

No Drugs Down the Drain

Frequently Asked Questions – Rev. 1, July 31, 2008

How do pharmaceuticals enter the environment?

- While some pharmaceuticals enter the environment via normal human and livestock excretion into the sewer system or waterways, much is via direct disposal such as having been flushed down the toilet or poured down the drain.

Isn't excretion responsible for more pharmaceuticals entering the environment than improper disposal?

- Pharmaceuticals dumped down the drain have not been degraded at all by the body and may be more potent.
- Pharmaceuticals enter the environment through use and disposal; however, we can all make a world of difference by preventing improper disposal immediately.

Why don't wastewater treatment plants improve treatment to remove pharmaceuticals?

- Treatment does remove and reduce some types of pharmaceuticals, but some aquatic species have shown sensitivity to extremely low levels of medications (as low as nanograms/liter).
- Adding more sophisticated treatment, like ozone or reverse osmosis, is extremely expensive and would cost communities millions of dollars, significantly increasing utility rates. This type of treatment also requires enormous amounts of energy, which could also mean more greenhouse gases emitted into the environment.
- Alternative treatment is always more expensive than prevention and may have other environmental consequences.

Do pharmaceuticals impact water?

- Several studies have shown that exposure to certain pharmaceuticals results in abnormal development and reproduction in fish and other wildlife, even at very low levels.
 - The antidepressant Fluoxetine delayed development of young Western Mosquitofish (*Gambusia affinis*).¹
 - Increased numbers of male fish have been associated with pharmaceuticals in ocean waters in Orange County.²
- With the advance of technology and testing, some waterways that supply drinking water have been reported to have trace levels of pharmaceuticals.

Is the No Drugs Down the Drain campaign a long-term solution?

- Agencies throughout the state are working together to produce a long-term solution to the problem of properly disposing of unwanted medication. Senate Bill 966, passed in 2007, holds promise for the development of safe, legal disposal programs throughout the state. The California Integrated Waste Management Board is currently working to develop a long-term solution.

Why don't pharmacies have collection bins for unwanted and expired medication?

- Drug Enforcement Administration regulations prohibit the collection of controlled substances such as codeine, morphine, sudafedrin and narcotics without law enforcement involvement.
- Some pharmacies collect non-controlled substances, such as antibiotics and over-the-counter medicine.
- Agencies are working to find a way to allow permanent collection sites for all pharmaceuticals.

What is done with the medication after collection events?

- The medications are incinerated in regulated facilities to ensure that they are completely destroyed.

What should I do with unwanted or expired medication in the future?

- You can make a world of difference by following prescriptions as directed, and then disposing of your unused portions properly.
- Regularly check the www.NoDrugsDownTheDrain.org site for updated information on local disposal options and collection events.
- Remember: No Drugs Down the Drain Please!

¹Black, M.C., Rogers E.D., and Henry, T.B., 2005. Endocrine Effects of Selective Serotonin Reuptake Inhibitors (SSRIs) on Aquatic Organisms. Abstract available at

<http://es.epa.gov/ncer/publications/meetings/8-23-2005/abstract/black1.html>.

²Irwin, M., Reyes, J., Steinert, S., Hwang, W., Armstrong, J., Sakamoto, K., Kelley, K. and Schlenk, D., 2005. Relationships between reproductive endpoints measured

in flatfish collected near an outfall in Orange County, California. Abstract available at

<http://abstracts.co.allenpress.com/pweb/setac2005/category/?ID=57549>.