

Hepatitis B:

How many of the 85,000 people living with undiagnosed chronic hepatitis B are attending your practice?

Tuesday 18 June 2019

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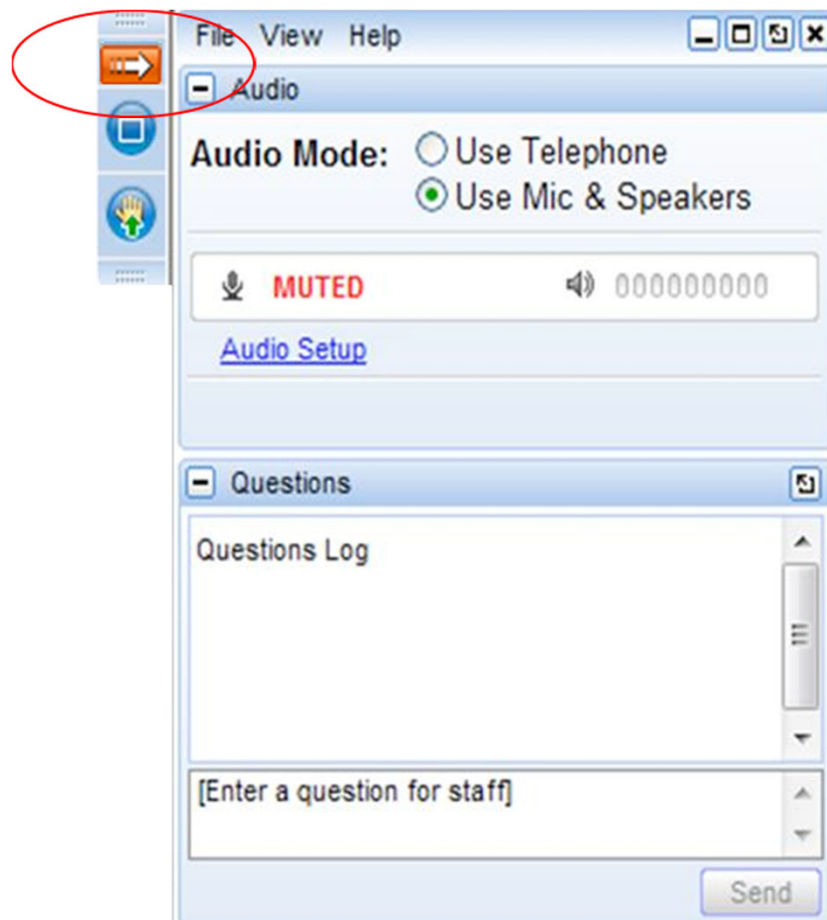
The Royal Australian College of General Practitioners



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Where is my control panel?



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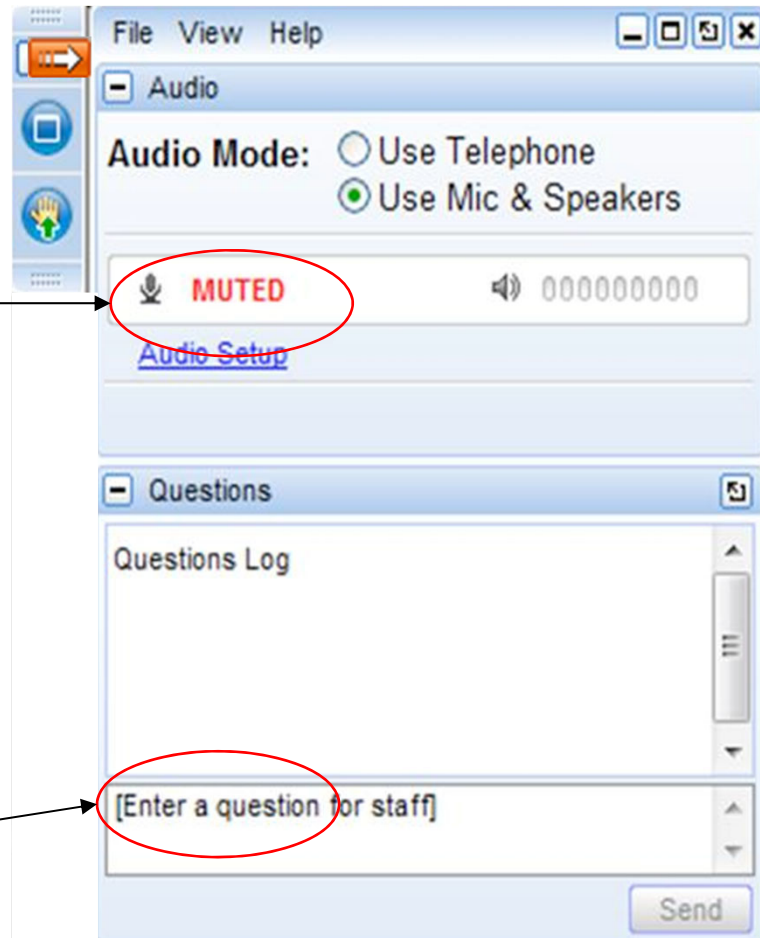
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GoToWebinar tips & tricks

You have been placed on “mute” to optimise the learning experience for you and your peers

Use the question box function to talk to us.



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Conflict of interest

- No conflicts of interest to declare

Acknowledgement of Country

We wish to acknowledge the traditional custodians of the land.

We acknowledge and respect their continuing culture and the contribution they have made to the life of this city and this region.

We pay our respects to Elders past and present.

Learning Objectives



Identify priority populations for hepatitis B testing in Australia



Correctly order HBV diagnostic tests



Interpret serology to determine a patient's hepatitis B status



Describe the intervention points throughout the natural history of HBV using the HBV decision making tool

Explain the need for treatment and regular lifelong monitoring of patients with chronic hepatitis B



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Overview

1. Epidemiology

2. Why worry?

3. Transmission and prevention

4. Testing and interpreting results

5. Hep B positive.... What now?

6. Monitoring and treatment

Polling Question 1

Is Hepatitis B really an issue?

1

How many people worldwide are living with Chronic Hepatitis B?

- a. 1 million
- b. 50 million
- c. 150 million
- d. 250 million

Slide 8

1

NOTE for RACGP - This is a question slide pls format as required

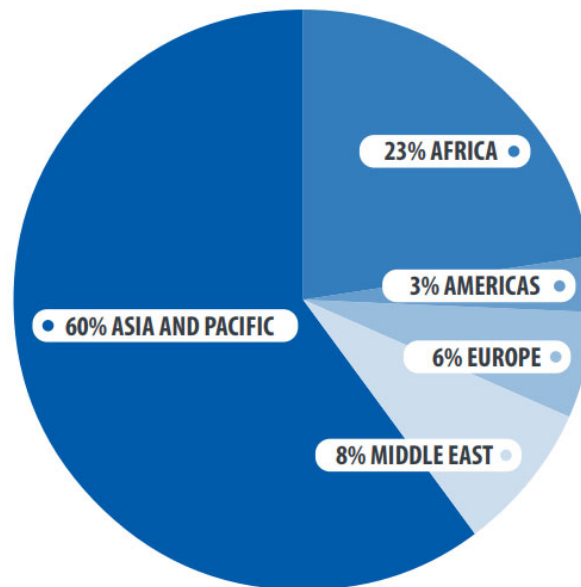
Answer = D

Cherie Bennett, 28/05/2019

Hep B is one of the world's most common infectious diseases

It is the second most important known human carcinogen after tobacco.

**250
MILLION**
PEOPLE
WORLDWIDE
ARE LIVING
WITH
CHRONIC
HEP B (CHB)³



 EVERY
44
SECONDS

someone dies because of
their hepatitis B infection.

This equates to

715,000
deaths per year.



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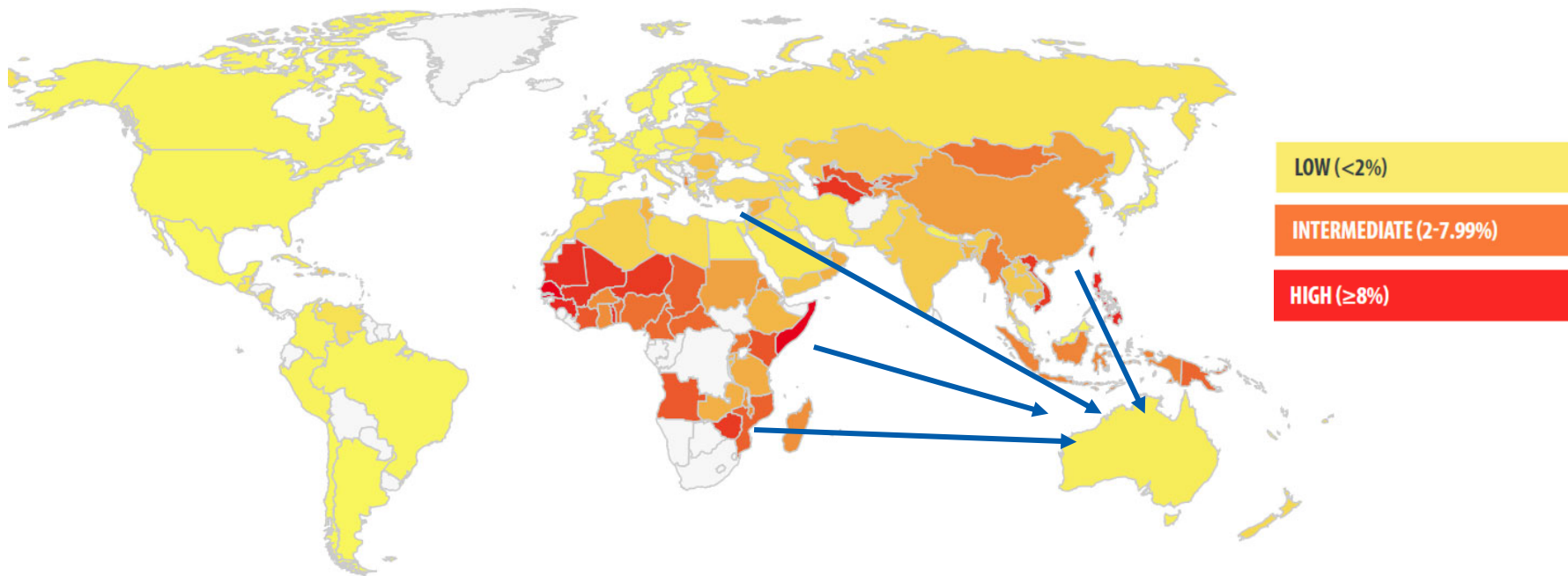


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Geographic distribution of hepatitis B

© CDA FOUNDATION, POLARIS OBSERVATORY



Over half of all people on Earth live in an area with intermediate or high prevalence.



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Polling Question 2

Hepatitis B in our backyard

How many new hepatitis B infections are notified in Australia each year?

- a. 250 – 500
- b. 1000-1500
- c. 3000-4000
- d. 6000-70000

2

NOTE for RACGP - This is a question slide pls format as required

Answer = D

Cherie Bennett, 28/05/2019

Hepatitis B in Australia



234,000
estimated
living with
CHB



6,000 - 7,000
newly notified
infections every
year

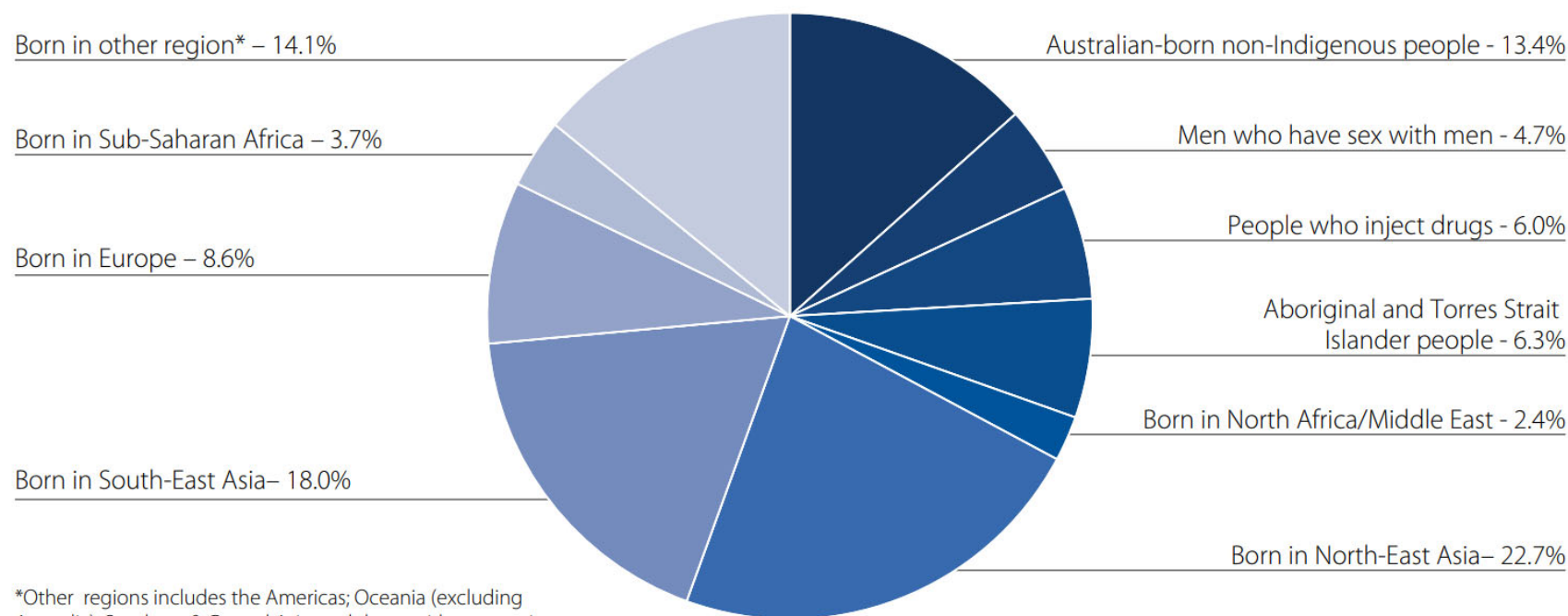


1%
prevalence overall;
4% prevalence in
Aboriginal and
Torres Strait
Islander people



343
GPs accredited to
prescribe
treatment (s100)

People living with CHB in Australia, by priority population, 2017



*Other regions includes the Americas; Oceania (excluding Australia); Southern & Central Asia; and those without a region of birth reported in the Census.

**Some of our closest neighbours,
South and North-East Asia, make up
41% of these populations**



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Key points: Epidemiology

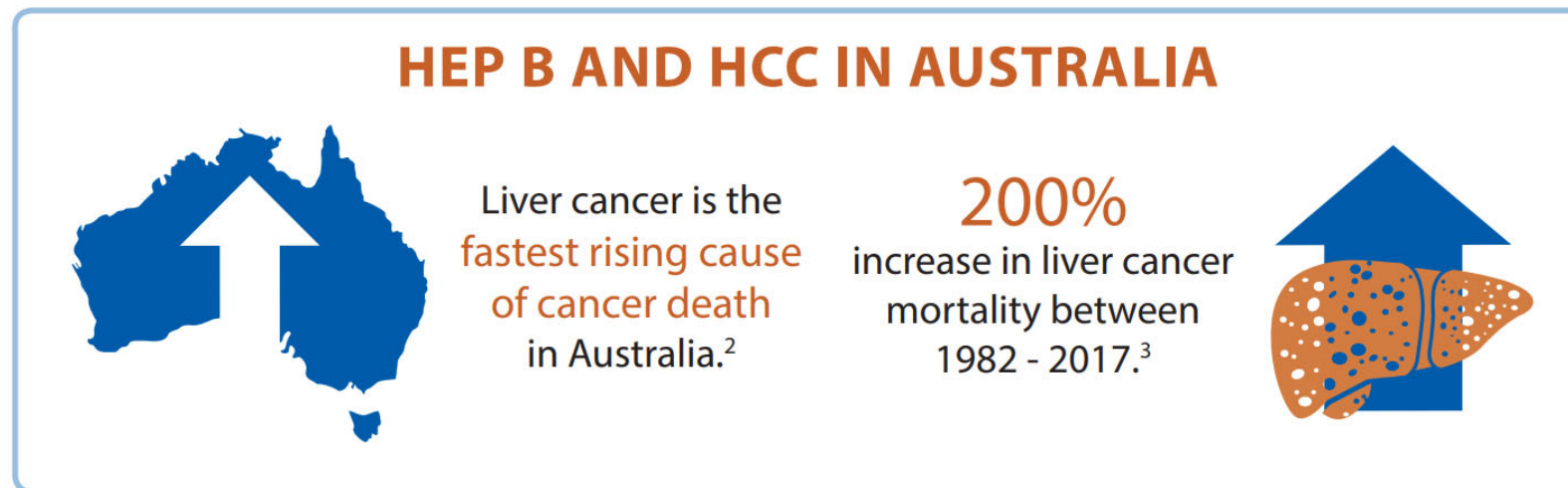
- Hepatitis B is a worldwide issue
- The majority of people living with chronic hepatitis B in Australia are migrants from high prevalence areas, particularly Asia and the Pacific
- Aboriginal and Torres Strait Islander Australians are also a priority population with a high prevalence of chronic hepatitis B

Overview

1. Epidemiology
- 2. Why worry?**
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5. Hep B positive....What Now?
6. Monitoring and treatment

CHB and Liver Cancer

- CHB is the most common cause of hepatocellular carcinoma (HCC) worldwide
- Risk of developing HCC is **20 to 100 times higher** in people living with CHB relative to those without infection



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Early detection is key

**SURVEILLANCE FOR HCC IS
RECOMMENDED FOR PATIENTS
WITH CHB AT HIGH RISK**

THIS INCLUDES SIX-MONTHLY
ULTRASOUND TESTS AND ALPHA
FETOPROTEIN LEVEL IN:



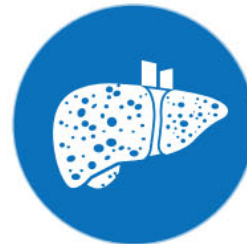
ASIAN MALES \geq 40 YEARS



ASIAN FEMALES \geq 50 YEARS



AFRICANS \geq 20 YEARS



ALL PATIENTS
WITH CIRRHOSIS



PATIENTS WITH A FAMILY
HISTORY OF HCC



ABORIGINAL AND TORRES STRAIT
ISLANDER PEOPLE \geq 50 YEARS

If HCC is detected, **urgently** discuss with or refer to specialist



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Carville et al 2018

Overview

1. Epidemiology
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- 3. Transmission and prevention**
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Transmission of HBV infection

Vertical/ perinatal

- HBeAg + / high viral load → active/passive vaccination less effective



Horizontal

- Skin, mucosal breaks; schoolchildren



Sexually Acquired

- Unprotected vaginal, anal or oral sex with a person who has hepatitis B



Percutaneous

- IDU, tattoos, acupuncture, body piercing; household inc. toothbrush, razors



Blood Transfusion

- Transfusion safety; surgery, dentistry, dialysis, finger pricks; alternative health care



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Polling Question 3

What is the likelihood a child infected with hepatitis B will go on to develop chronic infection?

- a. 10%
- b. 25%
- c. 50%
- d. 95%

3

NOTE for RACGP - This is a question slide pls format as required

Answer = D

Cherie Bennett, 28/05/2019

Transmission of HBV infection

High prevalence countries/groups

- Most transmission perinatal or through early childhood contact
- >95% progression to chronic infection



Low prevalence countries/groups

- Primarily adults in risk groups through parenteral/percutaneous and sexual transmission
- <5% progression to chronic infection



Australia

- Overall low prevalence
- However, certain groups have a higher prevalence – culturally and linguistically diverse people (CALD) and Aboriginal and Torres Strait Islander people



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Risk of HBV infection from exposure to body fluids

High Risk	Safe
Blood	Urine
Serum	Faeces
Wound exudates	Sweat
Semen	Tears
Vaginal fluid	Breast milk

Note: Salivary transmission is very rare and is through human bite exposures etc. where blood is present. **Sharing food & drink is NOT a risk.**

Vaccination

- Access the Australian Immunisation Handbook online at <https://immunisationhandbook.health.gov.au/>
- Immunisation is provided **FREE** for certain groups by a number of State and Territory Governments, and can be ordered by GPs through your health department. Check www.hepbhelp.org.au for more info.
- People at particular risk (sexual contacts of people with CHB, health care workers) should have an immunity check after vaccination.
- Non-responders are recommended to receive further doses and serological testing.

Key points: Transmission and prevention

- Most people living with CHB in Australia acquired the infection at birth or in early childhood
- Most acute hepatitis B infections in Australia are due to sexual transmission or unsafe injecting drug use
- People from certain groups may be able to access free immunisation depending on state/territory
- GPs play a critical role in prevention (vaccination, promoting harm minimization strategies i.e. needle and syringe exchange)



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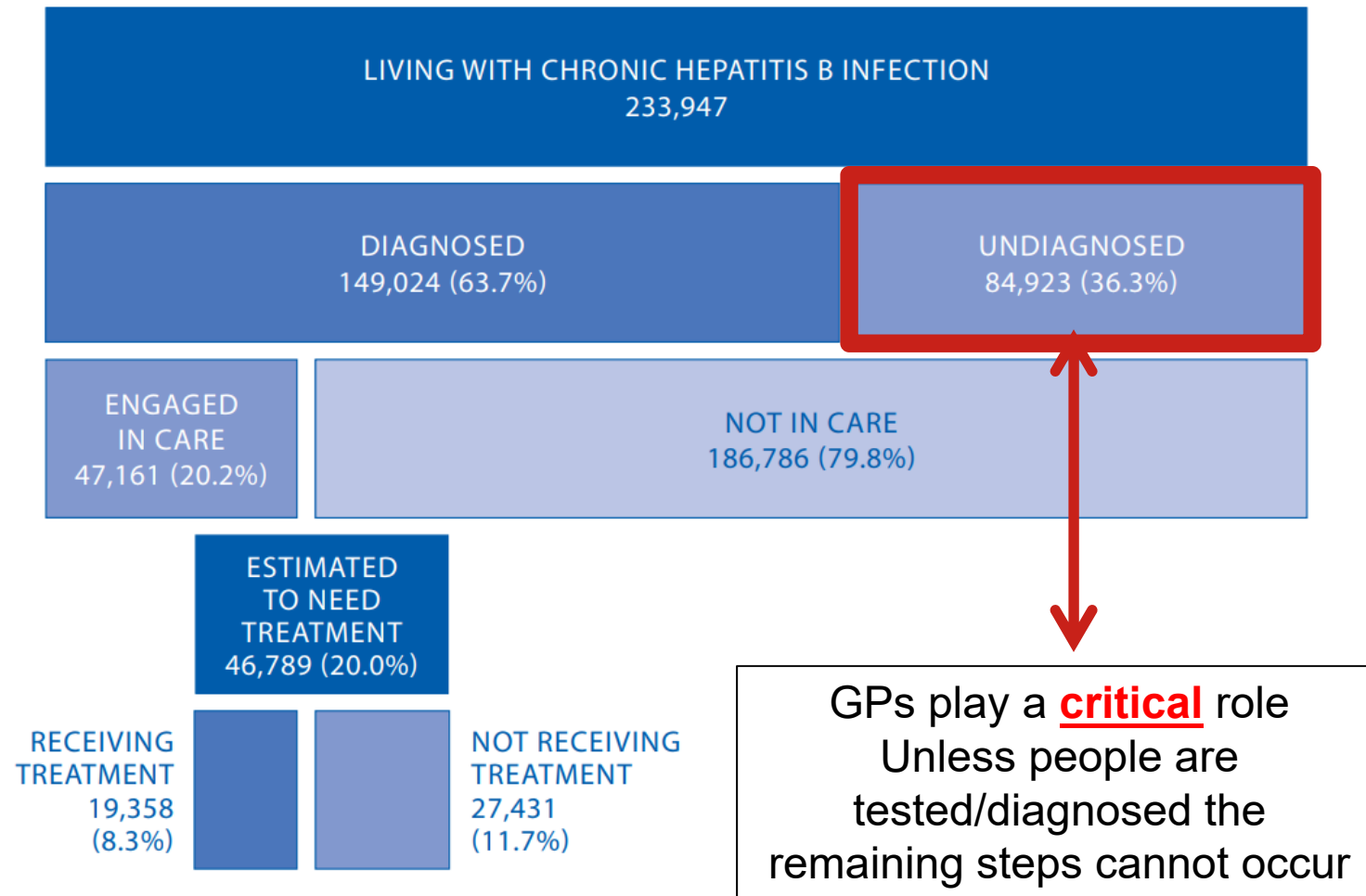
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Overview

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Why is testing so important ?

Cascade of Care



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Clinical indicators for testing

Patients may present with the following:

- Abdominal pain
- Fever
- Joint pain
- Loss of appetite
- Nausea and vomiting
- Weakness and fatigue



Quite generic symptoms
for many conditions ...
hence being aware of
priority populations for
opportunistic screening
critical

- Dark urine
- Yellowing of skin and whites of the eyes

Priority populations for testing

Opportunistically test people at risk, particularly

- People born in intermediate and high prevalence countries
- Aboriginal and Torres Strait Islander people

Priority populations for testing

Other patients whose HBV status should be determined:

- Pregnant women
- People about to undergo immunosuppression
- Unvaccinated adults at increased risk of infection, including
 - Sexual/household contacts and family members of those with hep B
 - Men who have sex with men
 - People who inject drugs
 - Sex workers/people with multiple sexual partners
 - Haemodialysis patients
- People living with Hepatitis C or HIV infection
- People with clinical presentation of liver disease/elevated ALT or AFP of unknown aetiology
- Health professionals involved with exposure-prone procedures
- Members of the armed forces



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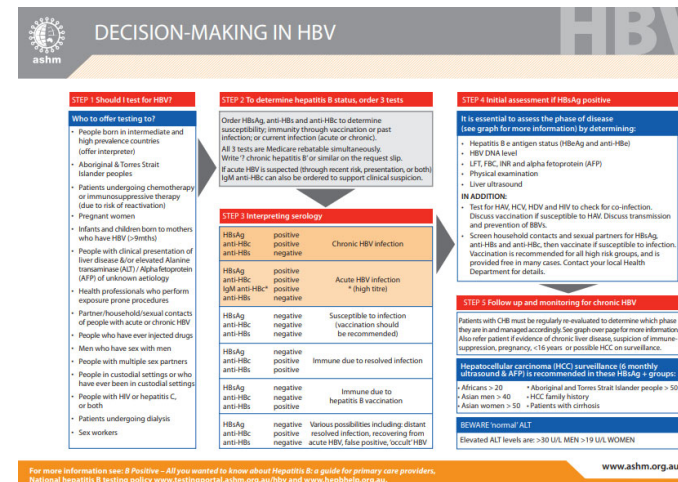
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Case study - Chen

- Chen is a 28-year-old Chinese student
- Presents following a recent trip to China
- Attend the funeral of his father, who died 'of a liver tumour'.
- He is attending your practice as he had an apparent upper respiratory tract infection while overseas.



Use the Decision-Making in HBV tool throughout this case study



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Polling Question 4

Should you opportunistically test Chen for hepatitis B? Refer to the decision making tool.

1. Yes
2. No

STEP 1 Should I test for HBV?

Who to offer testing to?

Answer

Yes

Chen is from China (high prevalence of chronic hepatitis B infection)

His father died from a 'liver tumor'

STEP 2 To determine hepatitis B status, order 3 tests

Hepatitis B surface antigen (HBsAg)

Hepatitis B core antibody (anti-HBc)

Hepatitis B surface antibody (anti-HBs)

You may miss an infection if all three are not requested

Do not just order 'hepatitis B serology' – the pathology service may not test for all three markers.



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HBV testing and Medicare

Testing for at-risk Australians is covered by Medicare.

All three tests are rebatable simultaneously.

Write '? Chronic hepatitis B' or similar on the request slip.

Doing HBV serology in a patient from a high prevalence background does NOT fall foul of the MBS screening provisions.

Case study - Chen

Chen's serology is as follows:

HBsAg	positive
anti-HBc	positive
anti-HBs	negative

What does this mean?

STEP 3 Interpreting serology

Polling Question 5

What does Chen's serology mean?

1. Chronic HBV infection
2. Immune due to vaccination
3. Susceptible to infection
4. Immune due to resolved infection

Answer

What does Chen's serology mean?

1. Chronic HBV infection

STEP 3 Interpreting serology

HBsAg	positive	Chronic HBV infection
anti-HBc	positive	
anti-HBs	negative	

HBsAg	positive	Acute HBV infection * (high titre)
anti-HBc	positive	
IgM anti-HBc*	positive	
anti-HBs	negative	

CRITICAL for clinicians to test and diagnose these patients



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STEP 3 Interpreting serology

HBsAg anti-HBc anti-HBs	negative negative negative	Susceptible to infection (vaccination should be recommended)
HBsAg anti-HBc anti-HBs	negative positive positive	Immune due to resolved infection
HBsAg anti-HBc anti-HBs	negative negative positive	Immune due to hepatitis B vaccination
HBsAg anti-HBc anti-HBs	negative positive negative	Various possibilities including: distant resolved infection, recovering from acute HBV, false positive, 'occult' HBV



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Key points: Testing and interpreting results

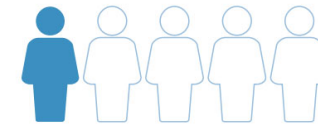
- Opportunistically test patients from priority populations
- Order all three serological tests
- Write '? Chronic hepatitis B' on the request slip
- Do not just order 'hepatitis B serology'

Overview

1. Epidemiology
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4. Testing and interpreting results
- 5. Hep B positive ... what now?**
6. Monitoring and treatment

Range of illness with hepatitis B

- **Acute hepatitis B**
 - Asymptomatic
 - Acute self-limited hepatitis
 - Severe or fulminant hepatitis B
- **Chronic hepatitis B**
 - Asymptomatic
 - Chronic hepatitis
 - Cirrhosis
 - Liver failure
 - Hepatocellular carcinoma



20%

About
of people with CHB die
because of related complications
(cirrhosis/liver cancer).⁴



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Initial assessment of HBsAg+ patients

- History (family and psycho-social)
- Physical examination
- Hepatitis B e antigen status (HBeAg and anti-HBe)
- HBV DNA level
- LFT, FBC, INR and alfa fetoprotein (AFP)
- Liver ultrasound or fibroscan

Initial assessment of HBsAg+ patients

- In addition:
 - Test for HAV, HCV, HDV and HIV (check for co-infection)
 - Evaluate co-morbidities - alcohol, drug use, diabetes, fatty liver and other morbidities
 - Discuss transmission and prevention of BBVs
 - Screen household contacts and sexual partners for HBV

These assessments will determine the PHASE of the disease and therefore **TREATMENT** and/or **MONITORING** requirements



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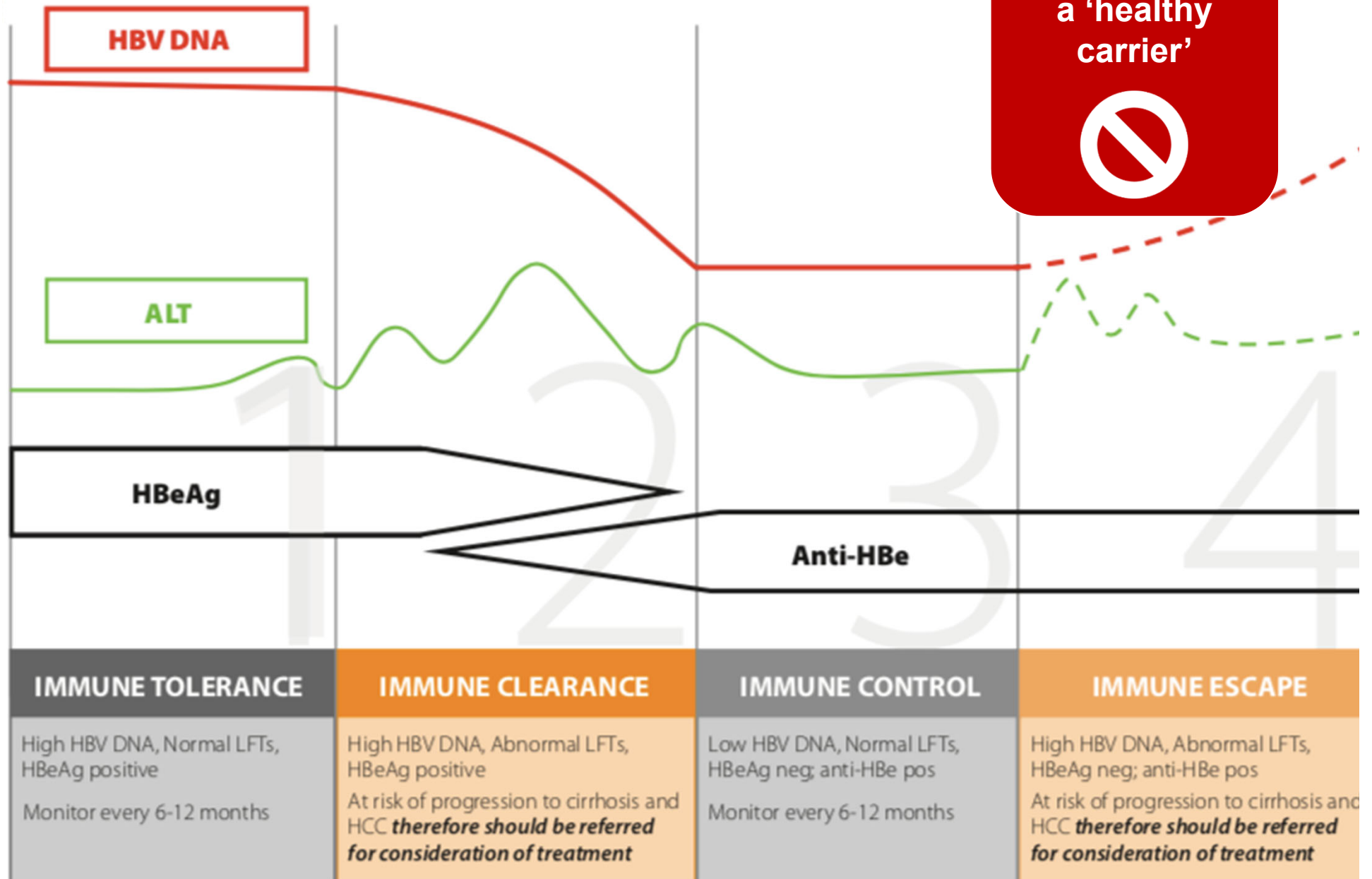


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DECISION-MAKING IN HBV

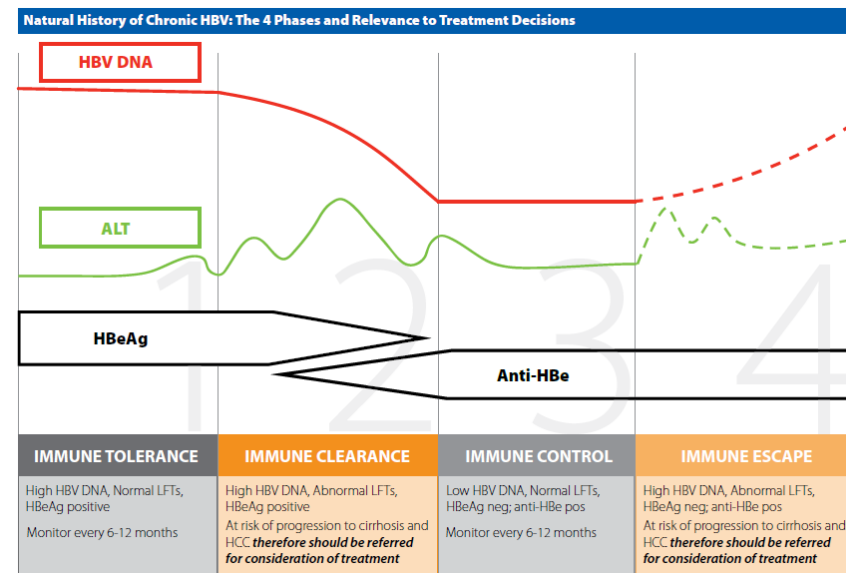
Natural History of Chronic HBV: The 4 Phases and Relevance to Treatment Decisions



Case study - Chen

The results of Chen's initial assessment show:

HBeAg positive
Anti-HBe negative
HBV DNA 7 log₁₀ IU/mL
(10,000,000 IU/mL)
ALT 50 U/L
3 months later 55 U/L



Which phase of disease is Chen currently in?



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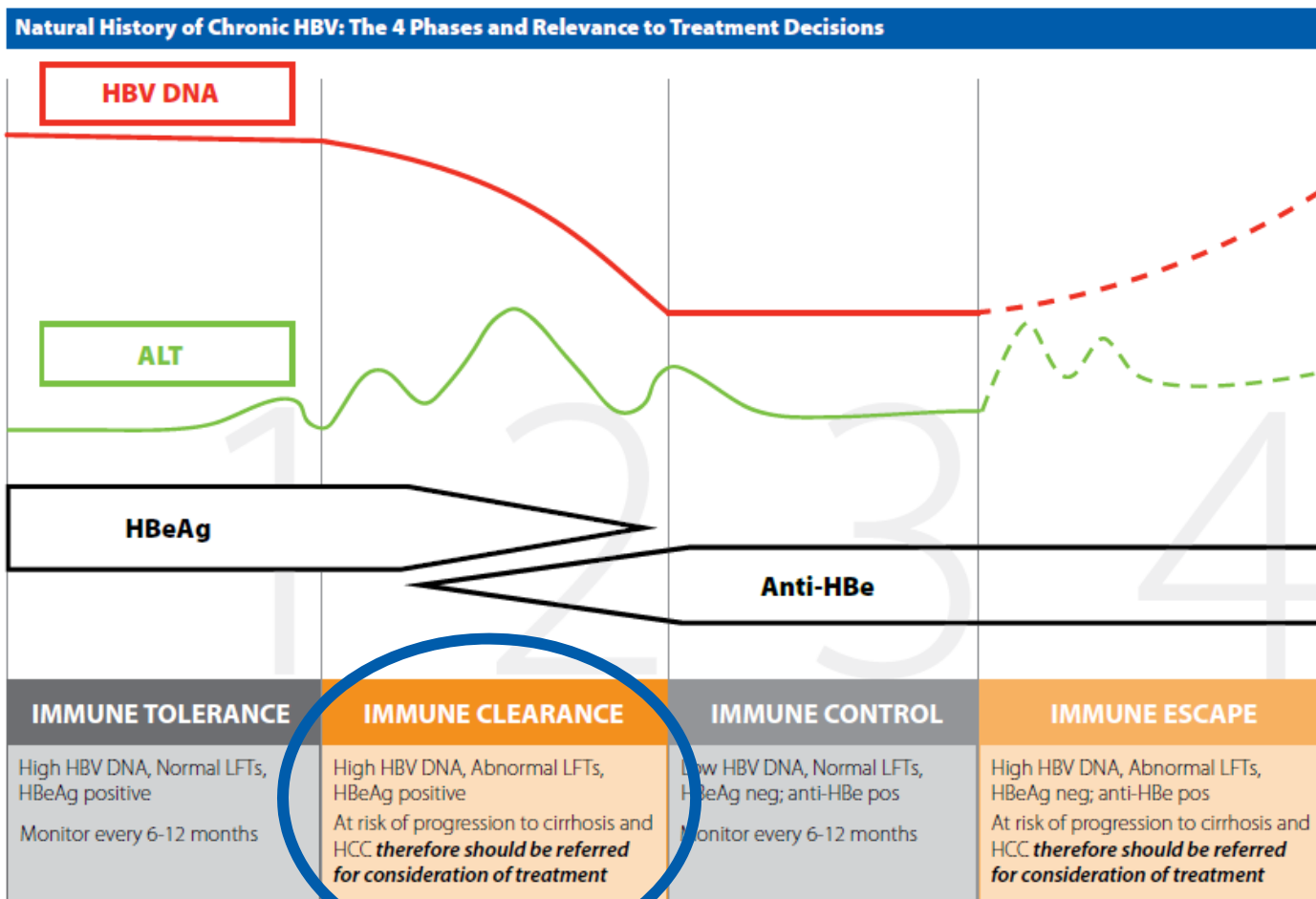
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Polling Question 6

Which phase of disease is Chen currently in?

1. Immune tolerance
2. Immune clearance
3. Immune control
4. Immune escape

Answer



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Key points:

Hep B positive... what now?

- There is no such thing as a 'healthy carrier'
- Chronic HBV is a dynamic disease - patients move between phases
- Patients must be regularly monitored to determine which phase they are in



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Overview

1. Epidemiology
2. Why worry?
3. Testing and prevention
4. Testing and interpreting results
5. Hep B positive what now?
- 6. Monitoring and treatment**

Polling Question 7

Use the HBV Decision Making Tool to determine which phases are indicated for consideration of treatment

1. Immune tolerance
2. Immune clearance
3. Immune control
4. Immune escape

Answer

Immune clearance and immune escape

Key messages:

Monitoring and treatment

MONITORING	TREATMENT
<ul style="list-style-type: none">• LFTs every <u>6 months</u>• HBV DNA test every <u>12 months</u> <p>Determines:</p> <ul style="list-style-type: none">• if and when the disease phase has changed,• when treatment may be indicated	<ul style="list-style-type: none">• Patients in <u>immune clearance</u> and <u>immune escape</u> phases• Anyone with <u>cirrhosis</u> with detectable HBV DNA



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Key messages : treatment

First line treatments: entecavir and tenofovir (s100)

Patients will take one pill a day indefinitely

Safe and well-tolerated

Associated with almost no resistance

Treatment is usually life-long

Benefits of treatment

- Normalisation of ALT – limit liver damage due to immune-mediated inflammation and fibrosis
- Sustained suppression of viral replication
- HBeAg seroconversion (10-20% per year)
- Reduce risk of progression to cirrhosis and liver cancer
- HBsAg seroconversion is very rare

GP Prescribing for CHB

- Accredited GPs can prescribe treatment
- Community pharmacists are able to dispense Hep B s100 medications
- 343 accredited GP Prescribers in Australia
- HBV prescriber locator map available on ASHM website
- To enquire about becoming an accredited prescriber, contact HBVPrescriber@ashm.org.au

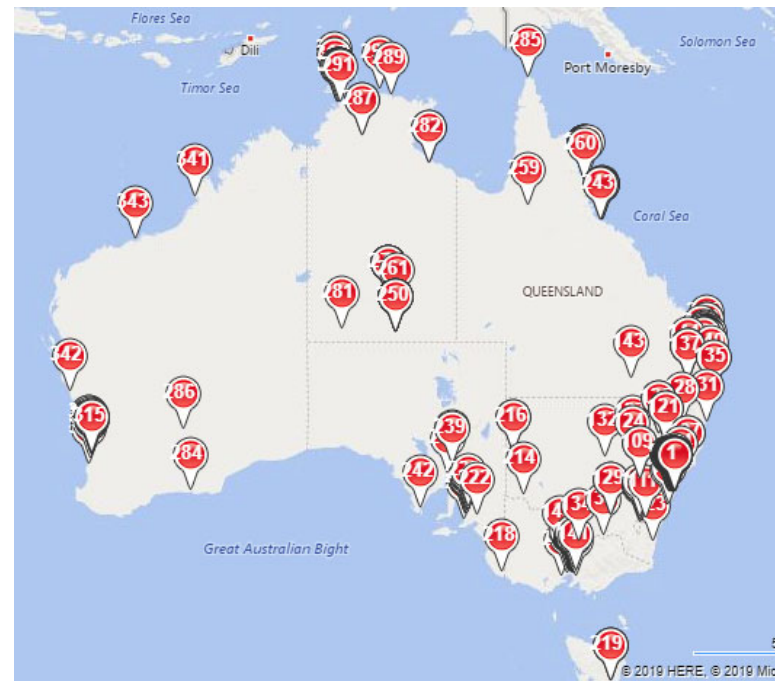
REMINDER:
ANY GP CAN PRESCRIBE
TREATMENT FOR HEPATITIS C



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Polling Question 8

You established that Chen is in the Immune Clearance phase.
Should he be considered for antiviral treatment?

1. Yes
2. No

Answer

Yes.

Chen is in the Immune Clearance phase, meaning he is at risk of progression to cirrhosis and hepatocellular carcinoma (HCC).

He should be considered for antiviral treatment.

Polling Question 9

Should Chen be regularly screened for HCC?

- a. No, Asian men only need screening when 40yrs+
- b. Yes, he has a family history of HCC

Answer

Yes.

Chen has a family history of HCC - his father died of a liver tumour.

He should undergo 6-monthly surveillance with ultrasound + AFP.

Key points: Treatment and monitoring

- All patients with CHB need to be monitored every 6-12 months
- Not all patients with CHB require antiviral therapy
- Antiviral therapy is targeted at patients in the Immune Clearance (2) and the Immune Escape (4) Phases
- Entecavir and tenofovir are the first line antiviral therapies
- Accredited GPs can prescribe antiviral treatment in community settings
- GPs are essential in ensuring at-risk patients with CHB undergo surveillance for HCC



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Take home messages: role of the GP

Testing and diagnosis

- Opportunistically test people at risk
- Order HBsAg + anti-HBc + anti-HBs

Vaccination

Ongoing monitoring

- No such thing as a healthy carrier
- All patients need regular monitoring
- Some patients require regular liver cancer surveillance

Treatment

- Treatment can prevent cirrhosis and liver cancer
- Can be prescribed by accredited GPs

Recap: Learning Objectives



Identify priority populations for hepatitis B testing in Australia



Correctly order HBV diagnostic tests



Describe the intervention points throughout the natural history of HBV using the HBV decision making tool



Explain the need for treatment and regular lifelong monitoring of patients with chronic hepatitis B



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QUESTIONS?



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Resources for clinicians

B Positive: all you wanted to know about hepatitis B – a guide for primary care providers (ASHM, 2018): www.bpositive.org.au

HepBHelp is an independent website which aims to assist GPs in the further investigation and management of patients diagnosed with chronic hepatitis B infection: www.hepbhelp.org.au

Hepatitis B Online Modules

These interactive online modules introduce important concepts for general practitioners managing patients with hepatitis B. Available on ASHM's online learning portal:

<https://lms.ashm.org.au/course/view.php?id=1126>

Decision making in HBV - This is a quick reference guide to assist GPs in evaluating Hepatitis B laboratory results, understanding the natural history of chronic Hepatitis B and making decisions regarding the management and treatment of patients with Hepatitis B. www.ashm.org.au/resources



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The National Hepatitis B Testing Policy - The testing policy provides advice on appropriate testing pathways using currently available technologies for all health professionals ordering and interpreting tests for hepatitis B.

www.testingportal.ashm.org.au/hbv

Hepatitis B and Primary Care Providers - This booklet explains the role of primary care providers in hepatitis B diagnosis and management.

www.ashm.org.au/resources

The Australian Immunisation Handbook - Provides clinical advice for health professionals on the safest and most effective use of vaccines in their practice.

<https://immunisationhandbook.health.gov.au/>

GESA Chronic Hepatitis B (CHB) Clinical Guidelines and Updates:

www.gesa.org.au/resources/clinical-guidelines-and-updates/chronic-hepatitis-b/

Chronic Disease Management items available under Medicare (including GP Management Plan), Australian Government Department of Health.
www.health.gov.au/internet/main/publishing.nsf/Content/mbsprimarycare-chronicdiseasemanagement

Australian Guidelines for the Prevention and Control of Infection in Healthcare (2010), Australian Commission on Safety and Quality in Health Care. www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2010

RACGP: National Faculty of Aboriginal and Torres Strait Islander Health
www.racgp.org.au/yourracgp/faculties/aboriginal/

B Seen, B Heard: Hepatitis B from our perspective – This DVD contains personal accounts from people living with chronic hepatitis B. It is hoped the stories related here will increase awareness and understanding of chronic hepatitis B, reinforce understanding of its management, and reduce stigma and discrimination. www.ashm.org.au/products/product/1976963408



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Resources for patients

Hepatitis Australia - Hepatitis Australia is an independent, charitable, community-based membership organisation offering assistance to people affected by viral hepatitis. <https://www.hepatitisaustralia.com/>
Hepatitis Information Line: 1800 437 222

Hepatitis B Story - An educational tool designed to support health workers in a discussion about chronic hepatitis B with patients who have low health literacy levels. <https://www.svhm.org.au/health-professionals/specialist-clinics/g/gastroenterology/resources>



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