NURSING PROCEDURE

TITLE: HAZARDOUS DRUGS ADMINISTRATION & HANDLING - CHEMOTHERAPY (cancer treatment)
A. Pre-Administration
B. Setting up
C. Administration
   I. Oral
   II. Subcutaneous/Intramuscular
   III. Intravenous
   IV. Assisting with Intrathecal
   V. Intravesicular
   VI. Topical
D. Care of Patient
E. Spills
F. Exposure

CATEGORY: RN – Special Nursing Procedure
          LPN – Advanced Practice may only perform skills in Sections D, E & F

PURPOSE

- To provide a safe environment for individuals involved in handling and administration of hazardous drugs for chemotherapy.

NOTE: RQHR has CEAC approved documents for teaching patients about hazardous medication handling:
- CEAC 0808 – Mitomycin Bladder Instillation – Discharge Instructions
- CEAC 1019 – Hazardous Drugs – Safe Handling of Body Fluids & Disposal of Waste Info for Patients & Caregivers

NURSING ALERT:

- If administration for non-cancer treatment refer to procedure H.30.
- There are no studies to determine safe levels of occupational exposure to hazardous drugs such as antineoplastic, cytotoxic or biochemical agents.
- Potential adverse health effects may include:
  - Alteration to normal blood cell counts
  - Fetal loss and possible malformation in offspring
  - Fertility changes
  - Abdominal pain, hair loss, nasal sores and vomiting
  - Liver damage
NURSING ALERT CONT:

- Contact dermatitis, local toxic reaction or allergic reaction that may result from direct contact with skin or mucous membranes.
- Above adverse health effects have not been reported where high standard of risk control is in place.
- Hazardous drugs will be labelled by pharmacy & alert placed in Chemotherapy Administration Record (CAR).
- Refer to Winnipeg Regional Health Authority website (http://rqhrintranet.rqhealth.ca/depts/Pharmacy/Lists/PharmacyDocuments/Hazardous%20Drug%20List.pdf) for a list of medications labelled by pharmacy as hazardous &/or cytotoxic. This list is a reference only and is not comprehensive.
- Whoever is administering hazardous medications is responsible for knowing handling precautions.
- Pregnant, nursing females and individuals trying to conceive (male & female) should inform their manager if they wish to be excused from handling blood/body fluids and preparing or administering hazardous drugs.
- Vigilant use of personal protective equipment (PPE) must be used to prevent risk of exposure to hazardous drugs. See Appendix A.
- Gloves should be changed after each administration, if contaminated, or puncture occurs, or every 30 minutes.
- Gowns should not be shared and changed at minimum when leaving room or immediately if any contamination occurs.
- Discard all contaminated disposable material and disposable PPE in cytotoxic waste.
- Communicate hazardous drug precautions by posting sign as in Appendix B.
- Place cytotoxic label on outside of patient’s chart and remove in 48 hours after last administration.
- Spill kit must be available on unit during administration of hazardous drugs (Stock #200084).
- Red cytotoxic bins are suitable for all waste including sharps. Bins are pre-labelled cytotoxic.
- Hazardous drugs are prepared by specially trained pharmacy staff with access to equipment such as appropriate biological safety cabinet.
- Refer to chemotherapy card/quick reference sheet for administration details if available.
- A Registered Nurse (RN) cannot accept telephone orders for chemotherapy administration or any adjustment to current chemotherapy orders.
- An RN may accept telephone orders for delay or cancellation of chemotherapy.
- Ensure vesicant teaching and signs of extravasation are reviewed with patient prior to administering chemotherapy with vesicant properties.
A. Pre-Administration

PROCEDURE

1. Review following patient information:
   - Applicable lab results
   - Previous treatment with hazardous drugs
   - Previous side effects, hypersensitivities, allergic reactions and interventions
   - Previous dose adjustments
   - Concurrent medical conditions
   - Weight changes >10%
   - Changes in performance status

   NOTE: For pediatric patients, prior to chemotherapy administration, complete “Inpatient Chemotherapy Checklist”. Ensure consent is obtained for newly diagnosed oncology pediatric patients or if changes in chemotherapy regime.

2. Obtain baseline vital signs and as indicated/required based on hazardous drug.

   NURSING ALERT:
   - If indicated, have emergency medications/equipment easily accessible.

3. Determine appropriate PPE required for route of administration. See Appendix A.

4. Assess patient and/or family’s understanding of:
   - Indication of treatment
   - Method of administration
   - Potential side effects and complications, and importance of informing nurses of same
   - Importance of notifying staff immediately if experiencing any signs and symptoms of extravasation with IV administration
   - Hazardous Drugs – Safe Handling Precautions & Disposal of Waste: Information for Patients & Caregivers CEAC #1019

5. Provide education as required.

B. Setting up

EQUIPMENT

1. PPE as per Appendix A
2. Administration equipment as indicated by route (IV tubing, injection needle, medication cup, etc.)
3. IV administration - closed administration equipment (i.e. Equashield® or PhaSeal™) as available and required if hanging more than one medication. (See Appendix D)
NOTE: If closed system is not available, an N95 respirator must be worn with administration.

4. CAR (Chemotherapy Administration Record)
5. Drug(s) for administration
6. Cytotoxic labels (Stock #200083 package of 10 labels)
7. Spill kit Stock # 200084
8. Disposable, absorbent, plastic backed pad
9. Red cytotoxic waste container:
   • 2 gallon flip top Stock #200080
   • 8 gallon flip top Stock #200081
   • 18 gallon slide top Stock #200082 *This item requires a cart (cart is purchased by unit as a special order through purchasing)
10. Alcohol swabs as required
11. Signage for hazardous drug precautions (Infection Control Intranet site or Appendix B)

PROCEDURE

1. Don PPE. See Appendix A.

   NOTE: PPE to remain on through all stages of handling and administration of drug(s).

2. Prepare area placing a disposable, absorbent, plastic backed pad absorbent side up.

3. Check drug, dose, BSA (as per appendix C), method of delivery, date and time against physician order with another registered nurse or physician.

4. Implement independent double check of rate (if applicable) and calculations. (Refer to nursing pharmacy manual procedure 4.9 Independent Checks of Medications.)

5. Verify patient name and medical record number (MRN) or suitable identification number in absence of MRN, against CAR, medication label and physicians order.

6. Check patient’s arm band against medication label.

7. Implement second identification as per RQHR policy 0612 Identification of Client/Patient/Resident.

   NOTE: Check each drug using above criteria.

8. Post signage regarding hazardous drug precautions after the first dose and for 48 hours following last dose.

9. Sign on CAR.

   NOTE: Two RN’s must sign on CAR at time of administration.
C. Administration

NURSING ALERT:

- Two RNs or an RN and physician must check dose of drug against physician’s written order and both must sign on Chemotherapy Administration Record (CAR).
- Work below eye level for administration of all hazardous drugs. All units handling hazardous drugs should have cytotoxic waste disposal set up as indicated in setting up on page 3 and 4.

I. Oral

1. Don PPE according to Appendix A.

2. Place ordered drug(s) into disposable medication cup using a non-touch technique.

NURSING ALERT:

- Do not cut, crush, break or open tablets or capsules for administration. Any drug preparation required must be done in pharmacy.

3. Indicate on CAR number of tablets/capsules dispensed.

4. Administer drug(s) as per physician’s order.

5. Observe patient consume drug(s).

6. Dispose of medication cup and gloves in cytotoxic waste container.


8. Post hazardous Drug Signage during administration and for 48 hours following last dose.

II. Subcutaneous/Intramuscular

1. Don PPE According to Appendix A.

   NOTE: Closed administration system does not offer protection for administration of subcutaneous or intramuscular delivery, therefore N95 respirator is required.

2. Attach injection needle to prepared syringe containing hazardous drug.

   NOTE: DO NOT expel air from needle. Pharmacy will send syringe with a closed administration system. (See Appendix E)
3. Add 0.1 – 0.2 mL of air to syringe to create an air lock, if not already present.

4. Administer drug(s) as per physician’s order.

5. Dispose of hazardous sharps in cytotoxic waste container.

6. Apply dressing (Band-aid®) to injection site as required.

7. Remove PPE and dispose of appropriately.


   **NOTE: Dispose of any injection site dressing in cytotoxic waste.**

9. Post Hazardous Drug signage after first dose and for 48 hours following last dose.

### III. Intravenous (IV)

**NURSING ALERT:**

- When administering any vesicant peripherally:
  - Ensure IV site is patent and less than 24 hours old.
  - A peripheral intravenous site should be above a recent (less than 24 hour) puncture site.
  - Site must be continuously visualized during administration of any vesicant agent. Remain with patient during entire infusion.
  - Vinca Alkaloids MUST be administered in infusion bag by gravity using short term infusion unless through a central venous access device (CVAD). Check for blood return before, during and after administration or every 5 minutes for peripheral route.
  - Pediatric vesicant supplied in infusion bags are to be administered by gravity using short term infusion unless through a CVAD.
  - All other vesicants for adult patients may be administered via IV push using free-flow method (side arm technique) depending on how supplied by pharmacy. Attach syringe at port closest to patient’s IV using closed drug transfer system. Aspirate for blood. Infuse by gravity IV slowly with compatible solution. Slowly administer vesicant chemotherapy agent at a rate of 1-2 mL/min or at prescribed rate determined by pharmacy. Check for blood return every 2-5 minutes.
  - Initial signs and symptoms of extravasation may include but are not limited to:
    - Pain and stinging
    - Swelling and redness
    - Induration
    - Reduced rate or absence of gravity flow
    - Lack of blood return
    - Leaking around IV site/catheter
    - Resistance during IV bolus push
NURSING ALERT Cont.

- If patient complains of pain or discomfort at an intravenous site or CVAD during infusion of a vesicant medication, stop infusion immediately, check for extravasation and notify attending physician. For extravasation, refer to nursing procedure E.9.
- Ensure antidote to vesicants is readily available in case of extravasation.
- Continuous infusions of vesicants or vesicant infusions longer than 60 minutes must be infused through a CVAD.

NURSING ALERT:

- When administering a vesicant through a CVAD:
  - Check for blood return prior to infusion, every 12 hours with continuous infusions and at end of infusion.
  - For pediatric continuous infusions, check for blood return every 4 hours until infusion complete.

PROCEDURE

1. Don PPE according to Appendix A.

2. Prime IV administration set with compatible IV solution that does not contain hazardous drug for both primary and secondary lines.

NURSING ALERT:

- Label all IV tubing cytotoxic.
- All hazardous drug infusions will be administered via secondary medication line, except where drug requires specialty tubing that must run on primary line.

3. Ensure infusion route is patent.

   NOTE: Topical anesthetic is NOT recommended for use in initiating a peripheral IV site when a vesicant drug is to be administered.

4. Initiate infusion as per physicians order.
5. Implement independent double check for following:
   - Correct patient
   - Appropriate medication (drug and dose)
   - Appropriate IV tubing and solution for drug being administered
   - Correct date and time
   - Rate and volume
   - Secure connections
   - Site healthy
   - Call back is set


7. Flush line with a minimum of 25 mL of compatible solution from primary line.

8. Dispose of complete IV administration set in cytotoxic waste when complete.

   **NOTE:** Do not remove spike from infusion bag. Do not disconnect any IV administration set in which exposure to hazardous medications may occur. Ensure line is flushed before disconnecting and dispose of entire administration set in cytotoxic waste.

9. Remove PPE and dispose of appropriately.


    **NOTE:** Dispose of any injection site dressing in cytotoxic waste.

11. Post Hazardous Drug signage after first dose and for 48 hours following last dose.

**IV. Assisting with Intrathecal**

**PROCEDURE**

1. Don PPE according to Appendix A.

2. Assist physician as required.

   **NURSING ALERT:**
   - If assisting with drug aspiration, don PPE and N95 respiratory mask, place sterile gauze pad around vial during withdrawal of drug to reduce aerosolization.

3. Dispose of hazardous sharps in cytotoxic waste container.

4. Remove PPE and dispose of appropriately.

***NOTE: Dispose of any injection site dressing in cytotoxic waste.***

6. Post Hazardous Drug signage after first dose and for 48 hours following last dose.

### V. Intravesicular

**NURSING ALERT:**
- Drug instillation into bladder is performed by physician in operating room.
- Catheter bag and chart should be labeled with a “Cytotoxic Label” – Stock #200083.
- Label must be clearly visible to receiving unit.
- Hand off communication from OR to receiving unit is to include:
  - Time of instillation
  - Amount of time medication has been in bladder (refer to physician orders/OR notes)
  - Time medication was drained from bladder

1. Don PPE according to appendix A.

2. Follow physicians orders post instillation for following:
   2.1 Repositioning of patient
   2.2 Clamping and unclamping of indwelling catheter

3. Open clamp and allow hazardous drug to drain by gravity into drainage bag after treatment is completed.

**NURSING ALERT:**
- Do not empty chemotherapy agent with urine from drainage bag.
- If catheter is to remain in place, use appropriate PPE, clamp catheter, disconnect catheter bag with chemotherapy agent, attach a new catheter bag and unclamp catheter. Apply cytotoxic label to catheter bag. Empty contents using appropriate PPE for 48 hours following installation.

4. Remove indwelling catheter leaving drainage bag attached according to physicians order.

***NOTE: Ensure catheter is clamped to avoid exposure.***

5. Dispose into cytotoxic waste container.

6. Remove PPE and dispose of appropriately.


8. Post Hazardous Drug signage during administration and for 48 hours following last dose.
VI. Topical

PROCEDURE

1. Don PPE according to Appendix A.

2. Wash treatment area according to drug instructions and pat dry completely before applying cream/lotion.

3. Apply thin layer of cream/lotion over entire affected area as per physicians order avoiding eyes, eyelids, nose or mouth.

   NOTE: Leave treatment area open to air unless otherwise ordered.

4. Remove PPE and dispose of appropriately.

5. Store drug according to manufacturer recommendations.


7. Post Hazardous Drug signage during administration and for 48 hours following last dose.

D. Care of Patient

EQUIPMENT

1. Cytotoxic labels
2. Hazardous drug disposal equipment (as noted in setting up)
3. Spill kit
4. Hazardous Drugs Precautions Signage as per Appendix B (if not already posted)
5. Disposable, absorbent, plastic backed pads
6. PPE according to Appendix A

NURSING ALERT:

- All body fluids are considered hazardous when a patient is receiving hazardous medication.
- Label all drainage collection devices with cytotoxic label.
- Discard all contaminated disposable material and disposable PPE in cytotoxic waste.
- PPE should always be worn when handling any body fluid (blood, vomitus, urine, saliva, sweat and stool) from patients treated with hazardous drugs and precautions continued for 48 hours following last dose.
- If a patient is incontinent, clean skin well with each change. Apply protective barrier ointment to skin as required. Physician may choose to order an indwelling catheter.
- Specimens do not require a cytotoxic label as universal precautions are used to handle all specimens.
PROCEDURE

1. Ensure hazardous drugs precaution sign is posted.

2. Don PPE according to Appendix A when providing personal care if risk of body fluid contact or handling any body fluid.

3. Use disposable containers label with a cytotoxic sticker for emesis or to empty body fluid for drainage.

4. Dispose of body fluid in usual manner.

   **NOTE:** Prior to flushing hazardous body fluids down toilet, place plastic backed pad with absorbent side down over seat or put toilet lid down to reduce splash back.

5. Empty basin water from personal hygiene care into toilet as per above note.

6. Discard any disposable items in cytotoxic waste once use is discontinued.

7. Place linen in laundry hamper.

   **NOTE:** This includes any linen with body fluids as all linen is processed using standard precautions. No special labeling or laundry bags are required.

8. Remove PPE and dispose of appropriately.

E. Spills

**NURSING ALERT:**

- Use spill kit to clean up any hazardous liquid medication that has been spilled or any large amount of body fluid not absorbed into linen. Smaller amounts of body fluid should be cleaned using same procedure with disposable absorbent material placed in hazardous waste container available on unit.

**EQUIPMENT**

1. PPE as indicated in Appendix A. (Use N-95 respirator you have been fit with. Do not use N-95 in spill kit)
2. Spill Kit (Stock #200084)
3. Extra absorbent material as required (i.e. disposable absorbent pads from unit)
4. Cytotoxic waste container (as on unit and noted in Section B – Setting Up)
5. Disposable containers for disinfectant solution and water
6. Facility approved disinfectant (ask housekeeping to fill up disposable container)
7. Tap water
8. Disinfectant cloths
9. RQHR Confidential Occurrence Report form

Approved: February 4, 2016
PROCEDURE

1. Identify area of spill in order to protect others from exposure.

2. Notify charge nurse or unit designate.

3. Use Chemotherapy emergency spill kit for clean up.

4. Post warning sign to alert others of hazardous drug spill and limit access to area.

   **NOTE:** Unit staff administering hazardous agents are responsible for spill clean-up.

5. Don PPE according to Appendix A.

6. Contain spill using absorbent material from spill kit.

7. Place spill control pillows in “V” position on outer perimeter of spill to prevent spread.

8. Cover spill gently with disposable absorbent material for liquid spills.

9. Pick up saturated absorbent material and spill pillows placing all contaminated disposable materials into a waste disposal bag from spill kit.

10. Clean spill area three times, from least to most contaminated areas, using detergent followed by clean water rinse.

11. Place all materials used in cleaning process into first labeled plastic waste disposal bag along with outer gloves and tie closed.

12. Place first bag and all other disposable items (gown, shoe covers and inner gloves) into second labeled plastic waste disposal bag and tie closed.

13. Place bag in cytotoxic waste container on unit.

14. Wash hands using soap and warm water.

15. Don 2 pair clean gloves and clean goggles using appropriate disinfectant wipe.

16. Place disinfectant cloth and gloves in cytotoxic waste container.

17. Wash hands thoroughly with soap and water.

18. Remove N95 respiratory and wash hands.


   **NOTE:** Submit above form to supervisor/manager.

20. Replace spill kit.
F. Exposure

EQUIPMENT

1. Water
2. Soap
3. Confidential occurrence report (as appropriate)
4. Employee report of incident/hazard form (or online)

PROCEDURE

1. Follow appropriate First Aid steps.

1.1 Mucosal Exposure:
   • Flush affected membrane (i.e. eye) immediately with copious amounts of clean water for at least 15 minutes.
   • If no eyewash station, use IV tubing and flush with normal saline.
   • Do not administer anesthetic drops or ointment.

1.2 Skin Contact:
   • Remove contaminated clothing.
   • Wash affected area with copious amounts of clean water and soap.
   • Do not administer anesthetic ointment.

1.3 Skin Puncture:
   • Wash affected area with copious amounts of clean water and soap, encourage bleeding.

NOTE: Seek emergency medical attention as appropriate.

If skin puncture is contaminated with blood or body fluids see RHD Policy 1.5.3.02 – Protocol for RHD Employees Following Blood/Body Fluid Exposure – Non-Sexual.

NOTE: If vesicant, should be treated as per extravasation protocol see nursing procedure E.9.

2. Inform charge nurse or supervisor.


4. Complete RQHR Confidential Occurrence Report form if patient is involved and submit to manager.

5. Complete RQHR Employee Report of Incident Hazard and bring to Employee Health Office for Employee Health Nurse. Include in report:
   • Name of hazardous drug
   • Type of exposure/amount
   • If body fluid exposure, indicate treatment plan and chemo day
REFERENCES


BC Cancer Agency. Policy III-50. Administration of Cytotoxic Drugs by the Intrathecal Route via Lumbar Puncture or Ommaya Reservoir. (Nov 2012)


Institute for Safe Medication Practices (ISMP) Canada (March 16, 2010). Medication Incidents Involving Cancer Chemotherapy Agents Volume 10, Number 1


Kline, N.E. (2011) The Pediatric Chemotherapy and Biotherapy Curriculum (3rd Ed.) AHPON


Saskatoon Health Region. (March 2014). *Chemotherapy Drugs For Cancer Treatment: Administration & Precautions* I.D. Number: 1065.

University of Toledo Medical Centre. (April 2010). *Management of Antineoplastic Agents: Handling of Excreta and Vomitus from Patients Who Have Received Antineoplastic Agents within the Previous 48 Hours* (F18).

West Suffolk Hospital NHS Trust (Sept 2009). *Handling and Administration of Cytotoxic Drugs* PP (08)034.

Winnipeg Regional Health Authority (February 2015) Cytotoxic & Non-Cytotoxic Hazardous Medications.


Revised by: Lisa Roland, Jana Lowey, RN, CNE’s
Date: May 2015

Revised by: Lisa Roland, Jana Lowey, RN, CNE’s
Date: January 2016 (23Jan20 Revision to Appendix A - MUSIC Committee)
(22Jun20 Work Standard Added to Appendices - Oncology Patients Receiving Chemotherapy/Systemic Cancer Treatment (Intravenous or Injectable) Outside of Unit 3B or ABCC - L. Roland)

Approved by: Lisa Roland, Jana Lowey, RN, CNE’s
Date: 4Feb16

Keyword(s): Chemotherapy Cytotoxics

Regina Qu’Appelle Health Region Health Services Nursing Procedure Committee
## Hazardous Drug Administration & Care of Patient PPE Requirements

<table>
<thead>
<tr>
<th></th>
<th>Topical</th>
<th>IV Administration</th>
<th>SC/IM Administration</th>
<th>Oral Administration</th>
<th>Oral Liquid Administration</th>
<th>Intrathecal Administration</th>
<th>Intravesicular Administration &amp; Disposal</th>
<th>Care of Patient (Risk of body fluid contact or handling body fluid)</th>
<th>Spills</th>
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<tbody>
<tr>
<td>Nitrile Gloves</td>
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<tr>
<td>N-95 Respirator</td>
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<td>Only if aspiration from vial</td>
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<td>Eye/face protection</td>
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<tr>
<td>Gown (nonpermeable, lint free with back ties and long sleeves with cuffs)</td>
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</tbody>
</table>

*N-95 respirator is not required if using a closed IV administration system.

- If pregnant or nursing, inform your manager if you wish to be excused from administering or preparing the hazardous drug or handling body fluids from the patient receiving them
- Discard contaminated waste material in a cytotoxic waste container (order from SPD – see procedure for order numbers)
- Label all drainage devices with a cytotoxic label
- Specimens do not require cytotoxic labeling
- Soiled linen is processed as normal
- Spill kit must be available on unit (order from SPD – see procedure for order number)
- Precautions must be followed 48 hours following last dose of medication
- Refer to Nursing Procedure H.30 for clarification or further detail.

Code: H.30.1
Author: Lisa Roland, Jana Lowey
Revised: January 2020

Approved: February 4, 2016
Hazardous Drug Precautions
Required For Contact With Body Fluids

1

STOP Clean Your Hands

2

Staff Wear
Use Double Nitrile Gloves

3

Follow Removal Sign When Leaving Room
- Place sharps/disposable items contaminated with body fluids or hazardous drugs in CYTOTOXIC WASTE
- Pad toilet to prevent splash or put down lid when flushing toilet

Regina Qu’Appelle Health Region

Code: H.30.1
Author: Lisa Roland, Jana Lowey
Revised: June 2015

Approved: February 4, 2016
BSA Calculations

One commonly used formula is the Mosteller formula, published in 1987\cite{1} and adopted for use by the Pharmacy and Therapeutics Committee of the Cross Cancer Institute, Edmonton, Alberta, Canada:

**Equation:** BSA (m$^2$) = SQR RT ( [Height(cm) x Weight(kg) ]/ 3600 )

### Formula of Mosteller (Adults and Children)

\[
BSA (m^2) = \text{SQR RT} \left( \frac{\text{Ht (cm)} \times \text{Wt (kg)}}{3600} \right) \quad \text{or} \quad \text{SQR RT} \left( \frac{\text{Ht (in)} \times \text{Wt (lb)}}{3131} \right)
\]
**Equashield® vs PhaSeal ™ Products - Nursing**

You may use Equashield products in the same situations where you use the PhaSeal products. Equashield products cannot be used with PhaSeal and vice versa.

<table>
<thead>
<tr>
<th>Equashield Luer Lock Adaptor (LL-1)</th>
<th>Equashield Female Luer Lock Connector (FC-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>same as the PhaSeal Connector</td>
<td>same as the PhaSeal Injector</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equashield Y-Site line (LL-1Y)</th>
<th>IV push and injection syringes must arrive</th>
</tr>
</thead>
<tbody>
<tr>
<td>same as the PhaSeal Y-Site line</td>
<td>from pharmacy with the protective plug in</td>
</tr>
<tr>
<td></td>
<td>place for sterility purposes if using</td>
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<tr>
<td></td>
<td>Equashield. Do Not swab inside of Female</td>
</tr>
<tr>
<td></td>
<td>Luer Lock Connector – return to pharmacy</td>
</tr>
<tr>
<td></td>
<td>if no protective cap is in place!</td>
</tr>
</tbody>
</table>

Approved: February 4, 2016
Administering Subcutaneous and IM Chemo with Equashield

The syringe and injector from Equashield will come together fused as one piece. DO NOT try to remove the injector from the syringe! It will break the syringe and destroy the use of this drug. This fused system requires the use of an Equashield adaptor with the appropriate gauge needle. The syringe will come with a mint green injector protector on the syringe. This protector is removed by pulling straight out. Place appropriate needle on the Equashield adaptor. Line up the red lines with the injector and adaptor. Push the two pieces firmly together. You are now ready to give the injection as per hazardous drug protocol. Make sure you wear your N-95 respirator during all stages of attaching the needle to the syringe and during administration.

1. As it looks Supplied from pharmacy
2. Remove protector by pulling straight out
3. Obtain Equashield adaptor
4. Attach Equashield adaptor to needle
5. Push together adaptor and injector until you hear a click
6. You are now ready to administer the injection
**WORK STANDARD**

<table>
<thead>
<tr>
<th>Task Sequence</th>
<th>Task Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chemotherapy/Systemic treatment (IV or injectable) order as part of regimen for cancer treatment written by Oncologist on Physician’s Order or PPO.</td>
</tr>
<tr>
<td>2.</td>
<td>Outside unit charge nurse will phone 3B charge nurse (2672), ABCC pharmacy (2085) and SHA Regina pharmacy to notify all of chemotherapy orders and patient admission to unit outside of Oncology Unit 3B.</td>
</tr>
<tr>
<td>3.</td>
<td>Orders and Sask Cancer Agency consent for treatment or procedure with specific treatment regimen faxed to 3B (2795), ABCC Pharmacy (2066), SHA Regina pharmacy.</td>
</tr>
<tr>
<td>4.</td>
<td>Orders reviewed and checked by two chemotherapy certified RN’s from Oncology Unit 3B to confirm chemotherapy regimen and clarification with Oncologist as needed. RN’s cannot accept verbal orders for chemotherapy medication changes (i.e. dose changes, route changes etc.). Orders to go ahead with chemotherapy or stop chemotherapy can be taken by RN. Original orders must be on inpatient chart.</td>
</tr>
<tr>
<td>5.</td>
<td>If any changes or additions are made to the chemo orders by the oncologist or oncology pharmacist, fax copies to all above parties noted in task 3 and place original orders in patient chart.</td>
</tr>
<tr>
<td>6.</td>
<td>Oncology Unit 3B RN will review lab work and diagnostics as necessary prior to administration. Outside unit will give thorough report on patient’s condition to 3B RN prior to 3B coming. See Appendix A: chemotherapy nursing unit worksheet for outside unit.</td>
</tr>
<tr>
<td>7.</td>
<td>Oncology Unit 3B will collaborate with outside unit regarding any pre-medications on Chemotherapy Administration Record (CAR). It will be determined at the time on a</td>
</tr>
</tbody>
</table>

Work Standard Summary: In the event that a patient requires chemotherapy/systemic treatment while admitted to an acute care unit, outside of Oncology Unit 3B PH, 3B Nursing staff will collaborate with the outside unit to provide treatment, monitoring, and appropriate follow-up. This standard will have to be individualized depending on the situation and regimen of treatment required. This applies to hazardous drugs given as part of a regimen for cancer treatment.
case by case basis who will administer any required pre-medications or pre-hydration. Pre-medications will be supplied by SHA pharmacy (exception - Akynzeo®)

NOTE: if medication needs to be transported, this will delay pre-medication times
NOTE: Vascular access needs to be communicated with Oncology Unit 3B.

### 8. Medication Administration Record (MAR) and CAR to only print to outside unit where patient is located.
- The outside unit faxes CAR to 3B (2795). 3B writes at top of faxed CAR “COPY- 3B CHECKS”. 3B does independent double check and brings the copy of CAR with signatures to place in chart.
- Outside unit RN to review all medications on MAR and CAR and to flag duplication orders to discuss with Oncology Unit 3B RN
  - i.e.: Metoclopramide, steroids, ondansetron
  - On CAR, if listed as “patient’s own medication”, these medications are associated with chemotherapy regimen and will be supplied by ABCC. The “patient own medications” are to be stored on the unit. Outside unit will document on care plan, under medications, where patient’s own medications associated with the chemotherapy are stored on unit.

### 9. Night MAR and CAR checks to be done by RN on outside unit. This is then faxed to Oncology Unit 3B. Unit 3B RN also does CAR night check with faxed orders and faxed CAR. Unit 3B RN will communicate with outside unit any identified issues.

### 10. 3B oncology RN will sign for all medications administered on the CAR. Outside unit RN administering pre-medications will be signing for medications on CAR.

### 11. The outside unit is expected to print the SHA parenteral drug monograph and review the medication and side effects for their reference and have it available in the patient’s chart. Patient education material will be printed from Cancer Care Ontario from Oncology Unit 3B when needed and given to patient.

### 12. ABCC pharmacy will send ordered chemotherapy and medication(s) associated with chemotherapy regimen to Unit 3B so that double checks may be completed by two chemotherapy certified RN's. The medication(s) may need to be transported to the outside facility (RGH) via laboratory transport due to transportation of dangerous goods act. See Appendix B: Transportation of chemotherapy or hazardous drug to unit outside of Pasqua Hospital to RGH

### 13. Unit 3B RN will bring chemotherapy medication(s) and required supplies (EquaShield, gown etc.) to the outside unit at the agreed upon time. A thorough report will be provided to the Oncology Unit 3B RN.

### 14. Outside unit is responsible to have cytotoxic waste and spill kit on hand.

### 15. 3B RN will initiate the chemotherapy infusion/injection and review with the outside unit RN any monitoring required post administration. Unit 3B RN will stay with patient during infusion that requires frequent rate changes (i.e. first time Rituximab).

### 16. Chemotherapy infusions are ideally administered through a CVAD. If a peripheral line is required and the drug is a vesicant, the 3B RN will stay with the patient observing the IV site continuously during the entire infusion. Any vesicant chemotherapy drug administration longer than 30 min requires a CVAD. Extravasation of Chemotherapy Agents Nursing Procedure (E.9) will be implemented by Unit 3B RN in the event of extravasation of vesicant agent and call oncologist for further orders. If antidote medication(s) are ordered and required, Unit 3B RN will contact ABCC pharmacy (2085) or ABCC pharmacist on call to have order filled.

### 17. If medication infusion needs to be specifically monitored, the Unit 3B RN may need to stay for the entire course of the infusion. If this happens, Unit 3B will call in another RN to specifically administer the infusion when available. The outside unit will incur any staffing charges. Alternately the outside unit may need to call in extra
<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>staff to support Unit 3B Oncology during administration.</strong></td>
<td><strong>NOTE: Site manager may need to be involved if staffing is an issue.</strong></td>
</tr>
<tr>
<td><strong>18.</strong></td>
<td><strong>3B RN will document medication(s) administered on CAR. The outside unit RN will continue to assess and document vital signs and ongoing care.</strong></td>
</tr>
<tr>
<td><strong>19.</strong></td>
<td><strong>Any changes to patient status must be communicated to Attending physician by the outside unit RN. The attending physician and oncologist will determine if it is chemotherapy or other medical condition related issue.</strong></td>
</tr>
<tr>
<td><strong>20.</strong></td>
<td><strong>Refer to Appendix C: Oncology patients receiving chemotherapy for cancer treatment outside of Unit 3B or ABCC as required for clarification.</strong></td>
</tr>
</tbody>
</table>

**NOTE:** ABCC pharmacy on-call hours are M-F 1630-2359, Sat, Sun and Stats 0800-2000 - To get in touch with the ABCC pharmacist on call please call switchboard.

- Outside of these hours are for emergency situations only (contact switchboard if required).
# Appendix A:

## Chemotherapy/Systemic Cancer Treatment Nursing Unit Worksheet For Outside Unit

This worksheet is to be used when a patient is receiving chemotherapy/systemic treatment outside of unit 3B (Pasqua). Reference Work Standard Titled: Oncology Patients Receiving Chemotherapy/Systemic Cancer Treatment (Intravenous Injectable) Outside of Unit 3B or ABCC and Bedside Algorithm

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Ensure Consent has been obtained</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>HAS PATIENT BEEN ASSESSED FOR TRANSFER TO 3B □Yes □No</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Next Chemotherapy Treatment Due: _____________</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Standing Orders (Including Blood Products)</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Central venous access □ Yes □ No (if NO make 3B aware ASAP)</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Cytotoxic Waste and Spill Kit on unit: □Yes Location:________ □SPD # 200084 (spill kit) □SPD #200080 (2 gallon waste) or #200081 (8 gallon waste)</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>Pre-Medications: Who &amp; When **Conversation with unit 3B discussing who will administer pre-medications **Note pre-meds are not to be given until chemotherapy agent arrives on 3B Plan for Preliminary’s:</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>Chemotherapy Administered by Chemotherapy Certified Nurse **Drug monographs printed and in patient’s bedside chart **Conversation with unit 3B discussing Monitoring required during infusion</td>
</tr>
<tr>
<td><strong>9</strong></td>
<td>Post Medications Who &amp; When **Conversation with unit 3B discussing who will administer post-medications Plan for Post medication’s:</td>
</tr>
<tr>
<td><strong>10</strong></td>
<td>Patient’s own medication from home: **Document in care plan under medication area where patient’s medication is stored on unit</td>
</tr>
<tr>
<td><strong>Post Chemotherapy Medication</strong></td>
<td><strong>Role of the Outside Unit Nurse</strong> when Cancer Treatment is administered by Chemotherapy Certified RN:</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>• Listed on CAR as “Patients own medications”</td>
<td>• Ensure outside nurse is aware of standing orders required for chemotherapy (i.e. blood products)</td>
</tr>
<tr>
<td>• Part of Chemotherapy Regimen</td>
<td>• Ensure the Oncology Unit 3B RN and outside unit refers to and follows the Hazardous Drug Policy (H.30 &amp; H.30.1) for proper handling of bodily fluids</td>
</tr>
<tr>
<td>• Medications come to unit with patient or from ABCC and are supplied in patients own medication bottles</td>
<td>• Outside unit will continue to document vital signs and ongoing care</td>
</tr>
<tr>
<td>• Post Medications will not be supplied by SHA Pharmacy</td>
<td>• Outside unit will print off SHA parenteral drug monograph for all chemotherapy medications and house in patient’s chart – noting potential side effects of drug being administered and any monitoring that may be required during/post infusion.</td>
</tr>
</tbody>
</table>
| • The post medications are stored on the home unit in patient medication cassette or area designated by the unit as safe | • Outside unit will ensure the following are located on the unit when chemotherapy is ordered:  
  ▪ Cytotoxic spill kit and hazardous drug disposal system |
| • Documentation of “patients own medication” will be in the care plan under the medication section. | • Daily Communication with 3B:  
  ▪ Communicate daily with 3B unit charge nurse  
  ▪ Notify if there is a change in patients condition  
  ▪ Notify 3B of IV access  
  ▪ Assess daily if patient can be transferred to 3B |

<table>
<thead>
<tr>
<th><strong>Role of 3B Nurse</strong> when Cancer Treatment is administered off Unit</th>
<th><strong>Role of ABCC Pharmacy</strong> when Cancer Treatment is administered outside of 3B</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Will provide Night CAR checks on faxed CAR. The faxed CAR will be placed on patients chart as per work standard</td>
<td>• Will enter chemotherapy medication into the system (BDM) which will generate a CAR</td>
</tr>
<tr>
<td>• Extravasation of Chemotherapy Agents Nursing Procedure (E.9) will be implemented by Unit 3B nurses in the event of extravasation and call oncology doctor for order. 3B will contact ABCC pharmacy or pharmacist to obtain the ordered medication as required and administer.</td>
<td>• Will mix and prepare chemotherapy drugs – will send to unit 3B for High Alert Independent Double Checks</td>
</tr>
<tr>
<td>• Utilize the Spill kit and Nursing Procedure should a spill occur</td>
<td>• ABCC pharmacy is available after hours for emergency chemotherapy preparation – can be reached through switchboard. Emergency administration need is determined by Oncologist</td>
</tr>
<tr>
<td>• Will check first day CAR from faxed orders</td>
<td>• Will house the Extravasation agents if required.</td>
</tr>
<tr>
<td>• Unit 3B Nurse will communicate when chemotherapy arrives on the unit and coordinate pre-medications/pre-hydration with outside unit</td>
<td>• Provide any additional staff/patient educational material (printed from Cancer Care Ontario)</td>
</tr>
</tbody>
</table>
Appendix: B

Title: Transportation of chemotherapy or hazardous drug to unit outside of Pasqua Hospital to RGH

Role performing Activity: Nursing

<table>
<thead>
<tr>
<th>Location:</th>
<th>Department/Unit:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasqua Hospital</td>
<td>Various and Oncology Unit 3B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task Sequence (Order in which tasks occur)</th>
<th>Task Definition (Brief summary of task)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>All units will follow work standard “Oncology Patients Receiving Chemotherapy for Cancer Treatment Outside Unit 3B or Allan Blair Cancer Centre (ABCC)” will be followed.</td>
</tr>
<tr>
<td>2.</td>
<td>Chemotherapy or hazardous drug will be sent to Oncology unit 3B from ABCC in approved tote that will include medication(s)</td>
</tr>
<tr>
<td>3.</td>
<td>Two chemotherapy certified RN’s will complete checks of medication(s) as per standard for checking</td>
</tr>
<tr>
<td>4.</td>
<td>Tote is sealed with plastic tamper proof closures with checked medication inside. 3B RN will ensure the medication is packaged as indicated (i.e. ice pack if required)</td>
</tr>
<tr>
<td>5.</td>
<td>Tote will be labelled “to RGH laboratory” for pick up from Unit 3B RN</td>
</tr>
<tr>
<td>6.</td>
<td>Sealed tote is taken to Pasqua hospital laboratory on Level 5 for transportation to Regina General Hospital laboratory (check with Pasqua laboratory regarding delivery times, last time to pick up and transport to RGH from Pasqua is 11:20 Monday to Friday)</td>
</tr>
<tr>
<td>7.</td>
<td>Oncology Unit 3B RN will go to Regina General Hospital laboratory and pick up tote with hazardous drug and take to outside unit for administration.</td>
</tr>
<tr>
<td>8.</td>
<td>Following administration of medication(s), empty tote will be labeled “return to ABCC pharmacy Pasqua Hospital”</td>
</tr>
<tr>
<td>9.</td>
<td>Labelled empty tote will be taken to Regina General Hospital laboratory by Unit 3B RN and placed in designated area to be transported back to ABCC</td>
</tr>
</tbody>
</table>

Work Standard Summary: In the event that a patient requires chemotherapy while admitted to an acute care unit at RGH 3B, transportation will be done using best standards of transportation of dangerous goods.