PROCEDURE

Haemophilus influenzae b (Ross strain) capsular polysaccharide meningococcal protein conjugate vaccine

An injection that helps protect against serious infections caused by Haemophilus influenzae type b bacteria.

PURPOSE
Prevent serious Haemophilus influenzae type b infections

PROCEDURE TYPE
Therapeutic preventive care - intramuscular injection in clinic

WHERE IT IS DONE
Outpatient clinic or primary care office

ANAESTHESIA
None

HOW LONG IT TAKES
A few seconds to one minute

PREPARATION
No fasting; bring vaccination records and allergy information

RECOVERY
Same day; no routine driving restriction

MAIN RISKS
Injection-site reactions, fever, fainting, severe allergic reaction

RESULTS
No test result; protection develops after scheduled doses

Overview

This vaccine helps protect against Haemophilus influenzae type b, often shortened to Hib. Hib bacteria can cause meningitis, which is infection around the brain and spinal cord, as well as bloodstream infection, pneumonia and swelling that can block the airway.

Despite its name, Haemophilus influenzae does not cause influenza, or flu.

The vaccine contains purified material from the outer capsule of Hib bacteria from the Ross strain. This material is joined, or "conjugated," to a protein complex from meningococcal bacteria. The protein helps the immune systems of young children build a stronger response.

This formulation is commonly known as a PRP-OMPC Hib vaccine. PedvaxHIB is a brand containing this type of vaccine. It contains no live Hib bacteria and cannot cause Hib disease.

The meningococcal protein is used to improve the immune response. This vaccine does not provide reliable protection against meningococcal disease.

Why the procedure is performed

Hib vaccination is mainly given to prevent invasive Hib disease. "Invasive" means that bacteria have entered parts of the body where they can cause severe infection, such as the blood, tissues around the brain or airway.

Routine Hib vaccination is usually started in infancy because young children are at greatest risk of serious Hib infection. In the United States, the schedule for this formulation commonly includes doses at 2 and 4 months, followed by a booster at 12 through 15 months.

The number and timing of doses may be different if a child starts late, previously received another Hib vaccine or has certain medical conditions. National schedules also differ between countries.

Some older children or adults may be offered Hib vaccination in special situations, including after a stem cell transplant or when the spleen is absent or does not work properly. It is not routinely recommended for most healthy people aged 5 years or older.

Who should and should not have it

This vaccine may be appropriate for infants and young children receiving routine Hib immunisation. It may also be considered for people with specific health conditions that increase their risk of invasive Hib disease.

It should not be given to someone who had a severe allergic reaction, such as anaphylaxis, after an earlier dose or to one of its ingredients. The healthcare team should review the current product information if there is a known vaccine or latex allergy because packaging and ingredients can change.

This vaccine is not given before 6 weeks of age. A dose may be delayed during a moderate or severe illness, with or without fever. A mild cold, minor ear infection or mild diarrhoea does not usually prevent vaccination.

Tell the vaccination team about:

A weakened immune system is not usually a reason to avoid this non-live vaccine, but the

immune response may be lower. The timing may need to fit around treatment or surgery.

- A severe reaction after any previous vaccine
- Current fever or significant illness
- A condition or treatment that weakens the immune system
- A bleeding disorder or medicine that increases bleeding
- Pregnancy or possible pregnancy
- Previous Hib doses, including combination vaccines

How to prepare

No fasting or bowel preparation is needed. You or your child can usually eat, drink and take regular medicines as normal.

Bring the vaccination record if available. Tell the healthcare team about allergies, previous vaccine reactions and any recent changes in health. If a child has received vaccines in another clinic or country, bring as much information as possible so that unnecessary repeat doses can be avoided.

Choose clothing that allows easy access to the thigh or upper arm. For a baby, feeding or holding a familiar comfort item may help during the injection.

The treating facility's own instructions take priority because they may reflect the specific vaccine product, age of the person being vaccinated and local vaccination schedule.

What happens during the procedure

Before giving the vaccine, a healthcare professional checks the vaccination history, age, allergies and current health. They should confirm which vaccine is being used and explain the expected benefits and risks.

The vaccine is injected into a muscle. The outer thigh is commonly used for infants and young children. The upper-arm muscle may be used for an older child when it is large enough.

The skin may be cleaned first. The injection itself takes only a few seconds and may cause a brief sting. Anaesthesia and sedation are not needed.

More than one routine vaccine may be given during the same visit. Separate injections are placed at different sites. Afterward, you may be asked to remain nearby for a short observation period.

Recovery and what to expect afterward

Pain or tenderness where the injection was given is common. Redness, warmth or mild swelling can also occur. A cool, damp cloth may make the area more comfortable. Ask a healthcare professional before giving pain or fever medicine to a young child.

Normal food and drinks can be resumed immediately. Babies may breastfeed or bottle-feed before or after vaccination.

Normal activity is usually safe when the person feels well. Avoid pressing or repeatedly rubbing the injection site. Children can generally return to school or childcare if they feel well enough and meet the facility's fever policy.

There is no routine driving restriction. An adult who feels faint or unwell should wait until fully recovered before driving. A caregiver can drive a vaccinated child home.

Most adults can return to work immediately. A child may need a quieter day if they develop soreness, tiredness, irritability or fever.

Risks and possible complications

Most reactions are mild and settle without treatment. Possible effects include pain, redness or swelling at the injection site, fever, irritability, sleepiness or reduced appetite.

Fainting can happen around injections, although it is more common in adolescents than in infants. Sitting or lying down during vaccination helps prevent injury if fainting occurs.

A severe allergic reaction is uncommon but requires emergency treatment. Vaccination sites keep medicines and equipment available to treat this reaction.

Protection may be incomplete, especially before the full series is finished or when the immune system is weakened. Receiving the vaccine does not guarantee that Hib infection can never occur.

This vaccine cannot cause Hib disease because it does not contain live bacteria. If it is given as part of a combination vaccine, the expected side effects and precautions may differ from those of the Hib-only product.

Results and follow up

There is no immediate test result. The immune system begins responding after vaccination, but the intended protection develops across the recommended series.

The vaccination should be entered in the medical record. Keep a personal copy, including the date, product and dose number. The healthcare team should tell you when the next dose is due.

Routine blood tests are not normally used to confirm immunity after Hib vaccination. Follow-up usually means completing any remaining doses at the recommended ages.

If a dose is late, the series generally does not need to be restarted. The next dose is planned using the person's age, previous vaccines and health conditions.

Alternatives

Other licensed Hib conjugate vaccines can protect against the same disease. Some use a different carrier protein or are combined with vaccines against other infections. A combination vaccine means fewer injections, but its available ages, schedule and side effects may differ.

Using another Hib vaccine may be reasonable when this specific formulation is unavailable. Previous doses often count toward the series, but the schedule must be checked because Hib products do not all use the same primary-dose pattern.

Delaying vaccination avoids an injection that day but leaves the child without the protection expected from that dose for longer. Choosing no Hib vaccination avoids vaccine reactions but leaves the person more vulnerable to Hib infection and its complications.

Antibiotics like amoxicillin or doxycycline are not an alternative to routine vaccination. They treat bacterial infection and may sometimes be given to close contacts after a confirmed Hib case, but they do not provide lasting immune protection.

When to call your healthcare team

Mild soreness, limited redness, irritability or a low fever can usually be monitored at home. Contact the healthcare team during routine hours if these effects are worsening, are not settling as expected or are interfering with eating, drinking or normal activity.

Seek prompt medical advice if a baby younger than 3 months has a temperature of 38°C or 100.4°F or higher, even if the fever started after vaccination. Also seek advice for signs of dehydration, unusual weakness or a reaction that concerns you.

Call emergency services for:

These emergency symptoms are different from the mild local reactions commonly expected after vaccination.

- Trouble breathing, wheezing or throat tightness
- Swelling of the face, lips or tongue
- Widespread hives with breathing problems or collapse
- A seizure, loss of consciousness or inability to wake normally

Common questions

Will I or my child be asleep?

No. This is a quick injection without sedation or anaesthesia. A baby can usually be held by a parent or caregiver.

Can I drive home afterward?

Yes, provided you feel well. If you feel faint after an injection, remain seated or lying down until you have fully recovered.

How painful is it?

The needle usually causes a brief sting. The injection area may remain tender for a day or two, but discomfort is generally manageable.

When will I know whether it worked?

There is no routine result or immunity test. Protection is expected to build after the recommended doses, but no vaccine protects everyone completely.

Does it protect against meningococcal meningitis?

No. The meningococcal protein helps the immune system respond to the Hib ingredient. Separate meningococcal vaccines are needed for protection against meningococcal disease.

Can this vaccine cause Hib infection?

No. It contains purified bacterial material rather than live Hib bacteria, so it cannot reproduce or cause Hib disease.

Sources

- US Food and Drug Administration. PedvaxHIB prescribing information
- Centers for Disease Control and Prevention. Hib Vaccine Recommendations



- Centers for Disease Control and Prevention. Pink Book, Chapter 8: Haemophilus influenzae
- Centers for Disease Control and Prevention. Haemophilus influenzae type b Vaccine Information Statement
- Advisory Committee on Immunization Practices. Prevention and Control of Haemophilus influenzae Type b Disease, MMWR Recommendations and Reports, 2014