



Norovirus

PPS0229121

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| Advisory Committee: | Science and Technology |
| Approver: | Randy W. Bonnema, RN, MSN |

Overview

Norovirus (was "Norwalk-like viruses"), an RNA virus, causes approximately 90% of epidemic non-bacterial outbreaks of gastroenteritis around the world, and is responsible for 50% of all foodborne outbreaks of gastroenteritis in the U.S. and affects people of all ages. The viruses are spread by ingestion of the virus. This happens via the oral fecal route from faecally contaminated food and water or by getting the virus on the hands following contact with a person or surface which contains the virus. Since norovirus infection can occur with as few as 10-100 viral organisms, it is critical to destroy as many of the viruses as possible. Due to the difficulty alcohol-based hand sanitizers have in effectively killing the norovirus, there are now numerous studies which associate the use of these sanitizers with increased norovirus outbreaks.

POSITION

Quaternary Ammonium based antiseptics ("quats") such as Benzalkonium chloride and Benzethonium chloride are used in a wide side variety of applications. They are both effective and safe. This can be seen in the use of quats in a large number of products. Benzethonium chloride and Benzalkonium chloride are both used in numerous products including eye drops, cosmetics, antiseptic ointments, spermicidal creams, as a food preservative, etc. In addition, quats have been used for years as an effective surface disinfectant in healthcare and have been proven to kill norovirus.

Several recent studies have shown alcohol hand sanitizers to be ineffective against non-enveloped viruses such as norovirus. Outbreaks of norovirus infections in long term care facilities have been directly linked to facilities in which the use of alcohol based hand sanitizers is the most common method of hand hygiene. The American College of Preventive Medicine does not recommend the use of alcohol gels for hand hygiene in the prevention of norovirus transmission. Numerous other reports site that alcohol is only effective against norovirus in concentrations well above that found in gels and foams. A full minute of contact time with a minimum of 70% ethanol is required to inactivate norovirus. Many studies used ethanol concentrations of >80% and contact times up to 2 minutes in order to get close to a 4 log reduction. Most applications of alcohol based sanitizers are dry within 20 seconds and contain only 62% ethanol. Dr Tisha Titus, MD, MPH says alcohol hand sanitizers "rub those things (viruses) around". In fact, Dr. David Blaney of the Epidemic Intelligence Service at the US Centers for Disease Control and Prevention (CDC) stated that a recent study's findings indicate that alcohol-based hand sanitizers might be "suboptimal in controlling the spread of noroviruses."

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The active ingredients in **Kleenhantz**® have been proven to deactivate viruses on surfaces. Alcohol is neither effective nor approved for use on most surfaces. In order for alcohol to significantly reduce viral load, the concentration needs to approach 85% with a contact time of 30 seconds. This raises significant issues with flammability and damage to skin. Use of a product such as **Kleenhantz**® can be an effective tool to reduce the transmission of disease causing pathogens, especially with the presence of a towelette allowing for the cleaning and sanitizing of the hands, as well as the removal of dirt and germs from the hands, unlike gels and foams.

References

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- American Journal of Infection Control, 39(4), May 2011, 296-301
- Association for Professionals in Infection Control and Epidemiology, June 2008, 36(5), 356-360
- Infection Control, 2001, Comparison of Commonly Used Surface Disinfectants
- Infection Control Today, 8/26/2011, Researchers Study Hand Sanitizers and Norovirus Risk

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