

# Coliform Bacteria

- Legal Limit (MCL): 5% of monthly samples<sup>a</sup>
- Public Health Goal (MCLG): zero

## Common sources of the contaminant in the Central Valley<sup>b</sup>

Coliform bacteria is a general name for a variety of bacteria, including fecal coliform and E. coli bacteria. Bacteria generally enter the drinking water system through cracks in lines or wells. Coliform bacteria does not necessarily mean that there is fecal coliform or E. coli bacteria, but follow-up testing is required to verify whether there is a problem.

Fecal coliform and E. coli are more dangerous bacteria that come from animal and human waste, generally from poorly maintained or constructed septic systems, cracks in sewer lines, or animal waste near a water source.

## Possible health effects of short-term exposure<sup>c</sup> to tap water contaminated with fecal coliform and E. coli<sup>d</sup>

- Diarrhea, cramps, nausea
- Jaundice (yellowing of the skin and eyes)
- Headaches
- Fatigue
- Kidney failure

## Sensitive populations<sup>e</sup>

In general, young children, the elderly, and others with weak immune systems are the most sensitive to bacteria in the water.

## Pathways of exposure<sup>f</sup>

Exposure to bacteria in water occurs primarily by drinking contaminated water, or accidentally swallowing it when bathing or brushing your teeth. Exposure can also happen from eating food off a plate that is still wet from recently washing it, ice, and washed fruits and vegetables that are eaten raw.

## Tips for reducing exposure at home<sup>g</sup>

- Boil water for one minute before drinking, cooking, brushing teeth, making ice cubes, and washing produce.
- After washing dishes, let dishes dry completely before using.
- Remind children to keep mouths closed while in the bath to avoid swallowing water.
- Buy bottled water or use a certified point-of-use treatment device. Most approved bacterial treatment devices include chlorine, ultraviolet light, or ozone technology. On-Tap Faucet filters (e.g., Brita) do not remove bacteria. A full list of certified filter devices is available at <http://ww2.cdph.ca.gov/certlic/device/Documents/WTDDirectory2008/Section6F.pdf> or by calling the California Dept. of Public Health at (916) 449-5600. Note that DPH updates this list each spring.



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311 W. Murray Ave. Visalia, CA 93291  
Tel. (559) 733-0219 Fax. (559) 733-8219  
[www.communitywatercenter.org](http://www.communitywatercenter.org)

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- a. EPA has set a limit of more than 5.0% of all samples total coliform-positive in a month for very large systems that collect at least 40 routine samples per month. However, for water systems that collect fewer than 40 routine samples per month (most small systems), no more than one sample can be total coliform-positive per month. Every sample that has total coliform must be analyzed for either fecal coliforms or *E. coli*. If a system has two consecutive total coliform positive samples, and one is also positive for *E. coli* or fecal coliforms, the system has an acute MCL violation. EPA (2007) "Drinking Water Contaminants," available at <http://www.epa.gov/safewater/contaminants/index.html#micro>.
- b. EPA (2006), "Drinking Water Contaminants, Microbes," available at <http://www.epa.gov/safewater/hfacts.html#Microbiological> (last visited Nov. 29, 2008).
- c. No information is available on the long-term health effects of *E. coli* bacteria exposure. However, some people with kidney problems (hemolytic uremic syndrome) have immediate complications with lifelong implications, such as blindness, paralysis, persistent kidney failure, and the effects of having part of their bowel removed. Many persons with hemolytic uremic syndrome have mild abnormalities in kidney function many years later. Center for Disease Control and Prevention (2006), "Escherichia coli 0157:H7," available at [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli_g.htm).
- d. EPA (2006), "Basic Information on *E. coli* 0157:H7 in Drinking Water," available at <http://www.epa.gov/safewater/contaminants/ecoli.html> (last visited Nov. 29, 2008); Center for Disease Control and Prevention (2006), "Escherichia coli 0157:H7," available at [http://www.cdc.gov/nczved/dfbmd/disease\\_listing/stec\\_gi.html](http://www.cdc.gov/nczved/dfbmd/disease_listing/stec_gi.html) (last visited Nov. 29, 2008).
- e. EPA (2006), "Basic Information on *E. coli* 0157:H7 in Drinking Water," available at <http://www.epa.gov/safewater/contaminants/ecoli.html> (last visited Nov. 29, 2008).
- f. EPA (2006), "Basic Information on *E. coli* 0157:H7 in Drinking Water," available at <http://www.epa.gov/safewater/contaminants/ecoli.html> (last visited Nov. 29, 2008).
- g. EPA (2006), "Basic Information on *E. coli* 0157:H7 in Drinking Water," available at <http://www.epa.gov/safewater/contaminants/ecoli.html> (last visited Nov. 29, 2008).



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