

Norovirus: It's not just for Cruise Ships Anymore



McHenry County Department of Health

MCDH



What is Norovirus

- Common cause of Gastrointestinal illness, “Stomach Flu”
- Common cause of illness in long term care facilities, cruise ships, schools, any setting where many people gather
- There are at least five strains of norovirus



What are the symptoms?

- Incubation is 24-48 hours
- Vomiting, nausea (vomiting more common in children)
- Diarrhea, abdominal cramps
- Sometimes, low-grade fever
- Sometimes muscle aches and headache
- Dehydration is the most common complication and reason for hospitalization
- Symptoms last for 24 to 60 hours



How is Norovirus Spread

- **Highly Contagious! Only takes a few organisms**
- **Passed in the feces and vomit of infected persons**
- **Can be spread person to person**
- **Touching contaminated surfaces**
- **Consuming contaminated food or water**
- **Inhaling contaminated droplets from vomit**



Do People Become Immune to Norovirus?

- Immunity may be strain-specific and lasts only a few months
- Since there is genetic variability of norovirus, individuals are likely to be repeatedly infected throughout their lifetimes.
- Recent evidence suggests that people with blood group O being at greatest risk for severe infection.

Testing for Norovirus

- In the last 10 years, norovirus testing has improved with the increasing use of the reverse transcriptase polymerase chain reaction (RT-PCR).
- RT-PCR detects the norovirus RNA and can be used to test stool and emesis samples as well as environmental swabs.
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- Identification of the virus is best from stool specimens taken within 48 to 72 hours after onset of symptoms. Virus can sometimes be found in stool samples taken as late as 2 weeks after recovery.
- **McHenry County was first county to submit stool and emesis specimens for Norovirus testing to IDPH lab 10 years ago**



What's all the fuss about Noro-vi-rus?

- CDC estimates 23 million cases of gastroenteritis are due to norovirus; 50% of foodborne outbreaks of gastroenteritis are caused by norovirus
- Illinois foodborne/waterborne outbreaks
 - 2007: 77 outbreaks; 30 norovirus cases
 - 2006: 69 outbreaks; 41 norovirus cases
 - 2005: 60 outbreaks; 19 norovirus cases
 - 2004: 92 outbreaks; 47 norovirus cases

What's all the fuss about Noro-vi-rus?

- **McHenry County statistics**

- **2009: 7 gastroenteritis outbreaks (long term care), over 300 ill; 11 confirmed norovirus cases**
- **2008: 3 gastroenteritis outbreaks (2 LTC, 1 school), 95 ill; 11 confirmed norovirus cases**

What is an outbreak?

- In general, more illness than expected
- What is normal for your facility
- Schools: greater than 10% of population ill

What should you do if you suspect an outbreak

- **Contact McHenry County Department of Health Communicable Disease Program**
- **Implement control measures immediately**
- **Complete line-list and fax to 815-334-1884**
- **Collect stool specimens; refrigerate till pickup**

How is Norovirus Controlled

- **Most important control measures:**
 - **Handwashing, handwashing, handwashing**
 - **Cleaning and disinfecting**
 - **Environmental controls**

Hand washing

- #1 way to prevent disease!
- Many pathogens are transmitted by our hands; our hands act as vectors to spread diseases to each other
- We are all vulnerable to these diseases, however 1/3 of the population is “high risk”, including the elderly, immunocompromised, and very young

Hand washing (cont'd)

- When is it essential to wash our hands?
 - After using the bathroom
 - Before and after eating
 - Before and after preparing foods
 - Before and after any patient care/contact
 - Before and after glove use
 - After changing diapers

****Anytime hands may be contaminated**

Hand washing (cont'd)

- Be sure to wash your hands properly:

1. Wet hands with warm water
2. Apply liquid or clean bar soap
3. Rub hands vigorously together and scrub all surfaces for 20 seconds (this dislodges germs)
4. Rinse hands with warm water
5. Dry hands completely with paper or clean hand towel

Hand washing (cont'd)

- Alcohol-based hand sanitizer may be used when soap and water are not available
 - Must contain $\geq 60\%$ alcohol to kill germs
 - Not appropriate to use when hands are visibly contaminated
 - Smart idea to have hand sanitizer for visitors to use when entering and exiting facility
- * Does not replace required handwashing in food operation

Norovirus Outbreaks

- NV outbreaks have been confirmed in schools, universities, Long Term Care facilities, hospitals, restaurants, convention centers, prisons, vacation camps and cruise ships and other common areas.
- NV outbreaks involve person-to-person and common source (food, ice, water) spread.
- Common touch surfaces
- Implementing preventative controls is needed to minimize spread of disease.

Environmental Controls

- Prevent Virus Transfer
- Hand washing
- Sanitizing common touch surfaces (times/day)
- Exclude/send home ill staff and/or 3rd party contractors with active vomiting and/or diarrhea
- 48 hour symptom free before returning
- Avoid bare hand contact with Ready-to-Eat foods
- Eliminate shared food items
(cookies, cake, boxes of bulk candy and popcorn)

Food Service

- Adhere to all food service sanitation requirements.
- Frequently wash hands, especially after toilet visits and before eating or preparing food.
- Carefully wash fruits and vegetables
- Avoid bare hand contact with ready-to-eat foods (including ice).
- Thoroughly clean and disinfect contaminated surfaces immediately.
- Food service manager recognition that extra trips to restroom may be a symptom of illness. Follow-up with food handlers and make exclusion determination.
- Exclude housekeeping, patient care and maintenance staff from all food service-related tasks. Exclude food handlers from all non food service-related tasks.

Sanitizing

- Establish Standard Operating Procedures for cleaning and sanitizing common touch surfaces located in all public and private rooms (door knobs, light switches, drinking fountains, faucet handles, railings, tabletops, toys, equipment, etc.) for outbreak and non-outbreak periods.
- Non-Outbreak: 1x per day
- Outbreak: 2x per day

Chlorine Bleach

- 200 ppm stainless steel, food/mouth contact items, toys
 - 1 tablespoon bleach/gallon of water
- 1000 ppm non-porous surfaces, tile floors, counter-tops, sinks, toilets, door knobs, etc.
 - 1/3 cup bleach/gallon of water**
- 5,000 ppm for porous surfaces, wooden floors
 - 1 & 2/3 cup bleach/gallon of water**

** follow manufacturer's instructions for personal protection and product use

USEPA Approved Disinfectants

- The disinfectant shall be rated for Norovirus control in accordance with the manufacturer's instructions. A list of EPA approved disinfectants is available at:
 - www.epa.gov/oppad001/chemregindex.htm
(scroll down and double click on List G).

Norovirus Prevention Plan

- Establish/review policies for handling ill staff, residents and outbreaks
- Educate staff/residents to recognizes indications /symptoms of illness
- Report episodes of vomiting and/or diarrhea immediately to Person-In-Charge, School Nurse or Director of Nursing
- Educate all staff and residents on proper hand washing procedures.
- Encourage visitors to wash hands thoroughly upon entering and leaving facility
- Provide waterless hand sanitizer for visitor/resident/staff use between hand washing
- Staff use of gloves, masks and change of clothing