Administration of Antineoplastic/Oncology Medications

Site Applicability

All VCH Sites

Practice Level

Registered Nurse (RN):	
Administration of Antineoplastic Drugs	**Level of Skill**
Intravenous antineoplastic	• Advanced skill • Requires successful completion of an Antineoplastic Chemotherapy Competency Program • NOTE: Further additional training required to administer peripheral vesicants
Intravesicular antineoplastic	• Advanced skill • Requires orientation to clinical procedure and safety practices, and demonstration of competency
Oral, topical, subcutaneous and intramuscular antineoplastic/non-antineoplastic	• Basic skill
Initial management of extravasation with MRP order	• Advanced skill • Requires successful completion of an Antineoplastic Chemotherapy Competency Program
Registered Psychiatric Nurse (RPN):	
Administration of antineoplastic drugs	**Level of Skill**
Oral, topical, subcutaneous and intramuscular antineoplastic/non-antineoplastic	▪ Basic skill

Licensed Practical Nurse (LPN):	
Administration of antineoplastic drugs	**Level of Skill**
Oral, topical, subcutaneous and intramuscular antineoplastic/non-antineoplastic to stable patients with predictable outcomes	▪ Basic skill

Requirements

- Orders for all intravenous (IV), subcutaneous or oral antineoplastic drugs must be written or entered into Cerner by a provider, and not taken as verbal or telephone orders. If a prescription is amended, the changes must be documented by the prescriber before the medication is dispensed and administered. **Non-Cerner sites**: Orders must be written on a Pre-Printed Order (PPO).
- A signed consent form must be obtained by the provider for all intravenous and intravesicular antineoplastics.
- A nurse may not accept verbal or telephone orders for:
  - Intravenous and intravesicular antineoplastic agents.
  - Adjustments to doses of intravenous and intravesicular antineoplastic medications **Exception:** Nurses may take verbal/telephone orders to hold or discontinue antineoplastic medications.
- For initial orders of intravenous therapy, ensure patient's height and weight is current and double signed and documented by two (2) health care clinicians (RN, LPN, pharmacist, provider).
- Record keeping:
  - **Cerner sites:** is automatically done and available in the Discern Reporting tab.
  - **Non-Cerner sites:** need to complete a record of preparing/administering antineoplastic medications.

Community:

Medication administration (oral, topical) may be delegated by the RN to an Unregulated Care Provider (UCP) under the following conditions:

- Hazardous nature of medications, including antineoplastic agents, has been clearly communicated by the VCH delegating team to UCP Agency, VCH Home Support Program or individual.
- Agency or department has an Occupational Health and Safety plan in place for UCP training and follow through (documentation).
- UCP has been trained and is competent in Hazardous Drug Group 1 drug handling, administration and disposal.

Need to Know

- Antineoplastic agents are used in a variety of healthcare settings. In addition to the treatment of cancers, these agents are also used for the treatment of other medical conditions such as multiple sclerosis, psoriasis, systemic lupus erythematosus and rheumatoid arthritis.
- The administration of antineoplastic medication:
  - is complex
  - can cause serious injury
  - can be hazardous both to patients and staff
  - has potential to cause life threatening illnesses
- In this document, **'antineoplastic medication'** refers to medications that may or may not be used for chemotherapy.
- Refer to the individual drug monographs in the Parenteral Drug Therapy Manual (PDTM) for specific drug administration information and site-specific restrictions. **Note:** the BC Cancer Drug Manual is linked within the PDTM.
- For antineoplastic medications identified as a Hazardous Drug, nurses follow the Hazardous Drugs Exposure Control Matrix – Nursing Section and Hazardous Drugs - Education and Safety Requirements DST when administering antineoplastic agents.
  - Note: Closed system transfer devices (CSTDs) (where available and compatible) are used to administer antineoplastic medications that are hazardous.

Procedure

Checking Antineoplastic Medication Orders:

For intravenous and intravesicular antineoplastic medications, an Independent Double Check (IDC) is required prior to administration. The administering RN must be trained to administer antineoplastic medication and the second nurse (who does not need to be trained to administer antineoplastic medications) must be authorized to perform an IDC.

1. For parenteral medications, the trained RN will independently review the following patient data:
   a. Seven (7) rights of medication administration, including reason for administration
   b. Applicable lab results
   c. Expected and unexpected side effects
   d. Other concurrent medical conditions, including recent changes in status
   e. Any significant changes in weight (i.e. greater than 10%) and resulting dose discrepancies greater than 5% must be reported to the provider
2. For parenteral medications, two (2) nurses, one of whom will be administering the medication and has training, verifies the following:
   a. Patient Chart (at a minimum, must be done at the beginning of each cycle, and when orders changed):
      i. Signed consent for chemotherapy
      ii. Height and weight used for calculations are accurate against the double signed height and weight located in the patient record

iii. Correctly recalculate BSA (see Appendix A) and ideal body weight calculations (if applicable)
iv. Correctly recalculate dosage of antineoplastic medication
v. Ensure the label on medication matches the patient name, MRN/PHN, drug dose, dates, route, expiry, and time of infusion on the provider's order **Richmond Hospital:** labels only have patient name, birthdate, drug, dose, and dilution.
vi. Compare the medication bag to the Medication Administration Record (MAR)
vii. Clarify any discrepancies with provider or pharmacist
viii. **Cerner sites**: Once check is complete, the two nurses document the check in 'Chemo/biotherapy check' in iView

b. Patient Bedside:

i. Confirm two (2) patient identifiers and 7 rights of medication administration
ii. Complete IDC of pump settings
iii. Check medication with MAR then both nurses sign MAR

Administration of Parenteral Antineoplastic Medications:

1. For Intravenous (IV) administration of antineoplastic medications:
   a. Antineoplastic medications must be connected as a secondary infusion
      i. **Exceptions:** elastomeric infusion device; medications administered via CADD pump.
   b. All IV tubing (i.e. primary and secondary) must be labelled using appropriate hazardous label.
   c. Do not prime IV administration sets with antineoplastic medication
      i. **Exception:** CADD pumps
   d. Use closed system drug-transfer devices (CSTDs) where available.
   e. Even when compatible, antineoplastic medications are not administered concurrently via Y-site unless specified in the chemotherapy protocol.
   f. Once tubing has been used for antineoplastic medication administration, it will only be used for subsequent cytotoxic agent administration, and must be disposed of appropriately.
   g. For intermittent antineoplastic medication administration, change the primary IV line every 96 hours.
      i. Flush primary line with 50 mL of compatible IV solution between doses, and do not use for administering non-antineoplastic medications.
   h. For disposal following administration:
      i. Do not disconnect the medication bag from the IV administration set (i.e., do not "unspike" IV bag).
      ii. Always backflush through a port that will be disconnected (e.g., secondary medication or IV tubing ports connected to IV access device) with 50 mL of compatible IV solution prior to disconnection.
      iii. For an elastomeric pump (e.g., Baxter Infusor™), carefully disconnect and cap the tubing as there may be a small amount of antineoplastic fluid at the end of the pump tubing.

iv. For a CADD pump (e.g., CADD Solis), carefully disconnect and cap the tubing; there may be a small amount of antineoplastic fluid at the end of the pump tubing.
v. At the end of the infusion(s), dispose of the IV administration set intact into the appropriate waste container. Follow hazardous drug waste disposal protocols and doffing of appropriate Personal Protective Equipment (PPE) (see Appendix B).

For additional information, refer to the Hazardous Drugs - Education and Safety Requirements Decision Support Tool.

Peripheral Intravenous Administration of Vinca alkaloids

Note: Requires additional education and training on administering peripheral vesicants. Vinca alkaloids are always administered IV intermittent (via secondary IV line).

1. **Vincristine only**: If administering medication by peripheral IV access, gently pinch IV tubing just above the lowest port to check that blood returns into the IV catheter or tubing.
2. Ask/remind patient to inform the nurse immediately of any changed sensation or discomfort at IV site (e.g. stinging, burning, or pain).
3. Infuse 10 to 20 mL of chemotherapy via secondary infusion.
   a. Assess tissue around IV catheter insertion site and along path of vein for redness, swelling or pain.
4. Check for blood return every 10 to 20 mL of medication infused.
5. Continue administration as long as blood return is present, IV site appears normal, and patient is comfortable.
   a. In the event of loss of blood return, changes at IV site, or patient discomfort at IV site, stop infusing the antineoplastic medication and assess to differentiate between extravasation, irritation, and flare.

Side Arm Technique:

For vesicants administered IV direct (NOT vinca alkaloids).

1. Administer antiemetic and or pre-medications as ordered.
2. Wash hands and don PPE.
3. Ensure access site is visible throughout the injection.
4. Place plastic backed absorbent pad under lowest side-port of IV tubing.
5. Open IV line wide to check for venous patency (**Note:** For CVC check for blood return and then flush and initiate infusion).
6. Reduce IV flow rate to maintain free flow of fluid.
7. Gently pinch IV tubing just above lowest side port to check that blood returns into IV catheter or tubing.
8. Clean side port with alcohol swab and allow to dry.
9. Connect syringe containing antineoplastic medication into lowest port of IV tubing.
10. Remind patient to inform nurse immediately of any changed sensation or discomfort at IV site (e.g. stinging, burning or pain).
11. Slowly inject 1 to 3 mL of chemotherapy into free flowing IV, so as not to stop or reverse IV flow.

12. Assess tissue around IV catheter insertion site and along path of vein for redness, swelling or pain.
13. Check for blood return every 1 to 3 mL of medication injected.
14. Continue administration as long as blood return is present, IV site appears normal, and patient is comfortable.
    a. In the event of loss of blood return, changes at IV site, or patient discomfort at IV site, refer to Assessing for Extravasation versus Other Reactions.
15. Once medication has been administered, hold gauze under lower medication port and carefully remove the syringe.
16. Discard antineoplastic medication equipment in hazardous waste container.
17. If more than one antineoplastic medication is to be administered, flush with 50 mL of primary IV solution between medications, then repeat steps 8 to 16.
18. Flush IV thoroughly with 50 mL of IV solution.
19. When antineoplastic medication has been infused, discontinue IV or continue infusing primary IV solution as ordered.
20. Doff and dispose of PPE and wash hands with soap and water. Dispose of PPE in hazardous waste container.
21. Document as per organization policy.

Intravenous Infusion

Procedure:

1. Administer antiemetic and/or other pre-medications as ordered.
2. Wash hands and don PPE.
3. Inspect packaging containing antineoplastic medication prior to opening to ensure there is no spillage.
    - Return medication to the pharmacy if spillage noted in packaging.
4. If not already done, assess patency of IV access following current peripheral and CVC processes before setting up infusion.
5. Connect secondary infusion line to medication port and back flush to prime secondary medication line.
6. Attach bag of antineoplastic medication to secondary line.
7. Regulate the flow rate of cytotoxic agent according to provider order or PDTM. Proceed to Step #9 **unless administering Vinca alkaloids**.
8. For Vinca alkaloids:
    a. ***Vincristrine only:*** If administering medication by peripheral IV access, gently pinch IV tubing just above lowest port to check that blood returns into IV catheter or tubing.
    b. Ask/remind patient to inform you immediately of any changed sensation or discomfort at IV site (e.g., stinging, burning, or pain).
    c. Infuse 10 to 20 mL of chemotherapy via secondary mini bag. Then assess tissue around IV catheter insertion site and along path of vein for redness, swelling or pain.

d. Check for blood return every 10 to 20 mL of agent infused.

e. Continue administration as long as blood return present, IV site appears normal, and patient is comfortable. In the event of loss of blood return, changes at IV site, or patient discomfort at IV site, stop infusing cytotoxic agent and assess to differentiate between extravasation, irritation, and flare.

9. When antineoplastic medication has been infused, allow secondary infusion drip chamber to empty, then clamp above the fluid line level.

    - **Elastomeric infusion device:** See Guide for Patients for more information.

10. Flush the primary infusion line with a minimum of 50 mL of primary IV solution.
11. If more than one cytotoxic agent is to be administered, backflush primary IV solution into the secondary infusion bag then disconnect secondary infusion bag using alcohol swab, then repeat steps 5 to 9, *or* Y-connect IV lines so that the IV medication bags are not disconnected from the spike.
12. Infuse appropriate post chemotherapy hydration if ordered.
13. Before removing any IV catheter or disconnecting any IV tubing that has been used for the administration of cytotoxic agents, place plastic backed absorbent pad under the IV site.
14. If IV catheter is to be discontinued, leave all tubing attached to the IV cannula/butterfly and discard the entire system intact into the appropriate hazardous waste container.
15. If ongoing IV therapy is required, proceed with provider orders.
16. Discard used antineoplastic medication equipment directly into the hazardous waste container.
17. Doff PPE and dispose of PPE into the appropriate hazardous waste container. Wash hands with soap and water.
18. Document as per organization policy.

Intravesicular Administration

Equipment and Materials:

- Personal Protective Equipment (PPE)
- Sterile gloves
- Clean gloves
- Catheter tray and catheter
- Antineoplastic agent (e.g., BCG reconstitution kit)
- Luer lock to catheter tip adapter (female connector) or the Cook Multipurpose tubing adaptor (male connector)
- CSTD connector if available
- Two (2) Catheter Clamps
- Alcohol swabs
- Plastic-backed absorbent pad

- Hazardous waste container
- Chemotherapy/Hazardous Drug Spill Kit must be readily available

Procedure:

1. Restrict fluids for two (2) hours before treatment to minimize volume of urine produced.
2. Prepare work area by placing a plastic backed absorbent pad on the work surface; ensure cytotoxic sharps container and hazardous waste container are within reach for disposal of equipment.
3. Place disposable plastic backed absorbent pads under patient's buttocks, over patient's thighs and under catheter connection.
4. Wash hands and don PPE.
5. Ensure catheter (Foley or straight catheter) is in situ and draining well.
6. Ensure patient's bladder is empty. For intermittent catheterization, attach connector with antineoplastic medication, instill medication and remove entire catheter, adapter and medication syringe.
7. If using Foley catheter:
    a. Double clamp catheter
    b. Clean the port on the urinary drainage bag with alcohol swabs.
    c. Attach syringe containing antineoplastic medication to port on the urinary drainage bag (using CSTD connectors if available).
    d. Unclamp urinary catheter, invert the drainage tubing so the port and drainage tubing is higher than the Foley catheter.
    e. Clamp the urinary drainage bag tubing distal to the port and instill all of antineoplastic medication.
8. Double clamp Foley catheter or remove catheter as per provider order.
9. If Foley catheter needs to remain in situ, clamp the urinary drainage bag and instill the chemotherapy through the port in the urinary drainage tubing.
10. Discard used equipment into hazardous waste container.
11. Ensure patient retains the antineoplastic medication in the bladder as determined in provider orders. To ensure that the antineoplastic medication completely covers the inside of the bladder, have the patient reposition in bed at least as follows:
    a. 15 minutes supine
    b. 15 minutes on each side
    c. 15 minutes prone
12. If patient can tolerate, retain medication in bladder for an additional hour (review orders).

13. After retention, release clamps on the catheter to allow urine and antineoplastic medication to drain into urinary drainage bag or instruct patient to void if catheter has been removed.
14. Encourage patient to drink plenty of fluids for at least six (6) hours after the bladder is first emptied unless contraindicated. Encourage patient to empty bladder frequently.
15. Doff and dispose of PPE in the appropriate hazardous waste container and wash hands with soap and water.
16. Document as per organizational policy.

Site Specific information:

Vancouver Acute:

- Bladder Instillation Guideline

Coastal:

- Lions Gate Hospital: D-00-12-30181: Cytotoxic Agents: Perioperative Considerations
- North Shore Home & Community Care Ambulatory Clinics & Squamish Ambulatory Clinic: D-00-12-30002: BCG Bladder Instillation with BCG: Procedure for Ambulatory Clinics

For all other routes of administration, see the Hazardous Drugs - Education and Safety DST, and the Hazardous Drug Exposure Control Program (ECP).

Assessing for Extravasation versus Other Reactions

In the event of loss of blood return, changes at IV site, or patient discomfort at IV site:

1. Stop injecting or infusing medication
2. Assess site to differentiate between:
   i. Irritation – spasm (for peripheral line only)
   ii. Flare – redness, local vasomotor reaction (for peripheral line only)
   iii. Extravasation - leakage of vesicant drug from the vein into the soft tissue

	Extravasation	Irritation	Flare
Pain	Severe, during or post infusion	Aching/tightness along vein	No
Colouration	Erythema at needle site or previous site	Erythema along full length of vein	Streaking, blotching, hive like erythema
Ulceration	In 48 to 96 hours	No	No
Swelling	Yes	No	No
Blood return	No, or sluggish	Usually	Yes
Other		Reduced flow rate from spasm	Itching, urticaria

Extravasation or Suspected Extravasation: VCH follow BC Cancer Prevention and Management of Extravasation of Chemotherapy Protocol with the following exceptions:

- Use of PainEase® spray (an ice pack can be used as an appropriate alternative)
- Use of hyaluronidase injection

Documentation

- Ensure that chemo/biotherapy verification is complete on first dose and is assessed with each subsequent dose within a cycle.

Patient and Family Education

- Review educational materials available (e.g. BC Cancer Patient Handouts from the Cancer Drug Manual, Lexicomp patient information, etc.)
- Patient/family understands how to dispose of waste products safely (See Care of Wastes at Home After Taking Hazardous Drugs and Handling Cancer Drugs and Body Fluids in the Home)
- Review information on what to do if patient is unwell at home following treatment
- Community sites: client, caregivers and families must notify any partner agencies of hazardous precautions.

Related Documents

Related Policies

- Waste Management – Methods of Disposal at Acute Sites
- Waste Management - Methods of Disposal at Community Health Units and Clinics

Guidelines/Forms/Other Resources

- Alaris Pump Resources
- BC Cancer Drug Manual
- BC Cancer Drug Manual – Drug Index
- BC Cancer Body Surface Area Calculator
- Bladder Instillation Guideline (for Vancouver Acute sites)
- Bladder Instillation with BCG: Guideline for Ambulatory Areas
- Care of Wastes At Home After Taking Hazardous Drugs
- Cytotoxic Agents Perioperative Considerations (Lions Gate Hospital)
- Hazardous Drugs – Education and Safety Requirements DST
- Hazardous Drugs Control Matrix - Nursing
- Hazardous Drug Exposure Control Program
- Independent Double Check (IDC) of Medications
- Parenteral Drug Therapy Manual
- Prevention and Management of Extravasation of Chemotherapy
- Record of Preparing and Administering Hazardous Drugs
- Your INFUSOR™ – A Guide for Patients

- Weekly Record of Preparing and Administering Hazardous Drugs

References

BC Cancer (2023). Safe Handling of Hazardous Drugs. Module 1 - Includes Recommended Procedures and Techniques.

BC Cancer (2023). Chemotherapeutic Drugs, Administration of. Nursing Practice Reference.

Hensley D. (2016). Hazardous Drugs in the Urology Workplace: Focus on Intravesical Medications. *Urologic nursing*, *36*(4), 183–189.

Coyne, E., Northfield, S., Ash, K., & Brown-West, L. (2019). Current evidence of education and safety requirements for the nursing administration of chemotherapy: An integrative review. *European journal of oncology nursing: the official journal of European Oncology Nursing Society*, *41*, 24–32. https://doi.org/10.1016/j.ejon.2019.05.001

ISMP Canada. (2021). High-Alert Medications in Community/Ambulatory Care Settings.

Karius, D. L., & Colvin, C. M. (2021). Managing Chemotherapy Extravasation Across Transitions of Care: A Clinical Nurse Specialist Initiative. *Journal of infusion nursing : the official publication of the Infusion Nurses Society*, *44*(1), 14–20. https://doi.org/10.1097/NAN.0000000000000411

Lin, Y.-S., Gau, B.-S., Chen, H.-C., Liang, J.-C., Shih, F.-Y., Lin, Y.-C., & Lou, M.-F. (2022). The relationship between safety climate and nurses' safe handling of chemotherapy: A partial least squares structural equation modeling analysis. *European Journal of Oncology Nursing*, *61*, N.PAG. https://doi.org/10.1016/j.ejon.2022.102222

Neuss, M. N., Gilmore, T. R et al. (2017). American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards, Including Standards for Pediatric Oncology. *Oncology nursing forum*, *44*(1), 31–43. https://doi.org/10.1188/17.ONF.31-43

NIOSH (2020). List of Hazardous Drugs in Healthcare Settings. National Institute for Occupational Safety and Health.

Power, L. A., & Coyne, J. W. (2018). ASHP Guidelines on Handling Hazardous Drugs. *American journal of health-system pharmacy : AJHP : official journal of the American Society of Health-System Pharmacists*, *75*(24), 1996–2031. https://doi.org/10.2146/ajhp180564

Providence Health Care (2018). Antineoplastic Chemotherapy Infusion Reactions: Hypersensitivity/Allergic.

Definitions

Antineoplastic is a substance, procedure, or measure that prevents the proliferation of cells; A chemotherapeutic agent that controls or kills cancer cells. Drugs used in the treatment of cancer are cytotoxic but are generally more damaging to dividing cells than to resting cells.

Antineoplastic chemotherapy competency program is an education program for Registered Nurses preparing to care for persons receiving cancer chemotherapy; includes theoretical, clinical, and continuing competency components. This may be unit-based, or BC Cancer-based.

Vesicant blistering, local or extensive tissue necrosis with or without ulceration

Chemotherapy is the treatment of cancer, infections, and other diseases with chemical agents.

Cytotoxic Drug is an agent that possesses a specific destructive action on certain cells or that may be genotoxic, oncogenic, mutagenic, teratogenic, or hazardous to cells in any way. Any pharmacologic compound that inhibits the proliferation of cells within the body. Cytotoxic agents have a potential for producing teratogenesis, mutagenesis, and carcinogenesis.

Extravasation the escape of drug from a vessel into the subcutaneous tissues

Flare reaction is a localized allergic response associated with the administration of an irritant and is one of the most common chemotherapy infusion–related reactions. Symptoms include tenderness, warmth or redness along the vein or at the injection site.

Hazardous Drugs defined by the BC Health Authorities as medications that exhibit one or more of the following characteristics in humans or animal models: carcinogenicity, teratogenicity or other developmental toxicity, reproductive toxicity, genotoxicity, organ toxicity at low doses, or containing a living organism with the potential to cause infections in humans.

Independent Double Check is a process by which two clinicians work separately to verify the accuracy of the order and medication related care to be delivered. The two clinicians perform the verification process independent of one another, without assistance from each other and without knowledge of their steps followed. Once verifications are complete, results are compared and discrepancies, if any, must be resolved before any action is taken.

Side Arm Technique/Route is direct administration of chemotherapy through the lowest medication port of a free-flowing IV to either a peripheral IV device or central venous access device. Used for administration of vesicant and other drugs given by IV push.

Appendices

- Appendix A: Body Surface Area (BSA) Calculation
- Appendix B: Personal Protective Equipment Requirements

Appendix A: Body Surface Area (BSA) Calculation

Medication Calculations: Body Surface Area (BSA)-Based Medication Dose

Body surface area (BSA) is used to calculate the dose of some medications, and is commonly used for antineoplastic oncology medications. When an independent double check is required, the BSA calculation used to determine the medication dose must be verified.

There are different formulas for calculating BSA. At VCH and BC Cancer, the Mosteller formula is used to calculate BSA:

$$BSA\ (m^2) = \sqrt{\frac{Height\ (cm) x\ Weight\ (kg)}{3600}}$$

How to Calculate a BSA-Based Medication Dose

Medication order: cyclophosphamide (750mg/m^2 rounded to the nearest 100 mg) **1400** mg in sodium chloride 0.9% (NS) IV over 20 to 60 minutes on Day 1.

From the PPO:

Chemotherapy Dosing Calculations	
Height: 165 cm	Weight: 72.4 kg
$BSA(m^2) = \sqrt{\frac{Height(cm) \times Weight(kg)}{3600}}$ Round all BSA calculations to 2 decimal places	BSA = 1.82 m^2

BSA Calculation: insert height and weight into formula	$\sqrt{\frac{165\ cm\ x\ 72.4\ kg}{3600}} = 1.82\ m^2$
Dose Calculation: mg/m^2 from order	$\frac{750\ mg}{m^2} \times 1.82\ m^2 = 1365\ mg$
Round Dose: as ordered	1365 mg rounded to the nearest 100 mg is **1400 mg**

See also BC Cancer Body Surface Area Calculator

Appendix B: Personal Protective Equipment Requirements

PPE Required for Administration for Final Dosage Form* of HD Group 1

Route	2 pairs of gloves	1 pair of gloves	Chemo-approved gown	Eye/Face Protection (e.g. goggles + mask)	Respiratory Protection (e.g. N95, elastomeric)	NIOSH/CSA Approved Respirator
Parenteral (IV, IM, SC, IT, IP)	✔		✔	✔		
Oral (Tablet, Capsule)		✔				
Oral (Liquid)	✔		✔	✔		
Topical – Rectal, Vaginal	✔		✔	✔		
Implants & Topical Ophthalmic	✔		✔	✔		
Inhalation Therapy	✔		✔	✔	✔	Requires more Information Detailed risk assessment will be required

*see safe work procedure if not in final dosage form

PPE Required for Administration for Final Dosage Form* of HD Group 2

Route	2 pairs of gloves	1 pair of gloves	Chemo-approved gown	Eye/Face Protection (e.g. goggles + mask)	Respiratory Protection	NIOSH/CSA Approved Respirator
Parenteral (IV, IM, SC, IT, IP)	✔		✔	✔		
Oral (Tablet, Capsule)		✔				
Oral (Liquid)	✔		✔	✔		
Topical – Rectal, Vaginal	✔		✔	✔		
Implants & Topical Ophthalmic	✔					
Inhalation Therapy	✔		✔	✔		Requires more Information Detailed risk assessment will be required

*see safe work procedure if not in final dosage form

First Released Date:	28-DEC-2023
Posted Date:	28-DEC-2023
Last Revised:	28-DEC-2023
Last Reviewed:	28-DEC-2023
Review Due by:	28-DEC-2026
Approved By: *(committee or position)*	VCH
	VCH: (Regional DST Endorsement - 2nd Reading) Health Authority & Area Specific Interprofessional Advisory Council Chairs (HA/AIAC) Operations Directors Professional Practice Directors Final Sign Off: Vice President, Professional Practice & Chief Clinical Information Officer, VCH
Owners: *(optional)*	VCH
	PIL, VA CNE, L/BMT Program