

Norovirus and other Gastrointestinal Diseases



Disease Control Bureau

Youth Settings Program

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- Tiffany has been in nursing since she was 16, obtaining her LPN license. She continued her education at Chamberlain University. Graduating with a Bachelor's in Nursing (2017) and a Master's Degree (2023) in Nursing. Tiffany has over 10 years of experience as a Registered Nurse.
- Tiffany is working on her Doctorate Degree in Nursing (DNP) and becoming a Doctor. Her background work field includes oncology, pediatrics, family care, and public health.
- Tiffany collaborates with many pediatric foundations, including cancer organizations such as Make a Wish and Give Kids the World, and donates to children and families who are going through cancer.
- Any questions related to this presentation?
- Reach out to schoolscd@cityofchicago.org



MISSION AND VISION

- Our purpose is to work with communities and partners to create an equitable, safe, resilient, and Healthy Chicago.
- The impact we seek is that everyone in Chicago thrives and achieves their optimal health and wellness.



CDPH



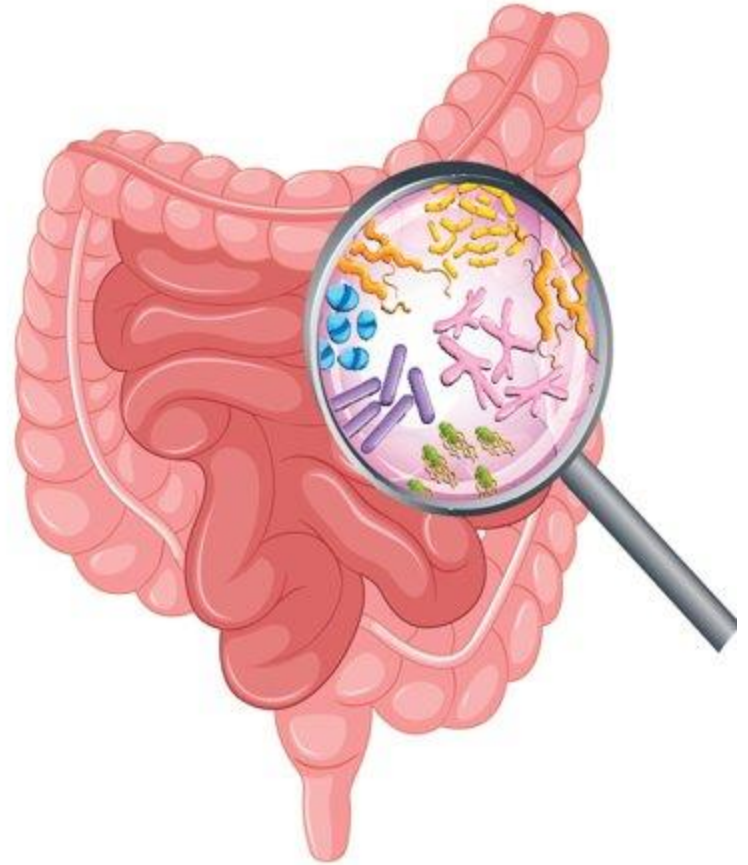
Goals of the Youth Settings Team

- To keep Chicago students and staff in school.
- To keep Chicago students and staff healthy and free of communicable diseases.
- To minimize the burden on daycare staff and school settings.



★ Agenda

- What is Gastroenteritis?
- What is Norovirus?
- What is Rotavirus?
- What is Shigellosis? (Shigella)
- Daycare Response
- CDPH Guidance





Objectives

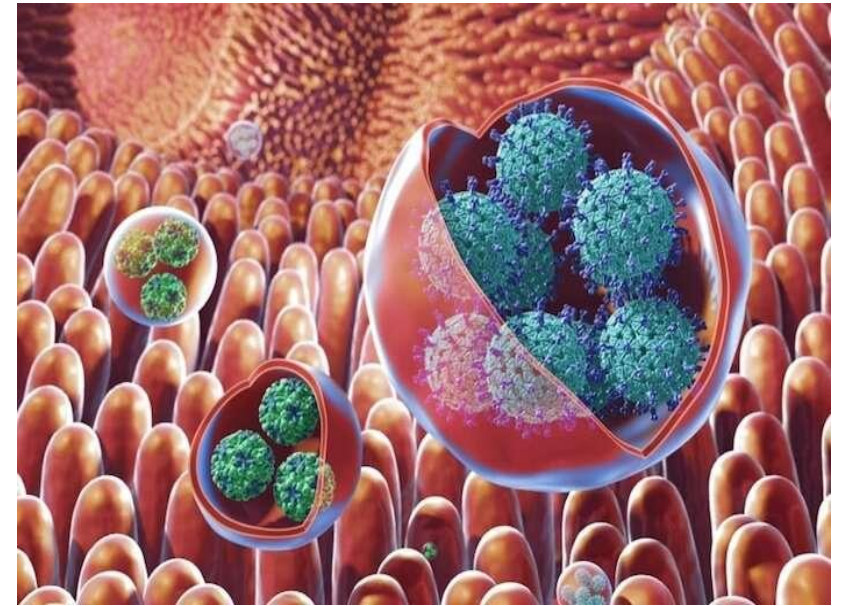
- Explain the importance of preventing the spread of Norovirus and other GI diseases.
- Identify 3 ways to help prevent the spread of GI disease infections.
- Review the treatment options and guidance links to GI diseases.



★ What is Gastroenteritis ("Stomach flu")?

Gastroenteritis occurs when germs (viruses, bacteria, or parasites) infect the stomach or intestines, causing inflammation.

- Symptoms are increased stool frequency with loose consistency with or without vomiting, fever, or abdominal pain.
- Young children and elderly people with other medical illnesses are most at risk for more severe or prolonged infection.





What is Norovirus?

Norovirus is a very contagious virus that causes vomiting and diarrhea. Anyone can get infected and sick with norovirus.

How does it spread?

- Direct contact – fecal-oral transmission: when someone touches an object that contains viral particles.
- Indirect contact – food contaminated with viral particles is eaten by someone who gets sick.
- Airborne transmission – is when someone vomits, and the viral particles are then released into the air.

When is it most common?

November through April

Who is at risk?

- Children under the age of 5 and adults over the age of 80 are at the highest risk of severe health outcomes.
- Older adults with weak immune systems.





Why is Norovirus a concern?

Norovirus illness occurs at any time during the year.

Norovirus can survive on surfaces for up to 28 days.

The CDC has estimated 465,000 ER visits annually, mainly in young children.

Norovirus causes around 109,000 hospitalizations per year.

Norovirus strains evolve quickly; in years where there is a new strain, then can be 50% more norovirus illnesses.





Norovirus Signs and Symptoms

Symptoms of Norovirus include:

- Vomiting
- Nausea
- Stomach pain
- Diarrhea

Incubation Period: An individual gets sick 12-72 hours after being infected.

Contagious period:

- People with norovirus are contagious from the start of symptoms until at least 3 days after recovery.

Duration

- Illness typically resolves in 1- 3 days, even without treatment.

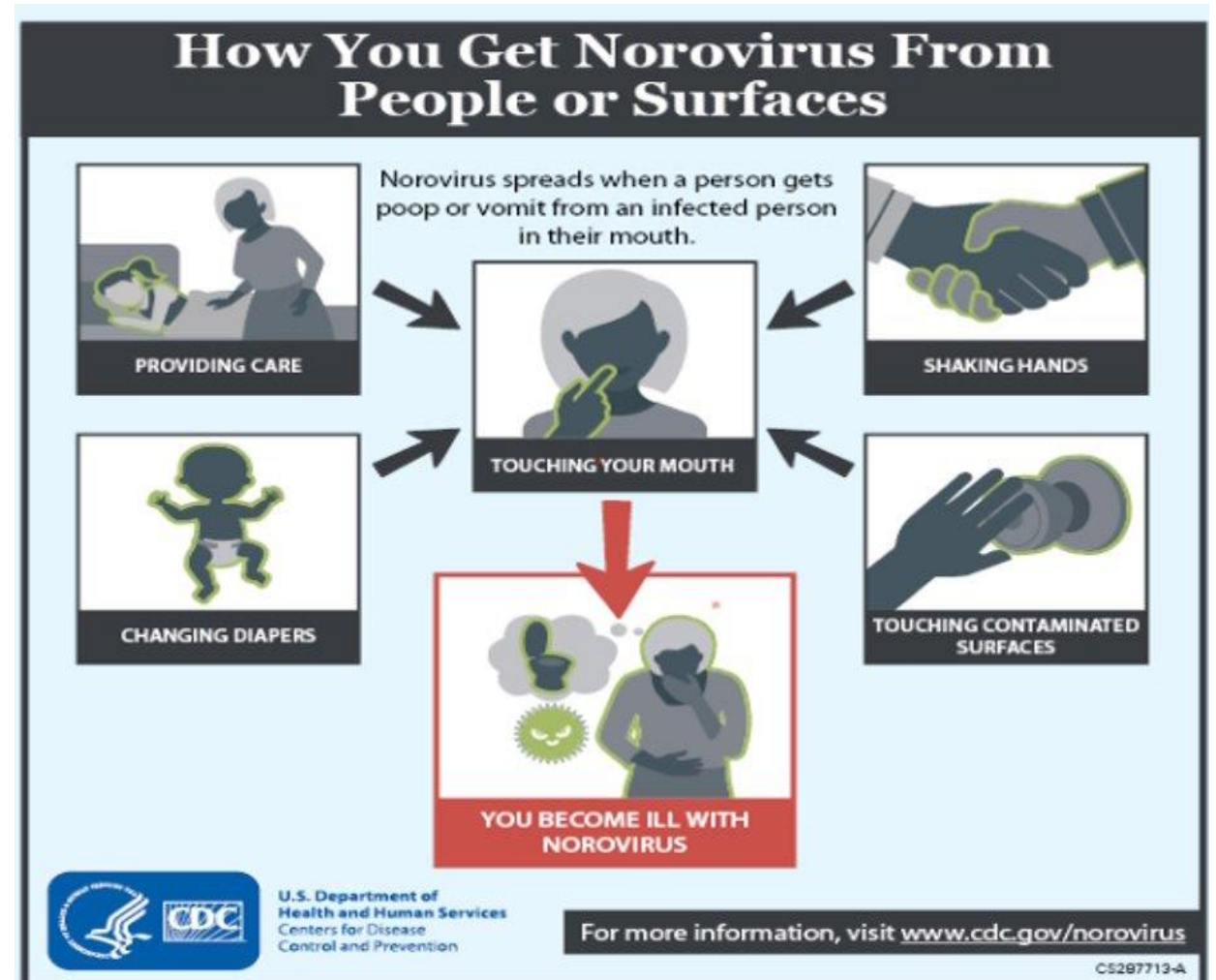
Exclusion

- Exclude sick individuals until diarrhea has ceased for 24 hours.
- Clean and disinfect contaminated surfaces or objects as soon as possible.
- The school should send letters to exposed family and staff members.



★ How contagious is Norovirus?

- Norovirus stays on food, kitchen surfaces, and utensils.
- It remains infectious on foods even at freezing temperatures and until heated above 140°F.
- Stays on countertops and serving utensils for up to 2 weeks.
- It is contagious when caring for others who are sick. While changing diapers, shaking hands, and touching contaminated surfaces.





What preventive measures are available for Norovirus?

Hand hygiene is the best way to prevent transmission of norovirus.

- Teach students and staff to wash their hands with warm water and soap for **20 seconds**.
- Children should wash their hands after using the bathroom, before eating, and after eating.
- Staff responsible for diapering children should wash their hands frequently before having any contact with that child.
- During outbreaks, washing hands with soap and warm water is preferable to using alcohol-based hand sanitizers.

Hand washing steps



Wet your hands with clean, running water.



Apply soap and rub your hands together for at least 20 seconds.



Rinse your hands until all the soap is gone.



Turn off the faucet with a paper towel or your elbow.



Dry your hands with a clean paper towel or hand towel.



Norovirus Approved Cleaning Agents



https://www.epa.gov/sites/default/files/2018-04/documents/list_g_disinfectant_list_3_15_18.pdf





Recommendations for Cleaning/Disinfecting

- **Wear masks** while cleaning vomit/stool spills as the dispersal of the virus in the air can occur.
- **Clean and disinfect** with products approved by the U.S. Environmental Protection Agency (EPA) registered antimicrobial label for Norovirus.
- **Use a bleach solution** (dilute bleach solution containing a ratio of 1 cup of bleach in 1 gallon of water).
- **Clean and disinfect the entire area after vomit/stool spills and on high-touch surfaces.**



Treatment for Norovirus

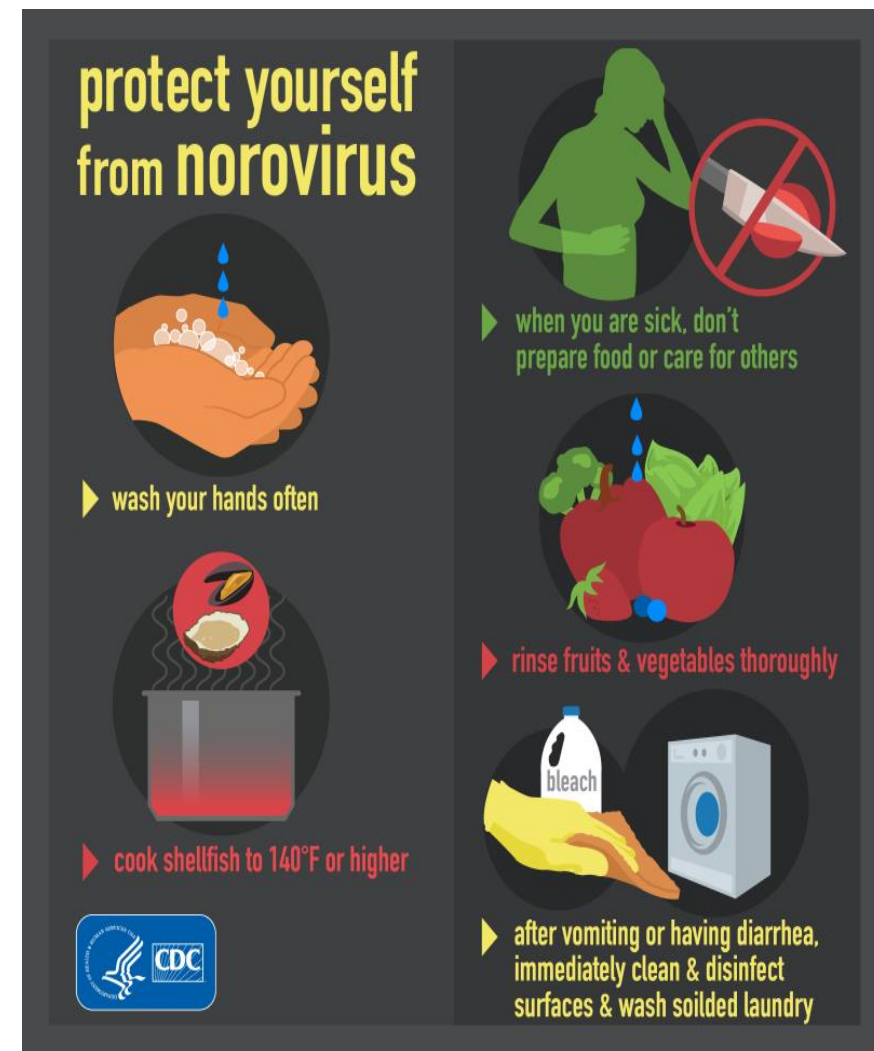
The goal is to treat symptoms and prevent dehydration

- Drink plenty of liquids to replace fluid lost from vomiting and diarrhea.
- Over the counter Pedialyte and oral rehydration solutions to replace electrolytes are most helpful for mild dehydration.

There is no specific medicine to treat people with norovirus illness

Our priority is to help stop the spread of germs through preventive measures.

- High-quality hand washing.
- Follow food safety practices.
- Disinfecting contaminated surfaces and items.
- Clean areas where vomiting and diarrhea have occurred.





Rotavirus

A double-stranded virus that is very common and contagious causes vomiting and severe diarrhea.

How does it spread?

- Direct contact – fecal-oral transmission when someone touches an object that contains viral particles, such as when changing a diaper.
- Indirect contact – food and water contaminated when eating or drinking.

When is it most common?

November through March

Who is at risk?

- Unvaccinated children
- Older adults with weak immune systems or Staff members and adults who are caring for children with rotavirus are at the highest risk of severe health outcomes.

Incubation period:

- 1 to 3 days.

Contagious period:

- The virus is present several days before diarrhea begins and can persist for over a week after the illness.





Rotavirus Signs and Symptoms

Symptoms usually start two days after exposure to rotavirus.

- Vomiting
- Watery diarrhea
- Fever
- Abdominal Pain

Symptoms of dehydration to look out for include:

- Decreased urination
- Dry mouth and throat
- Feeling dizzy when standing up
- Crying with few or no tears and
- Unusual sleepiness or fussiness.



★ Rotavirus is Preventable

Rotavirus vaccine is the best way to protect your child against rotavirus disease.

- Most children (about 9 out of 10) who get the vaccine will be protected from severe rotavirus disease
- 90% of vaccinated children are protected from severe rotavirus or avoid the disease altogether.

The rotavirus vaccine is one of the recommended childhood immunizations.
Rotavirus vaccine at the appropriate ages:

- First dose: 2 months of age
- Second dose: 4 months of age
- Third dose: 6 months of age





What is Shigellosis?

Shigella bacteria cause contagious shigellosis, which causes vomiting, stomach pain, and bloody stools (bloody diarrhea).

- Most reported outbreaks at: Daycares, educational facilities, and schools.

How does it spread?

- Direct contact – fecal-oral transmission when someone touches an object that contains viral particles
- Indirect contact – food contaminated with viral particles is eaten by someone who gets sick

When is it most common?

Year-round

Who is at risk?

- All age groups
- Elderly with weakened immune system
- Travelers

Why it's a concern?

- 450,000 infections in the United States each year.
- \$93 million in direct medical costs.



★ Shigellosis Signs and Symptoms

- Diarrhea (often bloody), abdominal pain, stomach cramps, and fever.
- **Symptoms** usually last about 5 to 7 days.
- **Treatment** for shigellosis may be available by your medical doctor. People with mild symptoms usually recover on their own without treatment.



Shigella CDC Poster



Gastrointestinal Chart



Type of "Stomach Bug"	Mode of Transmission	Symptom ONSET after exposure to virus	Symptom DURATION after exposure to virus
Norovirus	Contact with food and water surfaces that are contaminated with vomit or feces, person-to-person.	1-2 Days	1-3 Days
Rotavirus	Fecal-oral route direct contact or contact with contaminated hands, objects, food, or water.	1-3 Days	3-7 Days
Shigella Bacteria	Fecal-oral: person-to-person contaminated food or water	1-2 Days	5-7 Days



★ Treatment and Prevention for Shigellosis

- People with *Shigella* infection should drink plenty of fluids to prevent dehydration.
- People with bloody diarrhea should not use anti-diarrheal medicines. These medicines may make symptoms worse.
- Antibiotics can shorten the time you have fever and diarrhea by about 2 days.

Washing your hands is always the best prevention.

- Wash your hands before preparing food and after eating.
- After going to the bathroom, changing a diaper, or cleaning up after someone who went to the bathroom.
- When traveling internationally, wash hands often with soap and water.



★ Gastrointestinal Vaccines

Why is it hard to vaccinate for norovirus AND Shigella?

- Due to the many strains that can circulate at various times, it is impossible to vaccinate against norovirus.

Good News: We can vaccinate for Rotavirus.



CDPH Guidelines

If someone has the following symptoms, please stay home.

- **Fever** (temperature above 100.4°F [38°C])
- **Diarrhea** (2 or more times) in the previous 24 hours.
- **Vomiting** (2 or more times) in the previous 24 hours.
- **Abdominal pain** that continues for more than 2 hours, or abdominal pain that comes and goes, along with other symptoms.



CDPH Exclusion Criteria on GI diseases

Fever

- Must be fever-free for at least 24 hours without the use of fever-reducing medicine to return back.

Vomiting/Diarrhea

- Must be **at least 24 hours** after their last episode of vomiting and/or diarrhea before returning to school (48 hours is preferred).

Food Handlers

- Exclude from food handling for **48 hours** after recovery.





Question : Can a person get norovirus more than once?

Answer: Yes

- A person can get norovirus more than once because many different virus strains can circulate at various times and in other geographic areas.
- When new strains emerge, there can also be an increase in norovirus cases.





Question: Is hand sanitizer as effective as hand washing with soap and water for Norovirus?

Answer: No

- Hand Sanitizers do not work well against norovirus.
- Alcohol-based hand sanitizers can quickly reduce the number of microbes on hands, but sanitizers do not eliminate all types of germs.





Links and Other Resources

- [Chicago HAN List of Diseases Guidance](#)
- [REDcap Report Form](#)
- email us at SchoolsCD@cityofchicago.org
- [EPA Approved Cleaning Agents for Norovirus](#)

Contact CDPH School Team

(312) 746-6015
SchoolsCD@cityofchicago.org





References

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- Shigellosis (Shigella) Fact Sheet - MN Dept. of Health. (n.d.). <https://www.health.state.mn.us/diseases/shigellosis/shigella.html>
- Symptoms | Shigella – shigellosis | CDC. (n.d.). <https://www.cdc.gov/shigella/symptoms.html>





★ How to connect with CDPH

Contact CDPH School Team

(312) 746-6015

SchoolsCD@cityofchicago.org

To report a cluster please call (312) 746-6015, email us at SchoolsCD@cityofchicago.org, or complete this REDcap Form

- Norovirus is **not** a reportable illness to CDPH but consult with your school nurse to confirm this diagnosis with the parents or the medical provider.
- Please note that **clusters of cases** should be reported to CDPH.
- For acute gastroenteritis, schools must **report 4 or more cases in a single cohort or 10%** of the single-day census with symptoms.



Thank You!



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