

Why is Hand Hygiene Recommended for Preventing the Spread of Influenza?

By John M. Boyce, MD
Chief, Infectious Diseases Section
Hospital of Saint Raphael
New Haven, CT

The rapid dissemination of a novel H1N1 (swine) influenza A virus from Mexico to 22 countries and to at least 41 states in the United States in April and the first few days of May 2009 is a cause of serious public health concern. To help control the spread of this virus, it is important for the general public to understand how influenza is spread and what they can do to lower their chances of becoming infected. Although few data are available at this time, health authorities believe that the novel H1N1 influenza virus spreads from person to person in the same way as other seasonal influenza viruses. Influenza is most commonly transmitted by “droplet spread”. Persons who develop influenza shed large amounts of the virus in their respiratory secretions. Respiratory droplets generated when an infected person coughs or sneezes travel short distances (usually less than one meter) through the air and can be deposited on the mouth or in the nose of nearby individuals. This represents the most common way in which influenza is spread from person to person. Respiratory droplets from an infected person may also contaminate nearby surfaces.

Other potential modes of transmission of influenza virus include contact with surfaces (fomites) that become contaminated with the virus, and airborne transmission. Airborne transmission occurs when very small “droplet nuclei”, which can remain suspended in the air for longer time periods, travel through the air over longer distances than droplets. The extent to which these two mechanisms of spread contribute to transmission of influenza is not known. Studies of other viral respiratory tract infections have shown that affected individuals often contaminate their hands with the virus.¹ A recent study from Australia showed that when influenza virus A was inoculated onto the hands of 20 volunteers, the virus was no longer detectable on the hands of 6 of the volunteers after hands were allowed to dry for 2 minutes.² In the other 14 volunteers, the amount of live virus remaining on their hands decreased rapidly within a few minutes, but then remained stable for at least one hour. Persons whose hands are heavily contaminated with respiratory viruses can deposit the organisms on environmental surfaces, where they may survive for minutes to several hours.³⁻⁵ One study conducted with a regular seasonal strain of influenza virus found that the virus could survive on facial tissues for several minutes, and for 2 - 8 hours on stainless steel or plastic surfaces.⁵ If another person touches the contaminated surface with their hands when the virus is still alive, and then touches their own mouth or nose, they may become infected. Several studies have found that many people touch their nose or mouth several times an hour during the course of daily activities.^{6,7} So there are plenty of opportunities for people to inadvertently introduce the virus into their body if their hands become contaminated. It has been shown that individuals infected with rhinovirus, a frequent cause of the common cold, can transmit the infection to others by

shaking hands.⁸ Although similar studies have never been done with influenza virus, it seems possible that influenza virus could also be transmitted in this manner.

Since droplet spread is the most common way influenza spreads from person to person, CDC recommends avoiding close contact with individuals who are sick during influenza season. CDC also recommends that people should avoid touching their mouth, nose and eyes since surfaces they touch may be contaminated when influenza virus is present in the community. The CDC also recommends that individuals who develop influenza should stay home from school or work, limit their contact with others, cover their mouth and nose with a tissue when coughing or sneezing, and clean their hands frequently.

A recent study found that handwashing with soap and water or using an alcohol-based hand sanitizer were both highly effective in reducing a seasonal strain of influenza A virus on the hands.² This should also be true for the novel H1N1 influenza virus. Either plain soap or antimicrobial soap will reduce the amount of virus on the hands. When sinks are not readily available, alcohol-based hand sanitizers are a convenient and effective way of eliminate the virus from hands. Hands should be washed with warm soap and water for about 15 to 20 seconds, and then rinsed and dried. When using an alcohol-based hand sanitizer, apply product to one palm and then rub hands together, covering all surfaces, until they feel dry. This should take at least 15 to 20 seconds if you applied a sufficient amount of product. In addition to reducing the risk of developing influenza, frequent hand hygiene should help protect people from becoming ill with several other respiratory viruses such as rhinoviruses.

Further information about the novel H1N1 influenza outbreak can be obtained by going to CDC's website: <http://www.cdc.gov/h1n1flu/>.

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