

# Screening for Viral Hepatitis and Hepatocellular Cancer



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## KEYWORDS

- Screening • Surveillance • Hepatitis B virus • Hepatitis C virus
- Hepatocellular carcinoma

## KEY POINTS

- Accurate tests for at-risk populations are available for hepatitis B virus, hepatitis C virus (HCV), and hepatocellular carcinoma (HCC).
- Effective treatments for all three diseases exist if diagnosed early.
- New antivirals are making a significant impact on HCV.
- Liver transplant is curative for early HCC and is prioritized by the United Network for Organ Sharing in the United States.

Screening and surveillance for deadly disease only makes sense if:

1. There are identifiable populations at risk for the condition.
2. There are sensitive and specific low-cost tests available for the condition.
3. There are effective treatments for the condition on diagnosis that result in decreased mortality.

Hepatitis B virus (HBV) infection, hepatitis C virus (HCV) infection, and hepatocellular carcinoma (HCC) are each important clinical conditions that meet all of these criteria and therefore have screening recommendations that are standard of care.

## SCREENING FOR HEPATITIS B VIRUS INFECTION

HBV infection is a global health problem with an estimated 350 million persons chronically infected.<sup>1</sup> In the United States there are estimated to be more than 1 million carriers (defined as positive for HBV surface antigen for more than 6 months).<sup>2–4</sup> HBV carriers in the United States or abroad are at risk for developing cirrhosis, hepatic decompensation, and HCC (25% lifetime risk of serious sequelae).<sup>5–7</sup> Because

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Surg Clin N Am 95 (2015) 1013–1021

<http://dx.doi.org/10.1016/j.suc.2015.05.005>

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effective medicines are available for HBV treatment, the following guidelines exist from the American Association for the Study of Liver Diseases (AASLD) to direct screening.

HBV is transmitted by perinatal transmission, percutaneous and sexual exposure, as well as by close personal contact.<sup>3</sup> In countries like the United States where vaccination of most infants and adolescents is the rule, the risk of transmission in schools or day care is low.

The tests used to screen for HBV infection include hepatitis B surface antigen (HBsAg) and anti-hepatitis B surface antibodies (anti-HBs). Alternatively hepatitis B core antibody can be used for screening as long as positive tests are followed by HBsAg and anti-HBs to determine infection versus prior exposure and immunity.

The following should be screened for HBV status (**Box 1**): persons born in endemic areas (eg, Asia, Africa, South Pacific Islands, Middle East); those born in the United States who were not vaccinated and are children of parents from an endemic area; patients with chronically increased liver function tests of unclear cause; immunosuppressed patients; men who have sex with men, have multiple partners, or a history of sexually transmitted diseases; inmates of correctional facilities; those who have ever used injection drugs; dialysis patients; those infected with HCV or human immunodeficiency virus (HIV); pregnant women; and household contacts of someone with HBV.

**Box 1****Groups at high risk for HBV who should be screened***Patients from areas of endemic HBV:*

- Asia
- Africa
- South Pacific Islands
- Middle East
- Mediterranean: Spain and Malta
- Indigenous arctic populations: Canada, Greenland, Alaska
- South America
- Eastern Europe
- Caribbean
- Central America

*Others recommended for screening:*

- US born, unvaccinated, with parents from endemic areas
- Household contacts of those with HBV
- Intravenous drug users
- Sexual contacts of those with HBV, those with multiple sexual partners, history of sexually transmitted diseases
- Inmates of correctional facilities
- Individuals with increased aminotransferase levels, HCV, human immunodeficiency virus (HIV), or cirrhosis
- Pregnant women
- Patients on hemodialysis

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