

# Putting Prevention into Practice

*An Evidence-Based Approach*

## Screening for Hepatitis B Virus Infection in Nonpregnant Adolescents and Adults

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► See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/afp/2015/0415/od2.html>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and the supporting documents on the USPSTF website (<http://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/hepatitis-b-virus-infection-screening-2014>.

This series is coordinated by Sumi Sexton, MD, Associate Medical Editor.

A collection of Putting Prevention into Practice published in *AFP* is available at <http://www.aafp.org/afp/ppip>.

**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 252.

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### Case Study

P.N. is a 35-year-old man whose parents were born in southeast Asia. Although he was born in the United States, P.N. does not have any vaccination records from his childhood. During an office visit, he mentions that a relative was recently diagnosed with hepatitis B virus (HBV) infection and asks whether he should be screened.

### Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF), which one of the following screening recommendations is appropriate for this patient?

- A. Screen for HBV infection because he is at high risk.
- B. Do not screen for HBV infection, but provide the first dose of the HBV vaccination series.
- C. Do not screen for HBV infection because he was born in the United States.
- D. Screen for HBV infection because he is at high risk of developing chronic HBV infection and dying from cirrhosis or hepatocellular carcinoma.
- E. Screen for HBV infection each year because there is adequate evidence supporting an annual screening interval.

2. Which of the following are considered major risk factors for HBV infection?

- A. Being born in a country with a prevalence of HBV infection of 2% or greater.
- B. Being born between 1945 and 1965.
- C. Lack of vaccination in infancy in U.S.-born persons with parents from a country or region with a high prevalence of HBV infection.
- D. Moderate alcohol intake.

3. Which one of the following countries has a very high prevalence (8% or greater) of HBV infection?

- A. China.
- B. Cyprus.
- C. France.
- D. Hungary.
- E. New Zealand.

Answers appear on the following page.

### Answers

**1. The correct answer is A.** The USPSTF recommends screening for HBV infection in persons who are at high risk of infection. Screening is likely to detect persons who are infected. The USPSTF found evidence that treatment with antiviral regimens is associated with a reduced risk of hepatocellular carcinoma. It also found that HBV vaccination is effective for decreasing the spread of the disease. Although this patient was born in the United States, he does not have vaccination records from his childhood and was born before the implementation of universal HBV vaccination in 1991. Therefore, this patient should be screened for HBV infection. The Centers for Disease Control and Prevention recommends that susceptible persons who are screened for HBV infection may, if indicated, receive the first dose of the HBV vaccination at the same medical visit. Most persons with HBV do not develop chronic infection or its complications. An estimated 15% to 25% of persons with chronic HBV infection die from cirrhosis or hepatocellular carcinoma. Periodic screening may be useful in patients with ongoing risk of HBV transmission (e.g., active injection drug users, men who have sex with men, patients receiving hemodialysis) who do not receive vaccination. The USPSTF found inadequate evidence to determine specific screening intervals, so clinicians should use their judgment to determine screening frequency.

**2. The correct answers are A and C.** In the United States, persons at high risk of HBV infection include those born in countries and regions with a high prevalence of HBV infection (2% or greater) and U.S.-born persons who were not vaccinated as infants and whose parents are from a country or region with a very high prevalence of HBV infection (8% or greater), such as

sub-Saharan Africa, central and southeast Asia, and China. Other persons who are at high risk include those who are infected with human immunodeficiency virus, injection drug users, household contacts or sex partners of persons with HBV infection, and men who have sex with men. Persons born between 1945 and 1965 should be screened for hepatitis C virus infection; however, persons in this birth cohort who have risk factors for HBV infection should also be screened for HBV infection. Moderate alcohol intake is not an established risk factor for HBV infection but is important to assess as part of the management of HBV infection, because alcohol consumption can cause further damage to the liver.

**3. The correct answer is A.** China has a very high prevalence (8% or greater) of HBV infection. Other areas that have a very high prevalence of HBV infection include sub-Saharan Africa and central and southeast Asia. Cyprus, France, Hungary, and New Zealand are not considered high-prevalence countries. A complete list of countries in each region and the prevalence of HBV infection is available at <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/hepatitis-b>.

The views expressed in this work are those of the authors and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the U.S. government.

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### SOURCES

U.S. Preventive Services Task Force. Screening for hepatitis B virus infection in nonpregnant adolescents and adults: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2014;161(1):58-66.

Chou R, Dana T, Bougatsos C, Blazina I, Khangura J, Zakher B. Screening for hepatitis B virus infection in adolescents and adults: a systematic review to update the U.S. Preventive Services Task Force recommendation. *Ann Intern Med.* 2014;161(1):31-45. ■