



Disease prevention

In this age of health scares and unheard of diseases, many people are understandably confused and scared. But how big are the actual risks of disease for you and your family? And can anything be done to protect you? The news is probably better than you might think.

Diseases from other parts of the world

Names like SARS, West Nile virus, Dengue fever and Monkeypox—all but unheard of a few years ago—are among a seemingly endless list of public health threats. They have entered the United States through a variety of means - migrating birds, insect vectors (disease carriers) and imported pets, to name only a few common carriers.

According to the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO), diseases like these are a threat to people throughout the world; no country can close its borders to such threats.

One of the reasons is that microbes are transported throughout the world every day, carried by infected people, animals, plants, insects and manufactured goods. They can hide in food. They migrate with birds. Some can live for extended periods in water or soil, or on the surfaces we routinely touch, like doorknobs, faucets and hand rails. They can spread from one person to the next through inhaled droplets or invade our bodies through fluids such as blood or semen.

They also adapt quickly to their changing environments, evolving as necessary to cope with threats to their own survival, such as antibiotics and antiviral medications. This makes viruses, bacteria and other microscopic life forms fascinating to scientists and frightening to most people.

Controlling disease

It's comforting to know that health authorities at the local, national and international levels are developing increasingly sophisticated tools for identifying, targeting, isolating, eliminating (when possible) and documenting disease outbreaks.

Cooperative efforts like these helped control the SARS epidemic that began in Asia in February 2003. This viral illness causes a form of pneumonia that can be lethal. Because of its severity and highly contagious nature, SARS required extreme measures to control. Victims and their healthcare workers were quarantined; protective garments and masks were issued to the doctors

and nurses caring for those infected; travel advisories were issued to people planning to visit affected areas; and news about the epidemic was broadcast everywhere in the world via newspapers, radio, television and the Internet. While SARS has not been eliminated, its rapid spread was stopped within a few months and even the worst-hit areas were reopened to travelers.

Organizations like the CDC and WHO are committed to refining their efforts to control such disease outbreaks, and to significantly reduce the incidence of AIDS and other diseases throughout the world.

What you can do

Surprisingly, there are a number of ways to prevent illness and lower your risk of disease. Remember that most of the diseases considered newsworthy are quite rare and pose only a minor risk to the health of most Americans.

And even some of those diseases that have recently entered the United States pose only a minimal threat. Infection with the West Nile virus, for example, causes no symptoms in most of those bitten by the mosquitoes that carry the virus. The majority of others suffer only a mild flu-like illness that passes quickly and probably confers immunity afterward. Of course, there are exceptions. In a small number of people, West Nile infection develops into a sometimes lethal form of *encephalitis* (inflammation of the lining of the brain or spinal cord) and some people have some lingering symptoms for months after the infection. Those at risk of such complications include older adults, extremely young children, and people with weakened immune systems.

However, it's important to note that the threat posed by West Nile is relatively small. And you can take steps to protect yourself from it and from most common threats to your health. (See [Protecting yourself from insect-borne illnesses](#)).

Preventing respiratory illnesses

By far, the viruses that cause colds and flu are the most common and often preventable illnesses Americans experience. More than 200 cold viruses have been identified, causing an estimated one billion colds in the United States each year. Most of these viruses cause a mild illness that usually passes naturally within one to two weeks. Some cause more serious illnesses, such as certain types of influenza.

To protect yourself from colds and flu:

- Wash your hand frequently, especially during colds and flu season (late fall through early spring). Carry a waterless hand cleanser to use throughout the day.
- Don't touch your eyes or nose.
- Avoid touching objects with your bare hands that may have been contaminated with viral secretions, such as public door handles, bus and escalator rails, public fountains, etc.
- Try to avoid close, prolonged exposure to people with colds, if possible.
- Don't smoke and avoid exposure to second-hand smoke and environmental pollutants, which can irritate your eyes, nasal passages and lungs.

- If you already have a cold, sneeze or cough into a tissue and throw it away quickly; wash your hands afterward, if possible.

Preventing disease through vaccination

Immunization plays a critical role in protecting both individuals and society from the ravages of disease. Vaccines are usually made from a disease germ that has been killed, inactivated or weakened. Vaccination stimulates a person's immune system to produce antibodies to fight the disease for which they've been immunized. Thanks to vaccines, many crippling and killing diseases have been wiped out.

The Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), and the American Academy of Pediatrics (AAP) have established national guidelines for the most effective and safe administration of vaccines, weighing both the benefits and risks of each in making their recommendations.

Talk to your healthcare provider about the vaccinations appropriate for you and your family. Certain allergies, sensitivities and health conditions (such as HIV infection) might affect which vaccines are safe for you. People who have reacted to a vaccine in the past may be given *immune globulin* (a group of blood serum proteins that confer short-term immunity) instead of a standard vaccination.

Preventing food- and water-borne illnesses

Millions of people in the United States are sickened each year from the foods they eat or the liquids they drink; some even die as a result. Food "poisoning" is caused by a number of bacteria and microscopic organisms that can thrive in food.

Once they enter the body, these microbes multiply rapidly in the stomach and bowels. This process causes nausea, abdominal cramping, vomiting and diarrhea. (Vomiting and diarrhea are how the body tries to eliminate the toxins.)

Many organisms cause food poisoning, but the most common include *Campylobacter* (often present in undercooked chicken), *Salmonella* (common in raw and cracked eggs), *E. coli* (sometimes present in fruits, vegetables and undercooked meats), *Listeria* (occasionally found in processed meats and cheeses), and *Clostridium botulinum* (most frequently associated with poorly canned foods), the bacteria that causes botulism.

The most common cause of food poisoning is improper cooking and storage of foods; another common cause is poor hygiene. Only rarely does food poisoning result from an unsafe food source.

Keeping your hands clean while working with food is one of the most important things you can do to prevent food poisoning. It's also extremely important to keep cooking implements, food preparation surfaces and storage containers clean and dry. Make sure to cook your food thoroughly before serving it - especially poultry. Refrigerate leftovers as soon as they have

stopped steaming. Don't eat food that doesn't look or smell right and never eat food from cans that bulge or appear damaged.

Avoiding Giardia

Giardia is a protozoa often found in water contaminated with fecal matter. Once ingested, it takes up residence in the intestines, causing diarrhea, abdominal cramping and/or bloating. Most people get *giardiasis* (Giardia infection) by drinking contaminated water. (Giardia's nickname, "Beaver fever," is associated with the fact that some people have contracted the infection by drinking contaminated water from beaver-inhabited mountain streams; the infection can be acquired from humans, as well.) Giardia can also be acquired by touching a contaminated surface and then putting your hand to your mouth, or by having unprotected anal or oral/anal sex.

Good hygiene is the best way to avoid Giardia. Wash your hands thoroughly with soap and water after using the toilet or diapering a child. If you're camping out or visiting an area in which you're uncertain of the water quality, boil it or run it through a filter approved for Giardia removal before drinking it. In addition, avoid anal sex or at least use a condom (or dental dam for oral/anal sex) to prevent fecal exposure.

Protecting yourself from insect-borne illness

Certain insects can infect humans with a variety of viruses. Mosquitoes are known to transmit West Nile virus, Dengue fever, malaria, and a host of other illnesses. Ticks bites can cause Rocky Mountain spotted fever and Lyme disease.

These illnesses, which may vary in severity from very mild to life-threatening, have one thing in common: they can be prevented by using insect repellent. Other ways to prevent insect bites include avoiding the outdoors when insect activity is heaviest (twilight; early mornings); eliminating sources of standing, stagnant water (making sure the water in your birdbath is fresh, for example); and wearing long-sleeved shirts and pants when you're walking in grassy or shrubby areas known to have ticks.

Protecting yourself from sexually transmitted diseases (STDs)

Many diseases are spread through body fluids such as blood and semen. HIV/AIDS, several forms of hepatitis, syphilis, gonorrhea, Chlamydia, and human papillomavirus (HPV) are just a few of the STDs that have infected millions of people in the United States and throughout the world.

To protect yourself:

- Use a latex condom whenever you have sex with a person whose sexual health status is unknown to you.
- Do not have sex with multiple partners.

- Do not have sex with prostitutes or intravenous drug users.
- Do not inject drugs.

Body piercing, tattooing, and in some cases, even manicures and pedicures, can expose those who get them to blood-borne *pathogens* (disease agents). Since it's unrealistic to expect people to stop doing such things, you can at least make sure that practitioners of such services use IMMACULATE techniques. Even the faintest trace of infected blood on a metal or plastic tool can cause infection.

Final note

These are only a few of the things you can do to protect yourself from disease. It's also important to remember that achieving and maintaining good health involves a lot more than disease prevention. It means proper nutrition, regular exercise, not smoking, drinking moderately or not at all, and controlling stress levels. Steps like these help improve not just your overall health, but your body's ability to cope with illness if you do get sick. Also remember to keep newsworthy stories about disease in perspective. The risks of getting such diseases are probably low for most people.

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