

# H. influenzae type B (Hib)

## Traveler Summary

### Key Points

- | Hib disease, a serious bacterial infection occurring in developing countries worldwide, is acquired through the inhalation of aerosolized respiratory droplets or contact with respiratory secretions from infected persons.
- | Risk of serious illness is high for unvaccinated young children, certain immunocompromised persons, and certain ethnicities.
- | Symptoms include high fever, headache, neck stiffness or breathing difficulty.
- | Consequences of severe Hib disease include brain damage, hearing loss, loss of limbs, or (rarely) death.
- | Prevention includes observing good respiratory hygiene measures (cough and sneeze etiquette) and frequent, thorough handwashing.
- | Hib vaccine is routinely given to children younger than 5 years but is not indicated for healthy, older individuals who were not vaccinated as children.
- | Vaccine side effects are uncommon but can include injection-site reactions and fever.
- | Duration of vaccine protection following a completed series during infancy lasts until 5 years of age; no further booster dose is recommended for child travelers.

### Introduction

Haemophilus influenzae type B (Hib) disease, a serious bacterial infection caused by *Haemophilus influenzae* bacteria, is acquired via inhalation of or contact with infected respiratory secretions. Serious illnesses such as meningitis (infection of the brain and spinal cord coverings), pneumonia (infection of the lungs), and epiglottitis (swelling in the throat) occur in young children (usually younger than 5 years) in developing countries where Hib vaccination is not routine. By 5-6 years of age, both vaccinated and unvaccinated children have acquired natural immunity from exposure, usually without showing symptoms of the disease.

### Risk Areas

Hib disease has been nearly eradicated in the U.S. since the introduction of routine Hib vaccination in 1987. Highest incidence is in developing countries where Hib vaccination is not routine.

Worldwide occurrence is between 4 to 8 million cases of serious disease (mostly in developing countries where Hib vaccination is not routine), with hundreds of thousands of deaths annually.

### Transmission

Hib disease is predominantly transmitted person to person via inhalation of aerosolized respiratory droplets (e.g., by coughing or sneezing) or direct contact with respiratory secretions of infected persons.

### Risk Factors

Risk is highest for unvaccinated children younger than 5 years, older persons with certain conditions that weaken the immune system (e.g., missing or nonfunctional spleen, blood stem cell transplant, HIV infection in children, chemotherapy, or radiation therapy), and certain ethnicities (African American, Hispanic, Native American, and Alaskan Native) in affected areas.

### Symptoms

Symptoms include high fever, headache, neck stiffness, or breathing difficulty.

### Consequences of Infection

Consequences of Hib infection include brain damage, hearing loss, loss of limbs, or (rarely) death.

## Need for Medical Assistance

Persons with severe disease (e.g., trouble breathing, loss of alertness, or stiff neck) should seek immediate medical attention. Hospitalization is generally required; antibiotic therapy should be started immediately.

## Prevention

### Nonvaccine

Observe good respiratory hygiene measures (cough and sneeze etiquette) and frequent, thorough handwashing.

### Vaccine

Hib vaccine is given routinely as a childhood vaccination and to persons at increased risk of disease. Combination vaccines are also available.

### Side Effects

Side effects are rare but can include mild injection-site reactions and fever lasting less than 24 hours. Irritability, runny nose, tiredness, and hives can also occur.

Persons with underlying medical conditions or who have concerns about the vaccine should speak to their health care provider before vaccine administration.

### Timing

Hib vaccine and Hib-combination vaccine are given as follows:

- | Routine, regardless of travel, for children younger than 5 years: 3 or 4 doses, 1 dose each at ages 2, 4, 6, and 12-15 months (depending on the brand of Hib vaccine used, a child might not need the dose at age 6 months). Catch-up schedules are available if the first dose is delayed by more than a month.
- | If earlier protection is needed for travel: 3 doses at least 4 weeks apart; may start series as early as 6 weeks of age.
- | Unvaccinated persons 5 years and older (when indicated): 1 dose of Hib-only vaccine.

Duration of vaccine protection following completion of a full vaccine series during infancy lasts until at least the age of 5 years, the age at which natural immunity becomes prevalent; no further booster dose is recommended for child travelers.

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