexual partners where appropriate</td>
</tr>
<tr>
<td></td>
<td>- HBV DNA (12-monthly)†</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- HBeAg and anti-HBe (6-12 monthly)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Assess for liver fibrosis (12-monthly)</td>
<td></td>
</tr>
<tr>
<td>HBeAg-negative chronic infection (Immune control)</td>
<td>- Liver function tests (6-monthly)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- HBV DNA (12-monthly)†</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Assess for liver fibrosis (12-monthly)</td>
<td></td>
</tr>
<tr>
<td>On treatment</td>
<td>3-monthly for the first year, then 6-monthly:</td>
<td></td>
</tr>
<tr>
<td>HBeAg-negative chronic hepatitis (Immune escape)</td>
<td>- Liver and renal function tests</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- HBV DNA†</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Serum phosphate if on tenofovir disoproxil fumarate (TDF)</td>
<td></td>
</tr>
<tr>
<td>HBeAg-positive chronic hepatitis (Immune clearance)</td>
<td>If indicated (see below):</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- HCC surveillance</td>
<td></td>
</tr>
</tbody>
</table>

HEPATOCELLULAR CARCINOMA SURVEILLANCE

6-monthly ultrasound with or without AFP is recommended for patients with CHB in these groups:

- People with cirrhosis
- Asian males > 40 years
- Sub-Saharan African people > 20 years
- Aboriginal and Torres Strait Islander people > 50 years
- Anyone with observed HBsAg loss with prior indications of HCC
- Māori and Pacific Islander males > 40 years
- Māori and Pacific Islander females
- Asian females > 50 years
- Anyone with coinfection with hepatitis delta virus
- Anyone with a family history of HCC (first-degree relative)
- People from other racial groups, according to risk scores (e.g., PAGE-B)

Disclaimer: Guidance provided on this resource is based on guidelines and best-practices at the time of publication.

† Medicare covers HBV DNA testing once per year for patients not on treatment and 4 times per year for patient on treatment.