Disposal of Unused Medicines

There are hundreds of mini collections of potent chemicals in Harrison Township and they are in our own homes. They can be found in medicine cabinets, drawers and on nightstands. Every day, hundreds of prescriptions for medications are filled at our local pharmacies or by mail order and even more remedies are brought into the home when purchased off the shelves as “over the counter” products. Add to this, many of the cosmetic or personal care products that contain chemical or natural ingredients that border on medicinal agents. This is quite a mix containing some potent, and possibly harmful, ingredients.

These products can be of great benefit to us when used in their prescribed manner. While they are in our homes, they are not a problem because we take care to keep these products safe and secure. But many of these products are not used up completely for a variety of reasons. What do we do with them when we no longer want them around?

Another layer of this problem is that sometimes, people not authorized to use the medicines sometimes take them looking for a “good time”. This can be a very dangerous practice if that “pill” has potent or undesirable activity. Most of us would not imagine this happening to our discarded medicines, but it does happen. Our challenge is to dispose of our unwanted medicines in an environmentally correct manner and to keep them out of the hands of inappropriate users.

For many years, the instruction was to flush the unused portion down the drain. This got them out of the house and they disappeared – or did they? Unfortunately, they did not. They are still a problem but now it is someone else’s problem. More accurately, it is everyone’s problem. The drain water flows out to a waste treatment facility or into a septic system. From the treatment facility it flows into streams and rivers. From a septic system, it becomes part of the groundwater. The surface water and ground water become the source for our potable water. Neither the waste treatment facility nor the soil is able to break down many of these chemical ingredients and they retain their biological activity. Fortunately, they are present in such low concentrations that they do not pose a health hazard to humans. At least, not yet. This is where the Environmental Commission becomes concerned – they are a problem for aquatic life that lives in or near waterways.

This is a newly recognized problem. Numerous scientific articles and media accounts have recently brought the issue to light. For example, some fish in our waterways are adversely affected by certain medicinal pollutants according to recent studies. When removing unused medicines from our house for disposal, two standards must be considered: environmentally acceptable disposal and security. The old recommendation to “flush unused medicine down the toilet” has now been refuted by all groups and is no longer acceptable. Other parts of the country have taken early, proactive steps on this problem and we, on the East Coast, are just realizing this.

After much investigation, we are recommending the following method for disposal of your unwanted medications:

1 – Remove the medicine from the pharmacy container/bottle

2 – Place the medicine in an empty opaque plastic bottle

(a wide-mouth bottle from laundry or dishwashing liquid is ideal)

3 – Add some unpleasant ingredient to the bottle

(a little laundry liquid or dishwashing liquid, motor oil, dirt or coffee grounds)

4 – Tape the cap to the bottle

5 – Place the bottle in the regular (not recycle) trash for removal

6 – Place the empty pharmacy bottles in the trash too

(after you have blacked out the name of the medicine)

Do not flush medicines down the drain or toilet.

The US Fish and Wildlife Service, the American Pharmacists Association, and the Pharmaceutical Research and Manufacturers of America have agreed on this method of disposal.

The regular trash from Harrison Township is incinerated so the medicines will be completely destroyed without introducing additional pollutants to the environment. You can also dispose of medicines and cosmetic/personal care products such as creams, ointments and liquids in this manner. No other medical waste, such as blood contaminated materials or syringes, may be placed in the trash.

There are a few drugs that have such a high abuse potential that official recommendation is to flush these down the drain/toilet. Only these drugs should be flushed down the drain/toilet instead of trash disposal:

Actiq (fentanyl citrate) or any formulation containing fentanyl

OxyContin Tablets (oxycodone) or any formulation containing oxycodone

Avinza Capsules (morphine sulfate) or any formulation containing morphine

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)

Submitted by

Philip Grous, Member
Harrison Township (NJ) Environmental Commission
February, 2010

References:

The US Fish and Wildlife Service, the American Pharmacists Association, and the Pharmaceutical Research and Manufacturers of America have agreed on this method of disposal as part of the SMARxT Disposal program.
http://www.pharmacytimes.com/print.php?url=http://www.pharmacytimes.com/issue/pharmacy/2010/January2010/PatientEducationMedCabinet-0110

The Journal of Ecologically Sustainable Medicine, Spring/Summer 2007, p 4-13

This issue of *Symbiosis* features a series of articles on preventing pollution of the environment with pharmaceuticals and personal care products (PPCPs). "Green Pharmacy: Preventing Pollution—A Cross Sector Approach", outlines practical steps we can take to address complex ecological issues. This series of articles provides an overview of the complicated issues and potential solutions (some of which are already being utilized) for PPCP pollution.
You can find more information on the topic at the EPA's Web site on PPCPs.
(http://www.teleosis.org/epa/ppcp)
http://www.teleosis.org/pdf/symbiosis/Intro_EcoTox4.2.pdf

Sci. Total. Environ. 2007, *388*, 137

Christian Daughton, Chief of Environmental Chemistry, National Exposure Research Laboratory, EPA

The EPA estimates that 19.7 tons of APIs (Active Pharmaceutical Ingredients) are disposed of in US sewer systems annually.

"Drug disposal a concern" From the Camden Courier Post

By Wilford S. Shamlin • Courier-Post Staff • July 6, 2009
http://www.courierpostonline.com/apps/pbcs.dll/article?AID=2009907060343

AMA seeks advice on safe drug disposal
An increasing amount of attention is being paid to this emerging issue.

By Victoria Stagg Elliott, *AMNews* staff. July 3, 2006.
http://www.ama-assn.org/amednews/2006/07/03/hlsa0703.htm

Office of National Drug Control Policy

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) Note: Patients should always refer to printed material accompanying their medication for specific instructions.
Office of National Drug Control Policy, Washington DC 20503 (202) 395-6618
http://www.ncjrs.gov/ondcppubs/publications/pdf/prescrip_disposal.pdf (Feb 2007)

Idaho Department of Environmental Quality
Waste Management and Remediation Division

Over 80% of waterways tested in the U.S. show traces of common medications such as acetaminophen, hormones, blood pressure medicine, codeine, and antibiotics.
Studies by the U.S. Environmental Protection Agency (EPA) show that water bodies contaminated with medications can adversely impact aquatic life. Studies have linked hormone exposure to reproductive defects in fish, and environmental exposure to antibiotics to the development of drug-resistant germs.
http://www.deq.idaho.gov/WATER/prog_issues/surface_water/pharmaceuticals/index.cfm

National Community Pharmacists Association (NCPA) "**NCPA Briefs Congress about Drug Disposal Programs"**

Alexandria, Va. - June 18, 2009

Cheri Garvin, RPh, CEO of Leesburg Pharmacy, and other stakeholders met with the House Judiciary Subcommittee on Crime, Terrorism and Homeland Security about the safe and responsible disposal of drugs. Congress has introduced legislation to address this concern and invited industry experts to offer their perspectives on the issue. Speaking on behalf of the NCPA, Garvin described the association's *Protect Your Pharmacy Now! Prescription Drug Disposal Program*.
http://www.ncpanet.org/media/releases/2009/garvintestimony.php

New York State Department of Environmental Conservation
Regional Office: 845-256-3033
www.dec.ny.gov
www.dontflushyourdrugs.net