



**Brigham and Women's Hospital**

Founding Member, Mass General Brigham

## **HEPATITIS B AND C**

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Internal Medicine Residency at Yale University  
Gastroenterology Fellowship/Hepatology Training at University of California, San Diego  
Board Certified in Gastroenterology, Transplant Hepatology and Lifestyle Medicine  
Instructor of Medicine at Harvard Medical School
- Clinical focus:
    - Metabolic-Dysfunction Associated Steatotic Liver Disease (MASLD)
    - Lifestyle Medicine in Hepatology
  - Research focus:
    - MASLD, Lifestyle Medicine

# Disclosures

I have no disclosures to report



# Outline

Learning Objectives

Cases

Summary



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# Learning Objectives

- To interpret the serology in hepatitis B virus (HBV)
- To review the indications for screening in viral hepatitis
- To categorize patients with viral hepatitis at risk for hepatocellular carcinoma
- To highlight updated HBV reactivation guidelines
- To define indications for screening and treatment of hepatitis C

## *I WILL NOT HAVE TIME TO REVIEW:*

- *When to initiate hepatitis B treatment based on AASLD algorithms*
- *All medications used to treat hepatitis B and hepatitis C*



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# Case 1:

34 y.o. dentist is seeing you as a new patient. She is starting her job at a local dental school. Employee health states that she tested positive for hepatitis B virus (HBV). She is confused by this news since she was vaccinated at the time of emigration to the US from the Ukraine.

What labs should we check to confirm her hepatitis B status and is this recommended by AASLD guidelines?

- Hepatitis B surface Ag (HBsAg)?
- Hepatitis B surface antibody (anti-HBs)?
- Hepatitis B core antibody (anti-HBc)?
- Hepatitis B DNA?
- All of the above?

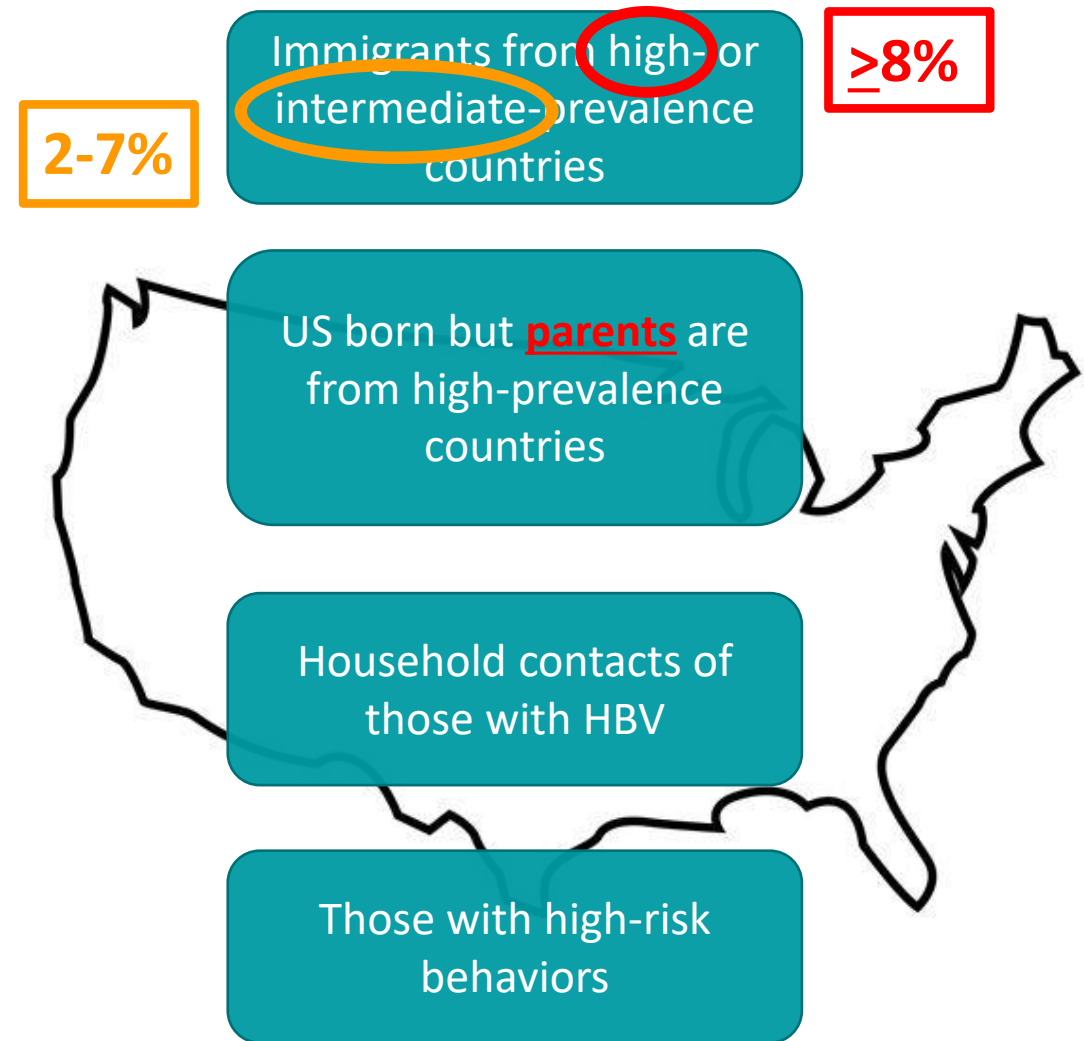


# HBV: Who do we screen?

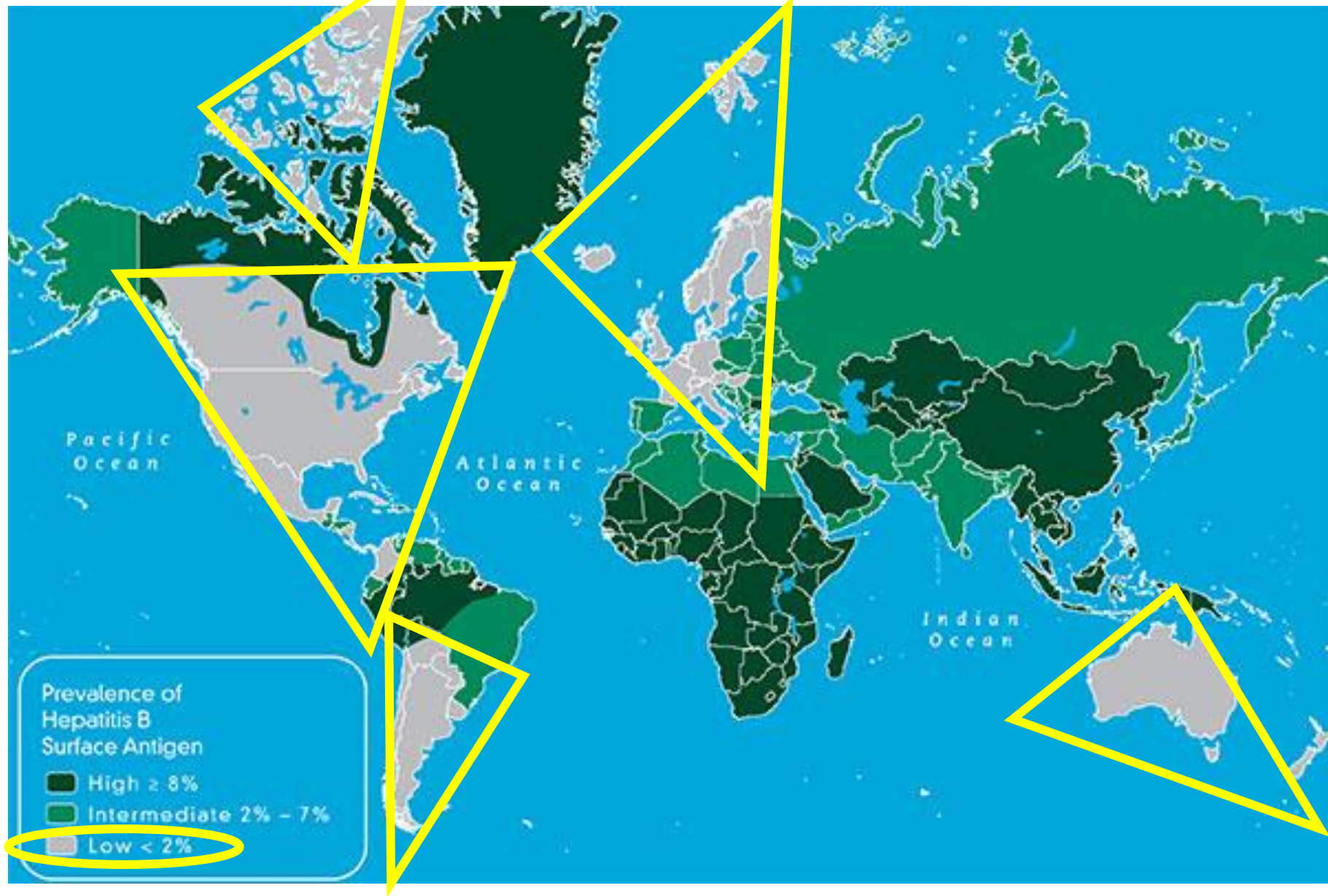
HBV is more likely in the US in:

How good is your geography?

Where would you like to vacation?



Geographic  
distribution  
of HBV  
Worldwide  
(2017)



Source: Hepatitis B foundation at [www.Hepb.org](http://www.Hepb.org)





TABLE 3. Groups at High Risk for HBV Infection Who Should Be Screened

- Persons born in regions of high or intermediate HBV endemicity (HBsAg prevalence of  $\geq 2\%$ )
  - Africa (all countries)
  - North, Southeast, East Asia (all countries)
  - Australia and South Pacific (all countries except Australia and New Zealand)
  - Middle East (all countries except Cyprus and Israel)
  - Eastern Europe (all countries except Hungary)
  - Western Europe (Malta, Spain, and indigenous populations of Greenland)
  - North America (Alaskan natives and indigenous populations of Northern Canada)
  - Mexico and Central America (Guatemala and Honduras)
  - South America (Ecuador, Guyana, Suriname, Venezuela, and Amazonian areas)
  - Caribbean (Antigua-Barbuda, Dominica, Grenada, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, and Turks and Caicos Islands)
- U.S.-born persons not vaccinated as an infant whose parents were born in regions with high HBV endemicity ( $\geq 8\%$ )\*
- Persons who have ever injected drugs\*
- Men who have sex with men\*
- Persons needing immunosuppressive therapy, including chemotherapy, immunosuppression related to organ transplantation, and immunosuppression for rheumatological or gastroenterologic disorders.
- Individuals with elevated ALT or AST of unknown etiology\*
- Donors of blood, plasma, organs, tissues, or semen
- Persons with end-stage renal disease, including predialysis, hemodialysis, peritoneal dialysis, and home dialysis patients\*
- All pregnant women
- Infants born to HBsAg-positive mothers\*
- Persons with chronic liver disease, e.g., HCV\*
- Persons with HIV\*
- Household, needle-sharing, and sexual contacts of HBsAg-positive persons\*
- Persons who are not in a long-term, mutually monogamous relationship (e.g.,  $>1$  sex partner during the previous 6 months)\*
- Persons seeking evaluation or treatment for a sexually transmitted disease\*
- Health care and public safety workers at risk for occupational exposure to blood or blood-contaminated body fluids\*
- Residents and staff of facilities for developmentally disabled persons\*
- Travelers to countries with intermediate or high prevalence of HBV infection\*
- Persons who are the source of blood or body fluid exposures that might require postexposure prophylaxis
- Inmates of correctional facilities\*
- Unvaccinated persons with diabetes who are aged 19 through 59 years (discretion of clinician for unvaccinated adults with diabetes who are aged  $\geq 60$  years)\*


\*Indicates those who should receive hepatitis B vaccine, if seronegative.  
Sources: (23,35,36).



# Hepatitis C: Who do we screen?

- CDC recommends one time screening for all US adults (18 years and older)
- Regular screening with:  
Activities, exposures, or conditions/circumstances associated with an increased risk of HCV infection:

## Risk Activities

- 
- Injection drug use (current or ever, including those who injected only once)
  - Intranasal illicit drug use
  - Use of glass crack pipes
  - Male engagement in sex with men
  - Engagement in chem sex (defined as the intentional combining of sex with the use of particular nonprescription drugs in order to facilitate or enhance the sexual encounter)

## Risk Exposures

- Persons on long-term hemodialysis (ever)
- Persons with percutaneous/parenteral exposures in an unregulated setting
- Healthcare, emergency medical, and public safety workers after needlestick, sharps, or mucosal exposure to HCV-infected blood
- Children born to HCV-infected women
- Recipients of a prior transfusion or organ transplant, including persons who:
  - Were notified that they received blood from a donor who later tested positive for HCV
  - Received a transfusion of blood or blood components, or underwent an organ transplant before July 1992
  - Received clotting factor concentrates produced before 1987
- Persons who were ever incarcerated

## Other

### Conditions/Circumstances

- HIV or HBV infection
- Sexually active persons about to start pre-exposure prophylaxis (PrEP) for HIV
- Chronic liver disease and/or chronic hepatitis, including unexplained elevated alanine aminotransferase (ALT) levels
- Solid organ donors (living and deceased) and solid organ transplant recipients





# Labs in Hepatitis B

- ✓ anti-HBc
  - Antibody to hepatitis B core antigen
- ✓ anti-HBs
  - Antibody to hepatitis B surface antigen
- ✓ HBsAg
  - Hepatitis B surface antigen
- ✓ HBeAg
  - Hepatitis B e antigen
- ✓ anti-HBe
  - Antibody to the hepatitis B e antigen
- ✓ HBV DNA
  - Hepatitis B virus level measured in IU/mL



Establishes diagnosis of HBV – if > 6 months, chronic



# Interpretation of Labs in Hepatitis B

Screening Test Results			Interpretation	HBV Management	Vaccinate for HBV?
HBsAg	Anti-HBc	Anti-HBs			
+	+	-			

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Screening Test Results			Interpretation	HBV Management	Vaccinate for HBV?
HBsAg	Anti-HBc	Anti-HBs			
+	+	-	Chronic HBV	Send to Hepatology	No



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HBsAg	Anti-HBc	Anti-HBs			
+	+	-	Chronic HBV	Send to Hepatology	No
-	+	+			

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Screening Test Results			Interpretation	HBV Management	Vaccinate for HBV?
HBsAg	Anti-HBc	Anti-HBs			
+	+	-	Chronic HBV	Send to Hepatology	No
-	+	+	Past HBV infection, resolved	None, unless chemo or immunosuppressive therapy	No

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+	+	-	Chronic HBV	Send to Hepatology	No
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-	+	-			



# Interpretation of Labs in Hepatitis B

Screening Test Results			Interpretation	HBV Management	Vaccinate for HBV?
HBsAg	Anti-HBc	Anti-HBs			
+	+	-	Chronic HBV	Send to Hepatology	No
-	+	+	Past HBV infection, resolved	None, unless chemo or immunosuppressive therapy	No
-	+	-	Past infection, current or false-positive	Check HBV DNA, send to Hepatology	Yes

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+	+	-	Chronic HBV	Send to Hepatology	No
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-	-	+			

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-	+	+	Past HBV infection, resolved	None, unless chemo or immunosuppressive therapy	No
-	+	-	Past infection, current or false-positive	Check HBV DNA, send to Hepatology	Yes
-	-	+	Immune by vaccination	None	No

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HBsAg	Anti-HBc	Anti-HBs			
+	+	-	Chronic HBV	Send to Hepatology	No
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# Interpretation of Labs in Hepatitis B

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HBsAg	Anti-HBc	Anti-HBs			
+	+	-	Chronic HBV	Send to Hepatology	No
-	+	+	Past HBV infection, resolved	None, unless chemo or immunosuppressive therapy	No
-	+	-	Past infection, current or false-positive	Check HBV DNA, send to Hepatology	Yes
-	-	+	Immune by vaccination	None	No
-	-	-	Not immune and uninfected	None	Yes





# Case 1 (continued):

So, what should we check?

AASLD recommends:

- ✓ HBsAg and anti-HBs

OR

- ✓ Anti-HBc as a single lab test but if positive, will need to check the HBsAg and anti-HBs

What I do:

- Check all three at once for screening:
  - HBsAg, anti-HBs and anti-HBc



# Who we vaccinate if screening is negative?

→ ✓ US born, not vaccinated as an infant with parents from high endemic

PWID

MSM

→ ✓ AST/ALT elevations of unknown etiology

ESRD

Infants born to HBsAg pos mothers

Chronic liver disease

HIV

Household, needle sharing and sexual partners of HBsAg pos persons

Persons not in a long-term, mutually monogamous relationship

- (e.g. >1 sex partner during the previous 6 months)

STD treatment

HCWs

Residents/staff for dev delayed

→ ✓ Travelers to countries with intermediate or high prevalence of HBV

Inmates

→ ✓ Unvaccinated people with diabetes aged 18-59 (discretion of provider if  $\geq 60$ )

ALT >35 U/L in males and ALT >25 U/L in females  
(For guiding treatment decisions in chronic HBV)



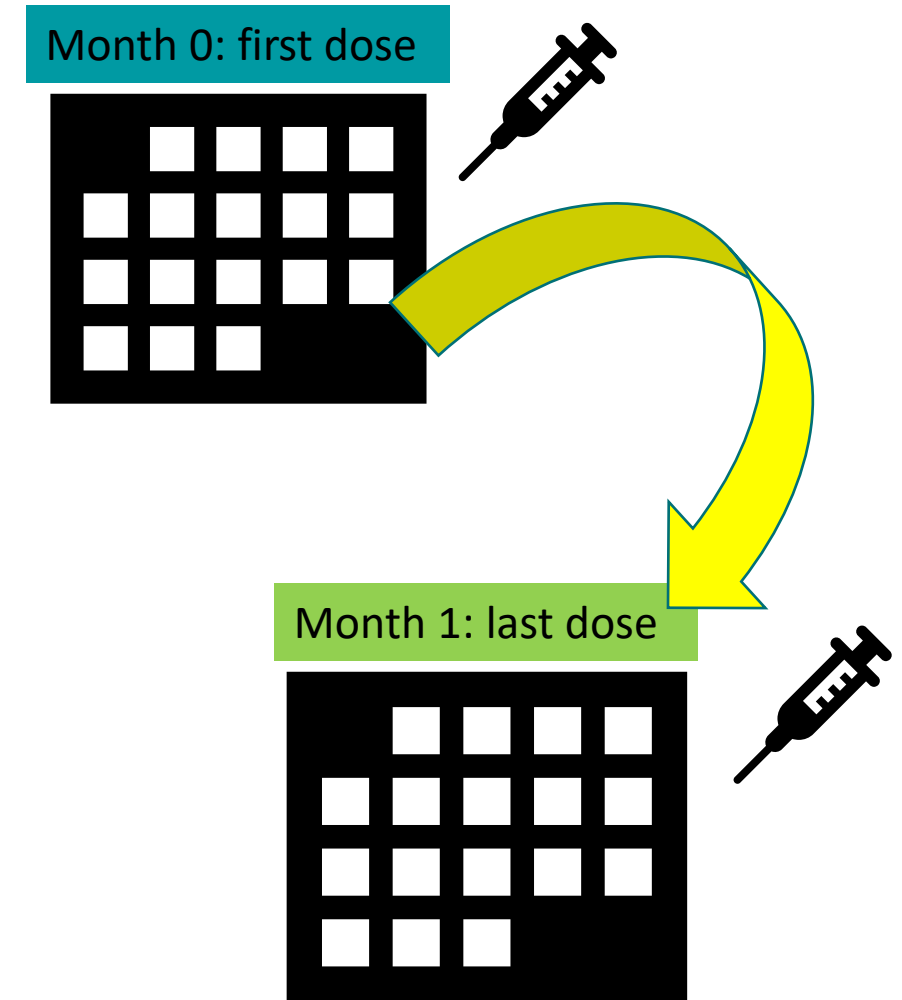
# New vaccine for Hepatitis B recommended: Heplisav-B<sup>®</sup>

Single dose vial of 0.5 ml or prefilled syringe  
Give 1 month apart – only 2 doses to complete series

Advisory Committee on Immunization Practices (ACIP):  
Recommended: Heplisav-B<sup>®</sup> (HepB-CpG), a yeast-derived vaccine prepared with a novel adjuvant, administered as a 2-dose series (0, 1 month) for use in persons aged ≥18 years.

- Data from RCTs assessing prevention of HBV infection and adverse events in adults
- Seroprotective antibody (anti-HBs) levels:

➡ ▪ **90.0%–100.0% of subjects receiving HepB-CpG (HEPLISAV-B<sup>®</sup>)** vs. 70.5%–90.2% of subjects receiving Engerix-B<sup>®</sup>



## Question #1:

34 y.o. faculty member is starting her job at a local dental school and seeing you as a new patient. She emigrated from the Ukraine.

What is recommended by AASLD to screen for hepatitis B?

- A) HBsAg and anti-HBs
- B) anti-HBs and HBV DNA
- C) HBsAg and anti-HBc
- D) HBeAg and HBV DNA



# Answer to Question #1:

What lab would you check to screen for hepatitis B?

- A) HBsAg and anti-HBs
- B) anti-HBs and HBV DNA
- C) HBsAg and anti-HBc
- D) HBeAg and HBV DNA

*Answer **A** is correct and recommended by AASLD guidelines as an approved method to screen for hepatitis B. One could also check anti-HBc as a single test, however, if the anti-HBc is positive, then you will have to check the HBsAg and anti-HBs to determine the state of her hepatitis B exposure.*



## Case 2:

A 27 yo man with chronic HBV is seeing you for the first time. He is not on treatment for HBV, has no family history of hepatocellular carcinoma (HCC). He was born in Kenya and was screened for HBV upon arrival to the United States at age 20. He has no other history. Drinks 1 beer every 6 months. BMI is 23 kg/m<sup>2</sup>.

### Labs:

- AST 17 U/L
- ALT 12 U/L
- HBV DNA 3,400 IU/mL
- HBsAg positive
- anti-HBs negative
- anti-HBc positive
- HBeAg negative, anti-HBe pos
- Hepatitis A IgG positive



## Case 2 (continued):

### ✓ Immune-Active Chronic Hepatitis B:

- Normal ALT but HBV DNA >2,000 IU/mL in HBeAg-negative person
- No signs of liver decompensation
- Young age
- No family history of HCC
- Vaccinated against hepatitis A

What are some facts to consider in managing his hepatitis B?

- ☐ alcohol use? → risk for secondary liver injury?
- ☐ weight/BMI? → risk for metabolic dysfunction-associated steatotic liver disease (MASLD)?
- ☐ HCC risk? → no family history, young, but from Africa....



## Case 3:

A 37 yo woman with polysubstance use disorder, untreated hepatitis C, GT 1a and multiple hospital admissions for alcohol-related hepatitis has follow up with you. Her imaging during her last hospitalization 6 months ago was notable for a mildly nodular liver contour, splenomegaly and moderate ascites. She reports sobriety since that time.

Her exam is notable for no jaundice, no asterixis, and mild abdominal distention

Besides liver enzymes, chem panel, INR and HCV viral load - what testing would you order at this time?

- A) US of the liver
- B) US of the liver with Alpha fetoprotein
- C) US of the liver with Alpha fetoprotein and CA-125
- D) No need for imaging given sobriety and not jaundiced





# HCC screening guidelines

- ✓ If the incidence of HCC is  $\geq 0.2\%/yr$
- ✓ Those with cirrhosis
- ✓ Those with first degree relative with HCC
- ✓ HBsAg positive and high risk (Asian or black men over 40 and Asian women over 50)
- ✓ People with Hepatitis D virus
- ✓ Africans > 20 years of age

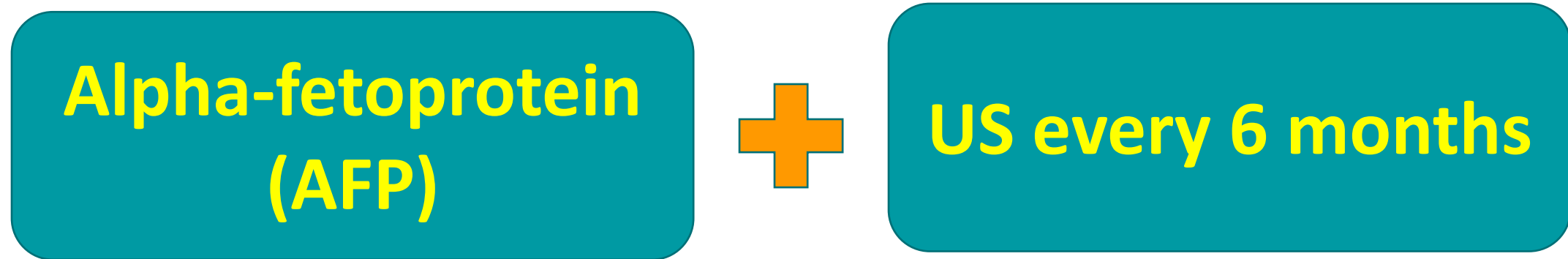


Secondary to a synergy of HBV and dietary aflatoxins  
(which induce mutations in the tumor suppressor gene, p53)

- ✓ *So....given first patient was born in Africa → I would screen this patient*
- ✓ *So....given second patient may have cirrhosis → I would screen this patient*



# How do we screen for HCC?



Insufficient evidence for or against the addition of AFP every 6 months in screening algorithms  
In areas where US is not available, AFP every 6 months should be performed

## Question #2:

A 27 y.o. man with chronic Hepatitis B is seeing you for the first time. He has recently moved to the area and is not on therapy for his HBV. He is healthy, his ALT is 12 U/L, HBV DNA is 3,400 IU/mL and he denies any liver decompensation. His appointment for hepatology is in 3 months.

What testing would you order to screen for HCC in this patient?

- A) AFP and US every 6 months
- B) AFP and US yearly
- C) AFP and US yearly given he is less than 40 years old
- D) AFP every 6 months with US yearly



## Answer to Question #2:

What testing would you order to screen for HCC in this patient?

- A) AFP and US every 6 months
- B) AFP and US yearly
- C) AFP and US yearly given he is less than 40 years old
- D) AFP every 6 months with US yearly

Answer **A.** is correct. There was past uncertainty about the benefit of AFP in screening for HCC, though the latest guidelines support the use of AFP with US every 6 months in high risk groups for HCC. Given this patient is born in Africa, he should have screening for HCC starting around age 20. This is due to the synergy of HBV with dietary aflatoxin in this population. There is no role for yearly ultrasounds in HCC screening algorithms.



## Question #3:

A 37 yo woman with untreated hepatitis C and multiple hospital admissions for alcohol-related hepatitis has follow up with you. Her imaging during her last hospitalization 6 months ago was notable for a mildly nodular liver contour, splenomegaly and moderate ascites. She has mild abdominal distention on exam.

What testing would you order at this time?

- A) US of the liver
- B) US of the liver with Alpha fetoprotein
- C) US of the liver with Alpha fetoprotein and CA-125
- D) No need for imaging given sobriety and not jaundiced



## Answer to Question #3:

What testing would you order at this time?

- A) US of the liver
- B) US of the liver with Alpha fetoprotein
- C) US of the liver with Alpha fetoprotein and CA-125
- D) No need for imaging given sobriety and not jaundiced

Answer **B** is correct. The patient has evidence of cirrhosis by her imaging demonstrating a nodular contour. In addition, she has signs of portal hypertension with splenomegaly and ascites. The correct answer for screening for HCC is B – US with AFP. The patient should be screened for HCC as it has been six months since her last imaging. No patient with ascites should be checked for CA-125 because it will be elevated due to the ascites itself.

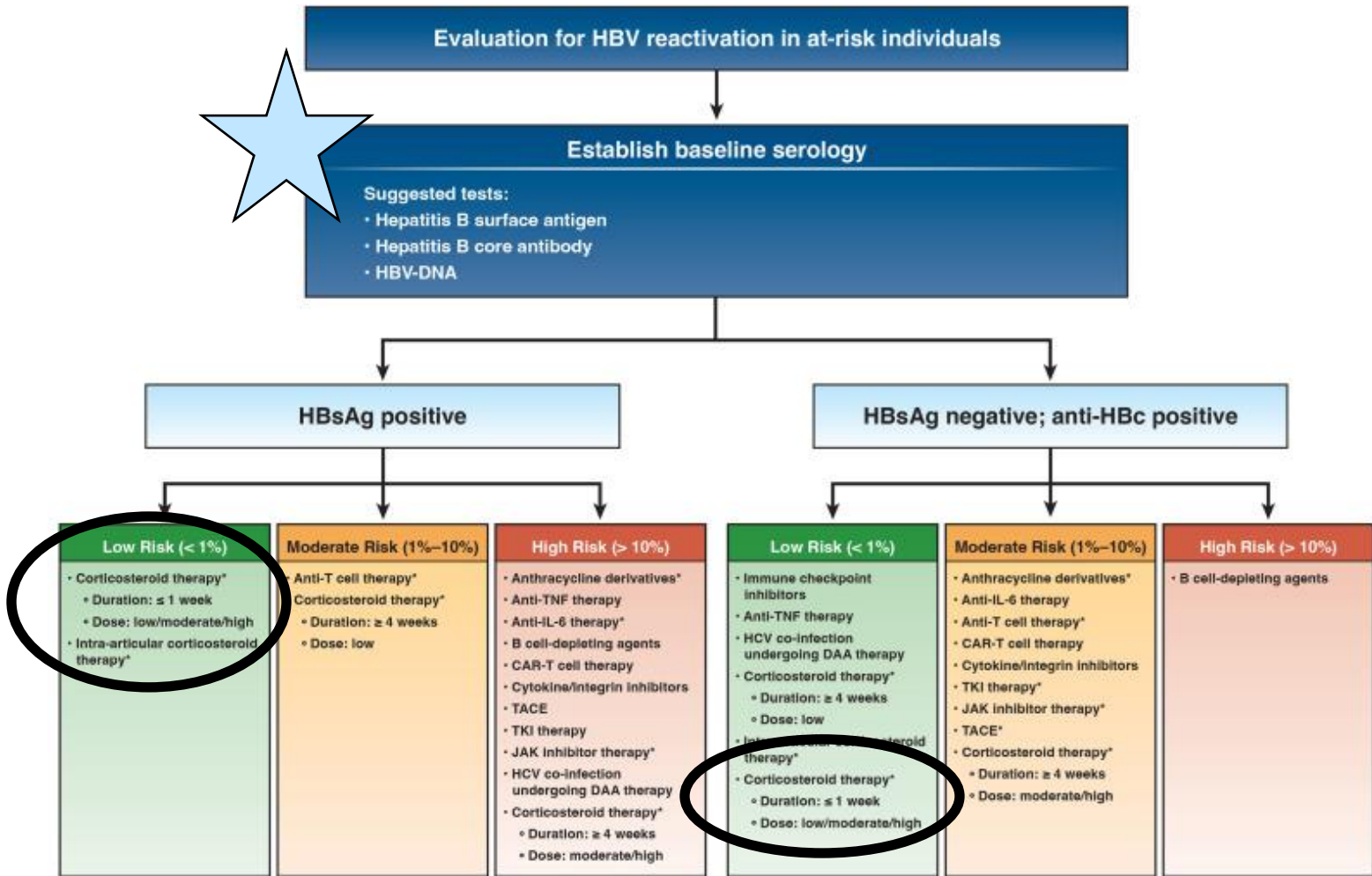


# HBV Reactivation

Corticosteroids  
Duration:  $\leq 1$  week  
Dose: low/mod/high\*



\*  
Low: < 10 mg  
Mod: 10-20 mg  
High: > 20 mg



High Risk	Recommend antiviral prophylaxis over monitoring alone (strong recommendation, moderate certainty evidence)
Moderate Risk	Suggest antiviral prophylaxis over monitoring alone (conditional recommendation, moderate certainty evidence)
Low Risk	Suggest monitoring alone over using antiviral prophylaxis (conditional recommendation, moderate certainty evidence)

Glucocorticoids (prednisone or equivalent): low dose, < 10 mg; moderate dose, 10–20 mg; high dose, > 20 mg  
\*Lower certainty in the evidence for this classification

NOTE:

- The risk of HBVr from exposure to multiple agents can be cumulative
- Using anti-HBs status to guide antiviral prophylaxis for all risk groups is not supported by the evidence
- Antiviral prophylaxis should be started before the start of risk-imposing therapy and continued for at least 6 months after discontinuation of risk-imposing therapy (at least 12 months for B cell-depleting agents)
- The risk for HBV reactivation refers to the duration of the risk-imposing state or up to one year, unless otherwise noted; longer-term risk has higher uncertainty
- If the risk-imposing state changes, reassess the risk categorization

TNF, tumor necrosis factor; HCV, hepatitis C virus; DAA, direct acting antiviral agent(s); IL-6, interleukin-6; TKI, tyrosine kinase inhibitor; JAK, janus kinase; TACE, transcatheter arterial chemoembolization

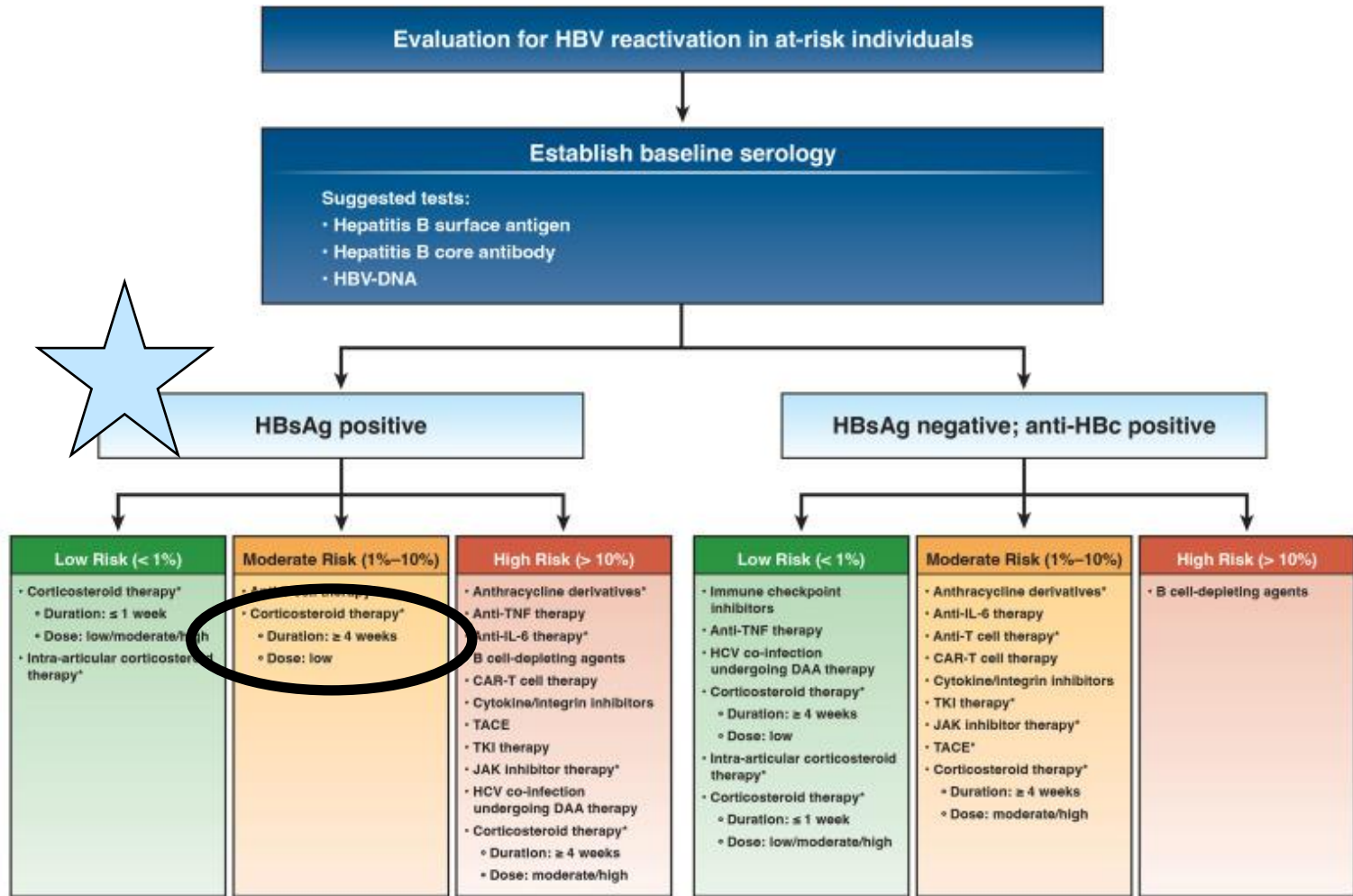


# HBV Reactivation

Corticosteroids  
Duration:  $\geq 4$  weeks  
Dose: low\*

↓

\* Low: < 10 mg



High Risk	Recommend antiviral prophylaxis over monitoring alone (strong recommendation, moderate certainty evidence)
Moderate Risk	Suggest antiviral prophylaxis over monitoring alone (conditional recommendation, moderate certainty evidence)
Low Risk	Suggest monitoring alone over using antiviral prophylaxis (conditional recommendation, moderate certainty evidence)

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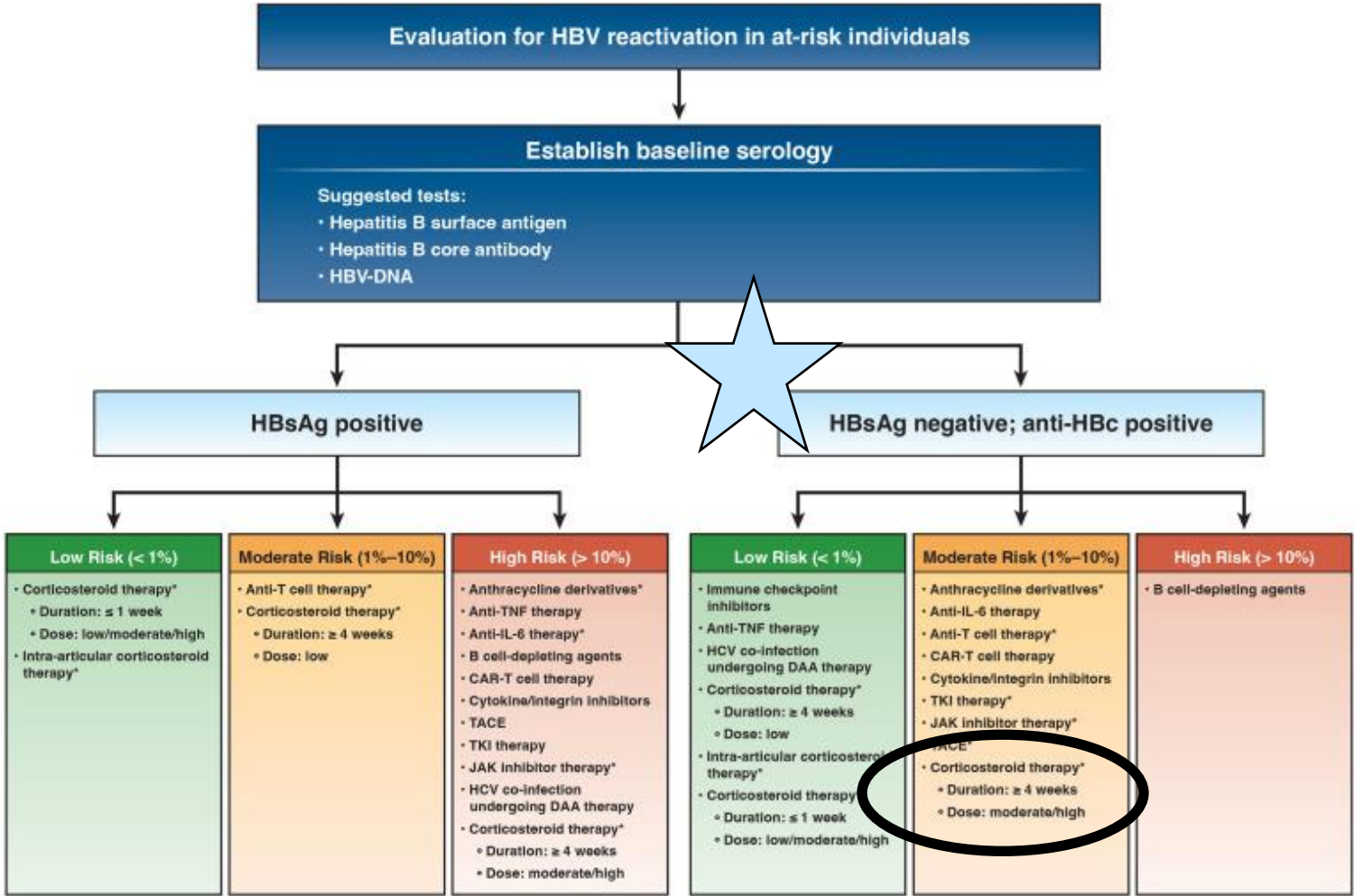


# HBV Reactivation

Corticosteroids  
Duration:  $\geq 4$  weeks  
Dose: mod/high\*



\*  
Mod: 10-20 mg  
High: > 20 mg



High Risk	Recommend antiviral prophylaxis over monitoring alone (strong recommendation, moderate certainty evidence)
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TNF, tumor necrosis factor; HCV, hepatitis C virus; DAA, direct acting antiviral agent(s); IL-6, interleukin-6; TKI, tyrosine kinase inhibitor; JAK, janus kinase; TACE, transcatheter arterial chemoembolization



## Case 4:

A 24 y.o. woman with 10/10 headache, chills and gum pain 4 days after a tooth extraction presents to the ED. She was given clindamycin, acetaminophen, naproxen and discharged back to her drug rehab/recovery program where she has been for 2 weeks.

Labs in ED:

- AST 791 U/L
- ALT 1244 U/L
- Alk phos 250 U/L
- TB 0.7 mg/dL
- Albumin 3.4 gm/dL
- INR 0.9



## Case 4 (continued):

US in ED:

- Normal size liver/contour
- No portal vein or hepatic vein thrombosis

Additional history:

- Last use of intranasal cocaine was 3 weeks prior to presentation
- No new herbal supplements
- Adopted, unknown family history

Returns three days later to your office for post ED follow up and labs...



## Case 4 (continued):

### Labs in ED:

- AST 791 U/L
- ALT 1244 U/L
- Alk phos 250 U/L
- TB 0.7 mg/dL
- Albumin 3.4 gm/dL
- INR 0.9

### And:

- HCV ab positive (was negative last year)
- Hepatitis C viral load of 234,567 IU/mL



3 days later...

### Labs in your office:

- AST 291 U/L
- ALT 744 U/L
- Alk phos 137 U/L
- TB 0.4 mg/dL
- Albumin 3.4 gm/dL
- INR 0.8



# Acute Hepatitis C

Highest incidence of acute HCV: among people 20-39 years old

Documentation of previous serology



Clinically very important!

20%–30% of newly infected with HCV:

- fatigue, abdominal pain, poor appetite, or jaundice

Immune response that triggers intense inflammation



# Acute Hepatitis C – Treatment or Wait?



HCV Guidance: Recommendations for  
Testing, Managing, and Treating  
Hepatitis C



HCV guideline recommendations:

- Check HCV antibody and HCV RNA

If HCV RNA is detected...

- Treat! → Hepatology referral for discussion re: types of treatment
- Will need HCV Genotype and cirrhosis assessment prior to treatment

**Important to note HCV can clear spontaneously in ~20%:**

- Thus, when screening: HCV antibody (HCV ab) first and, if positive, then check VL



# Chronic Hepatitis C – Treatment



HCV Guidance: Recommendations for  
Testing, Managing, and Treating  
Hepatitis C



Key points are:

- ✓ Many treatment options exist for the various unique scenarios
  - Including those on dialysis, cirrhosis, prior treatment failures, etc.
- ✓ Pangenotypic options exist (sofosbuvir-velpatasvir or glecaprevir-pibrentasvir)
  - Choice is often determined by insurance (length of treatment is 12 vs 8 weeks, respectively)
- ✓ If severe renal impairment or dialysis, direct acting antiviral medications are safe and require no dose adjustments
- ✓ Treatments are all pill based (either 1 pill/day or 3 pills/day, depending on regimen)
- ✓ Most common side effects:
  - Headache, nausea and fatigue – but most patients complete their full course of treatment
- ✓ Efficacy is superb:  $\geq 95\%$  Sustained Viral Response (SVR) regardless of regimen
  - SVR is defined as Viral Load undetectable 12 weeks after completing therapy
- ✓ If co-infected with Hepatitis B, we monitor them very closely
  - Risk of HBV reactivation with direct-acting antiviral therapies

## Question #4:

A 24 y.o. woman presents with ALT 1244 U/L and recent intranasal cocaine use. US of the liver reveals normal contour and normal doppler flow.

What tests are needed before treatment of her suspected HCV?

- A) HCV antibody, HCV RNA and Fibroscan and Hepatitis B serologies
- B) HCV antibody, HCV RNA, HCV Genotype and Hepatitis B RNA
- C) HCV antibody and Fibroscan and Hepatitis B RNA
- D) HCV antibody, HCV RNA, HCV Genotype and Hepatitis B serologies





## Answer to Question #4:

What tests are needed before treatment of her suspected HCV?

- A) HCV antibody, HCV RNA and Fibroscan and Hepatitis B serologies
- B) HCV antibody, HCV RNA, HCV Genotype and Hepatitis B RNA
- C) HCV antibody and Fibroscan and Hepatitis B RNA
- D) HCV antibody, HCV RNA, HCV Genotype and Hepatitis B serologies

Answer **D** is correct. There should always be documentation of HCV antibody with HCV RNA to document a detectable HCV viral load. This ensures the patient has not spontaneously cleared the virus (which happens in 20% of HCV infections). The genotype is important in treatment regimen initiation, though most insurances support pan-genotypic medications. Checking hepatitis B status is important since there can be reactivation of hepatitis B when using direct-acting antiviral (DAA) HCV medications. The ultrasound confirmed no cirrhosis, so Fibroscan is not needed in this case. Hepatitis B is a DNA virus, so checking HBV RNA is incorrect.



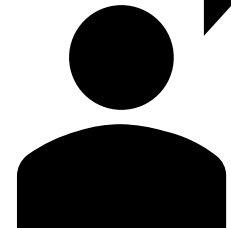
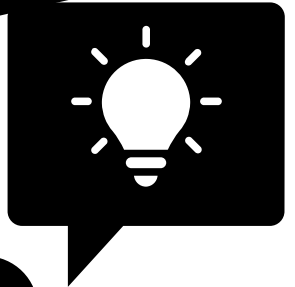
## Case 5:

A 45 y.o. woman, who was born in Cape Verde, is seeing you for diabetes. Diabetes was discovered during a hospital admission for cellulitis. She also has fatty liver. Her liver enzymes (AST 45 U/L, ALT 56 U/L). You perform routine health maintenance for hepatitis given her elevated liver enzymes.

Which types of viral hepatitis would you initially screen for?

- A) Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D and Hepatitis E
- B) Hepatitis A, Hepatitis B, Hepatitis C and Hepatitis D
- ✓ C) Hepatitis A, Hepatitis B and Hepatitis C
- D) Hepatitis A and Hepatitis B

Screen ALL patients for HEPATITIS C!



## Question #5:

45 y.o. woman with chronically elevated ALT ~56 U/L, diabetes and fatty liver.

How would you screen for hepatitis C in this patient?

- A) HCV antibody and HCV VL
- B) HCV antibody, HCV VL and genotype
- C) No need to test HCV since she is not at risk
- D) HCV antibody



## Answer to Question #4:

How would you screen for viral hepatitis in this patient?

- A) HCV antibody and genotype
- B) HCV antibody, HCV VL and genotype
- C) No need to test HCV since she is not at risk
- D) HCV antibody

*Answer **D.** is correct. Per CDC guidelines, HCV screening is now recommended universally in patients >18 y.o. regardless of exposure risk given the effectiveness of DAA therapy. HCV antibody testing is also recommended in all pregnant women. HCV antibody is recommended first, followed by confirmation of VL if the antibody is positive. Given ~20% of patients can clear HCV spontaneously, it is important to confirm active infection with a detectable VL before testing for the HCV genotype.*



# Outline

Learning Objectives

Cases

Summary



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Hepatitis B and C should be screened for in many patient scenarios

Vaccination for Hepatitis B is likely indicated in most patients

New HBV vaccination series is two total doses, one month apart

HCC screening should be performed in high-risk patients

US and AFP every 6 months should be the modality for HCC screening

Hepatitis B status should be documented in all patients at risk for reactivation

Hepatitis B reactivation can be prevented in many cases with correct use of antiviral therapy

Acute Hepatitis C is now treated when diagnosed

HCV screening should be done in all adults >18 y.o. regardless of risk

HCV antibody should be checked first when screening for HCV



# Supplemental References

[www.hcvguidelines.org](http://www.hcvguidelines.org)

AASLD practice guidelines on Hepatitis B

- Terrault et al. Hepatology, Vol 67, No. 4, 2018

AASLD practice guidelines on Hepatocellular Carcinoma

- Marrero et al. Hepatology, Vol 68, No. 2, 2018





# Thanks for your attention!

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