

	<p>Policies & Procedures</p> <p>Title: CHEMOTHERAPY DRUGS (ORAL) FOR CANCER AND NON-CANCER TREATMENT: ADMINISTRATION & PRECAUTIONS</p> <p>I.D. Number: 1059</p>
<p>Authorization</p> <p>[x] SHR Nursing Practice Committee</p>	<p>Source: Nursing</p> <p>Cross Index: SHR Region-Wide Policies & Procedures Manual - # 7311-60-020 High Alert Medications - Identification, Double Check and Labeling; Occupational Health & Safety Policies & Procedures Manual - #5.2.3 Chemical Hazard: Cytotoxic Drug Exposure; Infection Prevention & Control Manual - #20-150 <u>Personal Protective Equipment (PPE) – Donning and Removing</u>.</p> <p>Date Effective: June 2011</p> <p>Scope: SHR Acute and Long Term Care</p>

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Note: For brevity's sake in this document, the words "registered or licensed nurse" will be used for references to Registered Nurse(RN), Registered Psychiatric Nurse(RPN), Graduate Nurse(GN), and Licensed Practical Nurse(LPN) and Graduate Practical Nurse(GPN) who have successfully completed the Medication Administration Course.

DEFINITIONS:

Note: In this policy, '**chemotherapy**' refers to drugs identified by pharmacy as requiring Chemotherapy Drug Precautions, based on the level of risk they present. Hormonal therapies are not included in this definition.

Chemotherapy – a chemical agent used to treat diseases. The term usually refers to a drug used to treat cancer. Most chemotherapy drugs are highly toxic and considered to be carcinogenic, mutagenic &/or teratogenic. Most chemotherapy drugs are also cytotoxic meaning they are detrimental or destructive to cells within the body.

Cytotoxic Drugs – known to be highly toxic and considered to be carcinogenic, mutagenic, or teratogenic. They are known as chemotherapy or antineoplastics and are therapeutic agents, used primarily for the treatment of malignant disease.

Mutagenic – able to produce a permanent change in the genetic material of a cell. Also referred to as *genotoxic*.

Carcinogenic – able to cause the development of cancer.

Teratogenic – able to cause abnormalities in an embryo or fetus that may lead to birth defects.

1. PURPOSE

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

2. POLICY

- 2.1 Registered or licensed nurses identified by their manager, will be certified in this Special Nursing Procedure/Added Skill to administer oral chemotherapy drugs for cancer and non-cancer treatment in accordance with the policy of the nursing unit.
- 2.2 All orders for chemotherapy drugs must be written by a physician. Registered or licensed nurses **will not accept verbal/telephone orders** for chemotherapy drugs or adjustments to chemotherapy drug doses, except to hold or stop chemotherapy administration. Faxed orders are accepted as written orders.
- 2.3 Pharmacy will identify all chemotherapy drugs as such on the drug packaging and the Medication Administration Record will identify them as requiring Drug Precautions.
- 2.4 Pharmacy will prepare oral chemotherapy drugs that must be compounded in a biological safety cabinet.
- 2.5 When the physician's order is received, 2 registered or licensed nurses and/or pharmacist will independently verify the chemotherapy drug dose is correct. Refer to 3.1.
- 2.6 **Chemotherapy Drug Precautions**
 - 2.6.1 Drug Precautions for body waste will be followed for **48 hours** post administration of last chemotherapy dose.
 - 2.6.2 A Chemotherapy/Hazardous Drug Spill Kit must be readily available on the unit.
 - 2.6.3 Only nursing staff certified in chemotherapy administration may clean up drug spills.

3. PROCEDURE

3.1 Processing Chemotherapy Orders

- 3.1.1 When the physician order is received, 2 registered or licensed nurses and/or pharmacist complete an **independent double check** of the drug dose. Pre-printed orders are preferred when available.
- 3.1.2 If applicable, complete the mathematical calculation of the dose which may include body surface area (BSA) and dose modifications according to lab results. Refer to Appendix E.

- 3.1.3 If there is more than a 5% variance from the prescribed dose, notify the pharmacist and the ordering physician. Document clarifications and rationale in physician's orders. If changes are required, the physician must write a new order. Refer to 2.2.
- 3.1.4 Verify that the prescribed dose is within the recommended range for the patient, disease indication and treatment plan by referring to the CPS, medication product monograph or other approved reference that describes the chemotherapy drug regimen.
- 3.1.5 Assess chemotherapy orders for completeness including pre and post supportive therapies (e.g. pre-medications, antiemetics).
- 3.1.6 Both nurses document their initials beside each medication on the physician's orders to indicate that the dose has been independently double-checked.

3.2 **Pre-Administration**

- 3.2.1 Review the following patient information:
 - applicable lab results
 - previous treatment for cancer
 - experienced side effects and interventions
 - adequacy of past symptom management
 - previous dose adjustments
 - concurrent medical conditions
 - weight changes > 10%
 - willingness to proceed
- 3.2.2 Provide information to the patient and family regarding:
 - indication of chemotherapy
 - method of administration
 - potential side effects and complications, and the importance of informing nurses of the same
 - safe handling of drug and body waste
- 3.2.3 Gather equipment and supplies. See Appendix A.
- 3.2.4 Ensure that a Chemotherapy/Hazardous Drug Spill Kit is available on the unit.
- 3.2.5 Ensure that the patient's room is set up with Drug Precautions:
 - 3.2.5.1 Post a Drug Precautions sign above the patient bed or on the room door. Refer to Appendix B.
 - 3.2.5.2 Affix Drug Precaution labels on the chart, all tubing's exiting patient, specimens and requisitions for specimens, tests and procedures. Refer to Appendix C.
 - 3.2.5.3 Place a Sharps & Fluid Resistant Waste Container and/or Chemotherapy Soft-Sided Waste Container in the patients room. Refer to Appendix D.
- 3.2.6 Perform hand hygiene.
- 3.2.7 Don PPE required for route of administration.
- 3.2.8 Immediately before administration, 2 registered or licensed nurses will verify:

- the order and dosages have been independently double checked & initialed
- drug names
- dosages
- expiration dates on packaging
- 2 different patient identifiers (e.g. name, date of birth, hospitalization number) on the medication label and the original physician's order

3.3 Oral Administration

3.3.1 If an anti emetic is required administer it at least 30 minutes prior to the administration of oral chemotherapy unless instructed otherwise in the protocol.

3.3.2 Tip tablets and capsules from their container /blister pack directly into a disposable medicine cup. Use a 2 x 2 to absorb any drops when disconnecting an oral syringe from a feeding tube.

3.3.3 Observe patient consume the drug.

3.3.4 Do **NOT CUT OR CRUSH** chemotherapy tablets or capsules. Tablets/capsules must be swallowed whole.

3.3.5 If patient is unable to swallow or when administering via a PEG or a nasogastric tube, contact the pharmacist for advice on alternative liquid dose formulations and the physician for a new medication order if required. In the rare instance that Pharmacy is unable to make an oral formulation (stability issues, no recipe for formulation, etc.) refer to one of the following notes.

Note: *To dissolve a tablet or capsule, place the medication in a capped "Dissolve-a-Dose" tube and add diluent (sterile 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. For enteric coated tablets, contact pharmacy as above.*

Note: *To crush a dose that can't be dissolved (ie. 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.*

3.3.6 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. Refer to 3.5.1.

3.3.7 Dispose of drug packaging and medicine cup in the Soft Sided Waste Container.

3.3.8 Wash hands with soap & water after removal of PPE.

3.3.9 Report To The Physician:

- Toxicities experienced by the patient
- Adverse reactions

3.3.10 Documentation:

- Nursing Care Plan: Record start and end times of Chemotherapy Drug Precautions
- MAR: Drug administration time
- Nurses Notes/Flow sheet: Patient education and patient response to treatment

3.4 Drug Precautions For Body Waste And Supplies

- 3.4.1 Follow chemotherapy Drug Precautions for body waste for **48 hours** post administration of last chemotherapy dose.
- 3.4.2 When handling blood or body waste, wear a disposable, low-permeable long-sleeved gown and doubled non-sterile nitrile gloves (1 pair under gown cuff; 1 pair over gown cuff). Wear eye/face protection if there is a risk of splashing or aerosolization.
- 3.4.3 Place Drug Precautions label on the front of the patient's chart, drainage tubes (e.g. urinary drainage catheter bag and catheter, chest tube drainage unit) and specimens and their requisitions.
- 3.4.4 Use disposable diapers on incontinent children and adults. Dispose in a Soft-Sided Waste Container, or if saturated, in a Sharps & Fluid Resistant Waste Container. Clean the patient's skin well and apply a barrier cream/ointment to the skin in contact with the diaper to decrease skin irritation.
- 3.4.5 When disposing of excreta, cover toilet/hopper with a plastic backed absorbent pad with absorbent side down prior to flushing to prevent backsplash. Dispose of the plastic-backed absorbent pad after every use in the Soft-Sided Waste Container.

Note: Patient does not require a private bathroom.

- 3.4.6 Place soiled linens into a plastic laundry bag. No special handling is required.

Note: In areas who launder patient's personal laundry, the laundry bag needs to be labeled as chemotherapy contaminated and staff handling that laundry will need to wear PPE as per the table in 3.2.1 or follow their facility protocol.

- 3.4.7 Items being returned to SPD for cleaning should be handled in the usual manner.

3.5 Precautions For Drug Spills And Drug Exposure

3.5.1 Drug Spill

- 3.5.1.1 Do **NOT** leave the area of the spill. Have a co-worker bring the Chemotherapy/Hazardous Drug Spill Kit .
- 3.5.1.2 Alert persons in immediate area. Notify the Manager/Supervisor.
- 3.5.1.3 Put on personal protective equipment (PPE) from the spill kit.
- 3.5.1.4 Attend to anyone who has been splashed with the drug. Refer to 3.5.2.

3.5.1.5 Contain the spill from the outer edges to the center by placing absorbent towels over the contaminated area.

3.5.1.6 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.

3.5.1.7 Dispose of linen, supplies and waste. Refer to 3.4.

3.5.1.8 Remove PPE. Refer to the Infection Prevention & Control Manual 20-150 Personal Protective Equipment (PPE) – Donning and Removing.

3.5.1.9 Wash hands with soap and water.

3.5.1.10 Report Incident.

3.5.2 Drug Exposure

3.5.2.1 Splash to eyes:

3.5.2.1.1 Flush eyes immediately at eyewash station for at least 15 minutes. If eyewash station unavailable, flush with copious amounts of water or normal saline for at least 15 minutes.

3.5.2.1.2 Report incident.

3.5.2.2 Splash to skin:

3.5.2.2.1 Remove contaminated clothing immediately.

3.5.2.2.2 Flush area with copious amounts of water for at least 15 minutes.

3.5.2.2.3 Follow with washing area with soap and water.

3.5.2.2.4 Report incident.

3.5.2.2.5 Launder contaminated clothing at home separately once, then re-wash with regular wash, or 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.

4. REFERENCES

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Appendix A

Chemotherapy Drug Administration Equipment and Supplies		
	Oral Tablet/ Capsule	Oral Liquid
Nitrile Gloves (DOUBLED: 1 pair under gown cuff; 1 pair over gown cuff) Small SPD SKU # 61428 Medium SPH SKU # 61429 Large SPD SKU # 61430	X	X
Eye/Face Protection Eye Shield/Mask SPD SKU # 83128 Full Face Shield SPD SKU # 46899		X
Impervious Gown with white cuffs Main Stores SKU # 123011		X
Chemotherapy/Hazardous Drug Spill Kit SPD SKU # 201903	X	X
Drug Precaution Labels SPD SKU # 211571	X	X
Drug Precautions Sign Printing # 103392	X	X
Sharps & Fluid Resistant Waste Container 8 or 18 Gallon Cart (Unit Purchase) 18 gallon re container SPD SKU #215429 8 gallon red container SPD SKU # 207135 2 gallon red container SPD SKU #121507 4 inch red container SPD SKU #47617 Sign for Cart Printing # 103168	X	X
Sign Alerting Staff to Use the Chemotherapy Sharps & Fluid Resistant Waste Container Printing # 103446	X	X
Soft-Sided Waste Container Linen Hamper (Unit Purchase) Red Liner Bags Main Stores SKU # 202734 Sign for Hamper Printing # 103170	X	X
Transport Waste Container (for soft-sided waste) 18 gallon red container Stores SKU #201905	X	X
Medicine Cup (if necessary)	X	
Dissolve-A-Dose SPD SKU #210269		X
Plastic-backed Absorbent Liner		X
2x2 Gauze		X

Appendix B

Drug Precautions Signage

Drug Precautions

TO BE FOLLOWED FOR **48 HOURS** FOLLOWING
LAST DOSE OF DRUG.

1. Wear **DOUBLED** non-sterile **nitrile** gloves and disposable impervious **gowns** when handling drug waste and all body waste.
2. Wear **eye/face** protection when there is a risk of **splashing** drug or body waste.
3. Wash hands well before and after client contact.
4. Process all linen in the regular manner (if personal linen/clothing is laundered at the facility, or if linen is soiled, place in plastic bag and label dirty linen with Drug Precautions sticker - staff handling that laundry must wear personal protective equipment-PPE and wash separately from other laundry).
5. Affix the Drug Precautions label on the front of the chart, requisitions, specimens, IV tubing containing the drug, and all tubes exiting from client (i.e. NG, foley catheters, chest tubes, JP drains, etc.).
6. Cover toilet/hopper with a **plastic backed absorbent pad** prior to flushing and **dispose of after use**.
7. All waste contaminated with drug or body waste will be disposed of in either the **Sharps & Fluid Resistant Waste Container for Drug Precautions** OR the **Soft-Sided Waste Container for Drug Precautions**, as appropriate.

Form #103392

Appendix C

Drug Precautions Label

CAUTION

Drug Precautions.

Handle & dispose of contaminated
drug/body waste appropriately.

STORES SKU # 211571

Chemotherapy Waste Disposal Containers (RED Bins)
Soft-Sided Waste Container

Includes:

- Drug packaging & drug transport bag
- Disposable gowns, gloves, full face shield
- Drug administration items (i.e. absorbent pads, gauze pads, alcohol swabs, etc.)
- Disposable materials contaminated with body waste (i.e. diapers, absorbent pads, dressings, etc.)
- Body fluid measuring containers



Red liner bags SKU 202734

**When bag is 3/4 full
 transfer to red bin.
 RED BAGS MUST BE
 TRANSPORTED IN RED BIN
 FOR DISPOSAL**



18 gallon SKU 201905

Sharps & Fluid Resistant Waste Container

Includes:

- IV bag / tubing and syringes
- Needles and other sharps
- Waste Blood Tubes
- Materials saturated with drug
- Foley bag



**4 inch
 SKU #47617**



**2 gallon
 SKU #121507**



**8 gallon
 SKU #207135**



**18 gallon
 SKU #215429**



**Tape this sign to
 sharps container
 in patient room**

STOP!

This client is on
 Drug Precautions.

Please dispose of sharps
 in the red
 "Sharps & Fluid Resistant
 Waste Container for Drug
 Precautions"

Word Form # 103446 02/12

Appendix E

Body Surface Area (BSA) Calculations

1. Obtain and document the patient's actual, not stated, body weight and height
2. Use the formula of Mosteller to calculate the BSA

$$\text{BSA (or m}^2\text{)} = \sqrt{\frac{\text{height (cm)} \times \text{weight (kg)}}{3600}}$$

3. Multiply the BSA by the unit dose that is written on the original order to confirm the correct prescribed dose

Note:

*For pediatric patients weighing less than 10 kg., calculate the dose using mg/kg
BSA should be recalculated to adjust dosing when the actual body weight has changed by
greater than 5-10%*

Example

39 year old male with glioblastoma, concurrent radiation, ordered Temozolomide (Temodar)
75 mg/m²/day = 144 mg OD Ht 175 cm Wt 76 kg

- a. What is the BSA?

$$\text{BSA} = \sqrt{\frac{175 \times 76}{3600}} = \sqrt{3.69} = 1.92 \text{ m}^2$$

- b. Is the dose correct? Yes

$$\text{BSA} \times \text{prescribed dose} = 1.92 \text{ m}^2 \times 75 \text{ mg/m}^2 = 144 \text{ mg (round off to 145 mg)}$$

- c. The capsules are available in 5, 20, 100, 140, 280, 250 mg. How would you dose?

$$145 \text{ mg} = 1 \times 140 \text{ mg cap and } 1 \times 5 \text{ mg cap}$$