



NASTAD's Prevention and Surveillance  
Virtual Learning Collaborative

# Hepatitis B in Pregnant Persons & Perinatal Hepatitis B

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# Background

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- Infants infected with HBV via vertical transmission have a ~90% of lifelong infection UNLESS given timely immunoprophylaxis
  - HBIG & 1<sup>st</sup> dose of HBV vaccine at time of birth
- Prevention activities include:
  - Identification of HBV+ pregnant persons
  - Identification of infants exposed to HBV during gestation & delivery

# Uses of Surveillance Data

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1. Identify HBV+ pregnant persons
2. Monitor screening recommendations among pregnant persons
3. Monitor incidence & prevalence of HBV among persons able to bear children
4. Assess frequency & causes of missed opportunities
5. Monitor & evaluate effectiveness of the Perinatal Hepatitis B Prevention Program (PHBPP)

# Hepatitis B in a Pregnant Person

# Identification of HBV+ Pregnant Persons

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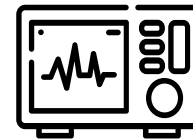
## Electronic Reporting

ELR / EHR automatically reported to disease surveillance system



## Determine Pregnancy Status

For known HBV+ persons able to bear children



## Enhanced Surveillance

Compare birth certificate data to HBV+ cases in surveillance system

# How to Increase Identification of HBV+ Pregnant Persons

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- Educate providers to **screen during EACH pregnancy**
  - Prenatal screening is a major source of identification
  - Enables coordination to ensure infant will receive timely immunoprophylaxis
- **Test HBV DNA level** during 3<sup>rd</sup> trimester for all HBV+ pregnant persons
  - Recommend treatment if HBV DNA level >200,000 IU/mL

# How to Increase Identification of HBV+ Pregnant Persons

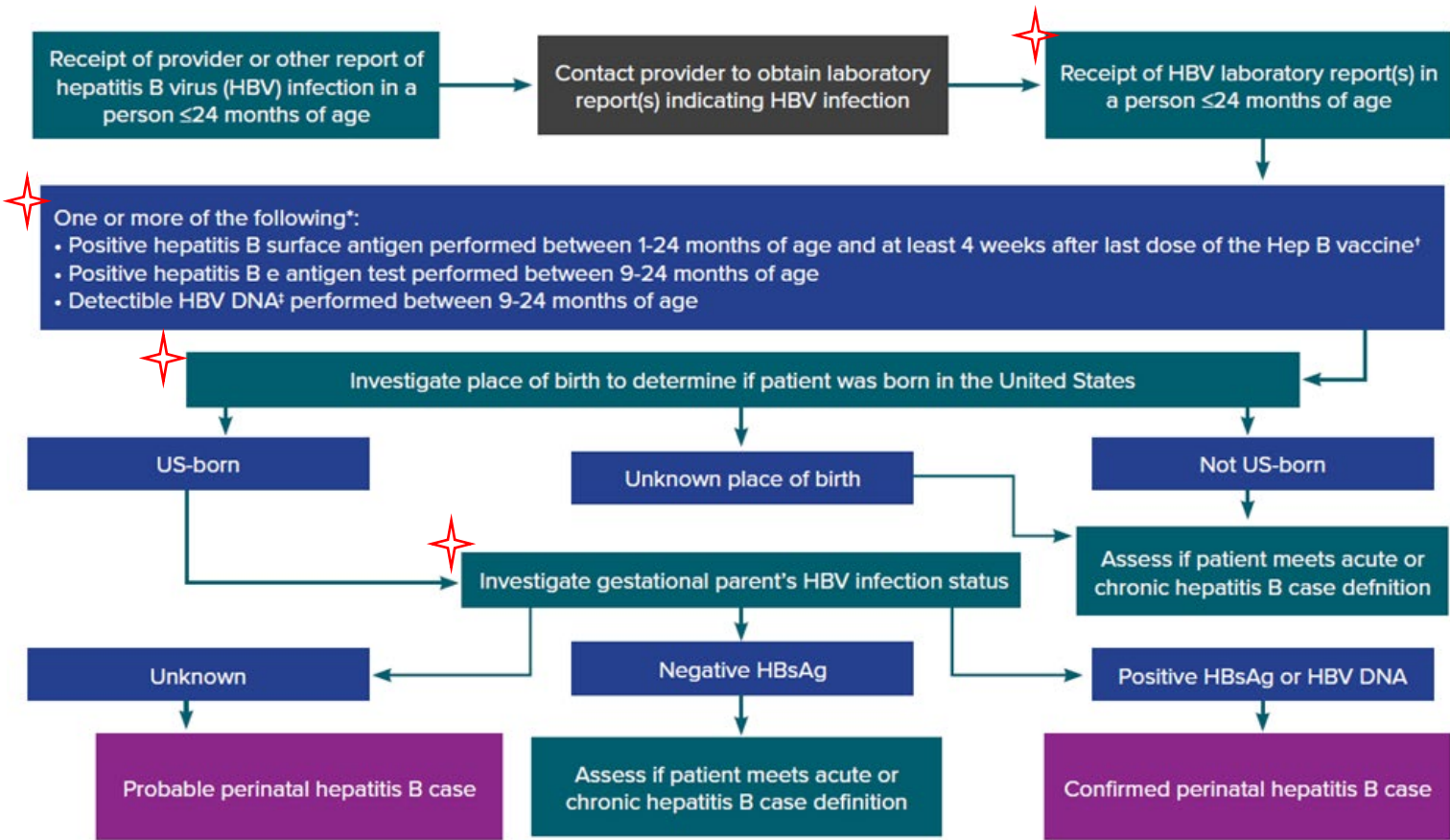
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- Ensure delivery facilities have standing orders to **determine HBsAg status upon admission** & test/retest if:
  1. Person has signs of hepatitis
  2. Status is unknown
  3. Person has risk factors for HBV

# Perinatal Hepatitis B



# Case Ascertainment



Activity for high resource jurisdiction
  Minimum required activity
 
✦
 Decision Point

# Perinatal Hepatitis B Case Classification

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## Demographic Criteria

- 1-24 months of age  
**AND**
- Born in U.S.



## Epidemiologic Linkage Criterion

- Born to HBV+ gestational parent



## Laboratory Criteria\*

- HBsAg+ at 1-24 months & >4 weeks from last dose of vaccine **OR**
- HBeAg+ at 9-24 months **OR**
- HBV DNA+ at 9-24 months

\*HBsAg results at <1 month and HBeAg and HBV DNA results at <9 months should NOT be used for classification

# Case Scenarios

# Case Scenario #1



Health department receives HBV DNA+ lab for an 18-month-old child who recently immigrated to the US. Investigation identified the gestation parent has chronic HBV. Neither the child nor the parent were in the disease surveillance system.

- **Demographic**
  - ✓ 1-24 months of age
  - X Born **inside** the US
- **Epi Link**
  - ✓ Birth to HBV+ gestational parent
- **Laboratory Criteria**
  - ✓ HBV DNA+ at 9-24 months of age

## NOT A CASE

Child was not born inside the United States.

➤ Check to see if meets acute or chronic case definition.

# Case Scenario #2



Health department receives HBsAg+ lab for a 2-month-old infant who was born at a local delivery facility to a known HBV+ birth parent.

Investigation determined lab was drawn same day as a dose the HBV vaccine was given.

## ● Demographic

- ✓ 1-24 months of age
- ✓ Born in the US

## ● Epi Link

- ✓ Birth to HBV+ gestational parent

## ● Laboratory Criteria

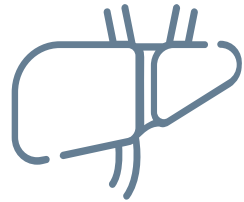
- ✓ HBsAg+ at 1-24 months of age
- ✗ Test 4 weeks after last dose of vaccine

UNABLE TO DETERMINE STATUS

Tests <4 weeks after a dose of HBV vaccine, test could be a false positive

- Recommend child get retested >4 weeks after an HBV vaccine dose

# Case Scenario #3



Health department receives post-vaccine serological testing (PVST) results for a 12-month-old child who was born at a local delivery facility to a known HBV+ birth parent. The results were:

- HBsAg-positive
- HBsAb-negative

## ● Demographic

- ✓ 1-24 months of age
- ✓ Born in the US

## ● Epi Link

- ✓ Birth to HBV+ gestational parent

## ● Laboratory Criteria

- ✓ HBsAg+ at 1-24 months of age

### CONFIRMED CASE

Patient meets all criteria for a confirmed case of perinatal hepatitis B

# Case Investigation

# Investigation Elements

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	<u>Needed for Parent</u>	<u>Needed for Infant</u>
<b>Demographics</b>	X	X
<b>Provider Information</b>	X	X
<b>Delivery Information</b>	X	
<b>HBV Lab Results</b>	X	X
<b>Symptoms</b>	HBV DNA level in 3 <sup>rd</sup> trimester & if medication was given	
<b>Vaccination</b>		HBIG & vaccine series



# Investigation Prioritizations

- Initiate investigation during pregnancy or as soon as possible thereafter for any HBV+ pregnant person.
- Investigate & follow-up with HBV+ persons able to bear children and:
  - Unknown pregnancy status
  - Co-infected with HIV/HCV/STI
  - HBV DNA levels >200,000 IU/mL

# Perinatal Hepatitis B Workgroup Members

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