

# Hepatitis B Vaccine Non-Responders

Information for Healthcare Workers

## What is hepatitis B vaccine non-responder?

A hepatitis B vaccine “non-responder” refers to a person who does not develop protective surface antibodies to protect them against hepatitis B infection after completing two full hepatitis B vaccine series. Although the majority of persons vaccinated against hepatitis B successfully respond to vaccination, an estimated 5-15% of persons may not respond due to older age, obesity, smoking, and other chronic illness.

## What to do if you are exposed to hepatitis B virus as a non-responder?

Healthcare workers who are hepatitis B vaccine non-responders are at risk of being infected if exposed to potentially hepatitis B infected blood/fluid. Healthcare workers should seek immediate medical care to receive a dose of hepatitis B immunoglobulin (HBIG) as a preventative treatment if a non-responder. If you receive the treatment within 24 hours of exposure to the virus you can reduce the risk of infection. Hepatitis B immunoglobulin is an injectable medication that provides antibodies to fight the hepatitis B virus. Hepatitis B immunoglobulin provides immediate, short-term protection against the hepatitis B infection. A single dose of Hepatitis B Immune Globulin (Human) alone is 75% effective if administered within 2 weeks of exposure.

## What precautions should a non-responder for hepatitis B, healthcare worker take?

All healthcare workers regardless of being a non-responder of hepatitis B should perform routine practices risk assessment of their work environment to determine the risk of exposure and what personal protective equipment (PPE) should be worn. Please see HPEI’s [point of care risk assessment](#), located in HPEI’s Staff Resource Center. Examples of PPE include but are not limited to gloves, aprons, lab coats and other protective clothing as needed. Wearing facial protection includes a mask and protective eyewear to protect against splashing of blood or body fluids into eyes or mouth or onto broken skin or skin rashes. Use mouthpieces for resuscitation.

## What are the percentages of getting hepatitis B infection if exposed as a non-responder?

Adults have a 3% to 10% chance of developing chronic infection after being exposed to hepatitis B infection, if left with no immediate medical care. Less than 0.5% to 1.0% of Canadian population is living with hepatitis B infection. Hepatitis B infection is much more common in other areas of the world according to Hepatitis B Foundation.

## Can a person who is a non-responder to the hepatitis B vaccine able to work in a healthcare setting?

Yes. Healthcare workers should not be discriminated against because of their hepatitis B status. All healthcare workers should practice Routine Practices and Additional Precautions, which are designed to prevent hepatitis B virus transmission, both from patients to healthcare workers and from healthcare workers to patients.

# Hepatitis B Vaccine Non-Responders

Information for Healthcare Workers

## What is Hepatitis B?

Hepatitis B is one of five hepatitis viruses that can infect your liver, causing inflammation. It spreads through bodily fluids. Most people only have a brief, acute infection. But for some people, it becomes chronic. A chronic infection can do serious long-term damage to your liver. Hepatitis B is preventable with a vaccine, but it has no cure.

## How do you get Hepatitis B?

Hepatitis B infection comes from the hepatitis B virus (HBV). The virus spreads through bodily fluids. Transmission occurs when fluids from the body of a person who's infected enter the body of a person who's uninfected. This might happen through.

- Exposure to blood known or suspected to be infected with hepatitis B virus by:
  - Being splashed in the mouth, nose or eyes with infected blood.
  - Being poked with a used injection needle.
  - Being bitten by someone with hepatitis B
  - Having contact with household articles such as a toothbrush, dental floss, or a razor contaminated
- People who have had unprotected sex with a person with hepatitis B.
- Victims of sexual assault.
- Newborns and infants less than 12 months of age whose mothers have hepatitis B.

Hepatitis B virus can live on the surface outside of your body for at least seven days. So, used instruments that haven't been sterilized can still carry the virus. This includes medical instruments and common items like a toothbrush or razor that may have provoked bleeding.

Besides blood, hepatitis B virus also lives in other bodily fluids, including saliva. But unlike some viruses, hepatitis B isn't easily transmitted through saliva. That means you aren't likely to get it from sharing food or eating utensils or from someone coughing or sneezing on you.

## Signs and Symptoms of infection of hepatitis B.

Not everyone has symptoms. If you do, they can range from mild to severe. You may have symptoms (or not) during the acute phase of infection, and you may also have them (or not) with chronic infection. You are still contagious with or without symptoms. Typical symptoms of infection include fever, loss of appetite, nausea and vomiting, abdominal pain, weakness and fatigue and joint pain. You may also have symptoms of liver disease, including jaundice (yellowing of your skin and the whites of your eyes), dark-colored urine, light or clay-colored poop and swelling with fluid in your belly or arms and legs.

With **acute infection**, symptoms of liver disease may indicate a more severe reaction than usual. Although many people clear the hepatitis B virus without treatment, you should see a healthcare provider if you have symptoms of liver disease.

With **chronic infection**, you may have mild or vague symptoms on an ongoing basis, or you may not have symptoms at all for decades. When symptoms appear later, especially symptoms of liver disease, it may indicate your liver is beginning to fail.