CDC Recommendations for Hepatitis B Screening and Testing

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People with chronic hepatitis B virus infection are at increased risk for liver cancer and cirrhosis and are 70%–85% more likely to die prematurely than the general population.

There are 880,000 people living with hepatitis B in the U.S.

34% are aware of their infection

Limitations of current risk-based testing approach

Over 2/3 of reported acute cases were either missing risk data or reported no identified risk

NEW: Screening is recommended for all adults aged \( \geq 18 \) years at least once in a lifetime
UNCHANGED: Screening is recommended for all pregnant persons during each pregnancy, preferably in the first trimester, regardless of vaccination status or history of testing.
Screening Tests

- HBsAg
- Anti-HBs
- Total anti-HBc
# Interpretation of hepatitis B serologic test results

<table>
<thead>
<tr>
<th>Clinical State</th>
<th>HBsAg</th>
<th>Anti-HBs</th>
<th>Total Anti-HBc</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute infection</strong></td>
<td>Positive</td>
<td>Negative</td>
<td>Positive (IgM positive)</td>
<td>Link to hepatitis B care</td>
</tr>
<tr>
<td><strong>Chronic infection</strong></td>
<td>Positive</td>
<td>Negative</td>
<td>Positive (IgM negative)</td>
<td>Link to hepatitis B care</td>
</tr>
<tr>
<td><strong>Resolved infection</strong></td>
<td>Negative</td>
<td>Positive</td>
<td>Positive</td>
<td>Counsel</td>
</tr>
<tr>
<td><strong>Immune from vaccination</strong></td>
<td>Negative</td>
<td>Positive</td>
<td>Negative</td>
<td>Reassure if history of HepB vaccine series completion</td>
</tr>
<tr>
<td><strong>Susceptible, never infected</strong></td>
<td>Negative</td>
<td>Negative</td>
<td>Negative</td>
<td>Offer HepB vaccine if no history of HepB vaccine series completion</td>
</tr>
<tr>
<td><strong>Isolated core antibody positive</strong></td>
<td>Negative</td>
<td>Negative</td>
<td>Positive</td>
<td>Consult with specialist</td>
</tr>
</tbody>
</table>
Testing recommendations

- **History of risk for HBV infection (all ages)**
  - susceptible during the period of risk

- **Periodic testing for susceptible persons (all ages)**
  - ongoing risk, while risk persists
NEW: Anyone who requests hepatitis B testing should receive it, regardless of disclosure of risk.
Rationale for Universal Screening

- HBV infection has substantial morbidity and mortality
- Chronic infection can be detected before the development of severe liver disease using reliable and inexpensive screening tests
- Treatment for chronic HBV infection can reduce morbidity and mortality
- Reduce risk of transmission
- Cost-effective
- Screening can identify people who are at risk for reactivation
- Screening might identify people who would benefit from vaccination
2022 ACIP Recommendations
Adult HepB Vaccination

- The following groups *should* receive hepatitis B vaccines:
  - Adults aged 19 - 59 years
  - Adults aged ≥ 60 years with risk factors for hepatitis B

- The following groups *may* receive hepatitis B vaccines:
  - Adults aged ≥ 60 years without known risk factors for hepatitis B
- Collect blood
- Offer vaccine per ACIP
- No need to wait for results
- Screening should not be a barrier
What if the provider can’t offer screening at the time of Hep B vaccination?

- Screening should not be a barrier to HepB vaccination

- One-time screening with a triple panel should still be offered during future visits, where blood draw is available
  - cost-effective

- Transient HBsAg positivity can occur within 30 days after vaccination

Incorporating hepatitis B screening into a clinic workflow
Nonpregnant adults >18 years without a known history of HBV infection

Completed HepB vaccine series?

- No/Unk
  - Previously screened for HBV infection?
    - No/Unknown
      - Had an activity, exposure, or condition associated with increased risk since the last screening?
        - No/Unknown
          - Offer screening and vaccine
          - Offer vaccine
        - Yes
          - Offer testing if the exposure occurred before vaccination (while susceptible) and after the previous HBV test(s)
    - Yes
      - Offer screening

- Yes
  - Previously screened for HBV infection?
    - No/Unknown
      - Had an activity, exposure, or condition associated with increased risk since the last screening?
        - No/Unknown
          - No action
        - Yes
          - Offer testing if the exposure occurred before vaccination (while susceptible) and after the previous HBV test(s)
The following people have an increased risk for HBV infection and are recommended for periodic testing:

- infants born to hepatitis B surface antigen (HBsAg)-positive pregnant people
- people born in regions with hepatitis B prevalence >2%
- U.S.-born people not vaccinated as infants whose parents were born in regions with hepatitis B prevalence >8%
- people with current or past IDU
- people currently or formerly incarcerated in a jail, prison, or other detention setting [New recommendation]
- people with HIV infection
- people with current or past hepatitis C virus infection [New recommendation]
- men who have sex with men
- people with current or past sexually transmitted infections (STIs) or multiple sex partners [New recommendation]
- current or former household contacts of people with known HBV infection
- needle-sharing or sexual contacts of people with known HBV infection
- persons on maintenance dialysis, including in-center or home hemodialysis and peritoneal dialysis, or who are predialysis
- people with elevated alanine aminotransferase (ALT) or aspartate aminotransferase (AST) levels of unknown origin
Incorporating hepatitis B testing into a clinic workflow
Nonpregnant adults >18 years without a known history of HBV infection

**Completed HepB vaccine series?**
- No/Unknown
  - Offer screening and vaccine

**Previously screened for HBV infection?**
- Yes
  - Had an activity, exposure, or condition associated with increased risk since the last screening?
    - Yes
      - Offer testing and vaccine
    - No
      - Offer vaccine
  - No/Unknown
    - No action

**Previously screened for HBV infection?**
- Yes
  - Had an activity, exposure, or condition associated with increased risk since the last screening?
    - Yes
      - Offer testing if the exposure occurred before vaccination (while susceptible) and after the previous HBV test(s)
    - No
      - Offer screening
Incorporating hepatitis B screening and testing into a clinic workflow
Children and adolescents 1–17 years without a known history of hepatitis B virus infection
Clinical Considerations

- Frequency of periodic testing a shared decision
  - individual risk factors, immune status

- Multiple sex partners
  - insufficient evidence
  - number of partners, type of sex, timing of last test

- Clinical benefits of screening ≥80 years of age
Hypothetical Clinical Scenario
Visit 1

Charlie, 42yo

- History of injection drug use, doesn’t currently use drugs
- Doesn’t remember if vaccinated
- No evidence of prior screening

Completed hepatitis B vaccine series?

Yes

No/Unknown

Previously screened for HBV infection?

Yes

Yes

Offer testing if the exposure occurred before vaccination (while susceptible) and after the previous HBV test(s)

No

No

Offer vaccine

Offer testing and vaccine

Offer screening

No action

Had an activity, exposure, or condition associated with increased risk since the last screening?

Yes

Offer testing and vaccine

Offer screening

No action

Offer vaccine

Offer testing and vaccine

Offer screening

No action
Visit 1

- **Charlie, 42yo**
  - History of IDU, doesn’t currently use drugs
  - Doesn’t remember if vaccinated
  - No evidence of prior screening

- Draw blood for triple panel prior to vaccination

- Charlie declined vaccination
Visit 1: summary

- **Results:**
  - HBsAg negative
  - Total Anti-HBc negative
  - Anti-HBs negative

- **Interpretation:** No history of infection, susceptible
Visit 2 (1-year later)

Charlie, 43yo
- History of IDU, didn’t use drugs in past year
- Reported 4 sexual partners in past year
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- History of IDU, didn’t use drugs in past year
- Reported 4 sexual partners in past year

Visit 2 (1-year later)

**Completed hepatitis B vaccine series?**
- Yes
- No/Unknown

**Previously screened for HBV infection?**
- Yes
- No/Unknown

**Had an activity, exposure, or condition associated with increased risk since the last screening?**
- Yes
- No

**Offer screening and vaccine**
- Yes
- No

**Offer testing if the exposure occurred before vaccination (while susceptible) and after the previous HBV test(s)**
- Yes
- No

**Offer testing and vaccine**
- Yes
- No

**Offer screening**
- Yes
- No

**No action**
Visit 2: summary

Charlie, 43yo
- History of IDU, didn’t use drugs in past year
- Reported 4 sexual partners in past year

- Discuss sexual risk
  - decided to test because inconsistent condom usage
  - clinical judgement

- Because previously screened, chose AASLD testing strategy
  - Total anti-HBc, followed by HBsAg and anti-HBs if positive
Visit 2: summary

Charlie, 43yo
• History of IDU, didn’t use drugs in past year
• Reported 4 sexual partners in past year

- Results:
  - Total anti-HBc negative

- Interpretation: No history of infection, susceptible

- Continue to consider testing at future visits, depending on risk factors

- Continue to recommend HepB vaccine at future visits
Visit 1

Mei, 13
- Immigrated from China 5 years ago
- No hepB vaccine as infant
- Completed hepB series at 8 years old

Has/had an activity, exposure, or condition associated with increased risk?
- Yes
  - No action
- No/Unk
  - Offer vaccine, if susceptible

Offer vaccine, if susceptible
- Yes
  - Offer testing if: the exposure occurred while susceptible
  - Offer vaccine, if susceptible
Visit 1

- **Order triple panel for screening**
  - Potential for exposure as infant or young child
Visit 1

Mei, 13
• Immigrated from China 5 years ago
• No hepB vaccine as infant
• Completed hepB series at 8 years old

- Results:
  - HBsAg negative
  - Anti-HBc negative
  - Anti-HBs negative

- Interpretation: No history of infection. Has documented, complete series, no need for additional vaccine.
  - anti-HBs may wane, but still protected
Other Resources

- Hepatitis B Online – University of Washington
  - https://www.hepatitisb.uw.edu/
  - Hepatitis B Management: Guidance for the Primary Care Provider

- Web MD
  - provider self-assessment on current guidance for prevention and management of viral hepatitis

- Hepatitis B Foundation
  - https://www.hepb.org/

- Immunize.org
  - https://www.immunize.org/askexperts/experts_hepb.asp
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HepB Vaccine Guidance

- Mark Weng
All adults should know their HBV status and be protected from infection