

## What is rotavirus?

Rotavirus is a highly contagious virus that causes a bowel (gut) infection with fever, vomiting and diarrhoea (gastroenteritis) in babies and young children.

Without immunisation almost all children get rotavirus infection before 5 years of age. It is a significant cause of diarrhoea (watery or loose stools) and dehydration in babies and young children worldwide. Adults can also get rotavirus infection.

## How do you catch it?

Rotavirus is mainly spread through close contact with someone who has the virus and by the faecal-oral route, for example incomplete hand washing after changing nappies or using the toilet or touching a contaminated surface and handling food or eating.

Large amounts of rotavirus are present in the stools of those with the infection, when they are sick and for about a week after they appear to be better. Rotavirus can survive on hands for at least four hours and on inanimate objects such as change tables, taps, door handles, toys, and utensils, for approximately two months.

## What are the symptoms of rotavirus?

The illness begins with the sudden onset of fever, vomiting, and diarrhoea. The fever usually lasts for 1–2 days, vomiting for around 3–6 days and diarrhoea for around 5–6 days.

## How serious is it?

Feeling too sick to drink and loss of liquid from vomiting and diarrhoea can cause severe dehydration that needs medical treatment.

Prior to the introduction of the rotavirus vaccine in New Zealand in 2014, it is estimated that one child in five sought medical advice for rotavirus infection, and one child in 43 had been hospitalised by 5 years of age.

Since the introduction of rotavirus vaccine in New Zealand, both rotavirus infections in the community and rotavirus hospitalisation rates have decreased markedly. In New Zealand death from rotavirus infection is rare.

Each time we are exposed to rotavirus we develop more protection against it. Healthy adults with rotavirus infection usually have mild symptoms.

## Who is most at risk from rotavirus?

Most symptomatic infections occur in babies and children between 3–24 months of age.

## How do you prevent it?

The spread of rotavirus can be reduced by good hand washing using soap after changing nappies or cleaning up vomit, after using the toilet, before preparing food and before eating.

Children with diarrhoea or vomiting should not attend school or childcare centres until they have not had any vomiting or loose bowel motions for 48 hours.

Immunisation against rotavirus prevents most rotavirus infections and almost all serious rotavirus illness. The vaccine is free on the National Immunisation Schedule for babies.

## What vaccine protects against rotavirus?

Rotarix is a weakened live virus vaccine given as drops into the mouth that protect against the most common strains of rotavirus. The vaccine is not designed to protect against gastroenteritis caused by other viruses or bacteria.

Rotarix became the free rotavirus vaccine on the National Immunisation Schedule in July 2017, given as a two-dose course for babies at the 6-weeks and 3-months immunisation visits.

## How safe is the vaccine?

Rotarix has been used for many years and has a good safety record. One or two babies in 10 may have mild vomiting or diarrhoea during the 7 days after immunisation. However, studies suggest these symptoms may be unrelated to rotavirus vaccine because around the same number of babies who received a placebo liquid not containing rotavirus also developed these symptoms.

The weakened rotavirus from the vaccines may be found in faeces for up to 28 days after the first immunisation and up to 15 days after the second dose. After changing nappies caregivers only need to follow standard hygiene measures, i.e. wash their hands using soap and water and dry them well or use liquid hand gel.

A baby living in a house with someone who is pregnant or is immunosuppressed can be immunised. Babies in hospital, including those in neonatal units, can be immunised.

Intussusception is a type of bowel blockage usually seen in young children, with most cases occurring in the first year of life. The cause is usually unknown.

There is a small increase in the risk of a baby developing intussusception during the week following the first rotavirus vaccine dose and a smaller risk after the second dose.

Parents are recommended to seek medical advice if their baby develops intermittent crying/screaming episodes, pull their knees towards their chest and vomit, or develop pink or red coloured jelly-like stools.

## How well does the vaccine work?

In countries like New Zealand, a course of Rotarix vaccines will protect around 8 babies in 10 from severe rotavirus infection and needing to be admitted to hospital because of rotavirus infection.

## Are both Rotarix vaccine doses needed?

Yes. Babies need two doses of Rotarix to develop maximum protection against rotavirus infection. However, it is possible that only one dose could provide some protection.

## How is the vaccine given?

Rotarix is given into the mouth at the 6-weeks and 3-months of age immunisation visits.

Babies can have food or liquid, including breast milk, before or after immunisation. The dose does not have to be given again if they spit it out.

## Can a baby catch-up missed doses of rotavirus vaccine?

Yes, but only if the first dose of rotavirus vaccine is given before a baby is 15 weeks old. If a baby does not have their first dose before they are 15 weeks old, they cannot have any doses of rotavirus vaccine.

When a baby has their first rotavirus vaccine dose before 15 weeks old, catch-up doses of Rotarix can be given any time before baby is 25 weeks old providing there are at least 4 weeks between each of the doses. Once they are 25 weeks old, no Rotarix vaccine doses can be given.

## Who should not have the vaccine?

Any baby with a serious medical condition affecting the immune system called combined severe combined immunodeficiency (SCID), or who has previously had intussusception, or had anaphylaxis (a severe allergic reaction) to any component of the rotavirus vaccine or to a previous dose of the rotavirus vaccine should not be given the vaccine.

Rotavirus vaccine should be postponed for any baby with moderate to very high fever, vomiting or diarrhoea.

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## Who should seek more advice before having the vaccine?

Further medical advice should be sought for any baby suspected or known to have a weakened immune system, for example due to HIV infection, treatment with long term steroids, or any baby who has cancer or who is undergoing treatment for cancer.

If a mother was on immunosuppressive therapy during pregnancy, it is important to seek advice before a baby is given Rotarix.

The vaccine can be administered to a baby who lives with someone who is immunocompromised or receiving immunosuppressive therapy. After changing nappies caregivers are recommended to follow standard hygiene measures, i.e. wash their hands using soap and water and dry them well or use liquid hand gel.

Disease	Possible complications of disease	Possible vaccine responses
A highly contagious virus causing a bowel (gut) infection with fever, vomiting and diarrhoea (gastroenteritis).	<ul style="list-style-type: none"> <li>» Abdominal pain.</li> <li>» Severe vomiting and diarrhoea.</li> <li>» Dehydration.</li> <li>» Death from untreated dehydration.</li> </ul>	<p><b>Common responses</b></p> <ul style="list-style-type: none"> <li>» Mild diarrhoea or vomiting.</li> <li>» Mild abdominal pain.</li> </ul> <p><b>Rare responses</b></p> <ul style="list-style-type: none"> <li>» Intussusception (bowel obstruction).</li> <li>» Severe allergic reaction (anaphylaxis).</li> </ul>

Vaccines are prescription medicines. Talk to your doctor or nurse about the benefits or any risks.

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