

# Rotavirus

## Traveler Summary

### Key Points

- Rotavirus infection is a viral infection that occurs worldwide and is acquired mainly through the consumption of fecally contaminated food and water, contact with contaminated objects, and inhalation of respiratory secretions from infected persons.
- Risk is increased for children younger than 5 years worldwide and for adult travelers (with weakened immune systems) going to developing countries with poor sanitation.
- Symptoms include sudden fever, vomiting, and explosive, watery diarrhea; however, rotavirus infection can also be symptom free.
- Consequences of infection may include severe dehydration.
- Prevention includes observing good respiratory hygiene (cough and sneeze etiquette) and hand hygiene (frequent, thorough handwashing).
- Rotavirus vaccine is routinely given to children aged 6 weeks through 8 months in a series of 2 or 3 doses, depending on vaccine brand; no vaccine is available for adults or older children.
- Vaccine side effects include mild temporary diarrhea, vomiting, cough, runny nose, and irritability.
- Duration of vaccine protection is unknown; no booster is required.

### Introduction

Rotavirus, a highly contagious viral infection transmitted mainly via the fecal-oral route, is the most common cause of severe digestive tract infection of infants and young children, especially in developing countries worldwide.

### Risk Areas

Rotavirus infection occurs worldwide (including in developed countries) and often results in death in children younger than 5 years, especially in developing countries. Rotavirus is one of the main causes of travelers' diarrhea in both children and adults in developing countries, especially in Latin America and Africa. Outbreaks of diarrheal illness caused by rotavirus have also been reported among elderly persons living in retirement communities. Infection commonly occurs during winter and spring in temperate climates (with annual epidemics occurring from January through June) and during cooler, drier months in tropical climates.

### Transmission

Rotaviruses are mainly transmitted through the consumption of fecally contaminated food and water, close person-to-person contact, contact with contaminated objects (e.g., toys, books, clothing, and other environmental surfaces contaminated by stool), and inhalation of infected respiratory droplets that people sneeze, cough, drip, or exhale. Rotaviruses are shed for several days in high concentrations in the stools and vomitus of infected persons and can remain viable in the environment for weeks or months if not disinfected.

### Risk Factors

Risk exists for children younger than 5 years and adult travelers (with weakened immune systems) going to developing countries. Infection can occur as early as age 2 months, but most cases occur between the ages of 6 months and 2 years.

Other persons at increased risk include caretakers and parents of children in childcare settings or hospitals, elderly persons living in retirement communities, and children and adults with diseases that affect the immune system's ability to fight infection.

### Symptoms

Symptoms most commonly appear less than 48 hours after exposure and include sudden fever, vomiting, and explosive, watery diarrhea. Symptoms generally last 3 to 8 days, but the virus can remain in stools for as long as 3 weeks. Rotavirus infection can

be symptom free (especially in adults), mild, or severe; symptoms vary depending on whether the infection is a first infection or a reinfection.

Children can be infected with rotavirus several times during their lives; the first infection, if it occurs after age 3 months, is usually the most severe. Recovery from the first infection may not result in permanent immunity but protects against subsequent severe illness.

Infection in adults is usually symptom free but may cause diarrheal illness.

## Consequences of Infection

Severe diarrhea and dehydration can result. Death may occur, especially in children who are not immediately treated with rehydration.

## Need for Medical Assistance

Persons who develop symptoms of rotavirus infection should self-treat with oral rehydration solutions designed for this purpose and seek immediate medical attention, especially if an infant or child shows signs of severe dehydration, fever higher than 38.5°C (101.5°F), or persistent vomiting. In resource-limited areas, zinc supplementation in children aged 6 months through 5 years reduces the severity and duration of diarrheal diseases. No antiviral drugs exist for treating rotavirus infection.

## Prevention

### Nonvaccine

Observe good respiratory hygiene (cough and sneeze etiquette) and hand hygiene (frequent, thorough handwashing), especially after using the bathroom and changing diapers (including of infants who have received the rotavirus vaccine).

### Vaccine

Rotavirus vaccines are given routinely as a childhood vaccination to infants aged 6 weeks through 8 months, including infants who have had rotavirus infection before receiving the full vaccine series.

Rotavirus vaccine is not recommended for older children or adult travelers.

### Side effects

Side effects of rotavirus vaccines include mild, temporary diarrhea or vomiting, cough or runny nose, and fussiness or irritability.

Rarely, intestinal obstruction due to intussusception (telescoping of the intestine) may occur in children, usually within 7 to 21 days after the first vaccine dose.

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

### Timing

Two rotavirus vaccines exist (RotaTeq and Rotarix) and are given as follows:

- Routine (regardless of travel) for infants aged 6 weeks through 8 months:
  - RotaTeq: 3 doses, given at ages 2, 4, and 6 months.
  - Rotarix: 2 doses, given at ages 2 and 4 months.

An accelerated schedule (which may be used for travelers) consists of 3 doses of RotaTeq given at ages 6, 10, and 14 weeks or 2 doses of Rotarix given at ages 6 and 10 weeks.