



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Hand Washing - Clean Hands saves Life!

Keeping hands clean is one of the most important steps we can take to avoid getting sick and spreading germs to others. Many diseases and conditions are spread by not washing hands with soap and clean, running water.

How germs get onto hands and make people sick

Feces (poop) from people or animals is an important source of germs like [Salmonella](#), [E. coli O157](#), and [norovirus](#) that cause diarrhea, and it can spread some respiratory infections like [adenovirus](#) and [hand-foot-mouth disease](#). These kinds of germs can get onto hands after people use the toilet or change a diaper, but also in less obvious ways, like after handling raw meats that have invisible amounts of animal poop on them. A single gram of human feces—which is about the weight of a paper clip—can contain one trillion germs. Germs can also get onto hands if people touch any object that has germs on it because someone coughed or sneezed on it or was touched by some other contaminated object. When these germs get onto hands and are not washed off, they can be passed from person to person and make people sick.

Washing hands prevents illnesses and spread of infections to others

Handwashing with soap removes germs from hands. This helps prevent infections because:

- People frequently touch their eyes, nose, and mouth without even realizing it. Germs can get into the body through the eyes, nose and mouth and make us sick.
- Germs from unwashed hands can get into foods and drinks while people prepare or consume them. Germs can multiply in some types of foods or drinks, under certain conditions, and make people sick.
- Germs from unwashed hands can be transferred to other objects, like handrails, table tops, or toys, and then transferred to another person's hands.
- Removing germs through handwashing therefore helps prevent diarrhea and respiratory infections and may even help prevent skin and eye infections.

Teaching people about handwashing helps them and their communities stay healthy. Handwashing education in the community:

- Reduces the number of people who get sick with diarrhea by 31%
- Reduces diarrheal illness in people with weakened immune systems by 58%
- Reduces respiratory illnesses, like colds, in the general population by 21%

Not washing hands harms children around the world

About 2.2 million children under the age of 5 die each year from diarrheal diseases and pneumonia, the top two killers of young children around the world.

- Handwashing with soap could protect about 1 out of every 3 young children who get sick with diarrhea and almost 1 out of 6 young children with respiratory infections like pneumonia.
- Although people around the world clean their hands with water, very few use soap to wash their hands. Washing hands with soap removes germs much more effectively.
- Handwashing education and access to soap in schools can help improve attendance.
- Good handwashing early in life may help improve child development in some settings.

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Keeping hands clean through improved hand hygiene is one of the most important steps we can take to avoid getting sick and spreading germs to others. Many diseases and conditions are spread by not washing hands with soap and clean, running water. If clean, running water is not accessible, as is common in many parts of the world, use soap and available water. If soap and water are unavailable, use an alcohol-based hand sanitizer that contains at least 60% alcohol to clean hands.

When should you wash your hands?



- Before, during, and after preparing food
- Before eating food
- Before and after caring for someone who is sick
- Before and after treating a cut or wound
- After using the toilet
- After changing diapers or cleaning up a child who has used the toilet
- After blowing your nose, coughing, or sneezing
- After touching an animal, animal feed, or animal waste
- After handling pet food or pet treats
- After touching garbage

How should you wash your hands?



- **Wet** your hands with clean, running water (warm or cold), turn off the tap, and apply soap.

- **Lather** your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
- **Scrub** your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
- **Rinse** your hands well under clean, running water.
- **Dry** your hands using a clean towel or air dry them.



Why? Read the science behind the recommendations.

What should you do if you don't have soap and clean, running water?



Washing hands with soap and water is the best way to reduce the number of microbes on them in most situations. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Alcohol-based hand sanitizers can quickly reduce the number of microbes on hands in some situations, but sanitizers do **not** eliminate all types of germs.

Hand sanitizers are not as effective when hands are visibly dirty or greasy.

How do you use hand sanitizers?

- Apply the product to the palm of one hand (read the label to learn the correct amount).
- Rub your hands together.
- Rub the product over all surfaces of your hands and fingers until your hands are dry.

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Why? Many studies have found that sanitizers with an alcohol concentration between 60–95% are more effective at killing germs than those with a lower alcohol concentration or non-alcohol-based hand sanitizers ^{1,2}. Non-alcohol-based hand sanitizers may 1) not work equally well for all classes of germs (for example, Gram-positive vs. Gram-negative bacteria, [Cryptosporidium](#), [norovirus](#)); 2) cause germs to develop resistance to the sanitizing agent; 3) merely reduce the growth of germs rather than kill them outright, or 4) be more likely to irritate skin than alcohol-based hand sanitizers ^{1,2}.

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Alcohol-based hand sanitizers can quickly reduce the number of microbes on hands in some situations, but sanitizers do *not* eliminate all types of germs.

 **Why?** Although alcohol-based hand sanitizers can inactivate many types of microbes very effectively when used correctly ¹⁻¹⁰, people may not use a large enough volume of the sanitizers or may wipe it off before it has dried ¹⁰. Furthermore, soap and water are more effective than hand sanitizers at removing or inactivating certain kinds of germs, like [Cryptosporidium](#), [norovirus](#), and [Clostridium difficile](#) ¹¹⁻¹⁵.

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Hand sanitizers may not be as effective when hands are visibly dirty or greasy.

 **Why?** Many studies show that hand sanitizers work well in clinical settings like hospitals, where hands come into contact with germs but generally are not heavily soiled or greasy ¹. Some data also show that hand sanitizers may work well against certain types of germs on slightly soiled hands ^{2,3}. However, hands may become very greasy or soiled in community settings, such as after people handle food, play sports, work in the garden, or go camping or fishing. When hands are heavily soiled or greasy, hand sanitizers may not work well ^{1,4,5}. Handwashing with soap and water is recommended in such circumstances.

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