Why Wash?

► The U.S. Centers for Disease Control and Prevention (CDC) considers hand washing to be "the single most effective way to prevent the transmission of disease." Hand washing not only helps prevent the spread of common illnesses, such as colds, but is also effective against more serious diseases such as respiratory tract infections, hepatitis A, and infectious diarrhea.

So hand washing is one of the most important things you can do to prevent the spread of disease. What happens when people don't practice good hand hygiene?

A little history reminds us how dangerous poor hand-washing habits can be. When a woman went into the hospital to have a baby 150 years ago, she had a high risk of dying from an infection spread by hospital workers who hadn't properly washed their hands. This deadly infection, called puerperal fever, appeared in fearful epidemics that swept through communities and maternity wards in Europe and America during the 18th and 19th centuries. Within days of having their babies, women developed a high fever and abdominal pain. Many rapidly went into shock and died. In some European hospitals, up to 25% of new mothers died from this horrible disease.

No one knew what caused puerperal fever or how to prevent it. Medical professionals frequently blamed the disease on overcrowding or bad air. In 1847, the Hungarian surgeon Ignaz Semmelweis (1818–1865) suggested that the doctors themselves were transmitting the disease. He observed that his medical students often went directly from the autopsy room, where they'd dissected corpses, to the patient examining rooms without washing their hands. Semmelweis wondered whether the students might be picking up tiny "particles," which we now call germs, from the corpses of people who'd died from puerperal fever and passing these particles on to healthy patients. As a test, he had the medical students wash their hands in a disinfectant solution before seeing patients. He soon saw a sharp drop in hospital death rates from puerperal fever.

▶Ignaz Semmelweis' accomplishments have been honored on stamps around the world.





Things Are Different Now...Right?



Today all physicians know that germs can pass from doctor to patient. For over a century, hand washing has been standard medical practice. Despite this knowledge, recent studies show that health-care workers in the U.S. are complacent about washing their hands. On average, only about half of doctors and nurses wash or sanitize their hands before seeing patients. Sometimes hand washing rates are much lower. According to the *Chicago Tribune*, federal and state inspectors have observed thousands of cases where surgeons performed operations without wearing masks or washing their hands. According to the Centers for Disease Control and Prevention and the U.S. Department of Health and Human Services, about 20,000 patients die each year from infections that could have been prevented if hospitals had enforced strict hand-washing policies.

But regular hand washing is important for everyone, not just doctors and nurses. Proper hand washing is especially important for people in the food industry. Food workers who don't wash their hands after using the bathroom or handling raw meat can transfer dangerous germs to consumers. Childcare workers are another group of people who need to be extra careful to wash their hands regularly. In a recent study of 41 day-care centers, researchers found high rates of illness associated with failure to wash hands at appropriate times, particularly after wiping noses, diapering, and before meal preparation.

When Should you Wash?

In general, you should clean your hands as often as practical. Cleaning your hands even a few more times a day can greatly help reduce the spread of disease.





What Do Studies Show About Our Hand Washing Habits?

Be honest now...Do you always wash your hands after using the bathroom?

Scientific studies that have looked at the health benefits of hand washing show some pretty amazing results. U.S. Navy researchers found they could reduce the number of respiratory illnesses in young recruits by 45%, just by ordering the recruits to wash their hands five times per day. Another study found that teaching elementary school kids about the importance of proper hand washing can reduce school absenteeism by half.

Despite all this evidence, a lot of people are still lax when it comes to hand washing...lf you're like most Americans, you probably say you always wash your hands after using a public restroom. But information gathered by researchers shows that a fair number of us don't wash as much as we say we do. In 2005, the American Society of Microbiology (ASM) and the Soap and Detergent Association (SDA) sponsored a study of the hand-washing habits of more than a thousand men and women. Observers went into public restrooms in four major United States cities to see how many people were actually washing. According to the study, 91% of Americans say they wash their hands after using a public restroom, but the restroom observers found that only 83% of people actually did.

Studies also show that even when people wash, they often don't do it properly. Researchers at one college found that only 38% of women who washed their hands after using the restroom washed with soap. A similar study of middle and high school students showed that female students used soap only 28% of the time when they washed their hands. Male students, in contrast, used soap only 8% of the time.



How Can We Get People to Wash More?



People will wash their hands more if they're a little scared. ►

Numerous public awareness campaigns about hand washing seem to be working. While ASM hand-washing studies conducted in 1996 and 2000 found that hand-washing frequency decreased (mainly among men), studies conducted since then suggest that the trend may be reversing. In 2000, only 67% of people were observed to wash their hands after using a public restroom. This number had increased to 78% in a 2003 study and increased again to 83% in the 2005 study.

Other methods to encourage hand washing besides public awareness campaigns may have mixed or little success. For example, researchers at The Pennsylvania State University found that placing signs in restrooms to remind people to wash their hands caused more women to wash but had little effect on men.

Not surprisingly, it may take the real threat of an epidemic to get people into the hand-washing habit. In the summer of 2003, a lot of people in Southeast Asia and Canada were concerned about catching severe acute respiratory syndrome (SARS). During this scare, an ASM study of hand washing at the international airport in Toronto found that 95% of men and 97% of women washed their hands after using the restroom. Previous studies had found hand-washing rates of only 40–60%.

Hand Washing and the Swine Flu

Hand washing may not be the cure-all for every disease out there.

In 2009, the H1N1 strain of influenza (swine flu) was in the news a lot. You or someone you know may have even gotten sick from it. Perhaps you've seen ads or announcements on TV encouraging you to wash your hands as a way to prevent the spread of the H1N1 virus. But you might be surprised to learn that these ads—however well intended—may not reflect the whole truth. The September 15, 2009, issue of Newsweek magazine reported that although hand washing is a good defense against the common cold and other respiratory viruses, there's little scientific evidence that you can catch swine flu from viruses you pick up on your hands. According to Arthur Reingold, head of Epidemiology at the University of California, Berkeley, humans are most likely to catch the flu by breathing in microscopic particles exhaled by infected people. In other words, the virus is spread through the air, not through physical contact.



Reingold's conclusion is supported by animal studies, which have shown that flu viruses are most effectively transmitted by airborne particles. One study of a different flu strain (not H1N1) using guinea pigs found that the animals did not pick up the virus from contaminated cages, suggesting that physical cleanliness didn't matter in transmission of that particular flu. Reingold and other scientists are concerned that emphasis on hand washing may give people a false sense of security about H1N1 and divert attention from more effective methods of prevention, such as wearing surgical masks.

Nevertheless, as the *Newsweek* article notes, hand washing is still your best defense against getting sick in general. Swine flu can cause very serious illness, but having a cold or other respiratory infection is no fun either.