



## HAND WASHING BEST PRACTICES

Dr. Ignaz Semmelweis demonstrated in the 1800s that hand washing is essential to preventing the spread of germs. Semmelweis worked in a Vienna hospital in the 1800s and was alarmed at the mortality rate in the maternity ward. The patients were dying at such an alarming rate that many were begging to be sent home. Patients were dying at a rate five times greater than those who gave birth at home.



Most of those deaths were being treated by student physicians who worked on cadavers during an anatomy class before beginning their rounds in the maternity ward. Students did not wash their hands between touching the dead and living. This resulted in the pathogenic bacteria from the cadavers regularly being transferred to the mothers by the students' hands.

Semmelweis conducted an experiment insisting that the students wash their hands after anatomy class before seeing patients in the maternity ward. The results of this experiment led to a fivefold decrease in deaths in the maternity ward.

This was the beginning of infection control in hospital settings and public health in general. Today, the value of hand washing in preventing disease is recognized throughout communities, schools, childcare settings, and eating establishments.

According to the Centers for Disease Control (CDC), Americans are sick more than 4 billion days each year, more than 160,000 will die, and they will spend \$950 billion on direct medical costs due to infectious diseases. Infectious diseases are caused by various microscopic germs, such as viruses, bacteria, parasites, and fungi. These germs cause illnesses ranging from common ailments, like the cold and flu, to disabling diseases, such as Lyme disease, to deadly diseases, like the Hantavirus and AIDS. The good news is that many of these diseases can be prevented through the amazingly simple and inexpensive habit of frequent handwashing.

### To properly wash your hands:

- Wet your hands and apply liquid or clean bar soap. If using bar soap, place the bar on a rack so it can drain.
- Rub hands vigorously together and scrub all surfaces, paying particular attention to between the fingers, fingertips, and fingernails.
- Continue scrubbing for 15 to 20 seconds, or about the length of time it takes to sing "*Happy Birthday.*"
- Rinse your hands and dry well.

There are a lot of myths, misconceptions, misinformation, and misunderstanding around the effectiveness of handwashing. Here's a short TRUE / FALSE game to check your knowledge>

### 1. *The alkaline nature of soap kills germs. (FALSE)*

Soap doesn't kill germs. Soap breaks the bond between the oils and grease on our skin which are holding the germs. The soap breaks the oil and grease off the skin, and the water washes the oils and grease AND GERMS, away.

**2. *It's the scrubbing action of working your hands together that kills germs. (FALSE)***

Rubbing your hands vigorously together helps remove the oils and grease so they, along with germs, can be washed off the skin.

**3. *Soap destroys COVID (and many other) viruses. (TRUE)***

The COVID virus, and many other viruses, are genetic material wrapped in a fatty coating. Soap can disrupt the fats' molecular bonds, causing them to fall apart. The virus's spikes, the part that invades human cells, can then be washed off with running water.

The physical action of scrubbing your hands together helps breaks the lipid bonds. So how long and how well you scrub the surfaces of your hands matter.

**4. *Antibacterial soap is more effective than plain soap and water. (FALSE)***

According to [Meridian Health Center](#), research shows that antibacterial soap is no more effective than plain soap and water.

**5. *Question***

