

Norovirus: Winter Sports Game Changer

By Linda F. Golodner

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There is an unwelcome visitor at the winter games, despised in all of the venues: the norovirus has arrived. This potential microbial game changer is already responsible for 261 [confirmed cases of illness](#) (as of February 16, 2018) in a norovirus outbreak that evidently began with security guards in PyeongChang and has spread to athletes.

The Korea Centers for Disease Control and Prevention (KCDC) [website](#) demonstrates a high level of preparation and transparency regarding potential health issues arising during the games. Currently, this includes daily updated norovirus infection statistics (“[Statement on Norovirus](#)”), a description of [Public Health Services and Related Policies](#), KCDC [Call Center Information](#), including services for visitors from foreign countries, and a [Frequently Asked Questions page](#).



What is Norovirus?

Norovirus, popularly known as “the stomach bug,” is a highly contagious virus that causes about one-fifth of all diarrhea cases worldwide and approximately 212,000 deaths annually.¹ Dubbed “[The Perfect Human Pathogen](#),” because of its success in proliferating, norovirus is shed profusely in vomitus and diarrhea. New strains evolve and can spread around the globe quickly. This clever player has now made it to the winter games!

A Word about Hand Sanitizers

Alcohol-based hand sanitizers, which many people use routinely to ward off infections, are probably not effective against norovirus, although they can reduce the number of pathogens on your hands. [According to CDC](#), when it comes to reducing norovirus contamination on your hands, a 20-second (minimum) soap and water wash with vigorous rubbing and lathering is best. (See [The Right Way to Wash Your Hands](#).)

¹ Lopman, B.A, Steele, D., Kirkwood, C.D., and Parashar, U.D. (2016). “The Vast and Varied Global Burden of Norovirus: Prospects for Prevention and Control,” *PLOS Medicine*. On line, available: <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001999>.

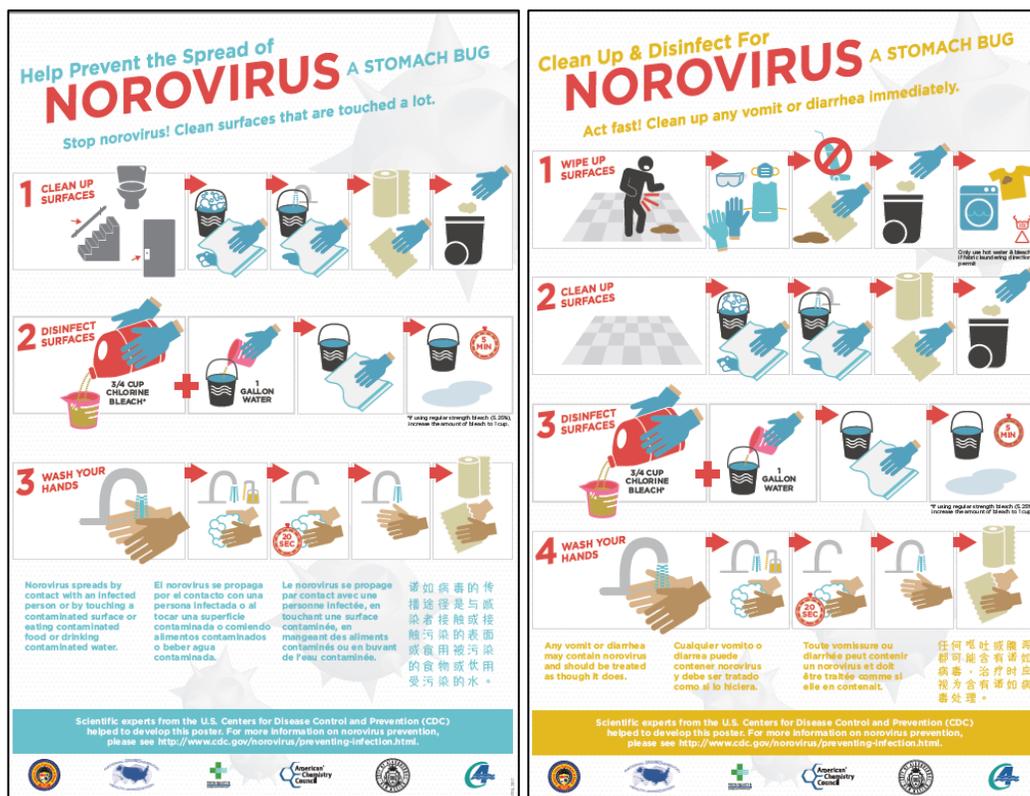
How is Norovirus Spread?

Norovirus is spread by what is known as the fecal-oral route, where close contact with an infected person leads to ingestion of the virus often through contaminated food or water, or by contact with contaminated surfaces or hands. The infamous virus has ruined many a cruise. It can survive freezing and withstand heating to 140 degrees F. According to a 2016 analysis,² the global economic burden of norovirus is estimated to be \$60 billion, the largest share of which (\$56 billion) is lost productivity.

Norovirus Prevention Using Chlorine Bleach

Last year we collaborated with multiple public health partners to develop the two [freely downloadable “pictogram” posters](#) below to help control the spread of norovirus. The poster on the left provides directions for cleaning and disinfecting frequently touched surfaces where norovirus may lurk in times of outbreak.

The poster on the right offers directions for cleaning up and disinfecting following a norovirus “incident,” such as vomiting or diarrhea. Each poster lists clear directions on how to safely prepare a solution of chlorine bleach of appropriate strength to apply to affected surfaces. Chlorine bleach solutions are known to destroy norovirus on surfaces, where they may otherwise survive for days or weeks. And even though disposable gloves are recommended, hands are major “vectors” of infectious disease, so a hand-washing step concludes each set of poster directions. The posters were developed to communicate directions using “pictograms” and as few written words as possible.



² Bartsch, S.M., Lopman, B.A., Ozawa, S., Hall, A.J., and Lee, B.Y (2016). Global Economic Burden of Norovirus Gastroenteritis, *PLOS ONE*. On line, available: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151219>.

As norovirus gains infamy at the winter games, remember that we have significant, evidence-based tools at our disposal for competing against the “Perfect Human Pathogen.”

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