

No Drugs Down the Drain! Frequently Asked Questions

How do pharmaceuticals enter the environment?

- Residential, commercial, and agricultural pharmaceuticals can follow two primary pathways to the environment:
 - Excretion: Human and livestock excretion of drugs and their metabolites into the sanitary sewer or directly to waterways following consumption.
 - Improper Disposal: Dumping unused pharmaceuticals down the drain to the sewer or septic tank.

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

- Pharmaceuticals enter the environment through use and disposal; however, we can prevent improper disposal immediately! Pollution Prevention has proven very effective in the reduction of many pollutants into sewers and ultimately waterways.
- Pharmaceuticals dumped down the drain have not been degraded at all by the body and may be more potent.

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

- There is not any one type of treatment that removes everything. It is better if pharmaceuticals are not disposed down the drain in the first place.
- 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 treatment will cost communities millions of dollars, increasing utility rates.
- End-of-pipe treatment is always more expensive than prevention and may have other environmental consequences. Even the most effective treatment, reverse osmosis, requires enormous amounts of energy, which could mean more greenhouse gases emitted into the environment. Reverse osmosis also concentrates pollutants into a waste brine that must be disposed of – where? Nothing really goes “away.”

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
- 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?

- No. The California legislature recognized pharmaceutical disposal as a problem, and through Senate Bill 966 directed the California Integrated Waste Management Board to develop a long-term solution. The 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?

- See www.nodrugsdownthedrain.org for information on local disposal options.
- ***Please remember: No Drugs Down the Drain!***

¹ Black, 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>.

² Irwin, 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>.