



Norovirus Outbreak Control in Skilled Nursing Facilities

Acute Communicable Disease Control Program
Los Angeles County Department of Public Health

Revised May 14, 2018



Presentation Overview

- Norovirus characteristics
- Clinical presentation of norovirus
- Norovirus diagnosis
- Treatment of norovirus infection
- Norovirus transmission
- Infection Control in healthcare facilities





Norovirus Basics



Background

- Norovirus outbreaks have been linked to:
 - Healthcare settings: acute and subacute
 - Cruise ships
 - Casinos
 - Prisons
 - Any congregate living facility or group living environments such as camps, dormitories, daycares and assisted care for the elderly



Norovirus in Healthcare Facilities

- Most commonly reported setting of GI outbreaks in the U.S
- Outbreaks pose risk to patients, healthcare personnel, and the efficient delivery of healthcare services
- In the elderly, illness can be severe requiring hospitalization



Symptoms of Norovirus

Most Frequently Reported

- Nausea
- Vomiting
- Diarrhea
- Stomach cramping

Additional symptoms may include:

- Low-grade fever
- Chills
- Headache
- Muscle aches
- Fatigue



Characteristics of Infection

- Highly infectious
- Symptom onset from 12 to 48 hours after exposure
- Sudden onset of symptoms
- Duration of major symptoms is 1 to 3 days
- Infection may occur with no symptoms
 - Persons with asymptomatic infection can shed virus
- Viral shedding up to 3 weeks after clinical symptoms
- Complete recovery – no long term effects





Who is affected?



Vulnerability

- Anyone of all ages can become infected
- No long-lasting immunity due to many strains
 - Infection may recur throughout one's life
- Genetic differences – some more susceptible
 - Blood group O



Norovirus in the Elderly

- Prolonged symptoms
 - More anorexia and thirst
 - Diarrhea may lead to fecal incontinence
- Usually low grade fevers
- Increase proportion of hospitalizations
- Longer viral shedding in stools
 - Appearance of stools is not a good indicator of presence or absence of norovirus
 - Viral shedding may start prior to onset of symptoms



Norovirus Outbreaks Los Angeles County



Norovirus in SNFs

- Most outbreaks in LAC reported from Skilled Nursing Facilities (SNFs)
- Only outbreaks are reportable and not individual cases
 - It is likely many outbreaks are not reported
 - Outbreaks – at least 3 cases within a facility





Diagnosis



How Norovirus is Diagnosed

- In Los Angeles County, norovirus is detected in stool using reverse transcription polymerase chain reaction (RT PCR)
- Requires fresh (unfrozen) stool
- Stool should be obtained from ill individuals
 - Ideally within 48-72 hrs. post onset
 - Must be kept refrigerated





Treatment



How Norovirus is Treated

- Supportive care
 - Oral hydration if possible
 - IV hydration if unable to take oral hydration
 - Anti-emetics
- No role for antibiotics or antivirals.
- Vaccine in development



True or False?

Prescription antibiotic medication is not recommended for the treatment of norovirus.

TRUE





Prevention



Norovirus Transmission

- Highly contagious
- Directed contact with an infected person, fecal matter, and/or vomitus droplets
- Environmental cleaning- is critical to control!



Norovirus Transmission

- Role of fomites
 - Transferred to food, water or surfaces by the hands of infected people
 - Frequently isolated from bed rails, divider curtains, local environment



How You Can Prevent the Spread of Norovirus

- Wash your hands **frequently** with warm, soapy water for 20 seconds
- Wash your hands after using the bathroom, changing diapers and before preparing foods
- Note- alcohol based hand sanitizers are not effective to prevent norovirus infection
 - NV is a non-enveloped virus



It's NOT Just the Hands

- Increase frequency of cleaning of unit, bathroom and toilet to 2 times
- Immediately wash clothing or linens that may be contaminated
- Disinfect any shared equipment
- Clean carpets or furnishings with hot water and detergent or steam clean
- Dispose of any food that may have been contaminated by staff or residents



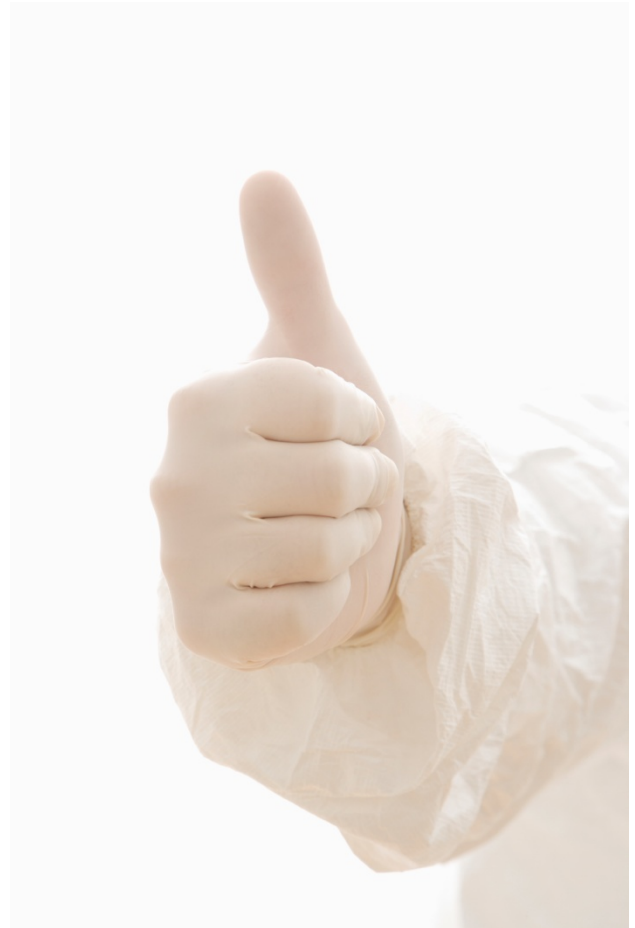
Environmental Cleaning

- Clean up vomit and fecal spillages promptly
 - Wear a gown, mask, and gloves during NV outbreak season
- Flush any vomit and/or stool in the toilet and disinfect the area
- Increase frequency of cleaning to 2 X the normal practice at facility using EPA approved disinfectants or a fresh solution of sodium hypochlorite
 - Chlorine bleach to water ratio should be 1:50-1:10 (use within 24 hrs) at minimum
 - “Quats” and other common cleaners not effective



Wear Protective Gear

- Gloves required for all patient/environmental contact
- Long sleeved gown required for all patient/environmental contact
- Hand washing after all patient/environmental contact and glove removal



More on Prevention

- Staff should know about patient's norovirus infection and use appropriate precautions
- Gowns and gloves should be used when in contact with an infected patient or contaminated environment
- Nonessential staff should not enter affected areas



Gastroenteritis Outbreak Scenario

What would your actions be?

- It is Thursday morning, 2 residents in adjoining rooms become abruptly ill with vomiting and loose stools, without fever
- 3 additional residents, in the same wing but several doors down, started to vomit between 3PM-4PM
- By Friday at 4 PM, one nurses aid must leave work due to vomiting
- What are your next actions?



Actions to consider

- Summarize the situation
- Consider: what is the incubation period between cases?
- Where are the cases located?
- What should you tell you direct patient care staff?
- What infection control procedures would you carry out?
- What cleaning recommendations would you recommend to your cleaning staff?
- Who would you call to report?
- What other actions would you consider?



Review of Recommended Steps for Prevention

- Wash your hands frequently with warm, soapy water for at least 20 seconds
- Immediately clean vomit and fecal spillages with EPA approved disinfectants or a fresh solution of sodium hypochlorite
- Immediately report norovirus cases at your facility to DPH
- Practice good hygiene habits:
 - Keep your hands clean
 - Wear protective gear when in contact with patients (long sleeved gowns and gloves)
 - Keep all surfaces clean
 - Wash all linens and curtains



For More Information

- [Norovirus Outbreak Prevention Toolkit: A Guide for Preventing Norovirus Outbreaks in Skilled Nursing Facilities](#)
(10-12-12)
- [Norovirus Presentation: Norovirus in Skilled Nursing Facilities](#)
(12-10-12)
- [Control of Viral Gastroenteritis Outbreaks in Long Term Care Facilities](#) - California Department of Health Services
(12/06)
- CDC-Norovirus in HC Facilities
<http://www.cdc.gov/HAI/organisms/norovirus.html>
- Guidelines for Environmental Infection Control in Health Care Facilities
www.cdc.gov/ncidod/dhqp/gl_environinfection.html



Questions



Thank you!

