



## Human pathogen information sheet – vaccinations and hygiene keep you safe!

### What are rotaviruses?

The rotaviruses are one of the most common causes of gastrointestinal illnesses in small children. Since they are highly infectious, almost all children will have suffered an infection by the time they are five years old. Protection against the pathogens will only develop in the first years of life, but it will not persist life-long. You can then catch the disease again. Cases of the disease tend to rise sharply between February and April.

### How are rotaviruses transmitted?

#### *Person-to-person*

Transmission usually occurs via a contact infection. Patients excrete vast quantities of pathogens in their stool. This means that rotaviruses can be passed on by the smallest traces of faecal matter on hands. From the hands, the pathogens are passed to the mouth and then on through the digestive tract.

#### *Via contaminated objects and food*

Infection is also possible via contaminated objects such as toilets, shared-use towels, handles, fittings or handrails, since the pathogens are very stable in the environment. From the hands, the pathogens are passed to the mouth and then on through the digestive tract. Infection is also possible in rare cases via water or food that has been contaminated with pathogens.

Rotaviruses are infectious in dried faecal matter for several days. They may even survive in water for several weeks.

### What symptoms do the patients show?

A sudden onset of watery diarrhoea with vomiting and stomach pain are the typical signs of a rotavirus infection. Traces of mucus can also be seen in the stool. Often, patients also have a slight fever, a cough and a runny nose. In comparison with other illnesses with diarrhoea, gastrointestinal diseases caused by rotaviruses are often more severe in infants and toddlers. The symptoms usually persist for 2 to 6 days and then disappear on their own. In more severe cases, patients become rapidly dehydrated as a result of vomiting and diarrhoea. Vertigo and circulatory problems may be the consequence of this. If the loss of fluids can no longer be balanced out, the condition may turn potentially fatal. In contrast to this, milder progression is possible as well. Patients will still excrete viruses.

### What's the incubation period – and how long are you contagious?

The incubation period is usually 1 to 3 days after infection. Even after symptoms clear up, the pathogens can still be excreted in the stool for up to eight days. They remain infectious during this period. In some circumstances, premature infants and people with weakened immune systems remain infectious for much longer.

### Who is most at risk?

The disease usually affects babies and infants up to 2 years old. Cases in this group also tend to be more severe, since babies and infants are also particularly sensitive to fluid and salt loss. Accordingly, babies are the group most often admitted for hospital treatment.

Older people and people with weakened immune systems are also particularly at risk. In principle, anyone can catch a rotavirus infection. Adults usually have milder symptoms and the disease often progresses without any signs of illness at all.

### What should I do if I fall ill?

- ▶ During the acute phase, you should stay in bed and limit contact with other people as far as possible.
- ▶ It is important to drink a lot in case of diarrhoea! In serious cases, an infusion may be necessary.
- ▶ In infants and toddlers, adequate hydration is extremely important. It is best to drink small amounts. Diluted herbal teas are suitable for this. If the loss of fluids is too high, the children must be treated in the hospital. Breastfed infants can still be breastfed.
- ▶ To balance out the loss of salts, it may be sensible to use electrolyte replacement solutions from the pharmacy.
- ▶ Use easy-to-digest food with a sufficient salt supply.
- ▶ Since there is no treatment that can target rotaviruses directly, the aim is to relieve the symptoms. Antibiotics have no effect against diseases caused by viruses. Anti-diarrhoea medication is also not recommended: in some cases, it may actually prolong the disease.
- ▶ Medical advice should always be sought in cases involving infants, pregnant women, the weak and the elderly, especially if diarrhoea or vomiting has persisted for two to three days and a fever is also present.
- ▶ Wherever possible, do not prepare any meals for relatives if you are ill yourself.

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- ▶ Illnesses caused by rotaviruses are subject to the rules of the German Prevention of Infection Act. Children younger than 6 years who have infectious vomiting or diarrhoea or where this is suspected, must not attend community facilities such as schools or nurseries. They must not attend facilities again until at least 2 days after the end of the symptoms. A medical certificate is usually not required.
- ▶ Patients who handle foodstuffs in their jobs must not start working again until at least 2 days after the symptoms disappeared. The patient's doctor and/or the local health authority is responsible for deciding when the individual may return to work.
- ▶ The pathogens are excreted in the faeces for another few days after the symptoms disappear. Therefore, pay particularly close attention to careful hand and sanitary hygiene during this phase.

### How can I protect myself?

#### Vaccination

- ▶ The German Permanent Vaccination Commission (STIKO) recommends protecting against rotavirus infection by oral vaccination for infants. The first vaccination should take place when the infant is between 6 and 12 weeks old. Depending on the vaccine used, either 2 or 3 vaccine doses are required, taken at least 4 weeks apart. The vaccination schedule should be completed by the age of 16 weeks or by the age of 22 weeks, depending on the vaccine used, and certainly no later than 24 or 32 weeks in all cases.
- ▶ After the first dose of vaccine, there is a slight increase in the risk of one part of the intestine folding up inside another part. In medical terms, this folding-up is termed "invagination". According to current research, around 1 or 2 additional cases of invagination may occur in every 100,000 children vaccinated. Since the likelihood of an invagination in infants generally increases month by month, it is recommended that the vaccination schedule is started as soon as possible and completed on time. Parents should contact their paediatrician as soon as possible if their child develops any symptoms after vaccination that could indicate the presence of an invagination, such as stomach pain, vomiting, blood in the stool or high-pitched crying accompanied by a drawing-in of the legs.

#### Hand hygiene

Wash your hands with water and soap carefully. Handwashing is particularly important after using the toilet, before preparing meals and before eating, and also after changing the nappies of children with the disease.

#### Other hygiene procedures

- ▶ Do not share care products or hand towels: always use your own. Hang these up well away from other towels and items of clothing.
- ▶ Change bedding, hand towels and flannels often, and wash them at a minimum temperature of 60 °C.
- ▶ Thoroughly clean all surfaces such as door handles or fittings that have been touched by an infected person. The virus is very hardy and can survive on contaminated surfaces or objects for a long time.

#### Correct handling of foodstuffs

Rotaviruses are sensitive to heat. They are killed off by heating through to 70°C. Unlike bacteria, viruses cannot reproduce in foodstuffs.

### Where can I find out more?

Your local health authority can provide you with further advice. Since contagious diarrhoea is subject to the rules of the German Prevention of Infection Act, they will also have the latest information and be very experienced in dealing with the disease. More (specialist) information is also available from the Robert Koch Institute ([www.rki.de/rotaviren](http://www.rki.de/rotaviren)). For more information about vaccinations and hygiene, please visit the Federal Centre for Health Education websites ([www.infektionsschutz.de](http://www.infektionsschutz.de), [www.impfen-info.de](http://www.impfen-info.de)).



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#### Editor:

Federal Centre for Health Education, Cologne.  
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