

Proper Medicine Disposal

Proper disposal can make an important difference in safeguarding lives and protecting the environment.

► Follow your medication prescriber's instructions and use all medications as instructed.

► If you do not use all of your prescribed or over-the-counter medication,

1) **DO NOT FLUSH** unused medications and **DO NOT POUR** them down a sink or drain unless otherwise instructed by the prescription.

2) **Dispose unused medication in household trash.** Ensure you protect children and pets from potentially negative effects.

- Pour medication into a **sealable plastic bag.**
- If medication is a solid (pill, liquid capsule, etc.), **crush it or add water** to dissolve it.
- **Add old coffee grounds, kitty litter, sawdust,** or anything to make it unappealing.

3) **Don't hoard unused medications.** Dispose of them as soon as they have expired or you do not need them.

4) **Remove and destroy ALL identifying personal information** (prescription label) from all medication containers before recycling them or throwing them away

Medicine Disposal for a Healthy Environment

New recommendations for disposing of medicines helps protect the environment

New water quality testing techniques have led to the discovery of a growing number of new pollutants in our waterways. Chemicals from flame retardants, drugs, soaps and shampoos (and other "personal care products"), veterinary medicines, hormones and more. The full range of these pollutants is only beginning to emerge. And although they are often found in very low levels in our water bodies and ground-water (parts per billion or parts per trillion) and are not highly toxic, they are potentially dangerous nonetheless.

Impacts can include potential human health effects and broader ecosystem impacts.

There are vast numbers of compounds that are in – or likely to be found in – our lakes and riv-

ers due to human activities, and each of these has potential effects on humans and on fish and wildlife. What's more, these may interact with each other causing new compounds or introducing new health effects, and despite the weak concentrations, could have impacts on sensitive individuals.



5) Check for Approved State and Local Collection Programs. Another option is to check for approved state and local collection alternatives such as community based household hazardous waste collection programs. In certain states, you may be able to take your unused medications to your community pharmacy or other location for disposal.

Consult your pharmacist with any questions.

Note: The FDA advises that the following drugs be flushed down the toilet instead of thrown in the trash:

Actiq (fentanyl citrate)
Daytrana Transdermal Patch (methylphenidate)
Duragesic Transdermal System (fentanyl)
OxyContin Tablets (oxycodone)
Avinza Capsules (morphine sulfate)
Baraclude Tablets (entecavir)
Reyataz Capsules (atazanavir sulfate)
Tequin Tablets (gatifloxacin)
Zerit for Oral Solution (stavudine)
Meperidine HCl Tablets
Percocet (Oxycodone and Acetaminophen)
Xyrem (Sodium Oxybate)
Fentora (fentanyl buccal tablet)

Patients should always refer to printed material accompanying their medication for specific instructions.

A few recent studies have turned up some troubling findings:

- Testing in Philadelphia found 56 pharmaceuticals or byproducts in treated drinking water, including medicines for pain, infection, high cholesterol, asthma, epilepsy, mental illness and heart problems. Sixty-three pharmaceuticals or byproducts were found in the city's watersheds.

- Anti-epileptic and anti-anxiety medications were detected in a portion of the treated drinking water for 18.5 million people in Southern California.

- Researchers at the U.S. Geological Survey found a metabolized angina medicine and the mood-stabilizing carbamazepine in drinking water from a Northern New Jersey drinking water treatment plant.

- A sex hormone was detected in San Francisco's drinking water.

- The drinking water for Washington, D.C., and surrounding areas tested positive for six pharmaceuticals.



While public health effects of these emerging contaminants are currently unknown, there are signs that ecological impacts may already be happening. Researchers have found a number of effects of pharmaceuticals on fish and wildlife that could have wide-ranging impacts:

- Exposure to antidepressant compounds can alter the behavior and reproductive functions of fish and mollusks.

- Gradual long-term exposure to antibiotics can result in the selection of bacterial pathogens that display resistance to antibiotics.

- Hormones or hormone mimicking compounds can disrupt natural hormone systems in fish and other wildlife. At low doses, hormones can affect an organism's growth, reproduction, and development. Studies have shown increased feminization in male fish exposed to waters contaminated with PPCPs. And there are reports that exposure can result in males that can produce eggs. Studies have shown males with increased estrogen in areas near wastewater outfalls.

- Finally, exposure may interfere with the proper function of denitrifying bacteria in the wastewater treatment process.
