



Hepatitis B (Hep B) Vaccine

The Hep B vaccine has been in use since 1982. In Ontario schools, either the product Engerix[®]-B or Recombivax[®] HB is used. The vaccine provides protection from the Hep B virus which can cause acute illness, liver damage, liver disease and liver cancer.

Who is the vaccine for?

The vaccine is available and recommended for all infants or children and for at risk individuals (e.g. health care workers, travelers, people with risky sexual practices, people with certain chronic illnesses).¹ In Ontario, the vaccine is free for students in grade 7. Students up to grade 8 can get the vaccine for free if they miss any of the grade 7 doses. After this, the vaccine needs to be purchased unless the person meets high risk eligibility outlined on the [Publicly Funded Immunization Schedules for Ontario – August 2011](#).²

How effective is the vaccine?

The earlier in life the vaccine is given, the better the protection from Hep B. Children ages 5 to 15 have the highest level of immunity at 99%. Adults over age 60 achieve between 50 and 70% protection. Two doses of the vaccine are needed in order to provide protection. Research shows the protection lasts 20 years for most people.³

How does the vaccine work?

The Hep B vaccine is made from a piece of the virus' surface which is grown in yeast. The vaccine does not contain live virus and cannot cause Hep B infection. When the vaccine is injected into the muscle, the body makes antibodies that attack the virus. These antibodies remain in the system. If an immunized person is ever exposed to the actual disease, the body will be able to protect itself.⁵

What is in the vaccine and why?

Recombivax HB [®] Vaccine ⁴		
What?	Why? ⁵	Where else is it found?
Hep B surface antigen 10 µg	To make body react and create protection	Hep B
Yeast	To grow Hep B antigen	Bread, baking items
Aluminum hydroxyphosphate 0.5 mg	To help body create protection	Food (additive), antacids, deodorant, treated water
Sodium chloride 9 mg	To adjust tonicity	Human body, table salt
Sodium borate 35 µg	To adjust acid levels	Food (additive), water softener, soap
Water	For injection	Water

Engerix[®]-B Vaccine⁶		
What?	Why?⁵	Where else is it found?
Hep B surface antigen 20 µg	To make body react and create protection	Hep B
Yeast	To grow Hep B antigen	Bread, baking items
Aluminum hydroxide 0.5 mg	To help body create protection	Food (additive), antacids, deodorant, treated water

Are there any side effects?

All injections can cause pain in the muscle, redness or swelling. The Hep B vaccine is very safe and has few side effects associated with it. The main side effect is fever usually 37.7°C or lower.¹ Side effects of Hep B vaccines are usually mild and short-lived.

Sources

¹ Public Health Agency of Canada. Canadian Immunization Guide (7th ed.). Ottawa: Public Works and Government Services Canada; 2006.

² Ministry of Health and Long-Term Care. Publicly Funded Immunization Schedules for Ontario – August 2011. Ottawa: Queen's Printer for Ontario; 2011.

³ Poorolajal J et al. Seroprotection of hepatitis B vaccine and need for booster dose: a meta-analysis. Hepatitis Monthly, 9(4): 293-304; 2009.

⁴ Merck Canada Inc. Product Monograph: Recombivax HB[®]. Kirkland QC; May 2012.

⁵ Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Washington DC: Public Health Foundation; 2009.

⁶ GlaxoSmithKline Inc. Product Monograph: Engerix[®]-B. Mississauga ON; July 2011.