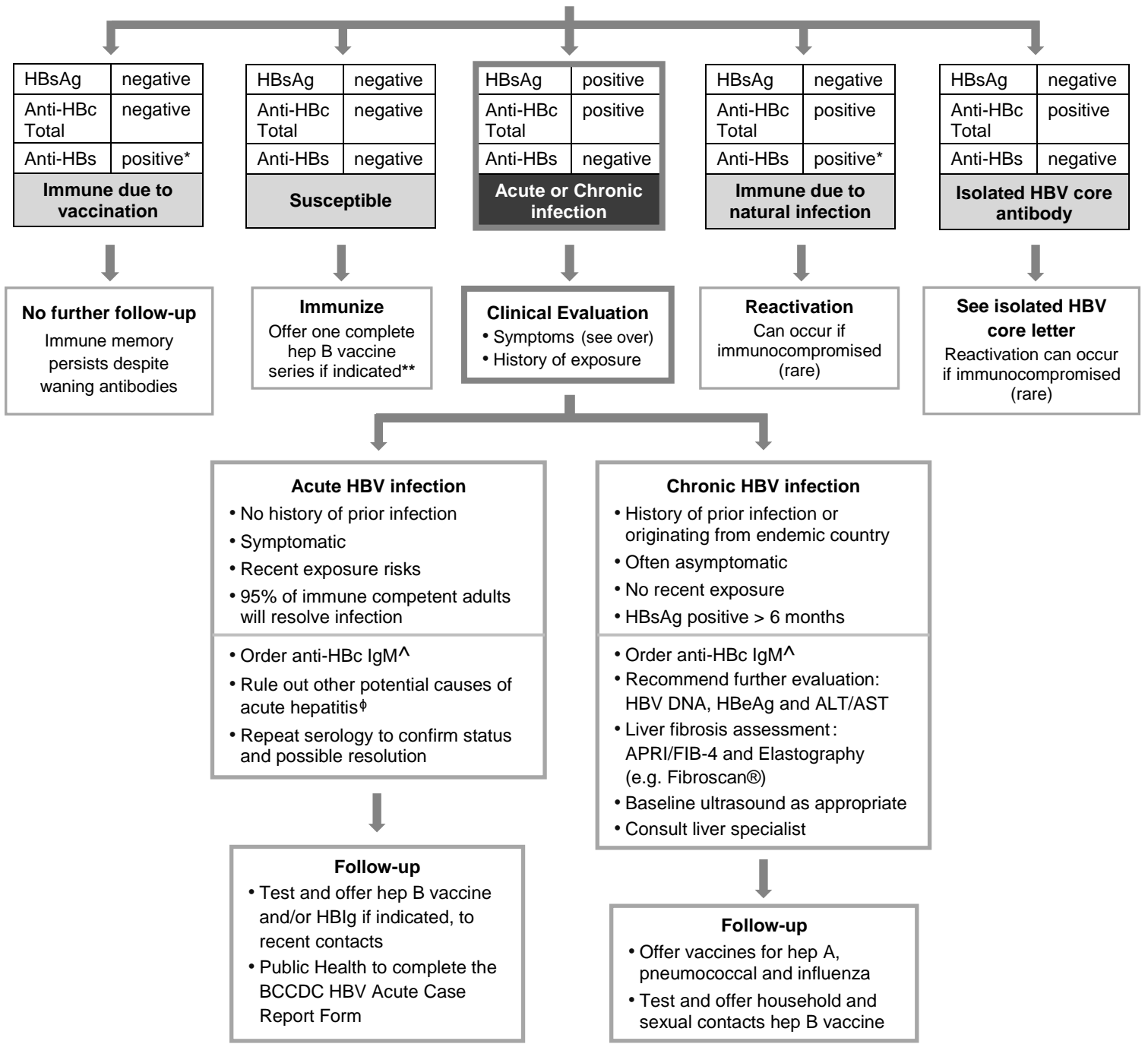


**HBV screening tests:
HBsAg, Anti-HBs and Anti-HBc total**
HBsAg can be detected 4-12 weeks after exposure



* Anti-HBs ≥ 10 IU/L

** If prior vaccination history and/or anti-HBs is detectable but <10 IU/L, see the [BCCDC Hepatitis B Guidelines and Immunization Manual](#). For post-exposure prophylaxis, see the [BCCDC Hepatitis B Guidelines Manual and Blood and Body Fluid Exposure Management Guidelines](#).

[^] Appears early in acute HBV infection and often present in chronic infection. Chronic infection implied if anti-HBc IgM negative and HBsAg positive.

^φ Other infectious causes include Hepatitis A, C, D and E, Cytomegalovirus and Epstein-Barr Virus. Non-infectious causes include hepatotoxic drugs, autoimmune hepatitis, Wilson's disease, vascular causes, or other pre-existing chronic liver diseases. Screen for HIV infection.

Background

Because of BC's hepatitis B vaccination programs, there are only 10-15 acute HBV infections per year. Acute HBV infections occur more often in men who have sex with other men, people who inject drugs, or through sexual contact.

Chronic HBV in BC is most often seen in immigrants from endemic countries, such as East Asian populations. Females tend to get diagnosed at an earlier age than males, most likely related to universal prenatal HBsAg screening. Chronic HBV infection is treatable, but not curable. Oral antivirals can help to suppress HBV replication and reduces the risk of cirrhosis, liver failure and hepatocellular carcinoma (HCC).

Symptoms and Clinical Description

Acute HBV infection: symptoms can be absent. Onset can be insidious with right upper quadrant abdominal discomfort, fatigue, fever, nausea, vomiting, malaise, abnormal liver tests, dark urine, rash, arthralgia, jaundice, hepatomegaly & splenomegaly.

Chronic HBV infection: symptoms can be absent for decades in adult infection. Around 15-40% of adults are at risk for cirrhosis or chronic liver failure, and around 5% for HCC and end-stage liver disease.

Who to test

- Symptoms of hepatitis
- From a HBV endemic country
- Contacts of acute or chronic HBV infection
- HBsAg prenatal screening in first trimester (must identify as 'prenatal' on the lab requisition)

For a complete list see the BCCDC Hepatitis B Guidelines.

Standard screening tests

HBV Surface Antigen (HBsAg): detectable 4-12 weeks after infection, indicates infectiousness, present in acute or chronic infection

Antibody to HBV Surface Antigen (anti-HBs): produced after immunization or natural HBV infection

Antibody to HBV Core Antigen (anti-HBc Total): produced after HBV infection, detects both IgG and IgM

Other HBV markers

IgM class Antibody to HBcAg (anti-HBc IgM): appears early in acute infection, lasts more than 6 months, and is also common in chronic infection

HBV E Antigen (HBeAg): correlates with higher HBV DNA levels and higher risk for HBV transmission. Useful for treatment monitoring only.

HBV DNA: high viral loads increase the risk of cirrhosis and HCC development. Useful for prognosis and monitoring.

Key education points to provide with HBV testing

Engage into care

- Spread via blood and bodily fluids
- Ensure immunizations are up to date
- Assess and counsel about safer alcohol use
- Assess for substance use and need for counselling, harm reduction services and opioid substitution therapy
- Offer STI screening and counsel about safer sex
- Liver education (e.g., diet and acetaminophen use)

Transmission prevention

- If pregnant, discuss treatment options and refer to a liver specialist. Plan for HBIg and HBV vaccine administration to neonate at birth. Risk of chronic infection is inversely related to age at time of infection.
- Do not share personal care items (e.g., glucometers)
- Dispose items and sharps with blood or body fluids in separate bags or containers
- Keep all open cuts and sores covered
- HBV is **NOT** spread by kissing, hugging, sneezing, coughing, sharing dishes or cutlery or casual contact

HCC Surveillance for chronic HBV infection: indications for abdominal ultrasound every 6 months

- Individuals with cirrhosis
- Asian men > 40 years of age
- Asian women > 50 years of age
- Africans > 20 years of age
- Family history of HCC
- HIV coinfection

(CASL 2012)

Resources

BCCDC website (www.bccdc.ca) for:

- Acute HBV case report form
- BCCDC BBFE Guidelines – post exposure prophylaxis
- Isolated Hep B Core Antibody – sample letter for providers
- Immunization recommendations

CASL - 2012 Hepatitis B Guidelines

AASLD - 2015 Guidelines for Treatment of Chronic HBV

Questions?

BCCDC Public Health Laboratory

1-877-747-2522