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Norovirus

What are noroviruses?

Norovirus is a virus that causes vomiting and diarrhea in people. It is sometimes called the "stomach flu," but is has nothing to do with the flu (influenza) virus.

What are the symptoms of illness caused by noroviruses?

Norovirus illness usually begins 24 to 48 hours after exposure, but can appear as early as ten hours after exposure. Exposure means when the norovirus enters your body.

Symptoms usually include nausea, vomiting, diarrhea and stomach cramping. Sometimes people have a low-grade fever, chills, headache, muscle aches and a general sense of tiredness. The illness is usually brief, with symptoms lasting only one or two days.

It causes projectile vomiting without any notice. One minute you are feeling fine, then suddenly you are sick and the virus shoots out in the vomit. An episode of projectile vomiting can spray the virus as far as 10 feet.

How serious is norovirus disease?

Norovirus disease is usually not serious, but people may feel very sick. Most people get better within one or two days and have no long-term health effects from the illness.

LOSING TOO MUCH FLUID through vomiting and diarrhea can be serious: Sometimes people are unable to drink enough liquids to replace what they lose from vomiting and diarrhea, and they can become dehydrated. These people need to get medical care. This problem usually occurs only among the very young, the elderly and persons with weakened immune systems. The main cause of death after norovirus infection is due to dehydration.

How is norovirus spread?

Noroviruses are very contagious and spread easily from person-to-person.

The virus is found in the stool and vomit of infected people.

People can become infected in several ways,
- Touching surfaces or objects contaminated with norovirus and then touching their mouth before handwashing,
- Having direct contact with another person who is infected and then touching their mouth before handwashing.
- Eating food or drinking liquids that are contaminated by infected food handlers.
- Outbreaks also have occurred from eating undercooked oysters harvested from contaminated waters - cooking kills the virus. Drinking water contaminated by sewage can also be a source of these viruses. Persons working in day-care centers or nursing homes should pay special attention to children or residents who have norovirus illness. This virus can spread quickly in these places.

How long are people contagious?

People infected with norovirus are contagious from the moment they begin feeling ill to at least three days after recovery. Some people may be contagious for as long as two to three weeks after recovery. Therefore, good handwashing is important. Persons infected with norovirus should not prepare food while they have symptoms and for three days after they recover. Infected people do not become long-term carriers of norovirus.

Who gets norovirus infection?

Anyone can become infected with these viruses. Because there are many different strains of norovirus, norovirus infection and illness can re-occur throughout a person's lifetime.

What treatment is available for people with norovirus infection?

Currently, there is no specific medication or vaccine for norovirus. Norovirus infection cannot be treated with antibiotics.

BY DRINKING FLUIDS, such as juice or water, people can reduce their chance of becoming dehydrated. Sports drinks do not replace the nutrients and minerals lost during this illness.

Do infected people need to be excluded from school, work or daycare?

Since the virus is passed in vomit and stool, children should not go to daycare or school while they have diarrhea or vomiting. Once illness ends, children can return to daycare, but handwashing must be strictly monitored.

Persons who work in nursing homes, take care of patients, or handle food should stay out of work until at least three days after symptoms end.

How about food-handlers?

Food contamination by infectious foodhandlers is a common cause of Norovirus gastroenteritis outbreaks. Ready-to-eat

foods that require handling but no subsequent cooking (e.g., salads and deli sandwiches) pose greater risk.

- For three days after resolution of illness, ill foodhandlers should be excluded from work or work in area where there are not in contact with food,
- For three weeks after resolution of illness, foodhandlers should wash their hands and wear gloves whenever they handle food ready to be served.

Why is norovirus so easily transmitted?

1-It is very persistent in the environment
The bug can survive on hard surfaces for up to 12 hours and on soft ones for up to 12 days. It can live for months, possibly years, in contaminated still water.

2-Stools from a sick person are loaded with viruses: between one hundred thousand (100,000) to ten million (10,000,000) viruses per gram of stool.

3-It takes very few viruses to infect someone, about 10 viruses to infect someone. With 1 gram of stool, one could infect more than a million people.

Can norovirus infections be prevented?

You can lower your chances of getting a norovirus infection:

- WASH HANDS often, particularly after using the bathroom since that is where a lot of the surfaces are contaminated: toilet area, sink area, faucets, light switch, faucet, door handle. Wash with warm water and soap

- Hand sanitizers (with alcohol) do not work so well. Norovirus has a different structure than the influenza virus and many other viruses which are covered by a little fatty envelope that the alcohol dissolves. But norovirus doesn't have the same sort of fatty coating. If you use hand sanitizers, use a good amount on your hands

Norovirus are more difficult to kill with alcohol than are bacteria and viruses with a lipid coat. Ethanol in concentrations of 60% to 70% (the usual concentration in commercially available hand sanitizers), if correctly applied to all surfaces of the hands, will eradicate more than 99% of the bacteria and coated viruses after 30 seconds of contact time. A full minute of contact time with 70% ethanol is required to inactive norovirus.

- Disinfect contaminated surfaces with household CHLORINE (bleach-based cleaners). It needs bleach or quite strong chemicals to get rid of it. It is a very, very tough virus.

- Detergents are not effective, but products with bleach will kill the virus.

- Washing soiled clothing and linens. Be careful when loading the soiled linens not to spread the virus throughout the laundry. Ideally you want to pick up clothes soiled by feces or vomitus in a garbage bag, bring it to the laundry, dump the clothes in the washing machine and discard the bag. Once washed, there is no risk.

- FOOD & WATER:
- Avoid food or water from sources that may be contaminated
- Cook completely to kill the virus.

Environmental Disinfection

It is important to stress the importance of proper disinfection: This virus is does not have a "lipid" coat (the lipid coat makes the viruses more sensitive to disinfectants), and thus is resistant to low concentrations of chlorine, such as would be found in swimming pools and drinking water. It is also relatively heat resistant, surviving temperatures up to 60ºC.

The virus is inactivated by bleach at a 1:50 concentration (note: for comparison purposes regarding the hardiness of norovirus, viruses such as HIV and Hepatitis B are inactivated by concentrations of 1:100 bleach).

Think of items that are touched regularly and make sure that they are cleaned frequently. The recommended disinfectant is freshly made bleach solution (e.g. one cup bleach to nine cups of water).

For surfaces that could corrode or be damaged by bleach, concentrated phenol solutions may be used. These should be mixed at twice the manufacturers' recommended concentration to kill norovirus. These chemicals can be dangerous. Follow all safety instructions.

Other effective cleaners should be mixed at the manufacturers' recommended concentrations.

Commonly used quarternary ammonium disinfectants do not appear to be effective against norovirus.