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## Pollution Prevention: Safe Medication Disposal

The safe disposal of unused medications has become a serious environmental concern. Traditionally, we were told to flush unwanted medications down the drain or toilet rather than keeping them around so they would not be misused. Although effective in removing the medication from potentially misuse, flushing creates a new and growing problem in the environment.

Wastewater treatment plants are not designed to remove the chemical compounds found in medications, and these bioactive substances typically end up being discharged into our surface water. A study by the United States Geological Survey done in 1999 showed that in 80% of the streams sampled contained detectable levels of chemicals found in common medications. Because of the potential impact of these chemicals on the environment, disposal of unused medicines by flushing them down the drain or toilet is no longer considered to be a good practice. National attention is growing to develop more appropriate methods to safely dispose of unwanted medications.

The U.S. Food and Drug Administration (FDA) recommends that most medications be discarded in the household trash, with a few precautions:

- Keep pharmaceuticals in their original container since the labels may contain safety information, the container is chemically compatible, and the caps are typically water tight and child-proof.
- Scratch out, cover with tape, or use permanent marker to make personal information unreadable.
- To reduce the opportunity for misuse, prepare the drugs for disposal:
  - **For solid medications, such as pills or capsules:** add a small amount of water to at least partially dissolve them. Seal the container with duct or other opaque tape.
  - **For liquid medications:** add enough table salt, flour, charcoal, or nontoxic powdered spice, such as turmeric or mustard to make a pungent, unsightly mixture that discourages anyone from eating it. Seal

the container with duct or other opaque tape to prevent leaks and breakage.

- **For blister packs:** wrap the blister packages containing pills in multiple layers of duct or other opaque tape.
- **Unused ampules, vials, and IV bags** should not be opened (other than to scratch out the patient's name). Wrap the item with duct or other opaque tape to minimize breakage, and then place in an opaque plastic container (such as an empty yogurt or margarine tub).
- Double bag the contained medications in a closable plastic bag, or put in another container with the lid taped closed, and put it in the trash. This helps prevent immediate identification that the package contains drugs and helps contain any leaks if the container breaks during the disposal process (if the plastic garbage bags tear, or if the trash can tips over, for example).
- Avoid putting medications into any material or food that might be attractive to pets or wildlife.
- The same disposal methods for prescription medications will also apply to over-the-counter drugs and pet medications.

Another option in Montgomery County is to hold unneeded medications for the annual Hazardous Material Collection Day conducted by the BiCounty Solid Waste Management Department. Information about this program is available at 931-648-5751. You would still need to follow all the precautions listed above for safety.

**More information is available from:**

U.S. Geological Survey Toxic Substances Hydrology Program:  
[http://toxics.usgs.gov/highlights/pharmaceuticals\\_method.html](http://toxics.usgs.gov/highlights/pharmaceuticals_method.html)

U.S. Environmental Protection Agency: Pharmaceuticals and Personal Care Products as Pollutants: [www.epa.gov/ppcp](http://www.epa.gov/ppcp)

U.S. Food and Drug Administration:  
[http://www.fda.gov/consumer/updates/drug\\_disposal062308.html](http://www.fda.gov/consumer/updates/drug_disposal062308.html)

Montgomery County Storm Water Management and Control Regulation Program Website:  
<http://www.montgomerycountyttn.org/county/stormwater/>

**Prepared by the Montgomery County Storm Water Coordinator**