

Rotavirus Infection

Frequently Asked Questions

1. What is rotavirus infection?

Rotavirus infection is a viral infection caused by a rotavirus. It is the leading cause of severe diarrhoea in children under 5 years worldwide. In South Africa, rotavirus infections peak during the winter months.

2. Who can get rotavirus infection?

Most infections occur in children under the age of 5 years. Infants and young children between the ages of 3 months and 2 years are at high risk of severe rotavirus disease. Children over 5 years of age and adults can also be infected with rotavirus; however, they usually have mild symptoms or have no symptoms at all. Amongst older children and adults, persons with weak immune systems and the elderly are at higher risk of getting rotavirus infection.

3. Where does rotavirus infection occur in South Africa?

Rotavirus occurs in all income strata, affecting wealthy and poor alike. There is no real difference in rotavirus prevalence in low income versus high income settings, although children may contract rotavirus at an earlier age in low income or resource-limited settings. This may indicate that improved sanitation alone does not necessarily decrease transmission of the virus. In South Africa, rotavirus infections peak during the winter months.

4. How is rotavirus infection transmitted?

Rotavirus spreads easily through the faecal-oral-route, by close person-to-person contact and by contaminated environmental sources. The virus is in the stool (faeces) of people who are infected. It is spread by hands, nappies, or objects in the environment such as toys or changing tables. A very small amount of stool (which is not apparent at all) is sufficient to transmit the virus. Rotavirus commonly spreads in families, child care centres (nursery schools, crèches, playgroups etc) and even in hospitals.

5. How does rotavirus infection affect animals?

Rotavirus can cause severe diarrhoeal illness in both humans and animals. Young animals also experience diarrhoea and animal rotaviruses are considered potential reservoirs for genetic exchange with human rotaviruses. The group A rotavirus strains are most virulent and commonly isolated strains, and they are known to cause acute infectious diarrhoea in children and various domestic mammals and birds. There is increasing evidence that animal rotaviruses can infect humans, either via direct transmission of the virus or by contributing one or several genes to human strains of rotavirus.

6. What are the signs and symptoms of rotavirus infection in humans?

Symptoms occur 1 to 3 days after infection with the virus, and may last for 3 to 8 days. Vomiting, watery diarrhoea, fever and sometimes stomach pain occur. Dehydration can occur rapidly in patients (especially infants and young children) who have profuse diarrhoea.

7. How is rotavirus infection diagnosed?

To confirm that the illness is caused by the rotavirus infection, a stool sample is collected and sent to the laboratory for testing.

8. How is rotavirus infection treated?

The most important treatment of rotavirus disease is replacement of lost body fluids with oral rehydration solution, or by a drip in severe cases.

9. How is rotavirus infection prevented?

Vaccination against rotavirus is the most important prevention method. There are two rotavirus vaccines currently licensed for use. The vaccine used in South Africa is Rotarix® which is given routinely as part of the Expanded Program of Immunization (EPI).

- a. **How does the vaccine work?** The rotavirus vaccine is a live attenuated (weakened) vaccine. The vaccine cannot cause disease but allows the body to prepare for a real infection.
- b. **How effective is the vaccine?** South African studies have shown the vaccine to reduce severe rotavirus disease (death or hospitalisation for diarrhoea) by 77%.
- c. **Does the vaccine have any side-effects?** The most common side effects are mild diarrhoea and irritability. Research in some countries has indicated that there may be a very small increased risk of intussusception (a type of bowel obstruction) within a week following vaccination, or rarely, severe allergic reactions.
- d. **Who should get the vaccine?** Rotavirus vaccine is included in the South African routine childhood immunisation schedule. It is scheduled as two doses, and both doses are needed for effective protection. It should be given to all children at 6 weeks of age and again at 14 weeks of age, unless there is a specific reason that it should not be given. In private practice, sometimes rotavirus vaccine is given at 8 weeks of age and again at 3 or 4 months of age. The vaccine does not contain egg protein; it is safe for those with egg allergies.
- e. **Are there any reasons not to give the vaccine?** Children who have had an allergic reaction to the first dose of rotavirus vaccine, or to any of the vaccine ingredients, should not receive the vaccine. Although the risk of intussusception is very low, the vaccine should not be given to children who are over 24 weeks old, as this may increase the risk. The vaccine should also not be given to children who have previously had intussusception, who were born with a gastrointestinal tract defect or have another chronic gastrointestinal condition. Children with severe combined immune-deficiency (SCID) should not receive the vaccine.
- f. **Is the vaccine safe for children with HIV infection?** Yes, the vaccine has been shown to be safe for use in HIV-infected patients. If the child has a fever or diarrhoea on the day they are due to be given the vaccine, that dose should be postponed and arrangements made to give the dose at a later date – discuss this with your doctor or nursing sister at the clinic.
- g. **If my child has not yet been vaccinated what should I do?** If your child has not had both doses of the rotavirus vaccine, you should contact your doctor or clinic to arrange for the missing dose(s) to be given. Doses should be given at least 4 weeks apart. If your child has missed both doses and is under 20 weeks old, they should receive both doses 4 weeks apart. If they are over 20 weeks old they will receive one dose. No doses will be given once your child is older than 24 weeks.
- h. **What is the recommended public health response to rotavirus?** Rotavirus is not a notifiable disease, but it is recommended that cases should be reported to local health authorities, particularly if there has been an increase in the number of cases of diarrhoea. Health promotion activities which help raise uptake of rotavirus vaccination and promote good hygiene practices are encouraged.

10. Where can I find more information?

Medical/clinical related queries: NICD Hotline +27 82 883 9920 (for use by healthcare professionals only)

Laboratory related queries: Dr Nicola Page at 011 555 0370, nicolap@nicd.ac.za