Provincial Hepatitis B Primary Care Screening, Testing, & Monitoring Pathway

This is a 2 page algorithm. Page 2 provides information for the management of clients who are **infected**.

STOP: This pathway does not address urgent hepatic findings (see Introduction link above for details):
- Jaundice
- New liver mass
- Cirrhosis and/or decompensation (variceal bleed, new onset ascites, encephalopathy)
- ALT >250 at presentation

Present → Follow local protocol for workup and referral

None ↓

1. History: *Who should undergo hepatitis B virus (HBV) testing?*

Any patient who requests testing (even without risk disclosed)

Country of origin/residence, living arrangement history:
- Born or resident in region where HBV is common
- People with experience in high-risk congregate living environment (e.g., corrections facilities, group homes)
- Received healthcare/hospitalization in HBV endemic region

Family:
- Household contacts of HBV infected person
- At any time, close contact with any person known to have hepatitis, liver cancer, and/or especially maternal history of hepatitis

Vaccine history:
- No known Hx of hep B vaccination OR born before 1982 in Canada

Risk-Based:
- Sexual contact(s) with HBV infected person
- Multiple sexual partners
- Injection and/or intranasal substance use (past or present)
- Recipient of blood/blood products prior to 1972 in Canada, or recipient of blood/blood products outside of Canada

Medical history:
- Chronic renal failure needing dialysis
- Signs of liver disease or STBBI (e.g., Hep C, HIV)
- Current pregnancy
- Patient needing immune modulation therapy or those who will be immunosuppressed (e.g., chemotherapy)

Post-Exposure Prophylaxis

If patient was exposed to HBV and not have HBV immunity, contact Health Link or Public Health for Post-exposure prophylaxis (PEP).

2. Investigations

Support destigmatization of hepatitis B and engage in shared decision-making for screening.

- HBsAg - Hepatitis B virus surface antigen
- HBsAb (also called Anti-HBs or Anti- HBsAg) - Hepatitis B virus surface antibody
- Anti-HB core total (also called Anti-HBc) - Hepatitis B virus core total antibody
- ALT → If ALT> 250 → Urgent referral to specialty as locally available
- Screen for hepatitis A and STBBI (e.g., Hep C, HIV, syphilis, gonorrhea, chlamydia) → STBBI positive → Treat as appropriate. Alberta Treatment Guidelines for Sexually Transmitted Infections. If Hep C positive, see Hepatitis C Primary Care Pathway

3a. NATURAL IMMUNITY/EXPOSED
HBsAg NEGATIVE
HBsAb NEGATIVE OR POSITIVE
Anti-HBc total POSITIVE

3a. Is this person immunosuppressed or requiring immunosuppression?

- Yes → Referral to Specialty or telephone advice. See referral guideline tab for details.
- No → If chemo/ Immunosuppression needed
  - No further monitoring required unless need for immunosuppression or chemotherapy arises.
  - No need for HBV immunization.
  - Note: isolated HBcAb positive result usually represents prior cleared infection (false positives are very rare, <0.2%).

3b. INFECTED
HBsAg POSITIVE
SEE PAGE 2

3c. NOT IMMUNE/NOT EXPOSED
HBsAg NEGATIVE
HBsAb NEGATIVE
Anti-HBc total NEGATIVE

3c. Immunize in accordance with Alberta's Immunization Policy

Continue pathway on page 2 below

3b. INFECTED HBsAg POSITIVE
(Person with hepatitis B) See 3b Infected link above for details

Special Populations
While the scope of this pathway is adult patients with hepatitis B, general guidance for pregnant and pediatric patients can be found at the link above.

3b. Assess Status of Infection: (Hepatitis B infection follow up tests)

Further hepatitis B tests

- **HBV DNA: determination of viremia or treatment monitoring**
- HBeAg: HBV e antigen. Prognostic marker for HBV infection.
- Anti-HBe: antibodies to HBV e-antigen.
- Prognostic marker for HBV infection.

Liver Tests

- FIB4 test (ALT, AST, platelets)
- Liver function tests – bilirubin, albumin, INR
- Ultrasound (baseline abdominal) to assess for liver abnormality

Other infectious disease tests:

- Test for Hepatitis A immunity (HAV IgG) and refer for publicly funded vaccine if not immune
- Screen for other STBBI if not done previously (see Box 3)

Note: While ideal to complete these tests prior to referral, not all are required for triage to specialty. Different requirements exist between zones. See referral guideline tab for details.

- Information on completing requisitions
- Serology and Molecular Testing Requisition form

Refer to Specialty for assessment. See referral guideline tab for details.

4. Ongoing Primary Care Monitoring and Management Support
(while awaiting specialty consult or if patient discharged from specialty)

Monitoring:

- ALT q 6 months
- FIB4 every 1-2 years to assess fibrosis
- HBV DNA annually
- HBsAg q 2-3 years to assess for spontaneous clearance
- Hepatocellular carcinoma (HCC) surveillance:

Indications (informed by specialist):
- Right away if PMHx of cirrhosis or family Hx of HCC, starting at 10 years before the affected family member was diagnosed
- At age 30 (male/female) if sub-Saharan African-born
- At >40-year-old male, >50-year-old female
- All HIV-coinfected patients (starting at age 40)
- All HBV/Hepatitis D virus co-infected individuals (starting at age 40 or earlier if advanced fibrosis)
- Other factors may impact age of onset of screening. See Monitoring of Patients with HBV link above for details.

Screening includes both:
- Ultrasound q 6 months
- Alpha fetoprotein (AFP) q 6 months
  (as per HCC screening recommendations - see Monitoring of Patients with HBV link above for details.
  - If elevated >20ug/L, ensure ultrasound within 3 months.
  - If not within 3 months, order liver ultrasound and investigate other causes (pregnancy, testicular Ca, etc.). Repeat in 3 months

*Consider referral to HCC screening program as available

Parameters for re-referral or e-consult:

- Review elevated ALT for cause in conjunction with HBV DNA. Use clinical judgment for referral *(see link above for details)*
- HBV DNA:
  - If > 2000 – 3000 IU/mL once, check again in 6 months. If > 2000 IU/mL again, re-refer to specialty
  - If >3000 IU/mL, re-refer to specialty
- AFP:
  - Persistent AFP 20ug/L – 100ug/L (two elevated 3 months apart) → refer to specialty or seek specialist advice
  - If AFP >100ug/L re-refer to specialty
- FIB-4 ≥ 1.30
- Platelets <150
- Abnormal ultrasound (e.g., mass > 1 cm, cirrhosis)
- Acute cirrhosis decompensation – variceal bleed, ascites, jaundice, hepatic encephalopathy. Urgent re-referral or ER as necessary
- Q3-5 years due to evolving management recommendations

Management Support:

Patient education:
- What is hepatitis B, transmission, hepatitis B in pregnancy (as relevant)
- Emphasize importance of vaccination for close contacts and how to get vaccinated
  - Strategies to reduce stigma and fear
- Assess need for mental health supports
- Counselling on diet, activity, stress management to support liver health. Consider referral to CDM, allied health, dietitian