College of Nursing
UNIVERSITY OF THE PHILIPPINES MANILA
The Health Sciences Center

Sotejo Hall, Pedro Gil Street, Ermita, Manila 1000 Philippines
Tel Nos. (02) 85231472, (02) 85231477, (02) 85231494 • TeleFax: (02) 85231485
Email: upm-cn@up.edu.ph

PERFORMANCE CHECKLIST

Topic: Chemotherapy Administration and Safe Handling

Developed by: Alyssa Jenny E. Tupaz, MA, RN

PRE-REQUISITE SKILLS

- Understanding that chemotherapeutic agents (commonly called chemo agents; also called antineoplastic agents) are hazardous drugs and that safe handling is important to prevent occupational exposure
  - Familiarity with guidelines from the Occupational Safety and Health Administration (OSHA), the Philippine Oncology Nursing Association (PONA), Philippine Society of Medical Oncology (PSMO)
- Understanding of the nursing responsibilities involved in administering chemotherapy, which include the following:
  - Safe handling precautions
  - Required personal protective equipment (PPE) when administering IV chemotherapy
  - Knowledge of how to administer vesicant chemotherapy medications and treatment for extravasation of a vesicant
  - Knowledge of infusion reactions including monitoring for, prevention and treatment
  - Knowledge of safe disposal of IV supplies following administration including safe handling
- Knowledge of double-checks to perform before chemotherapy administration by two practitioners approved for chemotherapy

PREPARATION

ACTIVITIES	Observed		Assisted		Performed		Remarks
	1	2	1	2	1	2	
Reviews the facility/unit protocol for chemotherapy administration							
Reviews the treating clinician's order for chemotherapy • Carefully reviews the following: ○ Patient's name and a second patient identifier ○ Generic drug name ○ Drug dose and dose calculation, date, route, and rate of administration, frequency ○ Cycle number and day, if appropriate ○ Protocol name/number ○ Allergies ○ any additional fluids (for IV administration) ○ Pre-medications ○ Any indications for holding the drug or changing the dose • Reviews manufacturer instructions for all equipment to be used and verifies that the equipment is in good working order ○ IV chemo: Infusion sets and infusion pump • Compares the written clinician's order with the facility's chemotherapy drug protocols							
Verifies completion of facility informed consent documents.							
Reviews the patient's medical history/medical record for • cancer diagnosis and treatment history • allergies to the prescribed chemotherapy agent • prior history of reactions to the prescribed chemotherapy drug • allergies (e.g., to latex, medications, or other substances); uses alternative materials, as appropriate • recent laboratory tests; notifies the treating clinician if values are above or below normal limits • confirms current height and weight and any recent weight loss • body surface area (BSA) calculations, if medication dosing is based on this							

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• Performs a recalculation of the BSA and dose. Asks a second practitioner approved for chemotherapy to perform a double-check • cancer-related pain or other symptoms • use of alternative or complementary therapies • all prescription and over-the-counter medications							
Gathers supplies necessary for chemotherapy administration: • Prescribed antineoplastic agent • Two pairs of powder-free, disposable, chemotherapy-tested gloves, such as nitrile or neoprene • Non-permeable, long-sleeved, disposable gown • Eye/face protection, such as goggles and face shield, if risk exists for splashing • NIOSH-approved respirator, if risk for inhalation exists • Facility-approved pain assessment tool • Facility-approved antiseptic solution (e.g., chlorhexidine gluconate [CHG]) • Supplies for establishing IV access if not already established • Prescribed pre-medications, such as anti-emetics, analgesics, and drugs to prevent infusion reactions, such as corticosteroids, antihistamines, or antipyretics • Equipment to monitor vital signs • Sterile, transparent dressing • Disposable plastic-backed pad • Chemotherapy spill kit • Chemotherapy waste containers and puncture-proof chemotherapy containers for sharps • Extravasation kit, including emergency equipment and antidote medications • Crash cart/ E-cart ○ Emergency medications for treatment of infusion reactions (e.g., hypersensitivity reactions, anaphylaxis, and cytokine release syndrome) • Written materials to reinforce patient education							

PROCEDURE

ACTIVITIES	Observed		Assisted		Performed		Remarks
	1	2	1	2	1	2	
Performs hand hygiene and dons standard PPE (e.g., one pair non-sterile gloves, gown) if exposure to bodily fluids anticipated							
Establishes privacy by closing the door to the patient's room and/or drawing the curtain surrounding the patient's bed or the chemotherapy area in an outpatient facility							
Introduces self to the patient and explains his/her clinical role; assesses for knowledge deficits and anxiety regarding the treatment, potential adverse effects, and lab test results • Determines if the patient requires special considerations regarding communication (e.g., due to illiteracy, language barriers, or deafness); makes arrangements to meet these needs if they are present • Uses professional certified medical interpreters, either in person or via phone, when language barriers exist Explains the procedure and its purpose; answers questions and provides emotional support as needed							

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Verifies that an extravasation kit containing emergency equipment and antidote medications is available, if administering a vesicant							
Verifies that emergency resuscitation equipment and emergency drugs are available in the event the patient has an infusion reaction							
Assesses the patient's general health status, including his/her pain level using a facility-approved pain assessment tool Administers a prescribed analgesic, if appropriate, and allows sufficient time for a therapeutic level to be reached before proceeding							
Administers any prescribed premedication (e.g., antiemetics to prevent nausea, antihistamines or corticosteroids to prevent hypersensitivity reaction)							
Performs hand hygiene and dons PPE appropriate for chemotherapy administration, including a long-sleeved, non-permeable, protective gown; double pair of powder-free, chemotherapy-tested gloves; eye/face protection if risk for splashing exists; and a NIOSH-approved respirator if risk for inhalation exposure exists Plans to change gloves after 30 minutes of wearing or if they become punctured, torn, or contaminated with the antineoplastic drug							
Obtains the antineoplastic agent and inspects the integrity of the medication, including for precipitation							
Double-checks the patient's identity using two unique identifiers, the drug name, dose, route, rate of infusion, volume, and cycle number • Asks a second nurse approved for chemotherapy to perform the same checks • Obtains two signatures to confirm that these checks have been completed Confirms that the label on the IV chemotherapy agent includes the patient's name, a second identifier, date of administration, generic drug name, administration route, dose, volume needed to administer the medication, preparation date, expiration date, and warning label. Verifies that this information matches the chemotherapy orders							
Positions the patient for comfort and accessibility to the established IV site or site where IV access will be established							

PREPARING CHEMOTHERAPY ADMINISTRATION VIA PERIPHERAL VENOUS ACCESS DEVICE (PVAD)
• Selects a peripheral IV site that is less than 24 hours old or start a new peripheral IV
  • Is aware that facility protocols often require inserting a new peripheral IV if administering a vesicant
• Assesses for blood return from the peripheral IV to verify patency by lowering the maintenance IV bag or by aspirating using a syringe attached to the lowest port nearest to the patient, if using an established IV
  • Does not pinch the tubing as this can result in vein rupture due to the sudden increase in pressure in the vein
Inserts a new IV catheter per facility protocol using the smallest-gauge cannula feasible, as needed							

ADMINISTERING NON-VESICANT CHEMOTHERAPY VIA PERIPHERAL IV SITE • Connects the IV antineoplastic agent either directly to the IV catheter or through use of a secondary administration set in an IV line with a compatible solution • Uses only Luer-Lok devices to ensure secure connections							

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• Verifies that the rate and volume are correctly set if using an IV pump • Initiates the IV infusion or push administration at the ordered rate, or according to facility protocol • Closely assesses the IV site for signs of infiltration including swelling, taut skin, coolness of skin, changes in skin color or changes in IV flow rate • Stops the infusion immediately if infiltration occurs • Restarts the peripheral IV at a different site, either the other arm or proximal to the discontinued site							

ADMINISTERING VESICANT CHEMOTHERAPY VIA PERIPHERAL IV SITE
 	
• Connects the agent for IV push directly into a free-flowing IV with a compatible solution, or attaches the tubing of a secondary administration set to a free-flowing IV with a compatible solution
  • Uses only Luer-Lok devices to ensure secure connections
• Does not use an IV infusion pump to administer the vesicant as this increases pressure in the vein and increases risk for extravasation
• Initiates the IV infusion or push administration at the ordered rate, or according to facility protocol
• Stays with the patient throughout vesicant administration and observes for signs and symptoms of extravasation
• Confirms blood return every 5–10 minutes for an IV infusion and every 2–5 mL for IV push if administering an IV vesicant
  • Does not administer the medication if unable to obtain a blood return
• Instructs the patient to notify the nurse immediately if pain, swelling, burning, or changes in sensation at the IV site develop
• Stops the infusion immediately if any signs or symptoms of extravasation develop							

PREPARING CHEMOTHERAPY ADMINISTRATION VIA CENTRAL VENOUS ACCESS DEVICE (CVAD) •Verifies patency of the CVAD by aspirating for a blood return •Verifies that catheter placement has been verified before initial use per facility protocol •Uses a noncoring needle to access an implanted port, according to facility protocol •Covers the insertion site with a transparent dressing and monitors site for swelling, leakage, and dislodgement of the needle during use							
ADMINISTERING NON-VESICANT CHEMOTHERAPY VIA CENTRAL VENOUS ACCESS DEVICE (CVAD) • Connects the IV antineoplastic agent either directly to the CVAD port if attached to a primary administration set, or attaches the secondary administration set to an IV line with a compatible solution • Uses only Luer-Lok devices to ensure secure connections • Verifies that the rate and volume are correctly set if using an IV pump • Initiates the IV infusion at the ordered rate, or according to facility protocol • Stops the infusion immediately if signs or symptoms of infiltration develop							

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ADMINISTERING VESICANT CHEMOTHERAPY VIA CENTRAL VENOUS ACCESS DEVICE (CVAD)
• Connects the agent in a syringe for IV push directly into a free-flowing IV with a compatible solution, or attaches the tubing of a secondary administration set to a free-flowing IV with a compatible solution
  • Uses only Luer-Lok devices to ensure secure connections. Use only Luer-Lok devices to ensure secure connections
• Initiates the IV infusion or push administration at the ordered rate, or according to facility protocol
• Stays with the patient throughout vesicant administration and observes for signs or symptoms of extravasation
• Confirms blood return every 5–10 minutes for an IV infusion and every 2–5 mL for IV push
  • Does not administer the medication if unable to obtain a blood return (16)
• Does not administer the vesicant if swelling, inflammation, or venous thrombosis is present
• Instructs the patient to notify the nurse immediately if pain, swelling, burning, or changes in sensation at the site develop
• Stops the infusion immediately with any signs or symptoms of extravasation of a vesicant							

Monitors closely for hypersensitivity during the first 30 minutes of peripheral IV or CVAD administration • Continues to closely monitor until the chemotherapy administration has been completed • If mild hypersensitivity reaction occurs, interrupts infusion, monitors and assesses symptoms, administers prescribed medications (i.e., antihistamines or corticosteroids), and monitors vital signs If anaphylaxis occurs, immediately stops infusion, maintains an IV line of normal saline or other prescribed solution, performs emergency measures, including monitoring of vital signs every 2 minutes, maintaining the patient's airway, administering supplemental oxygen, and administering prescribed emergency medications							
If vesicant extravasation occurs, performs the following steps: • Immediately stops the administration of the vesicant • Detaches the IV tubing from the venous access device while following facility safe handling precautions • Uses a 1–3 mL syringe to aspirate any residual drug from the peripheral IV cannula or CVAD, if possible • Removes the peripheral IV or the needle of an implanted port • Notifies the treating clinician • Begins the appropriate treatment, as prescribed and according to facility protocol, based on the specific vesicant administered, which typically includes application of heat or cold and administration of an antidote • Continues to assess the site of extravasation and follows treating clinician orders regarding continued chemotherapy administration							
Safely disposes of chemotherapy agents and safely handles linens contaminated with body fluids following completion of IV chemotherapy administration • Wears two pairs of powder-free, disposable, chemotherapy-tested gloves, nonabsorbent, lint-free gown, and eye/face protection (if a risk for splashing exists) • Confirms that chemotherapy disposal containers are at the location of IV administration • Disposes of used needles and sharps in puncture-proof chemotherapy waste containers							

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• Does not clip or break needles and does not crush syringes • Disposes of IV tubing and IV containers in yellow chemotherapy waste receptacles • Does not disconnect IV tubing from IV containers • Discards disposable, contaminated items such as drapes or wipes in yellow chemotherapy containers or labeled, yellow hamper bags • Washes contaminated, reusable items with soap and water per facility protocol • Seals waste containers when they are 3/4 full • Places linens containing HD-contaminated body fluids in labeled laundry bags. Then places in a second, labeled, waterproof bag • Removes all PPE while in the patient's room and discard in a chemotherapy waste receptacle • Performs hand hygiene							

POST-PROCEDURE

ACTIVITIES	Observed		Assisted		Performed		Remarks
	1	2	1	2	1	2	
Following chemotherapy administration, continues to observe the patient for adverse effects (e.g., pain, erythema, induration, necrosis) and educates patient and family regarding reporting certain signs and symptoms including the following: • Pain or pressure in the blood vessel may be caused by irritation to the vein • Flare reaction (i.e., a red streak following the vein line) is common in doxorubicin use • Itching, urticaria, cramps, or pressure in the arm may be caused by irritation of the subcutaneous tissue • Infusion reactions							

Updates the patient's medication administration record (MAR) and documents the following information in the patient's medical record:
• Date and time of IV chemotherapy administration
• Details of administration, including infusion site and assessment of blood return (before and during administration)
• Name and dose of all medications, premedications, and emergency medications administered
• Patient assessment findings such as
  • vital signs
  • mental status
  • pain level and any other observable or reported discomfort
  • skin condition at the IV site
• Patient's tolerance of the procedure, including pain/discomfort during and immediately after IV chemotherapy administration
• Any complications, such as any infusion reactions interventions performed, and whether or not the treating clinician was notified, and patient outcome
• All patient/family member education provided, including topics presented, response to education provided, plan for follow-up education, barriers to communication, and techniques that promoted successful communication							