Rotavirus

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Rotavirus is a viral infection that can cause symptoms of being sick (vomiting) and diarrhoea. In most cases the infection clears within a few days, but sometimes takes longer. The main risk is a lack of fluid in the body (dehydration) and so the main treatment is to give your child lots to drink.

What is rotavirus?
Rotavirus is a viral infection that can cause gastroenteritis, an infection in the gut (intestines) which causes vomiting and diarrhoea. Rotavirus is present in the gut of an infected person and can pass out in their diarrhoea. It is easily spread from an infected person to another by close contact because the virus is on the infected person's hand's, or their carers after they have been to the toilet. Surfaces, objects and food touched by the infected person can also allow the virus to spread. Poor sanitation can cause outbreaks of rotavirus that affect many people - for example, in nurseries or schools. It usually takes about 48 hours after first contact with rotavirus before symptoms develop. This period is known as the ‘incubation period’ for the virus.

Rotavirus is the most common virus causing gastroenteritis in children in the UK with almost every child in the UK having a rotavirus infection before they are 5 years old. Rotavirus infection is most common in children between the ages of 6 months and 2 years.

What are the symptoms of rotavirus infection?
The first symptoms are usually a high temperature (fever) and being sick (vomiting). Watery diarrhoea then follows. The diarrhoea can range from mild to severe. The diarrhoea may clear up in about three days but, in some cases, it can last for up to nine days. Your child may also have some uncomfortable stomach cramps. These may ease off after each time they pass some diarrhoea. With vomiting and diarrhoea, there is a risk of your child becoming lacking in fluid in their body (dehydrated). You should consult a doctor if you suspect that your child is becoming dehydrated. Mild dehydration is common and is usually easily and quickly treated by drinking lots of fluids. Severe dehydration can be fatal unless quickly treated because the organs of the body need a certain amount of fluid to work normally.

Symptoms of dehydration
- Passing little urine, a dry mouth, a dry tongue and lips, fewer tears when crying, sunken eyes, weakness, being irritable or having no energy.
- Symptoms of severe dehydration in children include drowsiness, pale or mottled skin, cold hands or feet, very few wet nappies, and fast (but often shallow) breathing. This is a medical emergency and immediate medical attention is needed.
Dehydration is more likely to occur in:
- Children under the age of 1 year (especially those under 6 months old). This is because babies don't need to lose much fluid to become dehydrated.
- Children under the age of 1 year who were a low birth weight and who have not 'caught up' with their weight.
- Any child who does not drink much when they have rotavirus infection.
- Any child with severe diarrhoea and vomiting; especially if they have passed six or more very loose stools (faeces) or vomited three or more times in the previous 24 hours.

How is rotavirus diagnosed?
Rotavirus is usually diagnosed after a sample of your child's stool (faeces) is sent to the laboratory for testing. However, for most children who have a bout of gastroenteritis, it is not necessary to send a stool sample to be tested. This is because the treatment is usually the same for many causes of gastroenteritis in children.

Most children who have gastroenteritis (including gastroenteritis caused by rotavirus infection) have mild symptoms which will get better in a few days. The important thing is to ensure that they have plenty to drink. In many cases, you do not need to seek medical advice. However, you should seek medical advice in the following situations (or if there are any other symptoms that you are concerned about):
- If your child is under the age of 6 months.
- If your child has an underlying medical condition (for example, heart or kidney problems, diabetes, history of premature birth).
- If your child has a high temperature (fever).
- If you suspect a lack of fluid in the body (dehydration) is developing (see earlier).
- If your child appears drowsy or confused.
- If your child is being sick (vomiting) a lot and unable to keep fluids down.
- If there is blood in their diarrhoea or vomit.
- If your child has severe tummy (abdominal) pain.
- If your child has a weakened immune system because of, for example, chemotherapy treatment, long term steroid treatment, HIV infection. Infections caught abroad.
- If your child has severe symptoms, or if you feel that their condition is getting worse.
- If your child's symptoms are not settling - for example, vomiting for more than 1-2 days, or diarrhoea that does not start to settle after 5-7 days.

What is the treatment of rotavirus?
There is no special medication to treat rotavirus. The aim is to make sure that your child has plenty of fluids and does not become lacking in fluid in their body.
(dehydrated). Children can usually be cared for at home. Occasionally, admission to hospital is needed if symptoms are severe or to treat any dehydration.

**Fluids to prevent dehydration**
You should encourage your child to drink plenty to prevent dehydration. The fluid lost in what they bring up (their vomit) and/or their diarrhoea needs to be replaced. Your child should continue with their normal diet and usual drinks. In addition, they should also be encouraged to drink extra fluids. However, avoid fruit juices or fizzy drinks, as these can make diarrhoea worse.

Babies under 6 months old are at increased risk of dehydration. You should seek medical advice if they develop gastroenteritis. Breast or bottle feeds should be encouraged as normal. You may find that your baby’s demand for feeds increases. You may also be advised to give extra fluids (either water or rehydration drinks) in between feeds.

Rehydration drinks may be advised by a healthcare professional for children at increased risk of dehydration. They are made from sachets available from pharmacies and your local supermarket. Rehydration drinks provide a perfect balance of water, salts, and sugar. The small amount of sugar and salt helps water to be absorbed better from the gut (intestines) into the body. If your child vomits, wait 5-10 minutes and then start giving drinks again, but more slowly (for example, a spoonful every 2-3 minutes). Use of a syringe can help in younger children who may not be able to take sips.

**Eat as normally as possible once any dehydration has been treated**
Correcting any dehydration is the first priority. However, if your child is not dehydrated (most cases), or once any dehydration has been corrected, then encourage your child to have their normal diet. *Breast-fed babies* should continue to be breast-fed if they will take it. This will usually be in addition to extra rehydration drinks (described above). *Bottle-fed babies* should be fed with their normal full-strength feeds if they will take it. Again, this will usually be in addition to extra rehydration drinks (described above). *Older children* - offer them some food every now and then. However, if he or she does not want to eat, that is fine. Drinks are the most important, and food can wait until the appetite returns.

**Medication is not usually needed**
You should not give medicines to stop diarrhoea to children under 12 years old. They are unsafe to give to children, due to possible serious complications. However, you can give paracetamol or ibuprofen to ease a high temperature (fever) or headache. Are there any complications?
Complications of rotavirus infection are not very common. If they do occur, they can include the following:
Dehydration and salt (electrolyte) imbalance in the body. This is the most common complication. It occurs if the water and salts that have been lost are not replaced by drinking enough fluids. If your child drinks well, then it is unlikely to occur, or is only likely to be mild and will soon recover as your child drinks.

Lactose intolerance can sometimes occur for a period of time after rotavirus infection. It is known as 'secondary' or 'acquired' lactose intolerance. Your child's gut (intestine) lining can be damaged by the episode of gastroenteritis. This leads to a lack of an enzyme called lactase that is needed to help the body digest the milk sugar lactose. Lactose intolerance leads to bloating, tummy (abdominal) pain, wind and watery stools (faeces) after drinking milk. The condition gets better when the infection is over and the intestinal lining heals.

Persistent diarrhoea syndromes may (rarely) develop.

Preventing spread of infection to others
If your baby has rotavirus infection, be especially careful to wash your hands after changing nappies and before preparing, serving, or eating food. Ideally, use liquid soap in warm running water, but any soap is better than none. Dry your hands properly after washing. For older children, whilst they have rotavirus, the following are recommended:

Regularly clean the toilets used with disinfectant. Clean the flush handle, toilet seat, sink taps, bathroom surfaces and door handles at least daily with hot water and detergent. Disposable cleaning cloths should be used (or a cloth just for toilet use). If a potty has to be used, wear gloves when you handle it. Dispose of the contents into a toilet, wash the potty with hot water and detergent, and then leave it to dry. Make sure your child washes their hands after going to the toilet. Ideally, they should use liquid soap in warm running water, but any soap is better than none. Dry properly after washing.

If clothing or bedding is soiled, first remove any stools (faeces) into the toilet. Then wash in a separate wash at as high a temperature as possible. Don't let your child share towels and flannels. Don't let your child help to prepare food for others. Your child should stay off school, nursery, etc, until at least 48 hours after the last episode of diarrhoea or being sick (vomiting). They should also avoid contact with other children where possible during this time.
Immunisation against rotavirus
There is an effective vaccine against rotavirus. The vaccine has been used in many countries and has been shown to be safe and effective. In the UK from July 2013 babies have received drops (by mouth) to help prevent rotavirus. These drops are given at 2 and 3 months old. The vaccines are given at the same time as their other routine vaccinations.

Further reading & references
Diarrhoea and vomiting in children under 5; NICE Clinical Guideline (April 2009)
Gastroenteritis; NICE CKS, September 2009 (UK access only)
Rotavirus; Public Health England
www.patient.co.uk.
For further information on the references and sources used for this leaflet, please contact 01625 661184.

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