



SEWAGE

What is sewage?

The term “sewage” describes wastewater, feces, and urine conveyed in sewage systems including raw sewage, sewage sludge, and septic tank waste. Raw sewage is mainly water containing excrement, industrial release, and debris such as sanitary towels, condoms, and plastic.

Excrement is the major source of harmful microorganisms, including bacteria, viruses, and parasites. Sewage treatment reduces the water content and removes debris but does not kill or remove all the microorganisms.

What is a sewage spill?

Sewage spills occur when the wastewater being transported via underground pipes overflows through a manhole, drain cleanout, or broken pipe. Sewage spills cause health hazards, damage homes and businesses, and threaten the environment, local waterways, and beaches.

Improper homeowner maintenance is the most common reason for septic system failure. If systems are not pumped out regularly, sludge (solid material) build-up occurs inside the septic tank. Sewage then flows into the absorption field, clogging it beyond repair. Heavy rains can saturate septic fields, causing poorly maintained systems to overflow and fail.

How can people be exposed to sewage?

People are exposed to sewage by hand-to-mouth contact during eating, drinking, and smoking, or by wiping the face with contaminated hands or gloves. Exposure can also occur by skin contact, through cuts, scratches, or penetrating wounds; and from discarded hypodermic needles. Certain organisms can enter the body through the surfaces of the eyes, nose, and mouth and by breathing them in as dust, aerosol, or mist. Sewage spills and septic system failure can also result in exposure to sewage.

How can sewage affect my health?

Sewage and wastewater contain bacteria, fungi, parasites, and viruses that can cause intestinal, lung, and other infections. Bacteria may cause diarrhea, fever, cramps, and sometimes vomiting, headache, weakness, or loss of appetite. Some bacteria and diseases carried by sewage and wastewater are *E. coli*, shigellosis, typhoid fever, *Salmonella*, and cholera.

Fungi such as *Aspergillus* and other fungi often grow in sewage compost piles. These can lead to allergic symptoms (such as runny nose) and sometimes can lead to lung infection or make asthma worse. If you have other health problems, you may be more likely to get sick from exposure to *Aspergillus*.

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Frequently Asked Questions

Parasites including *Cryptosporidium* and *Giardia lamblia* are also found in sewage. They may cause diarrhea and stomach cramps, and even nausea or a slight fever. Most people have no symptoms. Roundworms (*Ascariasis*) is another parasite that is found in sewage. Roundworm infection can cause coughing, trouble breathing, and/or stomach pain and blocked intestines.

Sewage contains many viruses such as Hepatitis A, which causes liver disease. Symptoms of Hepatitis A are feeling tired, having stomach pain, being nauseous, having jaundice (yellow skin), having diarrhea, or not being hungry. The Centers for Disease Control and Prevention (CDC) says sewage workers are not at greater risk of Hepatitis A infection than other workers, although if many people in a community have Hepatitis A, the risk may be higher than usual.

What should I do if I am exposed to sewage?

- Wash your hands well with clean water and soap before you eat or smoke, and after working.
- Do not touch your nose, mouth, eyes, or ears with your hands, unless you have just washed them.
- Keep your fingernails short. Use a stiff soapy brush to clean under your nails.
- Wear waterproof gloves if you handle wastewater, sludge, or grit; or if you clean pumps or screens.
- Shower and change out of any clothing contaminated with sewage.
- Do not keep your soiled work clothes with your other clothes.
- Report any injury or illness you think you got from sewage right away.
- You may need up-to-date shots for tetanus, diphtheria, and Hepatitis A. Learn which immunizations are recommended for you at <https://www.dhss.delaware.gov/dph/dpc/immunize.html>.

Resources

U.S. CDC, Septic and Onsite Wastewater Systems.
<https://www.cdc.gov/disasters/foodwater/septic.html>

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