

Rotavirus

McKenzie Pediatrics Winter 2006

What Is Rotavirus?

Rotavirus is a major cause of *gastroenteritis* (what people sometimes call “stomach flu”) in the United States, infecting nearly all children by age 4. It causes over 3 million episodes of vomiting and diarrhea each year, and results in 60,000 hospitalizations annually. It is responsible for about half of all hospitalizations for diarrhea and dehydration in children.

When Does It Occur?

Rotavirus season peaks in November in the Southwestern United States, February and March in the Western U.S., and April and May in the Eastern U.S. It generally does not occur in the warmer months of the year.

How Is It Spread?

Rotavirus is spread person to person, primarily by the fecal-oral route, but it is not airborne. Children shed large numbers of viruses in their stool during their acute illness, and are contagious for between 7 to 21 days after their illness begins.

Spread of rotavirus infection within families is common. One-third to one-half of family members will also become ill, though in adults and older children it tends to be a much milder illness.

Good hand-washing is crucial to reducing spread of the virus. The virus can live on surfaces for up to 1-2 days. Parents caring for children sick with diarrhea must diligently wash their hands with soap and warm water for at least one minute, or use hand sanitizer, after cleaning up after their child. Toilet seats and bathroom countertops should be disinfected as often as possible for the 3 weeks following the onset of the child's illness.

Why Do Kids Get So Sick?

Rotavirus infects the walls of the small intestine, temporarily destroying its absorptive surface. Therefore, absorption of salt and water decreases, leading to the production of large amounts of diarrhea. The virus also greatly reduces the enzyme present in the lining of the small intestine involved in the digestion of carbohydrates, leading to a carbohydrate malabsorption, and causing even more diarrhea.

Rotavirus diarrhea is usually very characteristic: green, profuse, and smelling slightly of sulfur (or “rotten eggs”). The diarrhea can last even up to several weeks, until the body begins to eliminate the virus and restore the lining of the small intestine.

How Does It Begin?

Rotavirus gastroenteritis begins with acute onset of fever and vomiting, followed 24-48 hours later by profuse watery diarrhea. Typically, there are as many as 10-20 bowel movements a day. Stools rarely contain blood.

Fever, which occurs in about half of infected children, is usually low-grade (<102 degrees), but on occasion can be as high as 104 degrees. Vomiting occurs in 80-90% of infected children, and usually lasts between 6 to 24 hours.

Can My Child Get Rotavirus Again?

Yes. Most children are infected with rotavirus more than once. First infections are usually the most severe. After a single infection, 40% of children will have enough immune protection to not get it again, and 90% are protected against having the severe diarrhea again.

Is There Any Treatment?

No. The best "treatment" is electrolyte-containing fluids, rest, and early reintroduction of breast feeding or formula feeding and regular foods prior once the vomiting phase has ended. Please refer to our other handout on Vomiting and Diarrhea for fluid management tips, and signs of dehydration. If you don't already have this (given to all parents at their baby's six-month well-child checkup), please ask for a new copy.