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Water Quality

FAQ's On Pharmaceuticals and Personal Care Products In CCWD Water

Pharmaceuticals in the U.S. drinking water supply are often a topic in the media.

CCWD water meets and exceeds all state and federal water quality standards.

Below are answers to questions often asked about the issue:

1. How many drinking water plants do you operate and what are the treatments at each?

CCWD currently operates two water treatment plants: the [Bollman Water Treatment Plant](#) and the [Randall-Bold Water Treatment Plant](#). The Bollman facility has a 75 million gallon per day (mgd) capacity and utilizes enhanced coagulation/sedimentation; intermediate ozonation; dual-media (sand and granular activated carbon); and finally chloramination for distribution system disinfectant residual. Water treated by the Bollman facility is purveyed directly to approximately 220,000 retail customers in the cities of Concord, Clayton, Walnut Creek, Pleasant Hill and Martinez.

The Randall-Bold facility has a 40 mgd capacity and utilizes enhanced coagulation/sedimentation; intermediate ozonation; dual-media (sand and granular activated carbon); post-ozonation; and finally chloramination for distribution system disinfectant residual. Wholesale water treated by the Randall-Bold facility is sold directly to the City of Brentwood, the City of Antioch, and the Diablo Water District (Oakley).

The ozonation process and granular activated/biologically active filtration are designed to effectively remove organic materials such as pharmaceuticals.

2. Have you tested to see whether your source water contains trace levels of pharmaceuticals?

CCWD participated in a research study through the American Water Works Association Research Foundation (AwwaRF) in July 2006 to determine the toxicological relevance of endocrine disrupting chemicals and pharmaceuticals in both raw source and treated water.

At that time, the District analyzed for 62 various endocrine disrupting chemicals and pharmaceuticals. Most were undetectable using current methods.

CCWD also partnered with AwwaRF, the California Department of Public Health (CDPH), and the California Department of Water Resources (DWR) to conduct research on advanced water treatment techniques and strategies that specifically target the removal of endocrine disrupting chemicals and pharmaceuticals in untreated source water. This project was conducted earlier this year, and pilot tested existing treatment methods used at CCWD's water treatment plants as well as advanced treatment methods that may be implemented in the future. The District analyzed the removal efficiency of these methods on 12 endocrine disrupting compounds and pharmaceuticals. Preliminary results indicate that treatment with ozone and granular activated carbon (CCWD's existing treatment process) removes greater than 90 percent of nearly all of the compounds tested.

3. What have the tests shown?

CCWD sampled both raw source and treated water. The only detections the District had in the treated water were for Sulfamethoxazole (pharmaceutical), Meprobamate (pharmaceutical), Atrazine (pesticide - endocrine disruptor), Tricolsan (pharmaceutical), and Diocetyl phthalate (used to make plastics - endocrine disruptor).

It should be noted that the detection occurred at only a few nanograms per liter, or parts per trillion (ppt), for each constituent and for most components, our existing treatment process removed around 70 - 85% of what the District detected in our raw source water.

Bottom line - detection occurred at extremely low levels and should not pose any health threats. There are currently no drinking water regulations for any of these constituents, except atrazine which has an Maximum Contaminant Level (MCL) of 500 ppt.

4. Are any of your drinking water intake sites downstream from a wastewater treatment plant?

Since CCWD draws its water from the Sacramento-San Joaquin Delta, under a contract with the federal Central Valley Project (CVP), it is essentially downstream of every municipal and industrial wastewater

Here's more:

[Pharmaceuticals and Personal Care Products Fact Sheet](#)

[Western Water Magazine:
An Rx For Water Quality Problems?](#)

[Current CCWD Annual Water Quality Report](#)

[Monthly CCWD Water Testing Results](#)

treatment plant located along either the Sacramento or San Joaquin Rivers (or their tributaries) within the Central Valley.

5. How long have pharmaceuticals been in water?

The presence of pharmaceuticals and other personal care products in water is not new. They likely have been present in water supply sources for as long as such products have been in use. What is new is that advances in laboratory technology have made it possible to detect and measure them at extremely low levels. These lab methods are not widely available and are still experimental and under development.

6. Do pharmaceuticals pose a threat?

Recent studies have told us these substances are present, but little is known about the effects on people and the environment. The fact that a substance is detectable does not mean the substance is harmful to humans. Research conducted around the world to date has not identified a health concern associated with pharmaceuticals and consumer products at the minute levels detected in the study.

There is a critical need for further studies to determine whether pharmaceuticals and personal care products pose a risk. Research is also needed to identify the best way to address these substances if they are in fact a health risk.

Many water agencies would like to see the Environmental Protection Agency take a broad look at the larger life cycle issues associated with pharmaceuticals. There may be more effective ways to deal with these substances in the environment before they reach the drinking water treatment plant.

For more information, [please send us an e-mail](#).

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