Nebraska Department of Health and Human Services

HEALTH ALERT NETWORK
Advisory

TO: Nursing homes, primary care practitioners, ERs, and infectious disease specialists

FROM: Thomas J. Safranek, M.D. State Epidemiologist
Joann Schaefer, M.D. Chief Medical Officer

PHONE/FAX: 402-471-2937/402-742-2347

RE: Norovirus

DATE: January 9, 2012

Since mid-December, the Nebraska Department of Health and Human Services Office of Epidemiology has received reports of 5 confirmed or suspected norovirus outbreaks associated with long term care centers or assisted living facilities. Due to the ability of noroviruses to spread rapidly, we ask that all long term care facilities report suspected outbreaks to their local health department (see attached map). Most laboratories do not offer testing for noroviruses, so the diagnosis may be missed. In outbreak settings, testing can be de done through the Nebraska Public Health Laboratory at public health expense.

Clinical Presentation

Incubation period:	usually 24 to 48 hours (median in outbreaks 33 to 36 hours); can be as short as 12 hours
Duration of illness:	usually 24 to 72 hours
Symptoms:	vomiting, non-bloody diarrhea, abdominal cramps, nausea, low grade fever (if present)
Complications:	Dehydration is the most common complication.
Sequelae:	none

Virus Transmission

Noroviruses are transmitted primarily through the fecal-oral route, either by consumption of fecally contaminated food or water or by direct person-to-person spread. Environmental and fomite contamination may also act as a source of infection. Good evidence exists for transmission due to aerosolization of vomitus that presumably results in droplets contaminating surfaces or entering the oral mucosa and being swallowed.

Noroviruses are highly contagious: as few as 10 viral particles may be sufficient to infect an individual. During outbreaks of norovirus gastroenteritis, several modes of transmission have been documented; for example, initial foodborne transmission in a restaurant, followed by

secondary person-to-person transmission to household contacts. Although pre-symptomatic viral shedding may occur, shedding usually begins with onset of symptoms and may continue for 2 weeks or more after recovery. The infectious risk of shedding beyond 72 hours after recovery is unclear.

Management of Norovirus Infection

No specific therapy exists for norovirus gastroenteritis. Symptomatic therapy consists of replacing fluid losses and correcting electrolyte disturbances through oral and intravenous fluid administration.

Prevention

The most important means of preventing norovirus transmission and infection is appropriate isolation of symptomatic patients, and utilization of frequent and appropriate hand washing. Alcohol-based hand sanitizers (≥62% ethanol) may be helpful as an adjunct method of hand hygiene, but should not replace washing with soap and water.

For long term care facilities, confining ill residents to their room until 24 hours after their symptoms cease helps prevent further spread. If enough residents are ill, activities may need to be suspended. Excluding ill workers, especially those with patient care and food handling responsibilities, until 24 hours after symptoms cease will also prevent further spread.

For schools, enforcing exclusion policies for students and staff will help prevent further spread. Food workers should be excluded until at least 24 hours after symptoms cease.

Prevention of foodborne norovirus disease is based on the provision of safe food and water. Noroviruses are relatively resistant to environmental challenge: they are able to survive freezing, temperatures as high as 60°C, and have even been associated with illness after being steamed in shellfish. Moreover, noroviruses can survive in up to 10 ppm chlorine, well in excess of levels routinely present in public water systems.

Despite these features, it is likely that relatively simple measures, such as correct handling of cold foods, frequent hand washing and paid sick leave, may substantially reduce foodborne transmission of noroviruses.

Environmental surfaces that may be contaminated by norovirus should be disinfected using a chlorine bleach solution with a concentration of 1000-5000 ppm (5-25 tablespoons of household bleach [5.25%] per gallon of water) or other disinfectant registered as effective against norovirus by the Environmental Protection Agency [84 KB/11 pages]. Evidence for efficacy against norovirus is usually based on studies using feline calicivirus (FCV) as a surrogate. However, FCV and norovirus exhibit different physiochemical properties and it is unclear whether inactivation of FCV reflects efficacy against norovirus.

Nebraska Local Public Health Departments Surveillance Contacts as of July 2010