Hepatitis B and Pregnancy

Tatyana Kushner, MD, MSCE
Associate Professor
Director of Outcomes Clinical Research,
Department of Gastroenterology and Hepatology
Department of Obstetrics and Gynecology
Weill Cornell Medicine

Empire Liver FOUNDATION

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Disclosures

- Gilead, Abbvie, GSK, Eiger-Advisory role
- Gilead – Research grants

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The Empire Liver Foundation is an association of NYS liver specialists dedicated to increasing community awareness of liver disease, providing education on liver disease to health care providers and patients and providing guidance to those who make policy decisions influencing the practice and science of liver disease.

- **CME Grand Rounds**
- **CME Clinical Training Series**
- **Live Preceptorship**
- **Mentoring**

www.empireliverfoundation.org

The New York City Health Department Viral Hepatitis Program conducts surveillance and develops and implements programs to build capacity to prevent, manage and treat hepatitis B and C in New York City.

- **Surveillance**
- **Community Coalitions**
- **Navigation Programs**
- **Clinical Practice Facilitation**
- **Training**

www.HepFree.NYC

Series Overarching Learning Objectives

1. Describe the importance of interprofessional collaboration in effectively meeting the healthcare, educational, and psychosocial needs of patients living with hepatitis B or C infection.
2. Describe the epidemiology of hepatitis B and C infections.
3. Describe the natural history of hepatitis B and hepatitis C infection.
4. Discuss updated guidelines to identify patients at risk for hepatitis B and/or hepatitis C infection
5. Identify appropriate antiviral treatments for people living with hepatitis B or hepatitis C,
6. Explain the efficacy and safety of current and emerging therapies for hepatitis B and C
7. Summarize how to counsel patients diagnosed with hepatitis B or C.

The word women may be used throughout the presentation to align with the language of the studies represented in this talk; however, we acknowledge that not all pregnant people identify as cis women and understand the importance of using gender-inclusive language in order to support all of our patients.

Learning Objectives

By the end of this presentation, participants will be able to understand:

- Diagnosis and epidemiology of hepatitis B virus (HBV)
- Effect of pregnancy on HBV and HBV on pregnancy outcomes
- Gestational parent-to-child transmission
- Screening recommendations during pregnancy
- Role of antiviral therapy in pregnancy
- Prevention of gestational parent-to-child transmission

What is Hepatitis B Virus (HBV)?

- Double stranded DNA virus
- Infects the liver, circulates in the blood, in other body fluids
- Parenteral and mucosal transmission
- Risk factors:
  - birth to an infected mother
  - sexual contact
  - injection drug use
- Other risks: exposed household items, needle-sticks, sharps
- Not spread by food, water, sharing utensils, kissing, coughing, sneezing or breastfeeding

HBV Test Interpretation

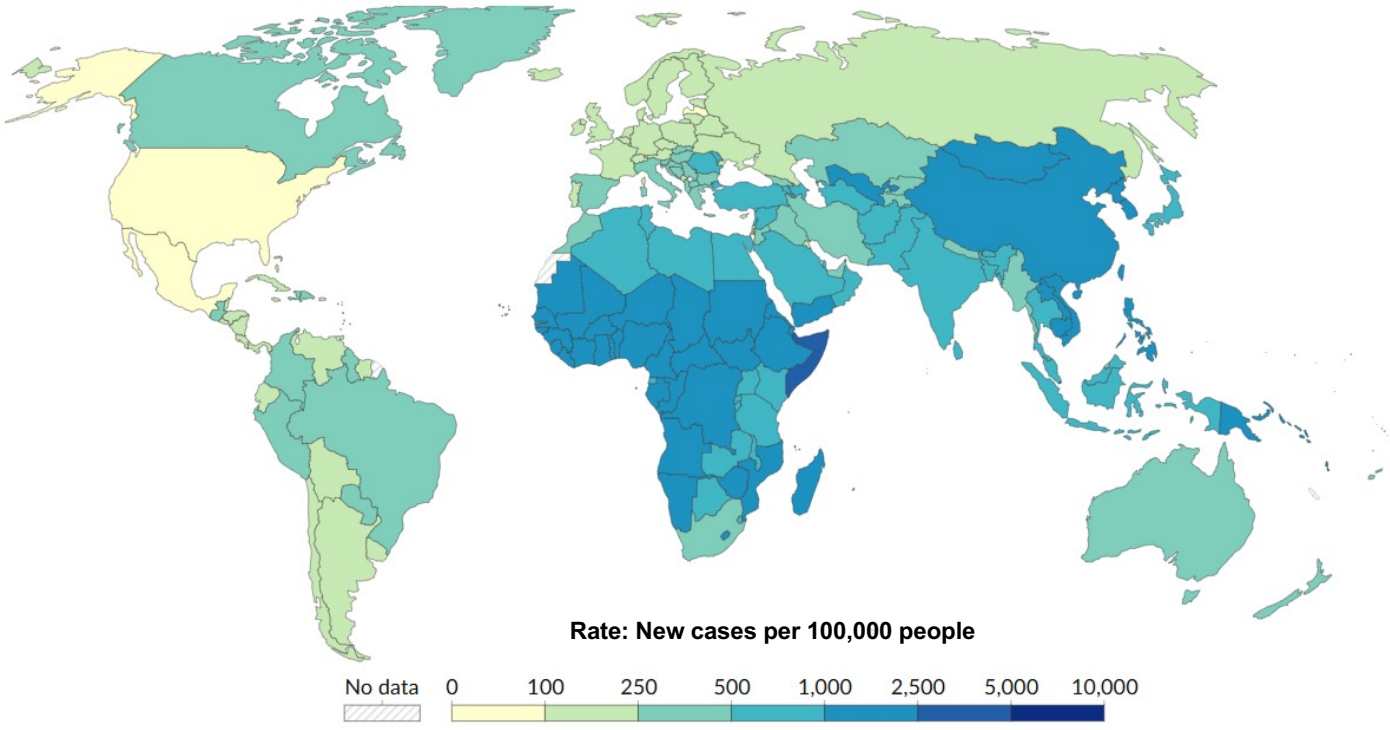
Test Name	Abbreviation	Marker for
hepatitis B surface antigen	HBsAg	acute or chronic infection
hepatitis B surface antibody	Anti-HBs	immune response after infection or vaccination (>=10 mIU/mL)
hepatitis B e antigen	HBeAg	presence of viral replication and infectivity
hepatitis B virus DNA	HBV DNA	viral load: presence and level of viral replication
hepatitis B core antibody	Total anti-HBc	past or current hepatitis B infection

Chronic HBV Infection

- Defined by HBsAg + > 6 months
- Infectious but often asymptomatic
- No cure is available:
  - HBV viral DNA integrates into host DNA for life
  - A functional cure is possible with proper treatment
  - HBsAg clearance is the goal
  - Reactivation is still possible
- Chronic active hepatitis develops in more than 25% of people living with infection and can result in cirrhosis
- Persons living with HBV have a 25% risk of premature death related to the complications of cirrhosis and liver cancer (hepatocellular carcinoma)

Epidemiology

Epidemiology



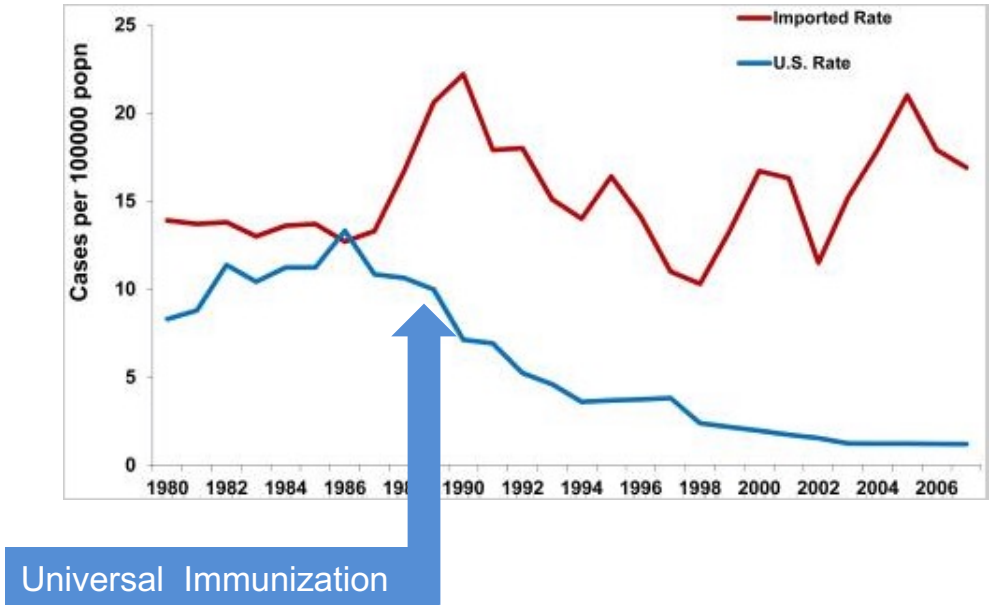
Data source: IHME, 2024

Region	Hepatitis B prevalence
Americas	5 million
Western Pacific	96.8 million
African	64.7 million
Southeast Asia	61.4 million
Eastern Mediterranean	15.2 million
European	10.6 million

Data source: WHO, 2022

HBV in the United States

- NHANES data
  - 850,000 Americans are living with chronic HBV infection
  - Survey data may undersample/underestimate immigrant populations
  - **True number closer to 2.2 million**
  - Up to **95%** immigrant patient population



Incidence of **Chronic HBV**, U.S.-Acquired vs. Estimated Imported, United States, 1980-2008
Data sources: CDC, WHO, DHS

Roberts H, et al. Hepatology 2016.

Updated HBV vaccine recommendations!

November 03, 2021

ACIP recommends universal hepatitis B vaccination for adults aged 19 to 59 years

The CDC's Advisory Committee on Immunization Practices voted unanimously, 15-0, on Wednesday to recommend hepatitis B vaccination for all adults aged 19 to 59 years.

The recommendation says adults in this age group — plus adults aged 60 years or older with risk factors — "should" be vaccinated against HBV. It says adults aged 60 years or older who do not have known risk factors for HBV infection "may" receive an HBV vaccine.

Updated HBV Testing Recommendations

CDC Summary of 2023 HBV Screening and Testing Recommendations

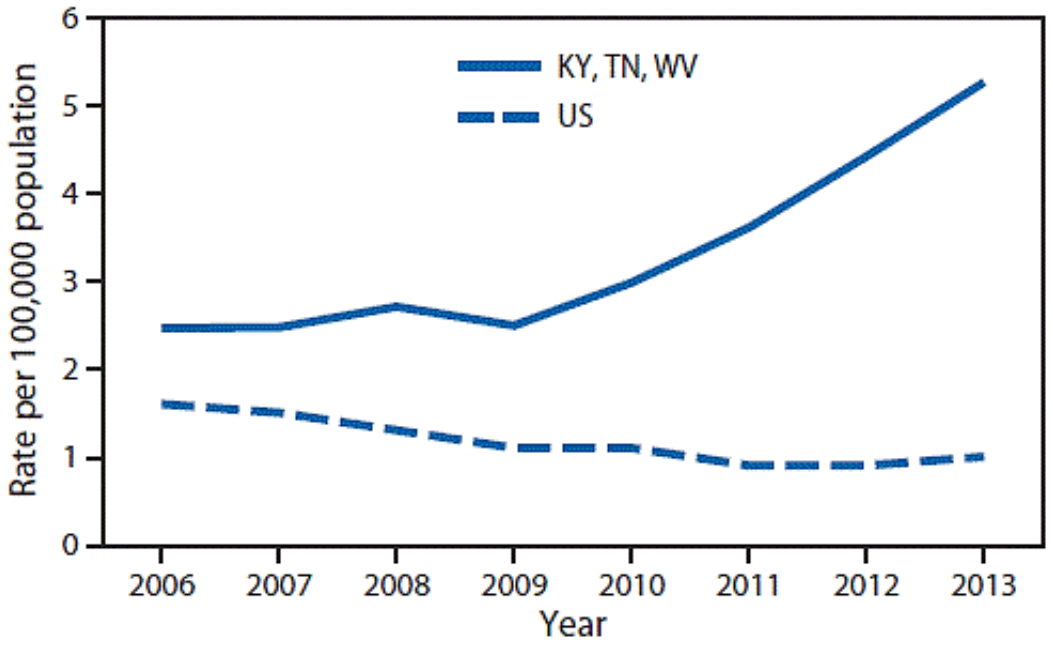
- Screen all adults aged 18 years and older at least once in their lifetime using a triple panel test
- Screen pregnant people for hepatitis B surface antigen HBsAg during each pregnancy regardless of vaccination status and history of testing
- Expand periodic risk-based testing to include people incarcerated, people with a history of sexually transmitted infections or multiple sex partners, and people with hepatitis C virus infection
- Test anyone who requests HBV testing regardless of disclosure of risk

ACOG:

- Hepatitis B triple panel screening (HBsAg, anti-HBs, and total anti-HBc) for pregnant patients who have not previously undergone this test in adulthood

Recent Acute HBV on the Rise in the US?

- NNDSS reported 114% increase in HBV in Kentucky, Tennessee, Virginia
- Predominantly among whites, who reported injection drug use, age 30-39
- Likely native-born adults who were not fully vaccinated during childhood

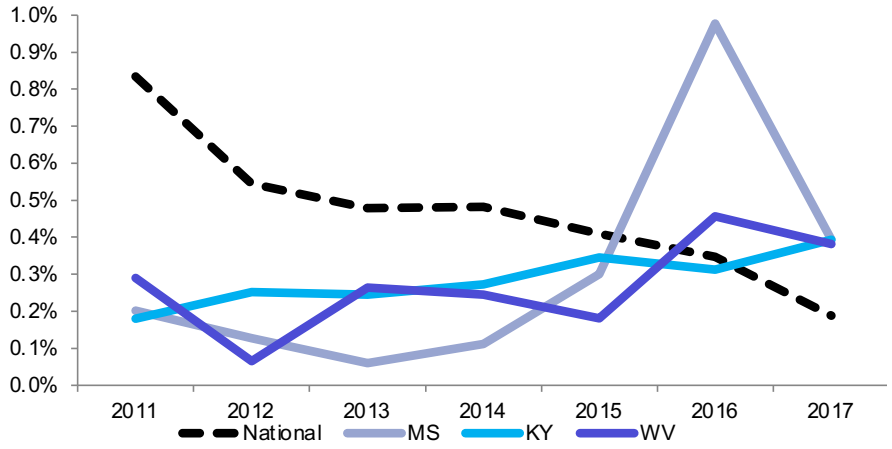


Harris A, et al. MMWR 2016.

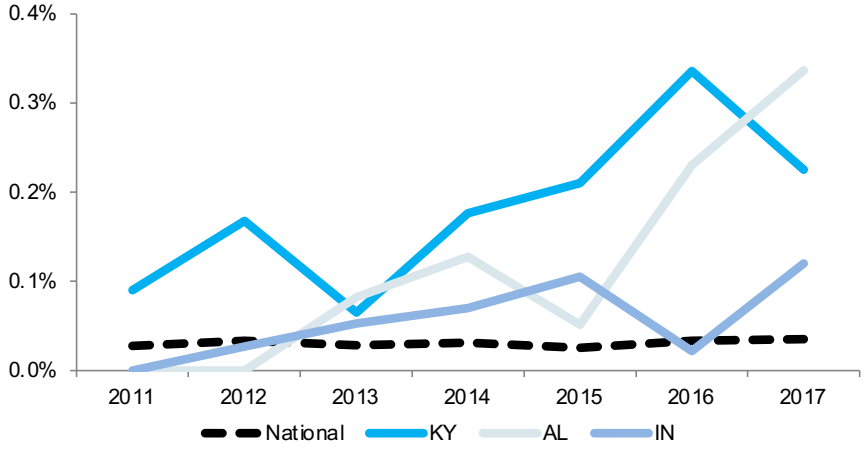
HBV Among Women of Childbearing Age in the United States

- Quest laboratory data, 2011-2017
  - >8 million women age 15-44 with HBV testing
  - Assessed for rates of chronic, acute, and exposure to HBV from 2011-2017

Chronic HBV (n=37, 755)



Acute HBV (n=783)



Kushner T, et al. *Clinical Infectious Diseases* 2019.

Case Study

Case Study

- 28 y/o pregnant person who presents for initial prenatal visit
  - Originally from Mali
  - Doing well other than some mild morning sickness
  - Found to be HBsAg positive, Hbcab negative, Hbsab negative in prenatal screen
- Question:
  - Who do we screen for HBV during pregnancy?
- Next Steps:
  - What other HBV-related tests would you order for her?

HBV Screening During Pregnancy

Screening for HBV during pregnancy

- **1984** – High risk screening recommended – Ineffective
- **1991** – Universal screening recommended
- **1994-2008** - National Perinatal HBV prevention program → From 19,000 to > 25,000 infants born to HBsAg + mothers
- **1998 – 2011** - Cross-sectional analysis of deliveries using Nationwide Inpatient Sample: HBV rate in pregnant women increased from 57.8 in 1998 to 105.0/ 100,000 deliveries in 2011 (*annual increase of 5.5%)*

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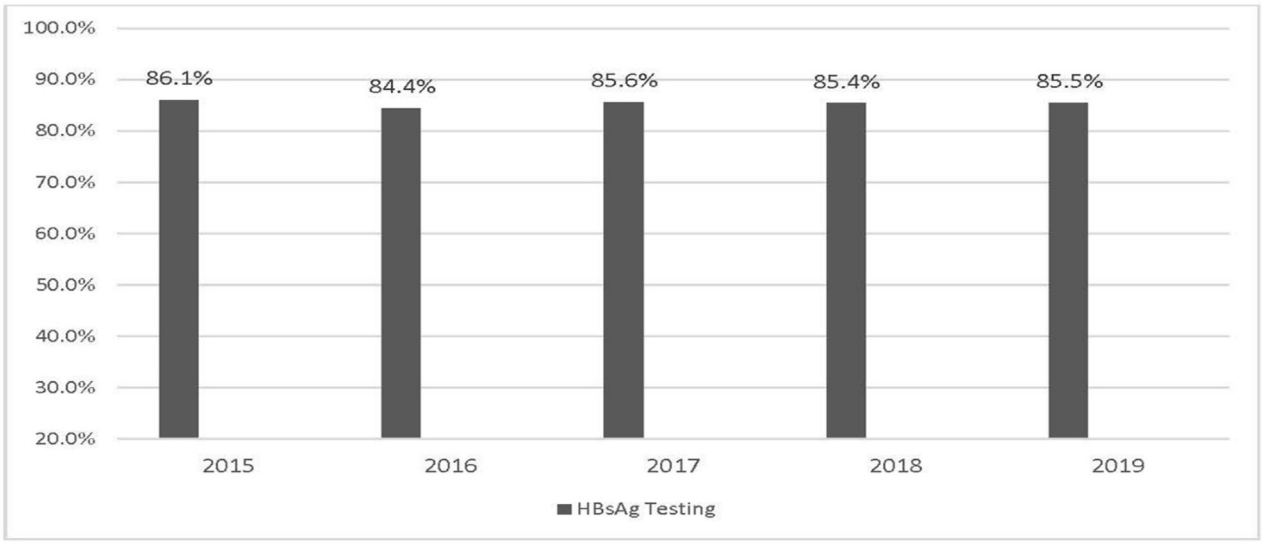
CDC. MMWR Morb Mortal Wkly Rep 2012.
Salemi, et al. J of Medical Virology 2016.

How are we doing with screening for viral hepatitis in pregnancy in the US?

Optum Clinformatics Database; 500,000+ pregnancies 2015-2020



0.5 million (»14%) pregnant persons who gave birth annually were **not** tested for HBsAg to prevent perinatal transmission

Pham TTh, et al. Am J Prev Med 2023;000(000):1–8.

HBV Screening During Pregnancy

- **Screen all pregnant patients for HBsAg during each pregnancy[1] with triple panel test (HBsAg, anti-HBs, and total anti-HBc)[2]**
  - Preferably in first trimester, regardless of vaccination/testing history, chronic infection
  - A confirmed positive HBsAg test result indicates current HBV infection
- **Test all pregnant patients who are HBsAg-positive for HBV DNA,** to inform decision to prescribe antiviral therapy to prevent perinatal HBV transmission[1]
- **Provide copy of original laboratory report of HBsAg-positive test result to patient's**:[1]
  - Hospital or birthing facility
  - Pediatric provider
- **Vaccinate pregnant patients** if not vaccinated[3] (Engerix-B, Recombivax HB, Twinrix, Heplisav-B)

1. CDC (2025). 2. ACOG (2023). 3. CDC (2024).

Case Study (continued)

- 28 y/o pregnany person with positive HbsAg
  - You order the following additional labs:
  - HBV DNA 3000 IU/mL, ALT 14, HBeAg negative, HBeAb positive
  - Expresses concern about transmission of HBV to her baby

- Key questions:
  - What is the impact of HBV on pregnancy outcomes? Pregnancy on HBV?
  - What is the risk of HBV gestational parent-to-child transmission?
  - What measures will be taken to prevent transmission and how can you communicate this to her?
  - Should she be started on antiviral therapy?

Impact of pregnancy on HBV outcomes

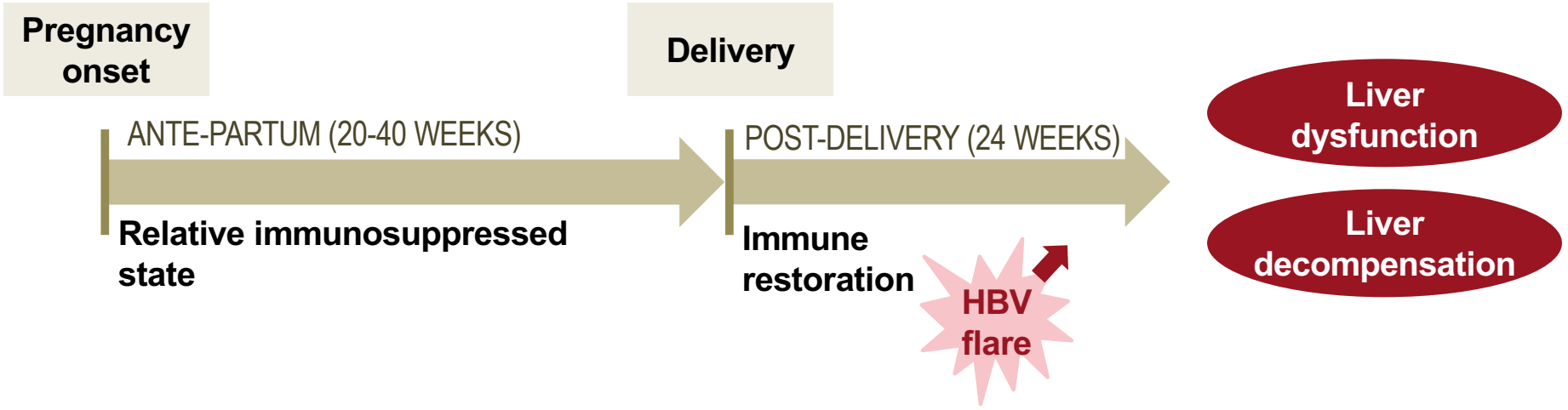
Effect of HBV on Pregnancy Outcomes

- Pre-term birth
  - aRR 1.26 (95% CI 1.18-1.34) compared to non-HBV women[1]
- Gestational Diabetes
  - In women with positive HBeAg – RR 1.434 (95% CI 1.00-1.56)[2]
- Low birth weight
  - RR 1.258 (95% CI, 1.053-1.505)[2]
- Infant HIV infection in co-infected mothers[3]

1. Liu J, et al. *Lancet* 2017.
2. *Sirilert S, et al. Int J Gynaecol Obstet 2014.*
3. *Bhattacharya D, et al. CROI 2019.*

Effect of Pregnancy on HBV: the Issue of HBV Flares

- Immunologic changes during pregnancy can predispose to HBV flares, especially in setting of antiviral therapy discontinuation



Prevalence of HBV Flares in Pregnancy

TABLE 1. STUDIES EVALUATING PREGNANCY-ASSOCIATED HEPATITIS B FLARES

Study	Country	Pregnancies (n)	ALT Flare Definition[1]	Prevalence of Flare
Ter Borg et al.[21] (Journal of Viral Hepatitis, 2008)	Netherlands	38	3× baseline	45% postpartum
Nguyen et al.[17] (Alimentary Pharmacology & Therapeutics, 2014)	Australia	101 pregnancies: 44 early AVT cessation 43 late AVT cessation 14 untreated women	5× ULN	Postpartum flares: Early AVT cessation: 50% Late AVT cessation: 40% Untreated women: 29%
Giles et al.[22] (Gut, 2015)	Australia	126	2× ULN	25% postpartum
Chang et al.[23] (American Journal of Gastroenterology, 2016)	United States	113	5× ULN or 3× baseline	6% during pregnancy; 10% postpartum
Kushner et al.[4] (Liver International, 2017)	United States	310	2× ULN	14% during pregnancy; 16% postpartum
Liu et al.[24] (Clinical Gastroenterology & Hepatology, 2017)	China	1097	2× ULN	First trimester: 11.9% At delivery: 2.1% 1 month postpartum: 9.8%

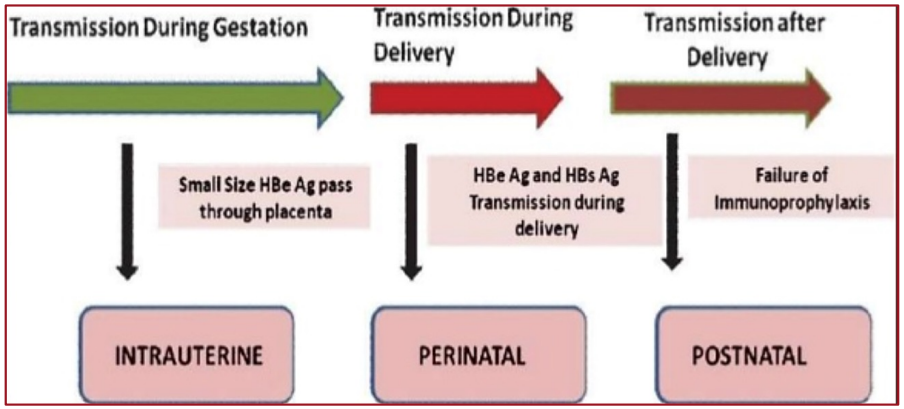
- Flares mostly subclinical; few cases with hepatic decompensation

Kushner T, et al. *Clinical Liver Disease* 2018.

Gestational Parent-to-Child Transmission of HBV

Gestational Parent-to-Child Transmission of HBV

- HBV-infected gestational parents can transmit HBV to their infants
  - Acute HBV in 3rd trimester - 50%
  - Chronic HBV
    - Mother HBeAg positive – 90%
    - Mother HbeAg negative – 5-15%



- Timing of transmission
  - Transplacental – infrequent
  - Mostly at or around the time of birth: during labor through contact with blood, vaginal secretions.

Stevens E, et al. *NEJM* 1975.
Stevens E, et al. *JAMA 1985.*

Gestational Parent-to-Child Transmission of HBV

- Perinatal transmission accounts for 50% of global burden of chronic HBV
- 90% of infants with mother-to-child transmission (MTCT) develop chronic HBV
  - 15-25% infants have premature death from liver failure or HCC
- Administration of HBV vaccine and HBV immune globulin (HBIG) to infant is 85-95% effective in preventing MTCT

Zou et al. *J Viral Hep* 2012.

Risk of Developing Chronic HBV by Age at Infection

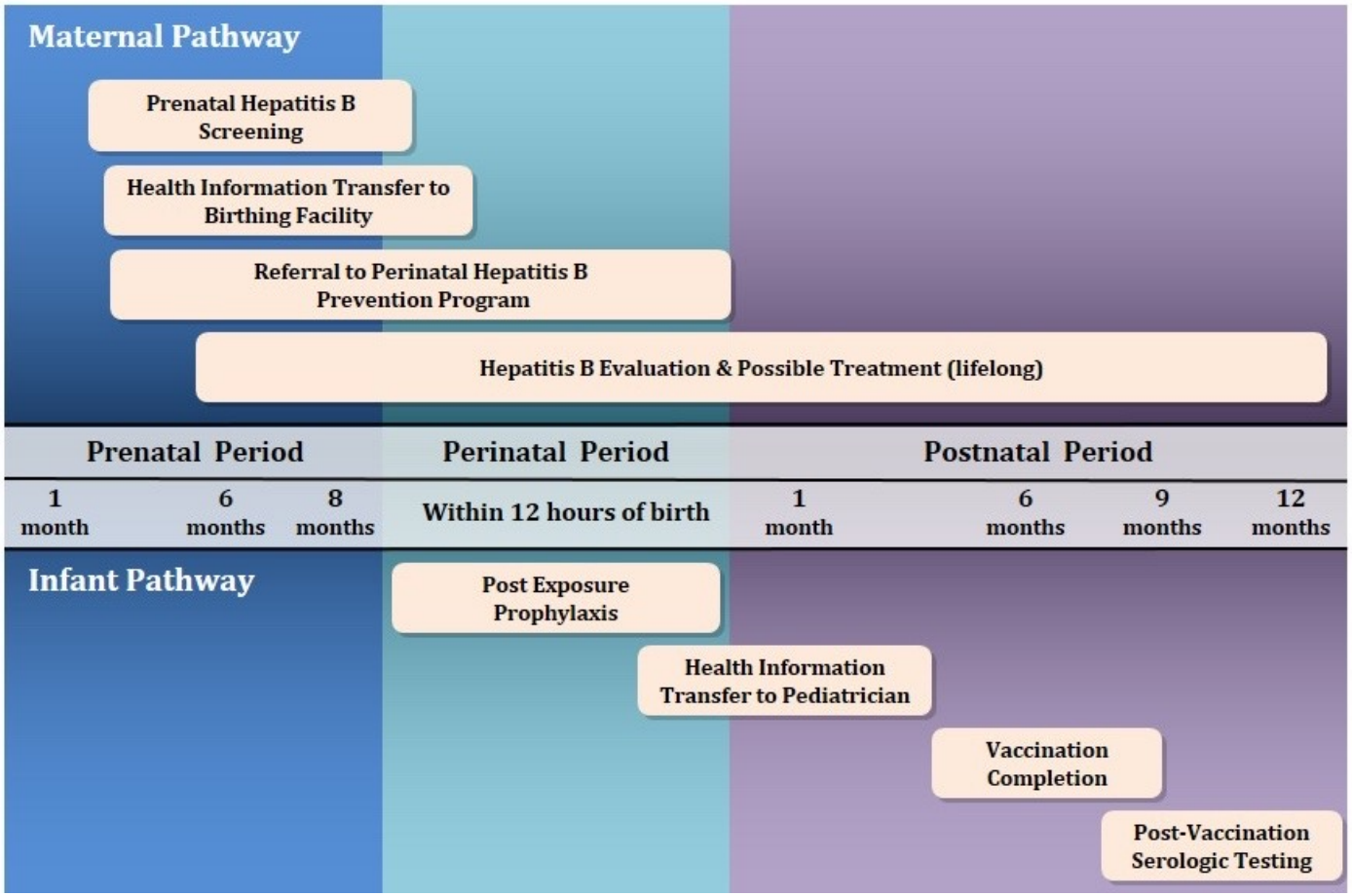
Chronic infection occurs among:

- **80%–90%** of persons infected during infancy
- 30% of persons infected before age 6 years
- <1%–12% of persons infected as an older child or adult

Schillie et al. *MMWR Recomm Rep* 2018.

Prevention of Gestational Parent-to-Child Transmission of HBV

Perinatal HBV Prevention: Maternal and Infant Pathways

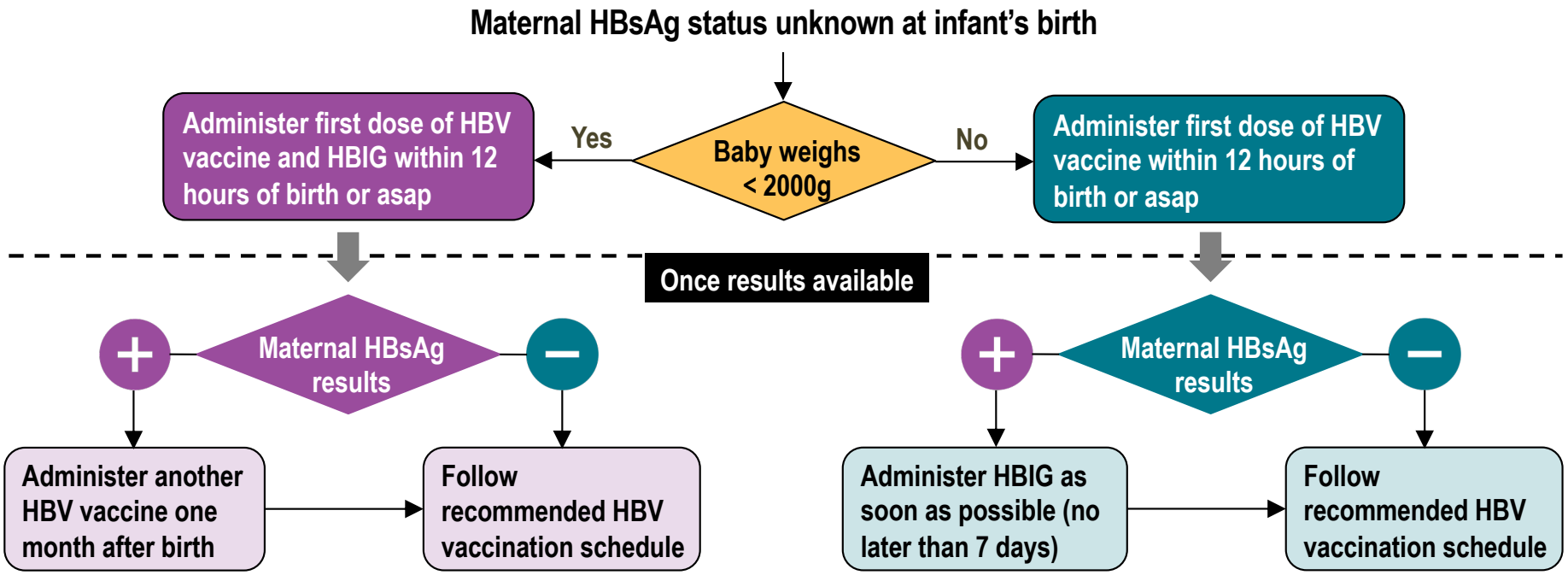


Hep B Post-Exposure Prophylaxis (PEP) for High Risk Infants*

- HepB 1st dose and HBIG (within 12 hours of birth)
  - Administered at different injection sites (e.g., separate limbs)
- HepB 2nd dose vaccine at 1-2 months
  - Combination vaccine can be given at ≥ 6 wks of age
  - (Pediarix – 2, 4, 6)
    - > 3 doses of Hep B containing vaccine is permissible
- HepB 3rd dose at 24 wks at 6 months (168 days) – not earlier
- If birthweight <2000 grams, do not count HepB 1st dose as part of series
  - Give 3 additional doses with single-antigen vaccine at 1, 2-3, and 6 months or combination vaccine at 2, 4, and 6 months

*Infants born to Hep B+ mothers

Preventing Perinatal HBV Transmission at Delivery: Patient HBsAg Test Results Unavailable



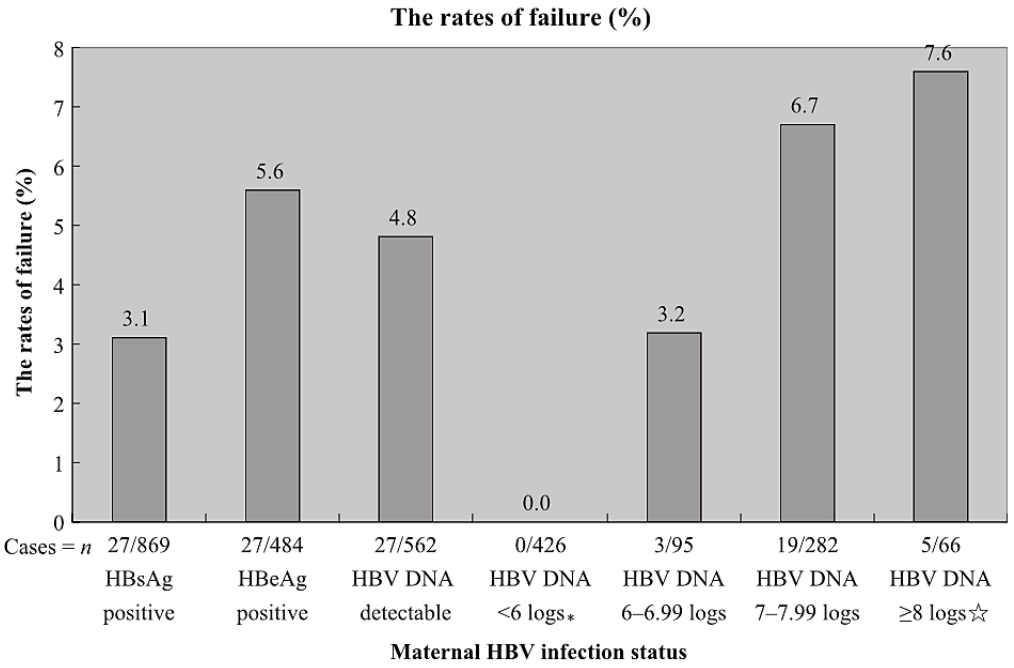
See full flow chart at https://www.cdc.gov/hepatitis/HBV/PDFs/PerinatalAlgorithm-Unavailable.pdf.

Maternal HBV Antiviral Therapy During Pregnancy

Why Use Antiviral Therapy During Pregnancy?

- If women meet criteria for HBV treatment otherwise (to prevent advanced liver disease)
- But also to prevent MTCT; high viral load during pregnancy can increase MTCT despite HBIG and HBV vaccine at birth
- 256 mother-child pairs in China[1]
  - High maternal HBV DNA – OR 2.44 (95% CI 1.13-5.29) for MTCT

Zou et al (2011): 869 mother-infant pairs[2]

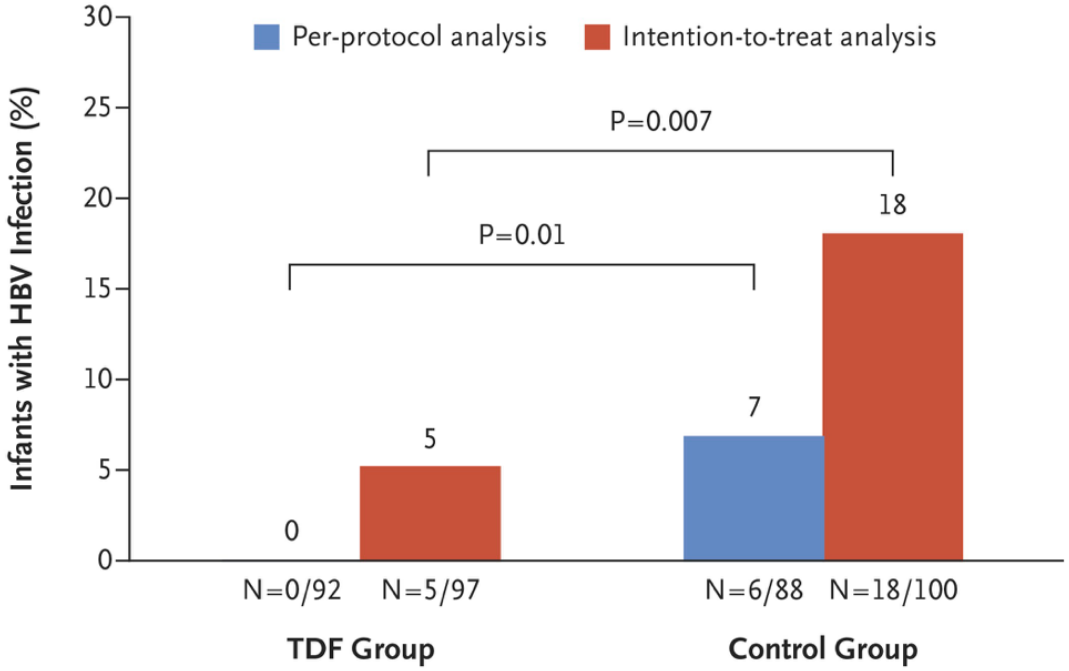


[1]Liu, et al. *Internal Medicine* 2015.
[2]*Zou H, et al. Journal of Viral Hepatitis 2011.*

Tenofovir to Prevent HBV Transmission in Mothers with High Viral Load

Pan et al. prospective trial, 2016:

- 200 mothers HBeAg positive; HBV DNA > 200,000 IU/mL
- Randomly assigned to receive 300mg TDF form 30-32 weeks gestation until PP week 4



Pan C, et al. *NEJM* 2016

Guidelines for Antiviral Therapy During Pregnancy

AASLD

*"The AASLD suggests antiviral therapy to **reduce the risk of perinatal transmission of hepatitis B** in HBsAg-positive pregnant women with an HBV DNA level > 200,000 IU/mL"*

Society for Maternal•Fetal Medicine

"In pregnant women with HBV infection and viral load > 6-8 log 10 copies/mL, HBV-targeted maternal antiviral therapy should be considered for the purpose of **decreasing the risk of intrauterine fetal infection**."

CDC
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Maternal antiviral therapy started at 28–32 weeks' gestation, as an adjunct to HepB vaccine and HBIG administered to the infant shortly after delivery, has been associated with significantly reduced rates of perinatal HBV transmission

Schillie S, et al. MMWR Recomm Rep 2018;67(No. RR-1):1–31.

Treatment: What are the recommendations for antiviral therapy in pregnant people? - HBV

1. Antiviral therapy should be started at 28-32 weeks of gestation in most of the studies if HBV DNA >200,000 IU/mL (1 million copies/mL) is a conservative recommendation to start treatment
2. For pregnant women with immune-active hepatitis B, treatment should be based on recommendations for nonpregnant women.
3. TDF currently recommended for use in pregnancy
4. Emerging data for TAF in pregnancy shows that it is safe and effective[1-5]

Terrault N, et al. Hepatology 2018.
.

1. Li B, et al. *Hepatol Int*. 2021. 2. Ding Y, et al. *Aliment Pharmacol Ther*. 2020;52(8):1377-1386.
3. Han G, et al. *J Matern Fetal Neonatal Med*. 2022. 4. Chen R, et al. *Front Med*. 2021..
5. Zeng QL, et al. *Clin Infect Dis*. 2021. 6. Kushner T, et al. *JVH 2021*.

HBV Antiviral Therapy Options

Treatment	Preferred	Notes
Entecavir	Yes*	High potency, high genetic barrier to resistance
Tenofovir Disoproxil Fumarate	Yes	High potency, high genetic barrier to resistance
Tenofovir Alafenamide	Yes	High potency, high genetic barrier to resistance
PegIFN	Yes	Less safe in pts with cirrhosis
Adefovir	No	Low genetic barrier to resistance
Lamivudine	No	Low genetic barrier to resistance
Telbivudine	No	Low genetic barrier to resistance

* Unless previous history of Lamivudine resistance

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Preferred

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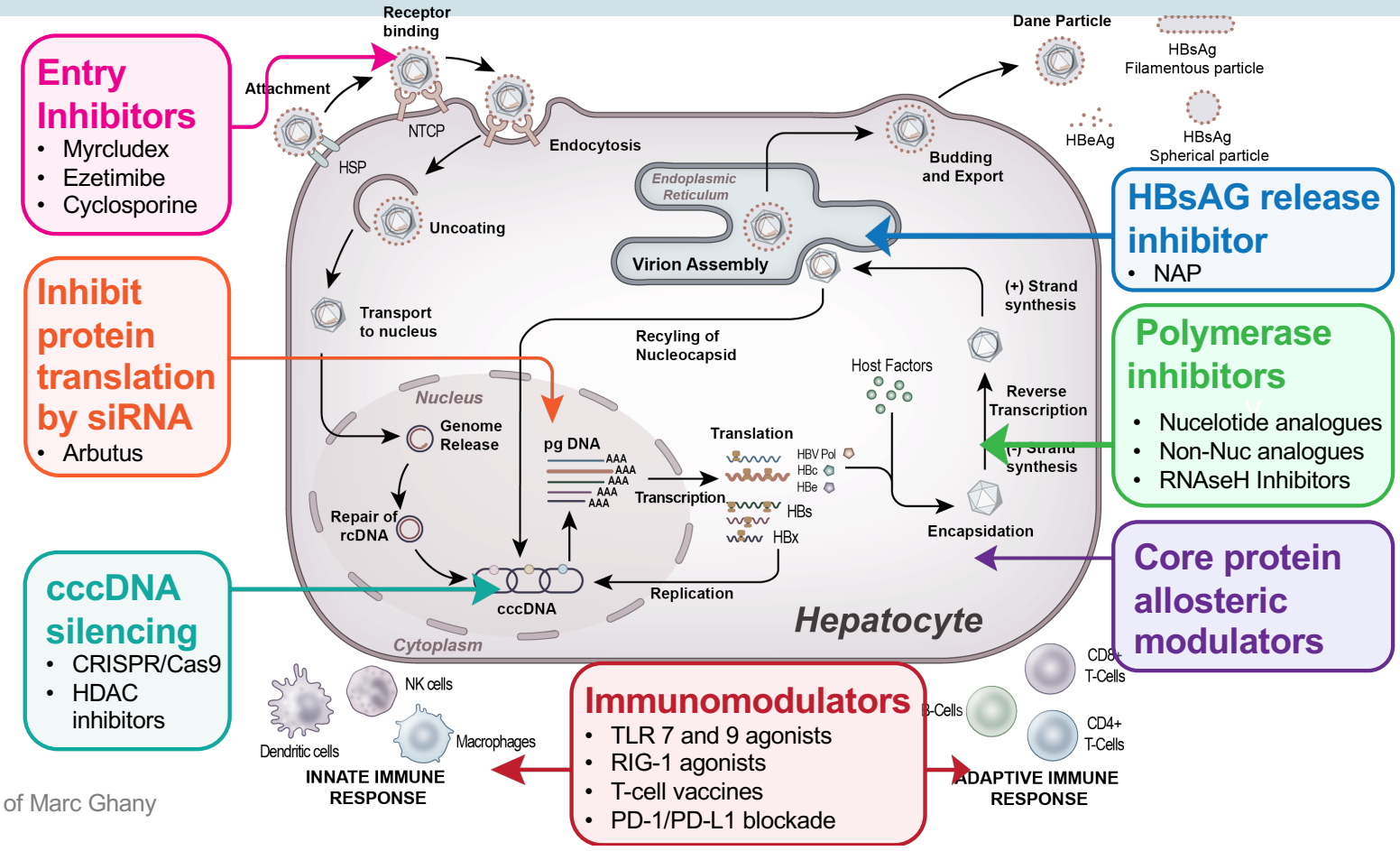
Preferred | Preferred During Pregnancy

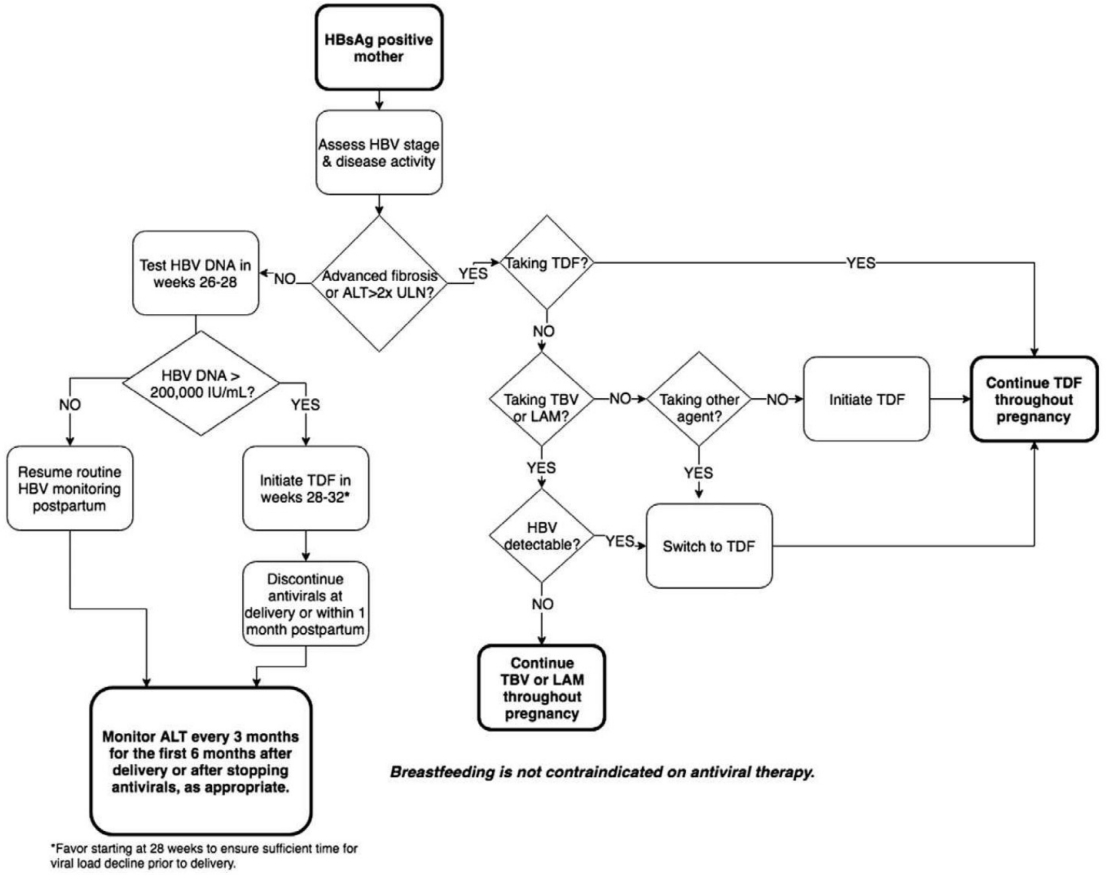
HBV Drugs in Development



Slide courtesy of Marc Ghany

Suggested Algorithm for Management of HBV in Pregnancy

1. Qualifies for HBV treatment prior to pregnancy?
2. HBV DNA > 200,000 IU/mL?
3. Monitor for HBV flare



Kushner T, et al. *Clinical Liver Disease* 2018.

CDC Strategy to eliminate HBV transmission in the United States

- Screening of all pregnant people for HBsAg
- HBV DNA testing for HBsAg-positive pregnant people, with suggestion of maternal antiviral therapy to reduce perinatal transmission when HBV DNA is >200,000 IU/mL
- Prophylaxis (HepB vaccine and HBIG) for infants born to HBsAg-positive† mothers
- Universal vaccination of all infants beginning at birth, as a safeguard for infants born to HBV-infected mothers not identified prenatally
- Routine vaccination of previously unvaccinated children aged <19 years
- Vaccination of adults at risk for HBV infection, including those requesting protection from HBV without acknowledgment of a specific risk factor

HBV Screening and Management to Prevent HBV Transmission from HBsAg-Positive Patient

HBV Infection status and susceptibility	Screening tests for HBV infection status and susceptibility				Management of prenatal patient		Management of newborn		Management of contacts
	HBsAg (presence of HBV)	**anti-HBc** (marker of past infection)		**anti-HBs** (marker of HBV immunity)	Treat?	Vaccinate ?	Give HBV birth dose?	Give HBIG?	Vaccinate?
		total	**IgM**						
Current acute Infection	Positive	Positive	Positive	Negative	Yes if HBV DNA >200,000 IU/mL	No	Yes	Yes	Yes. Screen for HBV susceptibility prior to vaccination
Current chronic infection	Positive	Positive	Negative	Negative		No	Yes	Yes	
Immune due to past infection	Negative	Positive		Positive	No, not currently infected	No, immune	Yes	No	Yes. Screen for HBV susceptibility prior to vaccination
Never infected, susceptible to infection	Negative	Negative		Negative	No, not infected Re-screen prior to delivery if risk factors are present	Yes	Yes	Yes, if HBsAg positive prior to delivery	If HBsAg positive prior to delivery, screen for HBV susceptibility prior to vaccination
Immune due to vaccination	Negative	Negative		Positive	No, not infected	No, immune	Yes	No	

HBV Screening and Prevention Errors

- Wrong tests ordered or interpreted
  - Providers order either an HBsAg test or an anti-HBs test, but not both
- Perinatal HBV prevention
  - Mother is HBsAg negative and infant does not receive prophylaxis
    - Infant exposed to HBV infection postnatally from another caregiver
  - Mother's HBsAg status is unknown
    - Test result received only after discharge
  - Pregnant person's positive HBsAg test result is not reported to nursery
    - Nursery does not give HBIG protection at birth

Source: New York State Department of Health, Immunization Action Coalition

New York State Reporting Requirements

- New York State public health law requires universal reporting of the maternal HBsAg test results on the infant's Newborn Metabolic Screening requisition form:
  - Accurate and complete recording of the mother's status is critical for public health surveillance and case management. When reporting maternal HBsAg positive results directly to the health department, also report the infant's information: Time of birth, time of administration for HBIG and HepB-1, birth weight and gestational age
  - Reporting Methods: by electronic reporting (NYCMED) Reporting Central or fax the IMM5 form.

NYC Health Department
Perinatal HBV Prevention Program

- Utilize the NYC Health Department Perinatal HBV Prevention Program to support case management of contact screening and vaccination: https://www1.nyc.gov/site/doh/providers/health-topics/hepatitis-b-and-pregnancy.page
- Report all positive HBsAg test results to DOHMH:
  - Reporting instructions: https://www1.nyc.gov/site/doh/providers/health-topics/hepatitis-b-and-pregnancy.page

Peripartum HBV Care

Gaps in Postpartum HBV Care

- Only 21% of mothers with a positive HBsAg test during pregnancy receive peripartum HBV specialist follow up.[1]
  - Even with HBV specialist follow-up, only 70% had HBV DNA and ALT checked within 1 year postpartum.
- Postpartum HBV care is essential for:[2]
  - Maternal health – prevention of complications including cirrhosis and HCC
  - Prevention of HBV transmission to children and close contacts – through screening and immunization.
- Patient navigation programs may help[3]
  - Hep B Moms Project at NYC DOHMH – Moms with patient navigation 1.66 (95% CI 1.39, 1.98) more likely to have appropriate HBV follow up 6 months post delivery

1. Kwong et al. *J Clin Gastroenterol* 2018. 2. Chang et al. *Am J Obstet Gynecol* 2015. 3. Schwartz et al. *Submitted to Journal of Immigrant and Minority Health*

CDC Screening and Referral Algorithm for HBV Infection Among Pregnant People

1. Notify and educate HBsAg-positive people about their status
2. Order HBV DNA and refer to PCP with HBV management experience or specialist during pregnancy
3. Confirm that pregnant woman attended her appointment with the PCP/specialist

https://www.cdc.gov/hepatitis/hbv/pdfs/PrenatalHBsAgTesting.pdf

HBV and Breastfeeding

- Breastfeeding is not contraindicated
- Antivirals are minimally excreted in breast milk and are unlikely to cause significant toxicity
- The unknown risk of low-level exposure to the infant should be discussed with mothers
- There are insufficient long-term safety data in infants born to mothers who took antiviral drugs during pregnancy and breastfeeding

Terrault NA et al. AASLD guidelines for treatment of chronic hepatitis B. Hepatology 2018;67:1560-99.

Monitoring of Patients Who Have Discontinued HBV Therapy

- ALT and HBV-DNA testing every 3-6 months
- Abdominal sonogram + AFP every 6 months
- Restart HBV therapy according to accepted treatment parameters

- No further monitoring if HBSAg seroconversion and no evidence of cirrhosis

Terrault et al. Hepatology Practice Guidelines, Hepatology 2018

AASLD Guidelines: HCC Screening in Non-Cirrhotic HBV

- HBV carriers at high risk for HCC, include:
  - HBsAg positive patients with cirrhosis
  - Asian or Black men over 40 years and Asian women over 50 years of age
  - Family history of HCC- first degree
  - Africans over 20 years of age
  - HDV infection
  - Any carrier over 40 years with persistent or intermittent ALT elevation and/or high HBV DNA level >2,000 IU/mL
- Screening is with ultrasound examination every 6 months.

Terrault Hepatology 2018 67:1560-99, EASL Practice Guideines 2017

HBV Supportive Services

Challenges Experienced by Patients with HBV Infection

- Many prenatal patients with HBV infection face barriers to accessing HBV care - low income, un/underinsured, low English proficiency, immigration issues, stigma[1]
  - In NYC, very high poverty neighborhoods have close to three times the rate of newly reported chronic HBV infection than low poverty neighborhoods[2]
- Immigration issues[3]
  - People at different stages of immigration to the U.S. avoid using health care, health care insurance or other government services
  - Medical interpretation services often do not meet language needs → continued low health literacy and difficulty navigating health care system
- Patients may often need additional assistance:[3]
  - Appreciating the role of medications and routine monitoring for health maintenance and disease prevention
  - Understanding medication safety
  - Making appointments

1. Tu et al. *Viruses* 2020. 2.NYC Health Department 2020. 3. NYC Health Department 2019.

Patient Counseling Messages to Promote Treatment Adherence

To promote HBV treatment adherence, educate patients on:

- Role of HBV treatment for prevention of mother-to-child transmission (PMTCT) of HBV
- Medication safety for patient and infant, including during pregnancy and breastfeeding
- Rationale for switching medications during/after pregnancy and potential side effects
- Timeline for treatment endpoint if treatment is prescribed only for PMTCT

HBV Treatment Access

- Uninsured or underinsured patients may not be able to afford costs of specialty care, including co-payment and co-insurance
- Uninsured or underinsured patients may benefit from HBV patient assistance programs: https://www.hepb.org/treatment-and-management/treatment/patient-assistance-programs-in-the-u-s/
- HBV patient navigators can help uninsured or underinsured patients access treatment

Case Study

- Review case study
  - 28 y/o pregnant person at 24 weeks gestation with HBV DNA 3000, ALT 14, HBeAg negative, HBeAb positive
  - Concerned about transmission of HBV to her baby
- Describe next steps for this patient
  - Monitor HBV DNA, hepatic function panel, HBeAg/HBeAb
  - Does NOT meet criteria for treatment at this time, but counsel her that this may change and she requires ongoing monitoring.
  - Monitor liver tests and HBV DNA during pregnancy and in the first 3-6 months postpartum to monitor for flare
  - If meets criteria for antiviral therapy, initiate antiviral therapy
  - Baby to receive HBIG and HBV vaccine series

Review of Key Concepts

- Although the US is considered a low prevalence HBV country, the majority of HBV is in immigrants, and also may be on the rise due to the opioid epidemic
- Pregnancy provides the opportunity to diagnose and initiate treatment
- MTCT is high without treatment; HBIG and HBV vaccine and antiviral therapy in high viral load individuals prevents infection
- Tenofovir Disoproxil Fumarate is the drug of choice for treatment of HBV in pregnancy – many new drugs in development
- Emerging data also supports the use of TAF during pregnancy
- Postpartum follow up and linkage to care is critical!

Additional Resources: Perinatal HBV Screening and Treatment

- HBV Screening and Referral Algorithm for Pregnant Women: https://www.cdc.gov/hepatitis/hbv/pdfs/PrenatalHBsAgTesting.pdf
- HBV Primary Care Workgroup recommendations for HBV management by primary care provider: https://www.hepatitisb.uw.edu/page/primary-care-workgroup/guidance
- Stanford University Asian Liver Center Hep B Moms: https://www.hepbmoms.org/
  Includes:
  - 2020 Physician's Guide to Hepatitis B
  - Patient education content in English, Chinese, Korean, Spanish and Vietnamese
- Hepatitis B Online: https://www.hepatitisb.uw.edu/go/prevention-hbv/preventing-perinatal-transmission-hbv/core-concept/all#management-women-chronic-hbv-pregnancy

Additional Resources: Perinatal HBV Prevention

- NYC Health Department Perinatal Hepatitis B Prevention Program: https://www1.nyc.gov/site/doh/providers/health-topics/hepatitis-b-and-pregnancy.page
- CDC Perinatal HBV Prevention Resources: https://www.cdc.gov/hepatitis/hbv/perinatalxmtn.htm
  Includes:
  - Interpretation of HBV serologic test results
  - Policies and procedures for prenatal care and delivery hospitals
  - Post-vaccination serologic testing panels
  - Patient education resources (in multiple languages)
- Stanford University Asian Liver Center Hep B Moms: https://www.hepbmoms.org/
- Hepatitis B Online: https://www.hepatitisb.uw.edu/go/prevention-hbv/preventing-perinatal-transmission-hbv/core-concept/all
- Immunization Action Coalition: https://www.immunize.org/protect-newborns

HBV Care Resources in NYC

- **Check Hep B Patient Navigation Program**
  - Free or low cost Hep B patient navigation services at 8 organizations in NYC. Patient navigators assist patients with complete testing, linkage to care, support through a full medical evaluation and treatment if recommended: https://hepfree.nyc/check-hep-b-patient-navigation-program/
- **Linkage to Affordable Care Support**
  - Health Department HBV testing and care services listing: www.nyc.gov/health/hepb
  - Health Care Access Specialist Hep@health.nyc.gov
- **Order HBV Patient Education Materials**: Hep@health.nyc.gov
- **NYC Hep B Coalition**: www.HepFree.NYC
- **National Task Force on Hepatitis B** Focus on API Americans: www.hepbtaskforce.org

Contact Us

For CMEs or educational opportunities, contact:

Meg Chappell, MPH
Program Manager
Empire Liver Foundation
megchappell@empireliverfoundation.org
www.empireliverfoundation.org

For questions about resources, contact:

Marie P. Bresnahan, MPH
Director, Training, Policy, and Administration
Viral Hepatitis Program
Bureau of Communicable Disease
mbresnahan@health.nyc.gov
www.hepfree.nyc