OSPREYDEEPCLEAN™
STEAM CLEANING TECHNOLOGY

Ref: KILLING OF NORWALK VIRUS BY SUPER – HEATED STEAM

Norwalk virus is a small, round enterovirus causing human gastroenteritis with diarrhoea and vomiting. It is usually self limiting and there is no specific antiviral treatment available. The mode of transmission is the faecal-oral route and is also contracted by exposure to infected water, food, aerosols and contaminated surfaces. Transmission in institutions, hospitals, military camps etc, is rapid and causes epidemics.
Susceptibility to disinfectants includes 1% hypochlorite and 2% gluteraldehyde but exposure to these agents requires at least 30 minutes, which is not very practical in the hospital environment when faecal accidents occur and can also induce an additional chemical hazard.
The virus survives a heat exposure of 60^0C for 30 minutes, but is killed by steam.
The use of superheated steam (greater than 100^0C) is particularly effective as it gives up its latent heat directly by condensation onto the contact surface.
The RNA of this virus is denatured at 60-80^0C and the virus has no protective envelope.
The Osprey steam/Vac machines delivers a steam temperature of 110-120^0C at the operating tip plus a brush vacuum removal of dirt particles which ensures a clean and disinfected surface.

I have shown effective kill of Gram negative and Gram positive bacteria (including MRSA and spores) and Candida spp in–vitro and additionally in the hospital environment, using the equipment stated above in privately sponsored research, but viral culture was not part of this protocol.

I can advocate the use of superheated steam vacuum systems being used in the hospital environment to diminish the risk of spread of enterovirus such as Norwalk virus based on the principles stated above.

Dr Peter Kite.PhD, FIBMS,(CM) MRCHC.
Clinical Director, Aseptica Inc, Seattle, USA
Director, Hygenica UK.
former Principal Clinical Scientist
Dept of Microbiology, the Old Medical School Leeds