

**HACKETTSTOWN REGIONAL MEDICAL CENTER
ADMINISTRATIVE POLICIES
HAZARDOUS PHARMACEUTICAL WASTE POLICY AND PROCEDURES**

=====

Effective Date: July 2012

Policy No: AD104

Cross Referenced:

Origin: Pharmacy

Reviewed Date: 5/2013

Authority: Chief Operating Officer

Revised Date: 5/2013

Page: 1 of 6

=====

SCOPE

All departments of Hackettstown Regional Medical Center

PURPOSE

A select portion of pharmaceutical drugs and their residues are considered to be hazardous waste per the EPA and NJDEP definitions of hazardous wastes. Other pharmaceuticals are required to be collected and disposed of as non-hazardous pharmaceutical waste by the NJDEP and State of New Jersey Department of Health and Senior Services. It is the policy of Hackettstown Regional Medical Center to comply with local, state and federal regulations associated with the proper handling, collecting and disposal of these hazardous wastes.

DEFINITIONS

- I. Resource Conservation and Recovery Act – EPA’s regulations directly applied to the management of hazardous wastes.
 - A. Characteristic Hazardous Wastes – waste classified by the EPA into four groups:
 1. Ignitability – wastes can create fires under certain conditions, are spontaneously combustible, or have a flash point less than 140⁰F. Aerosols are also included within this group.
 2. Corrosivity – wastes that are a strong acid or base with a pH ≤ 2 or ≥ 12.5.
 3. Reactivity – wastes are unstable under “normal” conditions. They can cause explosions, toxic fumes, gases or vapors when heated, compressed or mixed with water.
 4. Toxicity – wastes that are harmful or fatal when ingested or absorbed.
 - B. P-listed wastes – sub list of wastes that are considered to be acutely hazardous wastes by the EPA and even empty containers of acutely hazardous wastes must be collected i.e. Coumadin blister pack wrappers and nicotine patch and gum wrappers.
 - C. U-listed wastes – sub list of commercial chemical products that are considered to be hazardous waste by the EPA.
- II. Empty container – a container is considered to be empty if the following is true:
 - A. Spent nicotine patches and gum are considered to be empty once they have made contact with the patient.
 - B. Lotions, gels and oral liquids are considered empty if ≤ 3% of the original contents remains.
- III. Satellite Accumulation Areas – Collection containers at or near the point of generator of a hazardous waste.
- IV. Small Quantity Generator – EPA regulations state that small quantity generators may not produce more than 2,200 pound of hazardous waste and 2.2 pounds of acutely hazardous waste in a given month. Hackettstown Regional Medical Center is a small quantity hazardous waste generator.
- V. National Institute of Occupational Safety and Health Hazardous Drug - Defined by the American Society of Health System Pharmacists as being a drug which displays one or more of

**HACKETTSTOWN REGIONAL MEDICAL CENTER
ADMINISTRATIVE POLICIES
HAZARDOUS PHARMACEUTICAL WASTE POLICY AND PROCEDURES**

=====

Effective Date: July 2012

Policy No: AD104

Cross Referenced:

Origin: Pharmacy

Reviewed Date: 5/2013

Authority: Chief Operating Officer

Revised Date: 5/2013

Page: 2 of 6

=====

the following characteristics: genotoxicity, carcinogenicity, teratogenicity or fertility impairment or serious organ or other toxic manifestation at low doses in experimental animals or treated patients.

- A. Genotoxicity drugs are damaging to DNA and thereby capable of causing mutations or cancer.
- B. Carcinogenic drugs can cause cells to become cancerous by altering their genetic structure so that they multiply continuously and become malignant.
- C. Teratogenic drugs can interfere with normal embryonic development.
 - 1. Unused medications listed on the NIOSH list must be collected and managed as non-hazardous pharmaceutical waste.
 - 2. Empty ampoules, vials, IV bags, pill packets, etc. are of NIOSH listed medications are not required to be collected.
- D.

POLICY

I. Hazardous wastes are defined in the United States Environmental Protection Agency's (EPA) Resource Conservation and Recovery Act (RCRA) regulations, 40 CFR 261-265. Specifically outlined within these regulations are appropriate steps for the generation, handling, collecting and disposal of hazardous wastes. Pharmaceuticals used within the Pharmacy and on patient care floors meet the definition of hazardous waste if not fully administered to the patient and in some cases the empty container is considered to be hazardous waste.

II. The State of New Jersey Department of Environmental Protection (NJDEP) and the State of New Jersey Department of Health and Senior Services in addition to the federal requirements, require the proper collection and disposal of waste medications on the National Institute of Occupational Safety and Health (NIOSH) list of Antineoplastic and Other Hazardous Drugs. This policy does not apply to the disposal or wasting of controlled substances.

PROCEDURE

- 1. Drugs Classified as a Hazardous Waste
 - a. Those drugs classified as a hazardous waste must be appropriately segregated, collected, shipped and disposed of following EPA disposal recommendations. All pharmaceutical waste generated at Hackettstown Regional Medical Center is sent for high temperature incineration through a certified hazardous waste hauler.
 - b. Hackettstown Regional Medical Center partnered with an environmental consultant to review and characterize the hospitals formulary and non-formulary pharmaceuticals. Pharmaceuticals meeting the definition of a hazardous waste and needing to be segregated and disposed of separately as well as NIOSH hazardous drugs needing to be collected have been listed in Appendix A.
- 2. Segregation of Hazardous Pharmaceutical Waste and Labeling System – All patient care areas will have either one or two black hazardous waste containers located either adjacent to the Pyxis machine and/or on medication carts in patient care areas. In addition, these

**HACKETTSTOWN REGIONAL MEDICAL CENTER
ADMINISTRATIVE POLICIES
HAZARDOUS PHARMACEUTICAL WASTE POLICY AND PROCEDURES**

=====

Effective Date: July 2012

Cross Referenced:

Reviewed Date: 5/2013

Revised Date: 5/2013

Policy No: AD104

Origin: Pharmacy

Authority: Chief Operating Officer

Page: 3of 6

=====

same patient care areas will have one white container with a blue lid to collect unused NIOSH medications. The Pharmacy will have five black hazardous waste containers and one white container with a blue lid to collect NIOSH medications. Black and white containers are demarcated with different color waste labels to assist nursing in separating pharmaceuticals. The labels are as follows:

- a. Yellow Label – This is the main hazardous pharmaceutical waste stream for the hospital. Items collected in this container meet the ignitability and toxicity definitions set forth by the EPA. These containers are located in the pharmacy and in patient care areas.
 - b. Green Label – All acutely hazardous waste is collected in the black container with the green label. Hackettstown Regional Medical Center is a small quantity generator of hazardous waste therefore all acutely hazardous waste per NJDEP regulations, acutely hazardous waste is collected in a separate container. These containers are located in the pharmacy and in patient care areas.
 - c. Red Label – All expired and unused amyl nitrate from the cyanide antidote kit is collected in the black waste container with the red label. Due to amyl nitrates oxidizing properties, this waste is required to be collected in a separate container. This container is only located in the pharmacy.
 - d. Red Label – All expired and unused silver nitrate sticks are returned from the patient care floors to the pharmacy where they are collected in the black waste container with the red label. Due to silver nitrates oxidizing properties, this waste is required to be collected in a separate container. This container is only located in the pharmacy.
 - e. Purple Label – All unused and expired chloral hydrate is collected in the black hazardous waste container with the blue label. Chloral Hydrate is a narcotic and must be kept under double lock and key within the pharmacy. This container is only located in the pharmacy.
 - f. Blue Label – All unused NIOSH medications are collected in the white waste container with a blue lid.
3. Additional staff notification systems – Nursing staff will be alerted that a medication is considered hazardous and must be disposed of in a black bucket in one of two ways:
- a. Black dot labeling – For those items that are not dispensed from the Pyxis machine, or for those units that do not have Pyxis machines, items considered hazardous wastes will be marked with a black dot with the letter HW (hazardous waste). Black dot stickers will be placed on these medications by the Pharmacy staff before medications are delivered to the nursing units.
 - b. Blue dot labeling – Blue dot stickers will be placed on NIOSH medications by the Pharmacy staff before medications are delivered to the nursing units. These medications if not fully administered to the patient will need to be collected in the NIOSH waste white bins with the blue lids.

**HACKETTSTOWN REGIONAL MEDICAL CENTER
ADMINISTRATIVE POLICIES
HAZARDOUS PHARMACEUTICAL WASTE POLICY AND PROCEDURES**

Effective Date: July 2012

Cross Referenced:

Reviewed Date: 5/2013

Revised Date: 5/2013

Policy No: AD104

Origin: Pharmacy

Authority: Chief Operating Officer

Page: 4 of 6

SATELLITE ACCUMULATION AREA – CONTAINER MANAGEMENT

EPA and NJDEP regulations require all satellite accumulation areas to be managed following hazardous waste container management regulations. All hazardous waste containers at Hackettstown Regional Medical Center must be managed in the following manner:

1. Each container must contain a hazardous waste label that clearly states the words hazardous waste and the hazardous contents contained within the container.
 - a. White containers with a blue lid collecting NIOSH listed medications will be labeled with a non-hazardous pharmaceutical waste label.
2. Each waste container must have the waste label facing out and the container itself must be unobstructed. The container must be able to be visually inspected to assure the container is not cracked, pitted, corroding or leaking.
3. The lid of the container must be tightly closed at all times.
4. Containers must not be opened, handled or stored in a manner which would cause them to rupture or leak.
5. The contents of all containers must be compatible with each other. All incompatibles have been given their own waste stream.
6. When full, the container must be dated and removed within three days of becoming full. The full container is removed to a main storage area where it is allowed to sit on-site full for up to 180 days.
7. In the event a container becomes full – nursing and pharmacy staff have been trained to call housekeeping (X6945) for a container pick-up and switch out.
8. Satellite accumulation areas must be at a minimum visually inspected for each of the above steps.

MAIN STORAGE AREA – INSPECTIONS

The EPA requires that main storage areas be inspected at least weekly (40 CFR 265) for the below requirements. At Hackettstown Regional Medical Center, the building services supervisor will conduct documented weekly inspections of the main storage area. The main storage area at Hackettstown Regional Medical Center will be inspected for the following:

1. “NO SMOKING” sign must be posted if storing ignitable materials. (40 CFR 265.17)
2. “Danger-Unauthorized Personnel Keep Out” sign must be posted at the storage area. (40.CFR 265.14)
3. The owner/Operator must provide adequate security to prevent unauthorized access. (40.CFR 265.14)
4. Ignitable and Reactive wastes must be stored 50 feet from the facility’s property line. (40 CFR 265.176)
5. The surface underlying all containers must be free of cracks, gaps and sufficiently impervious to contain leaks. (40 CFR 264.175)
6. Each container must be marked with the words “Hazardous Waste”, the chemical names (e.g., acetone, toluene), the date on which accumulation begins. (40 CFR 262.34(a)(2,3))
7. Waste must not be accumulated over 180 days. (40 CFR 262.34(d))

**HACKETTSTOWN REGIONAL MEDICAL CENTER
ADMINISTRATIVE POLICIES
HAZARDOUS PHARMACEUTICAL WASTE POLICY AND PROCEDURES**

=====

Effective Date: July 2012

Policy No: AD104

Cross Referenced:

Origin: Pharmacy

Reviewed Date: 5/2013

Authority: Chief Operating Officer

Revised Date: 5/2013

Page: 5 of 6

=====

8. Waste on site must not exceed 13,200 lbs. (40 CFR 262.34 (d)(1))
9. Containers must be in good condition. (Free of rust and/or structural damage) (40 CFR 262.171)
10. Containers must be compatible with waste inside. (40 CFR 265.172)
11. Containers must be closed during storage. (40 CFR 265.173)
12. Containers must be spaced so as to provide sufficient aisle space (recommended 18 inches between drum rows) to allow for the unobstructed movement of emergency equipment. (40 CFR 265.35)
13. Inspect the facility for malfunctions, deterioration, etc. which could lead to a release of hazardous waste. (40 CFR 265.15)

14. Develop a written inspection schedule of areas and keep inspection logs (Inspected weekly). (40 CFR 265.15)
15. Containers must not be handled in a manner, which may rupture the container or cause it to leak. (40 CFR 265.173)
16. The area must be inspected for leaking and/or deterioration of containers and containment system, at least weekly. (40 CFR 265.174)
17. Incompatible hazardous waste shall not be placed in the same container. (40 CFR 265.177)
18. The area must have the following equipment: (40 CFR 265.32)
 - a) An internal communication or alarm system capable of providing immediate emergency instructions.
 - b) A telephone or other instrument, immediately available at all areas of operations, capable of summoning emergency assistance.
 - c) A portable fire extinguisher, fire control equipment, and spill control equipment and decontamination equipment.
 - d) Water, at an adequate volume and pressure, to supply water hoses or foam producing equipment, or automatic sprinkler system.

REVERSE DISTRIBUTION

In the pharmacy, items being collected as part of the hospitals hazardous pharmaceutical waste program are not permitted to be returned for credit through the reverse distribution system. As part of Hackettstown Regional Medical Center's reverse distribution program, pharmaceuticals that have been identified as meeting the definition of hazardous material will be collected, managed and disposed of as hazardous waste.

TRAINING

Upon initial inception of this program, Hackettstown Regional Medical Center partnered with a third party to offer numerous in-service training to the building services, pharmacy and nursing staffs. Sign-in sheets are available upon request in the pharmacy, housekeeping and nursing education offices.

**HACKETTSTOWN REGIONAL MEDICAL CENTER
ADMINISTRATIVE POLICIES
HAZARDOUS PHARMACEUTICAL WASTE POLICY AND PROCEDURES**

=====

Effective Date: July 2012

Policy No: AD104

Cross Referenced:

Origin: Pharmacy

Reviewed Date: 5/2013

Authority: Chief Operating Officer

Revised Date: 5/2013

Page: 6 of 6

=====

New hires shall be trained using a net learning module and practical test. Reinforcement training shall be part of the unit orientation with a new hire.

Annual refresher training will be conducted using a net learning module and practical test. Results will be recorded and monitored by the nursing education department.

PENALTIES

It is important that all employees at Hackettstown Regional Medical Center understand the importance of this program. This program is critical to patient, employee and environmental wellbeing. Any violation of this policy could result in the hospital being subject to penalties/fines from regulatory agencies.

For any pharmaceutical waste collection questions, please contact the pharmacy at 908.850.6915.

Appendix A

Hackettstown Regional Medical Center Pharmaceutical Waste Management Program Hazardous Pharmaceuticals List

Yellow Waste Stream (Pharmacy, Nursing)

Alprostadil Ampoule	D001	Mitomycin	U010
Ammonia Inhalant Ampoule	D001	Neomycin-Polymyxin B-Gramicidin	D009
Barium Sulfate Solutions	D005	Neomycin-Polymyxin B-Hydrocortisone	D009
Benzocaine 60mL Topical Spray	D001	Paclitaxel Injection Solution	D001
Benzoin Compound, Topical	D001	Phenol Throat Spray	U188
Candida Albicans Extract Skin Test	U188	Silver Dressing	D011
Cyclophosphamide	U058	Silver Sulfadiazine Cream	D011
Ethyl Chloride Topical Spray	D001	Tenecteplase	D001
Etoposide Injection Solution	D001	Tetanus Immune Globulin	D009
Fluocinonide	D001	Tetanus-Diphtheria Toxoid	D009
Flurbiprofen	D009	Treprostinil	D024
Hepatitis B Immune Globulin	D009	Trichloroacetic Acid 30%	D002
Hexachlorophene Topical	U132	Trifluridine Ophthalmic Solution	D009
Insulin - ALL	D024	Trypan Blue Intra-ocular Solution	U236
Melphalan Tab	U150	Witch Hazel	D001
Miconazole Spray	D001		

****Please also collect all non-fully administered Chemotherapy in the yellow-labeled, black container****

Green Waste Stream (Pharmacy, Nursing)

Physostigmine	P188	Unused Nicotine Patch and Gum	P075
Warfarin/Coumadin	P001		

****Must collect all empty containers associated with this waste as well as virgin material****

Red Waste Stream # 1(Pharmacy Only)

Unused and Expired Silver Nitrate Sticks	D001, D011
--	------------

Red Waste Stream #2 (Pharmacy Only)

Amyl Nitrite Ampoule	D001
----------------------	------

Purple Waste Stream (Pharmacy Only)

Chloral Hydrate	U034, DEA Regulated Material
-----------------	------------------------------

Hackettstown Regional Medical Center Pharmaceutical Waste Management Program
NIOSH Non-Hazardous Pharmaceutical Collection List

Medications listed below not fully administered to the patient must be collected in the white non-hazardous pharmaceutical waste container located on your unit.

NIOSH Non-Hazardous Pharmaceuticals

Acetic Acid 0.25% Irrigation Solution	Leuprolide depot
Acetic Acid 2% Otic Solution	Megestrol
Anastrozole	Mercaptopurine
Aripiprazole	Methenamine
Azathioprine	Methotrexate
Bendamustine	Methylergonovine
Bevacizumab	Methylnaltrexone
Bicalutamide	Methylprednisolone
Bleomycin	Mitoxantrone
Bortezomib	Multivitamin (trace elements)
Carbamazepine	Multivitamin (prenatal) w/ folic acid
Carbidopa-levodopa	Mycophenolate mofetil
Carboplatin	Nitroglycerin (All)
Cetuximab	Octreotide
Cisplatin	Oprelvekin
Colchicine	Oxaliplatin
Dacarbazine	Oxybutinin
Darbepoetin alfa	Oxytocin
Decitabine	Pamidronate
Dexrazoxane	Panitumumab
Docetaxel	Paroxetine
Doxorubicin	Pegfilgrastim
Doxorubicin liposomal	Pemetrexed
Epoetin	Prednisone
Exemestane	Raloxifene
Filgrastim	Risperidone
Finasteride	Rituximab
Fludarabine	Sargramostim
Fluorouracil	Sterile talc
Flutamide	Tacrolimus
Fulvestrant	Tamoxifen
Gemcitabine	Temsirolimus
Goserelin acetate implant	Topotecan
Hydrocortisone	Trastuzumab
Hydroxyurea	Valproic acid
Ifosfamide	Vemurafenib
Interferon alfa-2b	Vinblastine
Iodine-potassium iodide	Vincristine
Ipilimumab	Vinorelbine
Irinotecan	Zidovudine
Ixabepilone	Ziprasidone
Letrozole	Zoledronic acid
Leucovorin	Zonisamide

Revised March 2013

HAZARDOUS WASTE

Federal Law Prohibits Improper Disposal Of This Container

Pharmaceutical Waste
contents of this container include:

ACUTELY HAZARDOUS WASTE

Physostigmine P188
Warfarin (Coumadin) and empty pill wrapper P001
Unused nicotine patches and empty wrappers P075

HAZARD: Toxic

Date Full: / /

Please dial X 6945 to arrange for a waste pickup

HAZARDOUS WASTE

Federal Law Prohibits Improper Disposal Of This Container

Pharmaceutical Waste
contents of this container include:

UNUSED AND EXPIRED SILVER NITRATE STICKS

HAZARD: Ignitable (Oxidizer), Toxic

Date Full: / /

Please dial X 6945 to arrange for a waste pickup

HAZARDOUS WASTE

Federal Law Prohibits Improper Disposal Of This Container

Pharmaceutical Waste
contents of this container include:

Alprostadil ampoule	D001	Mitomycin	U010
Ammonia inhalant ampoule	D001	Neomycin-polymyxin B-gramicidin	D009
Barium sulfate solutions	D005	Neomycin-polymyxin B-hydrocortisone	D009
Benzocaine topical spray	D001	Paclitaxel injection solution	D001
Benzoin compound, topical	D001	Phenol throat spray	U188
Candida albicans extract	U188	Silver dressing	D011
Cyclophosphamide	U058	Silver sulfadiazine cream	D001
Ethy chloride spray	D001	Tenecteplase	D009
Etoposide	D001	Tetanus immune globulin injection	D009
Fluocinonide	D001	Tetanus-diphtheria toxoid (adult)	D024
Flurbiprofen	D009	Treprostinil	D002
Hepatitis B immune globulin	D009	Trichloroacetic acid 30%	D009
Hexachlorophene topical	U132	Trifluridine	U236
Insulin - ALL	D024	Trypan blue	U236
Melphalan tab	U150	Witch Hazel	D001
Miconazole spray	D001		

PLEASE COLLECT ALL NON-FULLY ADMINISTERED CHEMOTHERAPY IN THIS HAZARDOUS CONTAINER.

HAZARD: Ignitable / Toxic / Corrosive

Date Full: / /

Please dial X 6945 to arrange for a waste pickup

HAZARDOUS WASTE

Federal Law Prohibits Improper Disposal Of This Container

Pharmaceutical Waste
contents of this container include:

AMYL NITRITE ONLY

HAZARD: Ignitable (Oxidizer)

Date Full: / /

Please dial X 6945 to arrange for a waste pickup

NON-HAZARDOUS WASTE

Pharmaceutical Waste
contents of this container include:

NIOSH Listed Medications

NJ Law A-733 Regulated Medications Date Full: / /

Please dial X 6945 to arrange for a waste pickup

HAZARDOUS WASTE

Federal Law Prohibits Improper Disposal Of This Container

Pharmaceutical Waste
contents of this container include:

Chloral Hydrate ONLY

HAZARD: Toxic (DEA) Date Full: / /

Please dial X 6945 to arrange for a waste pickup