



### **What is coliform and why should its presence in water be of concern?**

Coliform is a family of bacteria common in soils, plants and animals. The coliform family is made up of several groups. The coliform bacteria are a group of closely related and generally harmless bacteria.

The presences of coliform bacteria in drinking water indicate that other, disease-causing organisms may also be present in the water. Organisms such as Salmonella, Shigella, Cholera, Cryptosporidium, Giardia, E. coli, and Hepatitis virus are among this disease-causing group and may be present when coliform bacteria are detected.

Fecal coliform bacteria represent a sub-group of coliform bacteria. Fecal coliform is directly associated with human and animal fecal material. These bacteria live in the intestinal tract of warm-blooded animals and their presence in drinking water is a strong indication of sewage contamination. Many types of bacteria, viruses, and parasites that cause disease may be found in sewage.

### **What are the negative health effects of drinking or swallowing water that contains coliform bacteria?**

Health symptoms related to drinking or swallowing water contaminated with bacteria generally range from no ill effects to cramps and diarrhea (gastrointestinal distress) and other serious diseases. Two common waterborne diseases are giardiasis and cryptosporidiosis; both cause intestinal illness. Drinking *E. coli* contaminated water has also been associated with and can cause intestinal illness. In very rare cases, it can cause hemolytic uremic syndrome, a serious kidney condition.

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### **How much coliform is acceptable in drinking water?**

Any coliform presence in drinking water is cause for action.

Groundwater in a properly constructed well should be free of coliform bacteria. If coliform is found in a well, it generally means that surface water has somehow leaked into the well water. This could happen if rain runoff or snowmelt makes its way into the well. It could also be due to poor construction, missing or damaged seal, improper well plate or cracks in the well casing.

Coliform bacteria may enter the water supply if rain or snow runoff pools around the well, if the well cover is not airtight, or if the cement seal, or pad is cracked damaged, or not installed properly. In addition, insects, snakes, mice or other creatures getting into the well can cause contamination.

Improperly maintained treatment devices also can be a source of contamination. Home water filters and other water treatment devices should be changed and maintained in accordance with manufacturer's recommendations.

The presence of any fecal coliform in drinking water is of immediate concern as many diseases can be spread through fecal transmission. The risk of illness dictates that the water must be boiled to kill the organisms before it is safe to drink.

### **I have tested positive for coliform bacteria now what?**

If total coliform bacteria are confirmed in your drinking water, a system inspection should be conducted to find and eliminate any possible sources of contamination. Once the source is identified, it can usually be resolved by making system repairs, flushing, and/or "shock" chlorinating the system (adding chlorine for a short period.) Your water system or utility is required to notify you within 30 days about the situation.

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### **What happens if fecal coliform bacteria or *E. coli* is confirmed in my water?**

Confirmation of fecal coliform bacteria or *E. coli* in a water system indicates recent fecal contamination, which may pose an immediate health risk to anyone consuming the water. An inspection of the system is needed as soon as possible to assist the water system in resolving the problem. Chlorination and flushing of the system will most likely occur. A "Health Advisory" will be issued within 24 hours to alert all water users that there is a health risk associated with the water supply. In most cases, the use of boiled or bottled water will be recommended for drinking and cooking. The notice will inform you of actions in progress to correct the problem, and when the problem will likely be resolved.

### **I disinfected my well and water system (I think) or did I?**

Ok I dumped some bleach into my well or water system and it smelled like a swimming pool. Now my water is safe. But!! The bacteria test came back positive why? I put lots of chlorine/bleach in my system, which should have killed anything right! Not always; the old adage of "if a little is good then a lot is better" does not apply here. The chemical properties of your water play a large part in the effectiveness of the chlorine (which is what kills the bacteria). There are properties such as pH, temp, co<sub>2</sub>, dissolved oxygen, iron, etc. That all effect how well the chlorine will act in your water. Quite often multiple treatments will be needed and/or chemical adjustments made to your water in order for the chlorine to be effective. Now is the time for the professionals to come on board. Contact your licensed water systems operator and he/she will assist you.

### **What is a licensed water system operator?**

A licensed water system operator is someone who has under gone training specific to the operation and maintenance of water system including disinfection and chemical treatment. This company or individual has been tested by the state of California and certified as a water systems operator. Contact us at [www.dpd-inc.com](http://www.dpd-inc.com) we are licensed water systems operators, and licensed water treatment operators with over sixty years in the area.