

Protect Yourself from Infectious Diseases



CHALLENGE
Protect yourself and others from infectious diseases.

Requirements to Complete this HEALTH CHALLENGE™

1. Keep a written record of the days you stay well and focus on preventing illness.
2. Log it on your monthly Health Challenge Calendar.
3. Read "Microbes are everywhere!" and "Keep germs from spreading!"
4. To complete the Challenge, you must:
 - Get your flu immunization.
 - Wash your hands frequently during the day, especially when in contact with the public.
 - Make a conscious effort to keep your hands away from your mouth, nose, and eyes.
 - Clean all surfaces of your house at least weekly – more often if someone in the house is sick.
5. Keep records of your completed Challenge in case your organization requires documentation.

Microbes are everywhere!

No matter where you go, you are surrounded by microbes. They live in air, soil, rock, water, and food. They are even on – and in – you! Some live happily in searing heat, while others thrive in freezing cold. Some microbes need oxygen to live, and others do not.

Microbes come in a variety of shapes and sizes – but are so small that they cannot be seen without the aid of a microscope. A healthy adult has about 10 trillion human cells – and about 10 times that number of microbial cells.

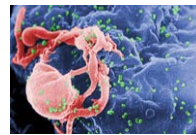
Most microbes are harmless or beneficial. Some are essential for a healthy life – we couldn't exist without them. For example, microbes make about half of the oxygen we breathe. They break down compost and purify our water. In recent years, microbes have been used to make medicine and to break down the oil from oil spills.

Some microbes cause disease in humans, plants, and animals. These "bad" microbes are commonly called germs. The most frequent causes of infections are bacteria, viruses, fungi, protozoa, and helminths.



*Mycobacterium tuberculosis**

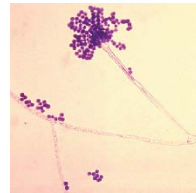
Bacteria are so small that a line of 1,000 could fit across the eraser of a pencil. Even though only about 1% of all bacteria can make you sick, they are responsible for common diseases such as ear infections, strep throat, cavities, and urinary tract infections. Other bacteria help keep you healthy, such as those that live in your intestines, and help maintain a healthy gut and normal intestinal function.



HIV-1, colored green, on a white blood cell

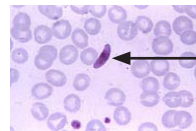
Viruses are even smaller than bacteria. They are responsible for a variety of illnesses, including the common cold, influenza (flu), measles, and AIDS. Antibiotics are ineffective against viruses. Your primary defenses against viruses are to 1) avoid exposure to them and 2) make sure your body's natural immune system, which helps you overcome the common cold when you get one, is strong.

There may be millions of types of *fungi* on Earth. The fungi family includes beneficial plants such as mushrooms and yeast. Penicillin and other antibiotics are made from fungi. Others can cause athlete's foot, ringworm, and aspergillosis (a lung disease).



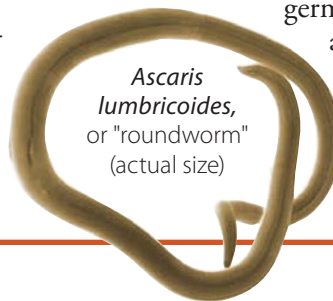
Aspergillus fumigatus, the most deadly mold known

Protozoa are parasitic or predatory one-celled animals. While many protozoa are harmless (e.g., plankton which serve as food for whales), others cause diseases such as malaria and giardia.



Plasmodium falciparum, the malaria parasite

Soil-transmitted *helminths*, commonly known as intestinal worms, are not germs but can result in diseases. They are the most common cause of infections worldwide, and include parasites such as tapeworms and roundworms.



Ascaris lumbricoides, or "roundworm" (actual size)

**Images: National Institutes of Health and Centers for Disease Control & Prevention*



According to healthcare experts, infectious diseases caused by microbes are responsible for more deaths worldwide than any other single cause. There are many ways you can get infected:

- When you cough or sneeze, you send tiny germ-filled droplets into the air.
- When you kiss someone, you can share bacteria that cause gum disease or mononucleosis.
- Some viruses can pass to another person through sexual intercourse.
- Not washing your hands after going to the bathroom or changing a diaper can pass diarrhea-causing germs to you and others.
- You can get a variety of diseases from animals, including the flu and meningitis.
- Insects such as mosquitoes, fleas, and ticks are common carriers of germs.
- Foodborne illnesses infect millions of people each year.
- You can get sick from playing in infected water.
- ✓ Around the office or home, cold viruses can be picked up by shaking hands or touching common objects such as doorknobs, handrails, telephone receivers, writing implements, and remote controls. ATM machines, shopping cart handles, hair dryers in hotels...germs from other people's hands are everywhere.

Learn how to avoid the flu:

www.cdc.gov/flu

Get tips to help you cope better with stress: familydoctor.org/167.xml?printxml

Avoid the common cold: www3.niaid.nih.gov/topics/commonCold

Keep germs from spreading!

You can't avoid all germs, but you can minimize your exposure by practicing good hygiene and you can keep your immune system strong to keep any germs from getting the upper hand in your body. To keep yourself on the winning side in the battle against infections, focus on prevention:

- ✓ **Wash your hands well and often.** This is the easiest and most effective way to stop germs from spreading. It's not necessary to buy special antibacterial soap. Any good soap is adequate.
- ✓ **Keep a hand sanitizer nearby** for those times when you can't access soap and water. Make sure it contains at least 60% alcohol.
- ✓ **Don't rub your eyes or nose** as viruses are easily transmitted through mucous membranes.
- ✓ **Get a flu shot.** According to the Centers for Disease Control, the flu vaccination is the single best way to prevent seasonal flu. Vaccines help your body recognize germs when they enter your body and alert your immune system to take quick and effective action before the germs can multiply out of control.
- ✓ **Avoid close contact with anyone with a cold**, especially in the first 3 days. If you are ill, stay home.
- ✓ If someone is sick in the home, **spray inanimate surfaces** such as faucet handles, handrails, or kitchen counter tops with a virus-killing disinfectant.
- ✓ **Don't share food or "community" items.** Don't eat after double dippers, sip from someone else's straw, share a drinking glass, or use a community hand towel.
- ✓ **Manage your allergies.** Allergies can increase your susceptibility to cold and flu viruses. Left untreated, allergies can cause more serious conditions like sinusitis or ear infections.
- ✓ **Get plenty of quality sleep.** Aim for at least 7 hours a night. Your immune system can't fight colds and other bugs as well if you become fatigued.
- ✓ **Practice proper stress management.** Enjoy time with friends. Laugh. Listen to music. All of these things decrease stress hormones which can decrease your immune system's effectiveness.
- ✓ **Use hot water to wash clothes and dishes.** According to research by the National Institute of Nursing Research, using hot water for white laundry reduced disease risk by about 30%. Use the hot water cycle on your washing machine for white laundry (towels, etc.).
- ✓ **Use a little bleach in your laundry** – particularly when laundering towels. In the National Institute of Nursing Research study, people who reported using bleach at the beginning of the study had about one-fourth the infection rate of those who did not.
- ✓ **Be physically active.** Research shows that engaging in moderate physical activity lowers your risk of catching a cold. And, when you do get sick, you'll likely experience milder symptoms and be sick fewer days. Regular moderate exercise strengthens the immune system.
- ✓ **Eat well.** Choose a wide variety of colorful fruits and vegetables, whole grains, legumes, nuts, and healthy protein foods. They contain nutrients that help build a strong immune system.

With these preventive measures you'll rarely – if ever – need a pound of cure.

Sources:

Centers for Disease Control and Prevention. National Institute of Allergy and Infectious Diseases. National Institutes of Health. Human Microbiome Project. 2010.



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Instructions

1. Post this calendar where you will see it daily (bathroom, kitchen, bedroom, etc.).
2. Record each day you washed your hands and kept your hands away from your mouth, nose, and eyes.
3. At the end of the month, total the number of days you stayed well and focused on preventing illness. You must meet this goal at least 22 days during the month to complete the Challenge. Then keep up this practice for a lifetime of good health.
4. Keep this record for evidence of completion.

MONTH:							HC = Health Challenge™	ex. min. = exercise minutes
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	Weight & weekly summary	
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_____ Number of days this month I stayed well and focused on preventing illness

_____ Number of days this month I got 30+ minutes of physical activity such as brisk walking

Other wellness projects completed this month:

Name _____ Date _____

