DECISION-MAKING IN HBV

For use in the Australian Northern Territory

STEP 1: Should I test for hepatitis B?

Who to offer testing to:

- Aboriginal & Torres Strait Islander peoples (offer interpreter)
- People born in intermediate and high prevalence countries (offer interpreter)
- Patients undergoing chemotherapy or immunosuppressive therapy (due to risk of reactivation)
- Pregnant women
- Infants & children born to mothers who have HBV (>9mths)
- People with clinical presentation of liver disease &/or elevated Alanine transaminase (ALT) / Alpha fetoprotein (AFP) of unknown aetiology
- 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

STEP 2: To determine hepatitis B status

Before testing: check patient records and NT Immunisation Register. People who are fully vaccinated or are known to be anti-HBc/anti-HBs positive should not be tested.

Be systematic when ordering the tests. Write ***'?HBV infection'*** or similar in the clinical notes. *Specifically* request **HBsAg and anti-HBc +/- anti-HBs**
Record results using sero status code in patient record

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

STEP 3: Interpreting serology

Marker	Result	Interpretation
HBsAg anti-HBc anti-HBs	positive positive negative	Chronic HBV infection *Hepatitis B; Infected*
HBsAg anti-HBc IgM anti-HBc* anti-HBs	positive positive positive negative	Acute HBV infection * (high titre)
HBsAg anti-HBc anti-HBs	negative negative negative	Susceptible to infection (vaccination should be recommended) *Hepatitis B; Non-immune*
HBsAg anti-HBc anti-HBs	negative positive positive	Immune due to resolved infection *Hepatitis B; Immune by exposure*
HBsAg anti-HBc anti-HBs	negative negative positive	Immune due to hepatitis B vaccination *Hepatitis B; Fully vaccinated*
HBsAg anti-HBc anti-HBs	negative positive negative	Various possibilities including: distant resolved infection (most likely in a well person), recovering from acute HBV, false positive, 'occult' HBV

STEP 4: Initial assessment if HBsAg positive

It is essential to assess the stage of disease (see graph over page for more information) by determining:

- Hepatitis B e antigen status (HBeAg and anti-HBe)
- HBV DNA level
- LFT, FBC, INR and alpha fetoprotein (AFP)
- Physical examination
- Liver ultrasound

IN ADDITION:

- Test for HAV, HCV, HDV* and HIV to check for co-infection.

** Note: Indigenous patients do not require testing for HDV.*

- Discuss vaccination of susceptible to HAV. Discuss transmission and prevention of BBVs.
- Screen household contacts and sexual partners for HBsAg, anti-HBs & anti-HBc, then vaccinate if susceptible to infection. Vaccination is recommended for all high risk groups.

STEP 5: Follow-up and monitoring for chronic HBV

Patients with CHB must be regularly re-evaluated to determine which phase they are in and managed accordingly. See graph over page for more information. Also refer patient if evidence of chronic liver disease, suspicion of immune-suppression, pregnancy, <16 years or possible HCC on surveillance.

Hepatocellular carcinoma (HCC) surveillance (6 monthly ultrasound and AFP) is recommended in these HBsAg + groups:

- Aboriginal and Torres Strait Islander people >50 years
- Africans >20 years
- Asian men >40 years
- Asian women >50 years
- Patients with cirrhosis
- HCC family history

BEWARE 'normal' ALT

Elevated ALT levels are: >30 U/L MEN >19 U/L WOMEN

For more information see: *B Positive – All you wanted to know about Hepatitis B: a guide for primary care providers*, National Hepatitis B Testing Policy www.testingportal.ashm.org.au/hbv and www.hepbhelp.org.au

www.ashm.org.au

DECISION-MAKING IN HBV

NATURAL HISTORY OF CHRONIC HBV – The 4 Phases and Relevance to Treatment Decisions

HBV DNA

ALT

HBeAg

Anti-HBe

1 2 3 4

Immune Tolerance	Immune Clearance	Immune Control	Immune Escape
High HBV DNA (>20,000 IU/mL), Normal LFTs, HBeAg positive. Monitor every 6-12 months LFTs, HBV DNA, HBeAg/anti-HBe.	High HBV DNA, Abnormal LFTs, HBeAg positive. At risk of progression to cirrhosis and HCC ***therefore should be referred for consideration of treatment.***	Low HBV DNA, Normal LFTs, HBeAg negative; anti-HBe positive. Monitor every 6-12 months LFTs, HBV DNA.	High HBV DNA (>2000 IU/mL), Abnormal LFTs, HBeAg negative; anti-HBe positive. At risk of progression to cirrhosis and HCC ***therefore should be referred for consideration of treatment.***

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