

From the Agent

Do you have a bottle of cough syrup that didn't get used up or some expired prescription pills? Or your veterinarian switched your pet to a different medication, leaving you with some of the old one leftover. What should you do with medicine that has expired or that you don't need? This month's WET will talk about how to dispose of unwanted medicine? As always, you can also find more updated information on water and energy from the WET Facebook page (www.facebook.com/marionwet). I hope you find the information helpful. Thanks for reading WET.

Yilin Zhuang



A 2008 National Health and Nutrition Examination survey showed that 47.2% of Americans (all ages) reported using prescription medication during the past month.



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Unwanted Medicine

The old advice to dispose of unwanted medicine was to flush it down the toilet—to get them out of the house and out of the reach of children and pets. It seems so easy just to toss medicines in the trash or to flush them down the toilet. But these “easy” methods of disposal have unintended, negative consequences for public health and safety and for the environment. When they are flushed down the toilet or sink, most of these chemicals pass through treatment plants or septic systems and can end up in nearby rivers or lakes.

Why shouldn't we just flush or trash our unwanted meds?

There are three main reasons why the toilet, sink or trash can should not be the first places you turn when getting rid of your unused medicines.

- **Environmental Impacts**

A wide range of pharmaceutical chemicals have been found in rivers, streams, lakes, groundwater, and drinking water nationwide. These include antibiotics, anti-depressants, steroids, seizure medications, cancer treatments, painkillers, tranquilizers and others. Even though the chemicals occur at very low levels (parts per billion or trillion), they are causing changes in behavior, reproduction, and growth in frogs, fish, mussels, and other aquatic animals. Scientists are concerned about aquatic species because they are constantly exposed to the chemicals. Pharmaceuticals have also been found in plants and earthworms exposed to sewage sludge.

A 2008 Associated Press investigation found pharmaceuticals in the drinking water supplies of at least 41 million Americans in 24 major metropolitan areas.

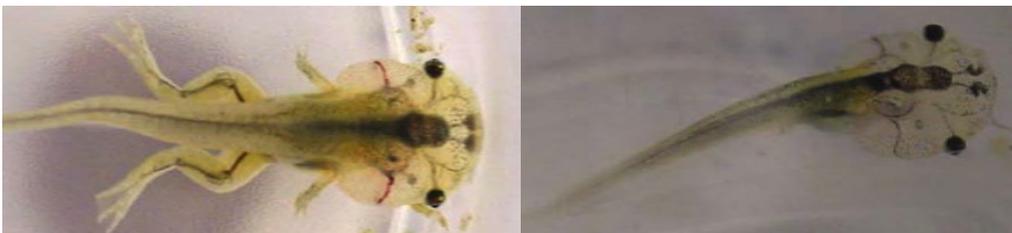


Figure 2. African Frog Tadpole in Clean Water (Left) and African Frog Tadpole in Prozac Water (Right)

- **Accidental Poisoning**

Medicines that are stored insecurely in the home, or placed in the trash without taking precautions, are easy for children and pets to get into. Tragically, this can result in unintentional poisonings. Between 2001-2008, over 430,000 children five years or younger were brought to emergency rooms after self-ingesting medicines. And in recent years, human medications have topped the list of pet toxins. Pain-relievers, antidepressants, heart medications, and ADHD medicines all made the list of top 10 medications that poisoned pets.

- **Drug Abuse and Diversion**

Prescription drug abuse is on the rise, particularly among teenagers, many of who mistakenly believe that prescription pills are safer than street drugs. According to the Centers for Disease Control and Prevention, prescription medications, including opioids and antidepressants, are responsible for more overdose deaths than street drugs such as cocaine, heroin, and amphetamines. In some cases the drugs being abused were prescribed to the patient, but in many cases they were shared, illegally purchased, or stolen, sometimes from the trash.

How Does Medicine Get Into the Water?

Many medicines enter the water system when they are excreted or when they are rinsed off of the skin. However, some end up in the water when people dispose of human or animal medicines via the toilet, sink, or trash. This is a source we can all do something about if we properly dispose of our unused medicines. Septic systems and most municipal wastewater treatment facilities are not designed to remove pharmaceutical chemicals from the water. Medicines that are thrown in the trash can end up in a landfill where they either leach out or are pumped to wastewater treatment plants. In either case, they can end up in local streams and rivers. However, medicine should never be burned in a burn barrel.

The Drug Abuse Warning Network reports that emergency department visits involving misuse or abuse of pharmaceuticals increased 98.4 percent between 2004 and 2009, from over 627,000 visits to over 1.2 million.

How do I properly dispose of my unwanted medicines?

- Don't flush medications down the toilet.
- Take unwanted medicine to a collection program. The medicine is destroyed at regulated incinerators.
- If a collection program is not available in your area, dispose of the medicine in the trash after following these tips:
 - ⇒ Keep medication in its original container. Do not crush pills.
 - ⇒ Remove or blacken out all personal information, but leave the name and dose of the medication visible.
 - ⇒ Add a safe and unpalatable substance such as kitty litter or used coffee grounds to the medication and then replace the lid.
 - ⇒ Seal the medicine bottle in a leak-proof container such as a coffee can. Dispose of in the trash as close to pick-up day as possible.

Contact

Yilin Zhuang, Ph.D.
2232 NE Jacksonville Rd
Ocala, FL 34470
Phone: 352-671-8400
Email: yilinz@ufl.edu
Facebook:
www.facebook.com/marionwet

To receive future electronic copies of WET, please contact Yilin Zhuang.

