

# KINGSTON GENERAL HOSPITAL

## NURSING PROCEDURE

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<b>SUBJECT</b>	Intravenous Administration of Chemotherapy & Biotherapy Agents for Cancer Treatment: Added Nursing Skill, Registered Nurse	<b>NUMBER</b>	M-1711
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### **Principles:**

1. Preparing, handling, and administering chemotherapy and biotherapy agents and the handling of patients' body fluids involves the risk of exposure to hazardous drugs.
2. Methods of infusion include:
  - 2.1. Piggy-back (short term);
  - 2.2. Free-Flow-Push; and
  - 2.3. Continuous.
3. Chemotherapy is considered to be a "high alert" medication by the Institute of Safe Medication Practices Canada (ISMP Canada).

### **Equipment:**

Appropriate Personal Protective Equipment:

- Double gloves
- Chemoprotectant gown
- Alcohol swabs
- Disposable plastic-backed absorbent pad
- Hazardous waste container (for needles or breakable items)
- Face shield (as needed for splashing)
- 4 x 4 gauze
- Hazardous waste container
- Chemotherapy spill kit
- Emergency eye wash equipment

Ready access to emergency equipment e.g. oxygen, crash cart, emergency line with 0.9% sodium chloride

Anaphylaxis kit at bedside

Extravasation kit at bedside (when administering vesicants)

Agent(s) (in leak proof, sealable bag)

Supportive therapy medications

Compatible IV solutions

### **Procedure**

1. Assess patient's functional status and drug toxicities by using approved assessment tools.
2. Verify physician orders and consent for chemotherapy/biotherapy.
3. Verify regimen and doses and compare with last treatment.
4. Assess orders for completeness including pre and post supportive therapies, e.g. hydration, antiemetics.
  - 4.1. Verify that the dose is appropriate for the patient, diagnosis and treatment plan.

- 4.1.1. If in doubt, consult a pharmacist and/or physician.
5. Complete an independent double check of the mathematical calculation of the dose, which includes body surface area (BSA), blood work, and area under the curve (AUC) (if appropriate), by two RN's authorized in chemotherapy administration.
6. Determine the vesicant and irritant potential(s) of the drug(s).
7. Determine the method of infusion (refer to HDH/KGH Parenteral Drug Therapy Manual Appendix P: Cytotoxic Drug Administration Chart).
  - 7.1. Piggy-back (short term): Establish a main line with a compatible solution and piggyback chemotherapy infusions and those requiring specialized tubing i.e. non-PVC for Taxol or Taxotere to the main line through the port closest to the patient.
  - 7.2. Free-Flow-Push: Establish a main line with a compatible solution and attach a syringe containing the agent to the port closest to the patient.
    - 7.2.1. Administer the agent IV push, allowing the main line IV solution to dilute the drug.
  - 7.3. Continuous Infusion (24 hours or more): Continuous infusions most commonly use a PICC line or implanted device because of the concentration of the drug being infused e.g. doxorubicin, fluorouracil, cisplatin.
  - 7.4. Vesicants:
    - 7.4.1. Avoid infusing vesicants greater than 30 – 60 minutes.
      - 7.4.1.1. Administer vesicants infusing for greater than 30 – 60 minutes through a central venous catheter (CVC).
    - 7.4.2. DO NOT use a peripheral IV site for continuous vesicant administration.
  - 7.5. Pediatric chemotherapy infusions:
    - 7.5.1. Pharmacy will attach a buretrol and tubing or add-I-line to the appropriate chemotherapy agent. Administer agent via an infusion pump.
    - 7.5.2. For infusions greater than 100 mL, Pharmacy spikes the chemotherapy bag and connects it to a buretrol and infusion pump tubing primed with a compatible solution.
    - 7.5.3. For infusions 100 mL and less, Pharmacy spikes the chemotherapy bag and connects it to an add-I-line tubing primed with a compatible solution.
8. Immediately prior to hanging the infusion verify:
  - 8.1. 2 patient-specific identifiers (e.g. name, date of birth, CR#) (see KGH Administrative Policy 13-10 Patient Identification); and
  - 8.2. blood return and IV patency.
    - 8.2.1. Vein patency and flushing is done with a minimum of 10 mL of a compatible IV solution between the administrations of each new agent.
9. Before, during and after the infusion, monitor vital signs as ordered or as appropriate for the drug, the regimen, hypersensitivity reactions, clinical trials, non-treatment untoward events, e.g. pulmonary embolism.
  - 9.1. At minimum, monitor vital signs every 20 – 30 minutes for the first 2 hours, especially with antineoplastics with a high potential for anaphylaxis.
10. For vesicant administration:
  - 10.1. Have extravasation resources available, including:
    - 10.1.1. Extravasation kit at the bedside; and
    - 10.1.2. Management of Chemotherapy Vesicant Extravasations: Pediatrics and Adults flow chart (see HDH/KGH Parenteral Therapy Manual Appendix N).
  - 10.2. Inspect non-coring needle insertion sites (implanted venous access device) for:

- 10.2.1. needle dislodgement;
- 10.2.2. leakage of IV fluid;
- 10.2.3. drainage; and/or
- 10.2.4. edema.
- 10.3. If able, administer the vesicant agent first into a new, uncompromised vein.
  - 10.3.1. When multiple vesicants are required, administer the agent with the smallest volume first unless regimen directs which agent to administer first.
- 10.4. Monitor for extravasations.
  - 10.4.1. For peripheral infusions less than 30 minutes, monitor the site for signs of extravasation every 5 – 10 minutes.
  - 10.4.2. For peripheral infusions greater than 30 minutes, check for blood return every 10 – 20 minutes.
  - 10.4.3. For free-flow-push administration verify blood return every 2 – 5 mL.
- 11. Monitor for Chemotherapy Induced Hypersensitivity as determined by the drug.
  - 11.1. Closely observe the patient for any local or systemic reaction for a minimum of 30 minutes.
    - 11.1.1. Some patients may require 1:1 monitoring.
  - 11.2. Have emergency resources available, including:
    - 11.2.1. Emergency equipment and drugs; and
    - 11.2.2. Chemotherapy & Biotherapy Induced Hypersensitivity Flowchart (see HDH/KGH Parenteral Therapy Manual Appendix O).

### **Reporting and Recording:**

- 1. Report:
  - 1.1. Dose calculations that cannot be verified against physician's order.
  - 1.2. Toxicities patient is experiencing.
  - 1.3. Possible and actual extravasation.
  - 1.4. Hypersensitivity reaction.
  - 1.5. Patient/parent hesitancy or refusal for treatment.
  - 1.6. Assessment of need for venous access device.
- 2. Document:
  - 2.1. The independent double check by 2 RN's of the mathematical calculation of the dose.
    - 2.1.1. Documentation is on the order form.  
**EXCEPTION:** Cancer Center documentation is on the Systemic Therapy Treatment Record.
  - 2.2. The concurrent double check by 2 RN's of blood return and patency prior to vesicant administration:
    - 2.2.1. Documentation is in the progress notes.  
**EXCEPTION:** Cancer Center documentation is on the Systemic Therapy Treatment Record.
  - 2.3. Access device assessment;
  - 2.4. Patient's functional status;
  - 2.5. Toxicity symptoms and management;
  - 2.6. Pre and post supportive therapies;
  - 2.7. Agent administration;
  - 2.8. Patient education;
  - 2.9. Discharge instructions;
  - 2.10. Follow-up care.

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**NUMBER:** M-1711

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**Related Policies and Procedures:**

KGH Administrative Policy 13-10 Patient Identification

KGH Nursing Policy M-1710 Administration of Chemotherapy and Biotherapy Agents (ANS for RN for cancer treatment)

**References:**

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Authorizing Signature

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