

	Policies and Procedures Title: <b>HAZARDOUS DRUGS (Non-Chemotherapy) – ADMINISTRATION AND PRECAUTIONS</b> I.D. Number: <b>1044</b>
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**DEFINITIONS**

**Hazardous Drugs** - include those that exhibit one or more of the following characteristics in humans or animals:

- carcinogenic (causing cancer)
- teratogenic (causing developmental damage to a fetus)
- reproductive toxic (impairs fertility)
- organ toxic at low doses
- genotoxic
- have characteristics similar to an existing hazardous drug

**Compromised Dosage Form** – Oral dosage forms which must be compounded or manipulated prior to administration to the patient. Any medication that requires splitting or crushing of a tablet, opening a capsule, or making of a suspension, liquid, powder, topic preparation, etc.

**Medication Administration Record (MAR)** – this refers to e-MAR in LTC or the intervention Flow Sheet (Home Care) or equivalent medication records

**Note:** For the purpose of this policy, the term “Hazardous Drugs” refers to all hazardous drugs excluding chemotherapy agents. These hazardous drugs require special handling precautions during preparation, transport and administration as they may have some risk from occupational exposure. **Refer to Appendix A for list of medications.**

**Note:** For administration of chemotherapy drugs refer to the policies in the SHR Nursing Policy & Procedure Manual.

- Chemotherapy Drugs for Cancer Treatment: Administration & Precautions #1065
- Chemotherapy Drugs for Non-Cancer Treatment: Administration & Precautions #1180
- Chemotherapy Drugs (Oral) for Cancer & Non-Cancer Treatment: Administration & Precautions (# to be determined)

**1. PURPOSE**

- 1.1 To safely administer hazardous drugs to patients.
- 1.2 To provide a safe environment for staff working with hazardous drugs.

## 2. POLICY

- 2.1 Registered Nurses (RNs), Graduate Nurses (GNs), Registered Psychiatric Nurses (RPNs) Licensed Practical Nurses (LPNs) and Graduate Practical Nurses (GLPNs) may administer hazardous drugs by all routes working within their scopes of practice.
- 2.2 Appropriate PPE must be worn during administration of hazardous medications.
- 2.3 Pharmacy will identify all hazardous medications on the drug packaging. The Medication Administration Record will identify these medications as requiring Hazardous Drug Precautions.

**Note:** Home Care RN's will identify a drug as a hazardous medication on the flow sheet. Resources for hazardous medications: SHR Home Care Pharmacist (306-655-5062), during off normal business hours, a call to a SHR acute care Pharmacist (RUH 306-655-1000; SPH 306-655-5000).

- 2.4 Special precautions for safe handling of hazardous drugs will be followed during the preparation, transport and administration.
  - 2.4.1 All hazardous drugs will be dispensed in its final dosage form (i.e. IV solutions, ½ tablets, opened capsules, etc.)
  - 2.4.2 Solutions/suspensions will be packaged using standard volumes. Nursing may be required to discard excess solution/suspension in the appropriate biohazard receptacle.
  - 2.4.3 Pharmacy will prepare injectable hazardous drugs in a biological safety cabinet.
  - 2.4.4 The IV bag containing the hazardous drug will be spiked with a closed system secondary tubing set and primed with neutral solution by pharmacy. IV and injectable hazardous drugs will be delivered in a sealed transport bag. **See Appendix B Closed Male Luer Connector: Spiros.**
  - 2.4.5 All hazardous infusions will be administered via designated IV tubing with a closed male luer connector attached to the end of the primary IV tubing closest to the patient.

**Note:** Pediatrics- use IV micro pump tubing.

- 2.5 Pharmacy will prepare compromised oral formulations.
  - 2.4.6 If a patient is unable to swallow or requires medication administration via a PEG or nasogastric tube, contact the pharmacist for advice on alternative dose formulations. If required, the physician may need to be contacted for a new medical order. In the rare instance that Pharmacy is unable to make an oral formulation (stability issues, no recipe for formulation, etc.) refer to the dissolve-a-dose, and crushing notes below.

**Note:** To dissolve a tablet or capsule, place the medication in a capped "Dissolve-a-Dose" tube and add diluent (warm water or saline). Securely attach cap and mix gently until medication is dissolved. Open the small outer cap and attach an oral syringe and withdraw the entire contents of the tube.

**Note:** To crush a dose that can't be dissolved (i.e. enteric coated tablet), place the tablet(s) into an oral syringe and replace the plunger. Draw 0.5 – 1 ml of water into the syringe to 'wet' the tablet. Place a cap on the syringe and turn the plunger with a grinding motion to create a coarse powder. Draw several mls of water into the syringe and let the medication dissolve for several minutes. Shake periodically. Administer the suspension orally or via feeding tube.

2.6 While the patient is receiving hazardous drugs:

2.4.7 Hazardous Drug Precaution labels must be placed on the chart or in the equivalent record and intravenous tubing. **See Appendix C Hazardous Drug Precaution labels.**

2.4.8 A Hazardous Drug Handling sign must be placed above the patient bed or on the room door. (Home Care exempt) **See Appendix D Hazardous Drug Handling sign.**

2.4.9 A Chemotherapy/Hazardous Drug Spill Kit must be readily available on the unit, when injectable and/or liquid hazardous drugs are administered.

2.7 All supplies and body waste will be disposed of in the appropriate waste receptacle. Medication waste shall be disposed of in the yellow biohazard containers.

2.8 All linens will be processed in the regular manner.

### 3. PROCEDURE

#### 3.1 Pre-Administration

3.1.1 Ensure that signage/spill kit is readily available.

3.1.2 Gather supplies and equipment. Determine the appropriate PPE and supplies required for route of administration.

**See Appendix E - Hazardous Drug Administration Equipment and Supplies.**

**Note:** Always follow routine practices when handling patient body fluid waste as outlined in Infection Prevention & Control Manual policy # 20-10.

3.1.3 Don appropriate PPE.

#### 3.2 Explain to the patient and family

3.2.1.1 indication of hazardous drug

3.2.1.2 method of administration

3.2.1.3 potential side effects and complications, and the importance of informing nurses of the same

3.2.1.4 safe handling of drug

#### 3.3 Oral Administration

3.3.1 Observe patient consume the drug.

3.3.2 If the patient vomits immediately after ingestion and the tablet or capsule cannot be seen, do not re-administer the dose. Inform the physician for further guidance. Treat vomit as a chemotherapy drug spill. See 3.8.1

### 3.4 Subcutaneous/Intramuscular Administration

- 3.4.1 Do **NOT** expel air out of syringe. Tap air to the plunger end of the syringe before administering medication.

### 3.5 Intravenous Administration

- 3.5.1 Protect work area with a plastic backed absorbent pad.
- 3.5.2 Prime the primary IV tubing with a compatible solution that does not contain any additives.
- 3.5.3 At the bedside, verify the following information before opening the sealed transport bag:
  - 3.5.3.1 the patient's identity with patient's client identification band and/or picture identification and the label on the drug
  - 3.5.3.2 the secondary tubing is securely connected to the IV bag
  - 3.5.3.3 the secondary tubing is clamped
  - 3.5.3.4 there is absence of moisture within the transport bag (i.e. drug leakage)
  - 3.5.3.5 the red cap is on the end of the tubing to indicate sterility
- 3.5.4 Infuse the hazardous drug through the secondary port.
- 3.5.5 When drug administration is complete:
  - 3.5.5.1 If disconnecting the secondary line/administering other drugs- flush the secondary port with 10 mls neutral solution **prior** to disconnection from primary line
  - 3.5.5.2 If disconnecting the primary IV line from patient - flush primary IV tubing with 25 mls of neutral solution (Pediatrics: 10-20mls) **prior** to disconnection from patient
  - 3.5.5.3 Wipe the port(s) after disconnection with a 2x2 gauze

### 3.6 Report to the Physician

- 3.6.1.1 Adverse reactions

### 3.7 Document

- 3.7.1.1 Medication Administration record (MAR): Drug administration site and time
- 3.7.1.2 Nurse's notes/flow sheet: patient education: patient response to treatment

### 3.8 Precautions for Spill Management, Accidental Drug Exposure, and Needlestick Injury

#### 3.8.1 Drug Spill

**Note:** *If the patient vomits immediately after ingestion treat vomit as a chemotherapy drug spill.*

- 3.8.1.1 Do NOT leave the area of the spill. Have a co-worker bring the Chemotherapy/Hazardous Drug Spill Kit.
- 3.8.1.2 Alert persons in immediate area.
- 3.8.1.3 Put on PPE from the spill kit.
- 3.8.1.4 Immediately notify the manager/supervisor.
- 3.8.1.5 Attend to anyone who has been splashed with the drug.
- 3.8.1.6 Contain the spill from the outer edges to the center by placing absorbent towels over the contaminated area.

- 3.8.1.7 Wash area three times, first with the detergent (supplied in kit) followed by water. Dry well with absorbent towel. Follow these same guidelines to clean contaminated equipment.
- 3.8.1.8 Dispose of supplies and waste in appropriate waste containers
- 3.8.1.9 Remove PPE.
- 3.8.1.10 Report incident

### 3.8.2 Drug Exposure

#### 3.8.2.1 Splash to eyes

- 3.8.2.1.1 Flush eyes immediately at eyewash station for at least 15 minutes (use entire contents of the eye wash station). If eyewash station unavailable, flush with copious amounts of water or normal saline for at least 15 minutes.
- 3.8.2.1.2 Report incident.

#### 3.8.2.2 Splash to skin (intact or non-intact)

- 3.8.2.2.1 Remove contaminated clothing immediately.
- 3.8.2.2.2 Flush area with copious amounts of water for at least 15 minutes.
- 3.8.2.2.3 Follow with washing area with soap and water.
- 3.8.2.2.4 Report incident.
- 3.8.2.2.5 Launder contaminated clothing at home separately once, then re-wash with regular wash. Where available arrange for laundry services to launder your uniform for you; if a replacement uniform is not available on your unit, call SPD to arrange pick-up of a decontamination uniform.

### 3.8.3 Needle stick injury

- 3.8.3.1 Express blood from needle puncture site.
- 3.8.3.2 Flush puncture site with cool running water for at least 15 minutes.
- 3.8.3.3 Apply ice or heat to the injected site, as per SHR IV Medication Reference Manual. Treat skin punctures with vesicant or irritant drugs as if an extravasation has occurred.
- 3.8.3.4 Report incident.

## 4. REFERENCES

American Society of Health-System Pharmacists. (2006). ASHP Guidelines on Handling Hazardous Drugs. Retrieved from <http://www.ashp.org/doclibrary/bestpractices/prepgdlhazdrugs.aspx>

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Connor, T. H., & McDiarmid, M. A. (2006). Preventing occupational exposures to antineoplastic drugs in health care settings. *CA: a cancer journal for clinicians*, 56(6), 354-365. Retrieved from <http://www.cdc.gov/niosh/docs/2004-165/pdfs/2004-165.pdf>

NIOSH (2012). NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings 2012. Retrieved from <http://www.cdc.gov/niosh/docs/2012-150/pdfs/2012-150.pdf>

Saskatoon Health Region. (2014). Policies & procedures: chemotherapy drugs for cancer treatment: administration & precautions i.d. #: 1065

Sproll, B. (2011). Development of a regional safe handling of hazardous drugs program. Retrieved from <http://www.wrha.mb.ca/prog/pharmacy/files/Development-08.pdf>

## Appendix A

Saskatoon Health Region PHARMACY SERVICES <b>Hazardous Drug List</b>
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This list is updated periodically and lists all of the items that are considered hazardous in SHR at the time of its creation.

This list is adapted from the sample list of hazardous drugs posted by NIOSH and the Winnipeg Regional Health Authority's Hazardous Drug list. However, please note that many drug references put hazardous warnings on all medications on the NIOSH sample list.

Refer to the standardized list below; if you are not familiar with a drug and it is **not** on this list please contact Pharmacy for further information. Resources for hazardous medications: SHR Home Care Pharmacist (306-655-5062), during off normal business hours, a call to a SHR acute care Pharmacist (RUH 306-655-1000; SPH 306-655-5000)

acitretin	Everolimus	methylTESTOSTERone
aldesleukin	exemestane	mifepristone
alitretinoin	finasteride	mitotane
ambrisentan	fluoxyimesterone	mycophenolate
anastrozole	flutamide	nafarelin
bacillus calmette guerin <sup>1</sup> (bladder instillation only)	Foscarnet	nilutamide
bexarotene	Fulvestrant	oxandrolone
bicalutamide	Ganirelix	pentamidine (aerosol only)
bosentan	Gefitinib	podofilox
buserelin	Goserelin	podophyllum resin
cetorelix	imatinib	raloxifene
cidofovir	Interferons	ribavirin
clomiPHENE	ISOtretinoin	sirolimus
cycloSPORINE	leflunomide	tacrolimus
cyproterone	letrozole	tamoxifen
dienestrol	Leuprolide	testosterone
dutasteride	megestrol	tretinoin
erlotinib	Methacholine	trifluridine
		triptorelin

## Note:

1. BCG for bladder installation shall be prepared per instruction in the closed system kit.
2. Only parent compounds are listed. All derivatives (salts, PEGylated and liposomal medication) and combination products shall be handled as hazardous.

## ACKNOWLEDGMENT:

- Adapted with permission from Winnipeg Regional Health Authority Hazardous Medication list (October 2013)
- National Institute for Occupational Safety and Health (NIOSH), "NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings 2012." Available at <http://www.cdc.gov/niosh/docs/2012-150/pdfs/2012-150.pdf>

Revised June 2014. For the most recent version of this list visit the SHR Pharmacy webpage on the infonet.

**Appendix B**

**Closed Male Luer Connector: Spiros**



- A needle free closed system transfer device for the safe mixing, transfer, administration and disposal of hazardous drugs.
- The spiros maintains a normally closed system until it is attached to a needle-free connector and the fluid path is activated. When placed on the end of a syringe or IV tubing the spiros will passively remain closed to prevent drips or leaks. In the event of accidental disconnect the spiros will automatically return to the closed or safe position.

**Appendix C**

**Hazardous Drug Handling Label**

**CAUTION**  
**Hazardous Drugs**  
Handle drug appropriately.

SKU #210200

# **Hazardous Drug Handling**

## TO BE FOLLOWED BEFORE & DURING ADMINISTRATION OF HAZARDOUS DRUG.

1. Affix the **Hazardous Drug label** on the front of the chart or equivalent record and IV tubing containing the drug.
2. Wash hands well before and after patient contact.
3. Wear 2 pairs of non-sterile **nitrile** gloves when handling hazardous drugs.
4. Wear disposable impervious **gowns & eye/face protection** if there is a risk of drug **splash**.
5. Medication waste (all dosage forms) shall be disposed of in the yellow biohazard containers. It is also acceptable to discard hazardous medications in chemotherapy disposal containers if available
6. All supplies and body waste will be disposed of using routine practices in the appropriate garbage receptacle.
7. Process all linen in the regular manner.



## Appendix E

HAZARDOUS DRUG ADMINISTRATION EQUIPMENT AND SUPPLIES						
	Oral Intact Tablet/Capsule	Oral Compromised Dose	Oral Liquid	Topical	IM or SC	IV
<b>Nitrile Gloves (DOUBLED: 1 pair under gown cuff; 1 pair over gown cuff)</b> Small SPD SKU # 61428 Medium SPD SKU # 61429 Large SPD SKU # 61430	X	X	X	X	X	X
<b>Mask/Eye/Face Protection</b> Eye Shield/Mask SPD SKU # 83128 Full Face Shield SPD SKU # 46899		X	X	X	X	X
<b>Impervious Gown</b> Main Stores SKU # 123011		X	X	X	X	X
<b>Chemotherapy/Hazardous Spill Kit</b> SPD SKU # 201903		X	X	X	X	X
<b>Hazardous Drug Precaution Labels</b> SPD SKU # 210200	X	X	X	X	X	X
<b>Hazardous Drug Precautions Sign</b> Printing #103338	X	X	X	X	X	X
<b>Plastic backed absorbent liner</b>			X		X	X
<b>2 x 2 gauze</b>						X
<b>Alcohol Swabs</b>					X	X
<b>Intravenous Infusion Pump</b>						X
<b>ADULTS: IV Pump Tubing with Clave on Secondary Port</b> <b>PEDIATRICS: IV Micro Pump Tubing with Clave on Secondary Port</b>						X
<b>Closed Male Connector (pharmacy supplies)</b> Spinning Spiros SPD SKU # 206080 Spiros Sterile Red Cap SPD SKU # 201901					X	X
<b>Dissolve a dose (SKU #210269)</b>						

Medication waste (all dosage forms) shall be disposed of in the yellow biohazard containers. It is also acceptable to discard hazardous medications in chemotherapy disposal containers if available.