B. **ONGOING ASSESSMENT: UACs AND UVCs:**

1. There will be a daily assessment by the physician of necessity to continue using an umbilical catheter. This will be documented in the Central Venous Catheter Assessment Progress Note.
2. Note centimeter (cm) mark at umbilicus every shift and after repositioning of patient. Notify physician if catheter has migrated.
3. Examine the dressing for adherence of occlusive, non-restrictive dressing and security of the catheter. Confirm that the hub is secure and that bending or twisting is not possible.
4. Observe the site for redness, swelling, or drainage.
5. Observe perfusion of lower body and presence and quality of lower extremity pulses, and any bleeding from umbilicus hourly.
6. If skin is discolored (blanched, mottled, dusky) distal to the catheter insertion site, it may be related to the catheter not being in correct position. Assess peripheral pulses and temperature distal to the catheter insertion site. If the skin discoloration is thought to be catheter related, apply warm compress to opposite extremity for fifteen (15) minutes and notify physician.
7. Assess the entire IV setup for security of connections.
8. Documentation in the medical record should be completed every shift and should include the following:
    1. Description of site; any edema or circulatory compromise
    2. Cm mark at umbilicus.
    3. Description of dressing and occlusiveness.
    4. Infusion rate and product
    5. Clinical status of patient.

C. **ONGOING ASSESSMENT: UACs**

1. All UAC lines will be attached to a transducer with the pressure waveform continuously displayed.
2. The transducer must be zeroed at least once per shift, and after repositioning of patient, or when warranted by unusual changes in pressure reading.
3. The UAC transducer should be kept at the level of the heart.
4. Monitor waveforms and blood pressure.
5. Blood pressure alarms must be set according to ordered parameters.
6. Correlate transducer blood pressure with peripheral blood pressure 1x/shift and PRN.

D. **CENTRAL LINE TUBING CHANGE:**

1. Equipment:
    1. Mask
    2. Cap
    3. Non-sterile gloves
    4. Sterile gloves
    5. IV tubing, filter, medication tubing (as needed)
    6. Sterile 3x3 or 4x4 gauze sponges
    7. 1:1 heparinized normal saline
    8. Transfer set
    9. 5ml or 10ml syringe
2. Procedure:
    1. Perform hand hygiene.
    2. Don mask, cap, and non-sterile gloves.
    3. Prime new IV tubing.
    4. Don sterile gloves.
    5. Set up sterile field utilizing glove wrapper. Place gauze sponges, 2% chlorhexidine gluconate swabs on field, and 10 ml syringe.
    6. Using sterile technique, draw up 1:1 heparinized normal saline into syringe.

7. Use sterile gauze sponges to hold tubing.
8. Swab connection sites with 2% chlorhexidine gluconate using friction for 30 seconds, and then let dry for 30 seconds.
9. Disconnect old IV tubing.
10. Turbulent flush each lumen with 1 ml of 1:1 heparinized normal saline in a 5 ml or 10 ml syringe using a start-stop motion.
11. Connect new IV tubing keeping all connections sterile.
12. Ensure IV fluids are running at proper rate.
13. Place appropriate date-change stickers on IV tubing.
14. Document tubing change in the medical record.

E. **OBTAINING BLOOD SPECIMENS:**

1. Confirm patient identity using two-identifier system. Refer to Patient Care Services "Identification, Patient" (IV.A) policy
2. Perform hand hygiene.
3. Don clean gloves.
4. If the line has more than one lumen, stop infusions running through all lumens.
5. Place a sterile 4x4 gauze under the sampling port from which the blood will be drawn.
6. Close the distal shut off valve.
7. Slowly, smoothly and evenly pull up on the reservoir plunger to draw the required amount of clearing volume consistent with the patient's clinical condition and patient's size.
8. Close the proximal shut off valve.
9. Swab proximal sample site with alcohol prep pad.
10. Using 1 mL or 3 mL syringe with needleless blunt attachment, ensure plunger is fully depressed and push blunt attachment into proximal sample site.
11. Withdraw amount of blood required for performance of ordered lab tests.
12. Remove the syringe from the sampling site by pulling straight out.
13. Blood for laboratory testing will be placed into appropriate blood collection device and labeled correctly.
14. Open the proximal shut-off valve.
15. Slowly, smoothly and evenly, push down on reservoir plunger until it is fully closed.
16. Swab distal access port with alcohol prep pad.
17. Using 3 mL syringe of heparinized flush solution (as ordered by the physician) with needleless blunt attachment, ensure the syringe and cannula are free of air bubbles and insert blunt attachment into the distal access port.
18. Slowly flush the line with solution while monitoring for air bubbles.
19. Open the distal shut-off valve.
20. Discard syringes and gloves in appropriate receptacles.

F. **DISCONTINUATION OF UMBILICAL CATHETERS:**

1. Equipment:
    1. Suture removal kit
    2. Kelly clamp
    3. Umbilical tape
    4. Sterile 4x4 gauze
    5. Non-sterile gloves
2. Procedure:
    1. Verify physician's order to remove the catheter.
    2. Perform hand hygiene and gather supplies.
    3. Confirm patient identity using two-identifier system. Refer to Patient Care Services "Identification, Patient" (IV.A) policy
    4. Turn off infusions or move the infusions to alternate catheters.
    5. Verify centimeter marking at umbilicus with those previously documented.
    6. Don non-sterile gloves.

7. Open suture removal set and sterile gauze.
8. Remove dressing.
9. Cut sutures, being careful not to cut catheter.
10. UACs: Grasp catheter firmly with one hand – use other hand to stabilize cord – gently pull until 5 cm mark is reached. Stop and observe for 5 – 15 minutes. The artery will usually spasm and close, but have hemostat and gauze ready in case needed. Gently withdraw remaining catheter, 1 cm/minute. If pulsations are present, delay withdrawal until they stop.
11. If bleeding occurs, apply pressure to umbilicus with sterile 4x4 gauze for 3 – 5 minutes until bleeding stops.
12. UVCs: slowly withdraw in one step.
13. Check that catheter is intact.
14. Observe for oozing or recurrence of bleeding.
15. Discard gloves and supplies in appropriate receptacle.
16. Perform hand hygiene.
17. Document removal, patient's tolerance of procedure, any blood loss or oozing, and evaluation of extremities and umbilicus after the procedure in the patient's medical record.

G. EXTERNAL LINKS:

H. REFERENCES:

1. Merenstein G.B. & Gardner S.L. (2011). Handbook of neonatal intensive care, 7th Ed. St. Louis, MO. Mosby Elsevier.
2. MacDonald M. & Ramagethu J. (2007). Atlas of procedures in neonatology, 5th Ed. Lippincott Williams & Wilkins.
3. Verklan, M.T. & Walden, M. (Eds.). (2009). Core curriculum for neonatal intensive care nursing, 4th ed. St. Louis: Saunders.

I. APPROVAL PROCESS:

1. Clinical Policies & Procedures Committee
2. Nurse Executive Council
3. Medical Executive Committee
4. Professional Affairs Committee
5. Board of Directors

Move from Oncology Manual to Patient Care Services

Tri-City Medical Center

Distribution: **Patient Care Services** ~~Oncology Unit~~

PROCEDURE:	**CHEMOTHERAPY ADMINISTRATION**
Purpose:	To outline the chemotherapy competent nurse's responsibility when administering a chemotherapeutic agent: A. Notification of a Chemotherapy Order B. Safe Handling C. Requirements Prior to Administering a Chemotherapeutic Agent D. Patient Preparation E. Documentation F. Administrating Intravenous and Intramuscular Chemotherapy I. IV Push II. IV Continuous or Intermittent III. Intramuscular and Subcutaneous G. Administering Oral Chemotherapy
Supportive Data:	See References
Equipment:	See Equipment Lists for specific administration methods

Tracked Changes Copy

A. **NOTIFICATION OF A CHEMOTHERAPY ORDER:**

1. All **inpatient** units must notify the oncology unit's **Assistant Nurse Manager (ANM)** ~~clinical manager~~ or designee when a chemotherapy order has been written for a patient on a unit other than the oncology unit. Notification must be done as soon as the order is written and no later than a 12-hour notice. The oncology unit must be notified so staffing can be adjusted appropriately for patient safety.

~~1.~~**2. Nursing must notify Pharmacy via phone and by scanning the chemotherapy orders as soon as possible when a chemotherapy order is received.**

B. **SAFE HANDLING:**

1. Many drugs used in the treatment of cancer (i.e. chemotherapy) are considered to be hazardous to health care workers. The term hazardous refers to drugs/chemicals that require special handling because of potential health risks. Therefore, it is imperative that those who work with chemotherapy drugs adhere to this procedure, the pharmaceutical companies recommendations, the Material Safety Data Sheet that pertains to the particular hazardous agent and the Tri-City **Healthcare District**~~Medical Center~~'s (**TCHD**~~TCMC~~) **policies including but not limited to:**

a. Patient Care Services (PCS) Procedure: Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids ~~procedure as well as the TCMC's procedure for~~

~~a.~~**b. PCS Procedure:** Disposal of Chemotherapy Waste.

2. Transporting Chemotherapy Agents
   a. Transport syringes containing chemotherapy in a sealed container, with the luer lock end syringe capped.
   b. All chemotherapy agents will be placed in a leak proof sealable bag labeled "Chemotherapy" and then placed in the designated impervious carrying receptacle that is also labeled "chemotherapy" before agent can be transported.
   c. The nurse transporting a chemotherapy agent will carry a spill kit at all times in case of a potential chemotherapy spill.
   d. In case of an accidental spill or exposure please see ~~Tri-City Medical Center's (TCMC)~~ **PCS Procedure:** Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids procedure as well as the ~~TCMC's procedure for~~ **PCS Procedure:** Disposal of Chemotherapy Waste.
3. Transporting patients that are receiving intravenous chemotherapy

Department Review	Clinical Policies and Procedures	Nurse Executive Committee	Division of Oncology	Pharmacy & Therapeutics Committee	Medical Executive Committee	Professional Affairs Committee	Board of Directors
6/09,8/09,8/10,11/13, 5/16	6/16	07/16	07/16	6/16	08/16		1/07, 08/09, 8/10;7/13

a. Transporting a patient that is receiving intravenous chemotherapy should be avoided if at all possible due to the potential risk of a chemotherapy spill, extravasation at the IV site and physiological complications associated with chemotherapy administration.

b. If a patient must be transported to another department the nurse must carry a chemotherapy spill kit at all times. The nurse must ensure that the IV site, IV bag(s) and IV lines that are connected to the chemotherapy and the patient are visible and secure to prevent extravasation and spillage of the chemotherapy agent during transport.

C. **REQUIREMENTS PRIOR TO ADMINISTERING A CHEMOTHERAPEUTIC AGENT:**

1. **All inpatients receiving IV chemotherapy for the first time are required to have an Oncology Patient Care-Education Rounding completed 24 -36 prior to the first chemotherapy dose. See the PCS Policy: Oncology Patient Care-Education Rounding Policy.**
2. **At the Outpatient Infusion Center a physician must be on the premises at all times if chemotherapy is being infused into a patient(s).**
~~1.~~**3.** Chemotherapy may only be administered by a **Chemotherapy Competent Registered Nurse (RN)**. A Chemotherapy Competent **RN**~~Registered Nurse~~ is defined by the following requirements:
   a. Has taken and passed an Oncology Nursing Society approved chemotherapy course.
   b. Has completed **Chemotherapy Administration** competency validation by a ~~TCMC~~**TCHD** chemotherapy competent nurse ~~on all areas of the Tri-City Medical Center's RN~~**(see example Acute Care Services** (ACS) 2 P Advanced Oncology-Chemotherapy Addendum Nursing Skills Checklist **or Outpatient Infusion Center Skills Checklist)**.
   c. Completes Chemotherapy Administration competency annually
~~2.~~**4. A Chemotherapy Consent form must be signed by the patient or designee prior to the administration of the chemotherapy regimen.** ~~All patients at TCMC that have an order for any antineoplastic agent to be administered while in our care, must have a TCMC approved consent form completed in full prior to the administration of any antineoplastic agent~~.
~~3.~~**5. For** ~~All~~ chemotherapy orders **see PCS Policy: Chemotherapy Prescribing, Processing and Preparations** ~~from a physician must be written on the TCMC approved Chemotherapy Order Form. All sections of the TCMC approved Chemotherapy Order Form must be completed for the chemotherapy order to be valid. Verbal or telephone orders for any antineoplastic agents are not permitted at TCMC (TCMC Medication Administration policy IV.I). Chemotherapy Orders that are received via fax on a TCMC approved Chemotherapy Order Form are acceptable. Any chemotherapy order or clarification of a chemotherapy order from a physician that has been received verbally or via telephone will not be recognized as a valid chemotherapy order. Telephone orders from the physician related to start/stop times for the chemotherapy and pre-medications are acceptable~~.

D. **PATIENT PREPARATION:**

1. Set up continuous pulse oxymetry for all patients receiving monoclonal antibodies.
2. Explain to the patient and family/caregivers who will administer the chemotherapy, the route, and the planned sequence of events.

E. **DOCUMENTATION:**

1. The administering Chemotherapy Competent Nurse will complete a **Cerner**~~Compass~~ **Chemotherapy Administration AdHoc Form** on every chemotherapy agent administered.
2. All chemotherapy agents will require a second electronic signature by a Chemotherapy Competent ~~Registered Nurse~~**RN** ~~(preferred) or a Registered Nurse (if a second chemotherapy competent nurse is unavailable)~~ verifying accuracy of the chemotherapy agent and order on the **Chemotherapy Administration AdHoc Form (Verification #1) and the Cerner**~~Compass~~ **Electronic Medication Administration Record** (EMAR) by using their **Cerner**~~Compass~~ password **(Verification #2)**.

a. Off unit chemotherapy **Verification #1** can be witnessed by the **floor pharmacist if a second chemotherapy nurse is not available**~~Assistant Nurse Manager or Charge Nurse with the chemotherapy nurse from the oncology unit~~.

F. **ADMINISTERING INTRAVENOUS (IV), INTRAMUSCULAR (IM) AND SUBCUTANEOUS (SQ) CHEMOTHERAPY**

1. IV, IM and SQ chemotherapy orders and agents will be verified ~~three times~~**twice** for accuracy before administration. Accuracy will be determined by verifying:
2. **VERIFICATION # 1 - Chemotherapy Nurse/Chemotherapy Nurse** ~~**Pharmacy/ Nurse**~~
   a. **Verification for accuracy will be completed by two Chemotherapy Competent RNs when the chemotherapy agent arrives on the unit and documented in the Cerner Chemotherapy Administration AdHoc Form.**
      i. **A floor Pharmacist/ Chemotherapy Competent RN can do the #1 verification if two Chemotherapy Competent RNs are not available on the off unit areas.** ~~A TCMC pharmacist will co-sign with a Chemotherapy Competent Registered Nurse on the TCMC Pharmacy/Nurse Chemotherapy Verification Form that the chemotherapy agent that was delivered to the nursing unit is accurate.~~
   b. **Verification #1 will be determined by verifying:**
      i. Date /Time of Administration
      ii. Patient Name
      iii. Chemotherapy Agent
      iv. Dose
      v. Diluents /Volume (If applicable)
      vi. Rate of Administration (If applicable)
      vii. Route
      viii. Patient's Height and Weight
      ix. Patient's body surface area (BSA)-If applicable
      ~~ix.~~**x. Area under the curve (AUC) if applicable**
3. **VERIFICATION #2- Chemotherapy Nurse/ Chemotherapy Nurse or TCHD RN (IV, IM and SQ Chemo Only)**~~**Nurse/Nurse**~~
   a. **At the patient's bedside** a second verification for accuracy will be completed ~~by two Chemotherapy Competent Registered Nurses (preferred)~~ and documented on the **electronic medication administration record (EMAR)**~~Compass **Chemotherapy Administration AdHoc Form.** If a second Chemotherapy Competent Registered Nurse is not available a TCMC registered nurse may co-sign to verify the accuracy of the chemotherapy agent and order.~~
   b. **Verification #2 will be determined by verifying the 7 rights the following per the PCS Policy: Medication Administration:**
      i. **Verify correct:**
         1) Patient
         2) Dose
         3) Time
         4) Medication
         5) Route/ Rate (if applicable)
         6) Documentation
         ~~1)~~**7) Reason**
4. ~~**VERIFICATION #3 Nurse/Nurse**~~
   a. ~~At the patient's bedside a third verification for accuracy will be completed by two Chemotherapy Competent Registered Nurses (preferred) and documented on the witness section on the Caremobile device.~~
4. All intravenous **Vesicant Chemotherapy** will **only** be administered via a **Central Venous Catheter** and should **never** be administered peripherally.

~~b.~~**a. Exception- Paclitaxel may be administered via peripheral IV if the IV site is visually assessed every 15 minutes for signs and symptoms of extravasation (Inpatient ratio would be 2:1).**

5. All intravenous chemotherapy will be administered through an Alaris IV pump using the oncology profile and specific guardrail for the chemotherapy agent.

6. Peripheral **Non-Vesicant** Chemotherapy Administration**:**

a. Start a new peripheral IV if site is more than 24 hours old.

b. Avoid flexion joint sites.

c. Preferably select a large vein between wrist and elbow.

d. Avoid veins in the hand, wrist and antecubital fossa.

~~a.~~**e.** Tape IV site so it can be monitored.

~~6.~~**7.** Extravasation Prevention

a. Blood return must be checked prior to administration of any chemotherapy agent.

i. **Vesicants: Verify blood return and IV patency prior to, during and post administration of a vesicant.**

b. Inspect IV site for signs and symptoms of the following before administration:

i. Peripheral

1) Redness
2) Inflammation
3) Infiltration
4) Patient comfort level at IV site

ii. Central Venous Catheters (CVC)

1) Erythema
2) Swelling
3) Drainage
4) Leakage
5) Venous thrombosis of the ipsilateral chest (CVC located in the chest region).

~~7.~~**8.** Verify that the patient has signed a ~~TCMC~~**TCHD** approved consent form for chemotherapy administration.

~~8.~~**9.** Don **personal protective equipment** (PPE) in the following order before spiking a pre-filled chemotherapy IV bag or when manipulating a syringe that contains a chemotherapy agent:

a. Face shield or splash goggles
b. N-95 mask
c. First pair of chemo gloves
d. Chemo gown with the cuffs over the first pair of gloves
e. Second pair of chemo gloves over the cuffs of the gown

~~9.~~**10. Procedure:**

a. **<u>IV Push</u>**

i. Don two pair of chemotherapy safe gloves.

1) Examine the chemotherapy pre-filled IV syringe for leakage or damage in the medication room before administration.

ii. **Complete** Verification #1 ~~& #2 (see section F of this procedure) should be completed~~.

iii. Assemble equipment**.**

1) Extravasation Kit
2) ~~Personal Protective Equipment (~~PPE~~)~~ (face shield or splash goggles, N95 mask, chemotherapy gown, 2 pairs of chemotherapy gloves). It is recommended to wear a face shield anytime there is a potential for chemotherapy splashing.
3) Chemotherapy puncture- proof waste disposal container
4) Leak-proof bag marked "Chemotherapy Waste"
5) Plastic –backed absorbent pad
6) Sterile gauze

7) 3 Alcohol Prep Pads

iv. Review all manufacture's recommendations (located in the ~~TCMC~~**TCHD** Drug Formulary or package insert) pertaining to the administration, pre-medication, IV fluid compatibility, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.

v. Extravasation is a possible risk from vesicant administration. If extravasation occurs, the nurse must take immediate action. Follow ~~TCMC's~~**PCS Procedure:** Chemotherapy Extravasation ~~Procedure~~.

vi. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion) , chemo safety for body fluids and when to notify the nurse for signs and symptoms of:

1) Extravasation
   a) Burning
   b) Pain
   c) Heat
   d) Ulceration
   e) Swelling~~)~~

2) Signs and symptoms of hypersensitivity and anaphylaxis
   a) Uneasiness
   b) Tightness of the chest
   c) Shortness of breath-with or without wheezing
   d) Hives or rash
   e) Local or generalized itching
   f) Periorbital or facial edema
   g) Lightheadedness or dizziness

vii. IV Chemotherapy shall be administered with no other IV medications or IV fluids running except for the mainline compatible IV fluid used during the IV push chemotherapy administration.

viii. Label the IV pump and the IV push chemotherapy syringe with a ~~TCMC~~**TCHD** approved "Chemotherapy" identification sticker before administration.

ix. Inspect IV site and check patient's IV for blood return.

x. Don PPE in the following order before administration:

1) Face shield or splash goggles
2) N-95 mask
3) First pair of chemo gloves
4) Chemo gown with the cuffs over the first pair of gloves
5) Second pair of chemo gloves over the cuffs of the gown

xi. Place plastic –backed absorbent pad under the patient's arm to prevent drug contact with patient's skin.

xii. Using the **medication barcode scanning** ~~Caremobile~~ device at the patient's bedside, scan the patient and the ordered chemotherapy per the ~~Tricity Medical Center's Patient Care Service~~**PCS Policy:** Medication Administration ~~Procedure~~.

1) **Outpatient Infusion Center will complete the verification of the medication by using the 2 patient identifiers and verify the medication matches the physicians order.**

xiii. Complete Verification #2~~A second Chemotherapy Competent Registered Nurse (preferred) will verify the accuracy of the chemotherapy agent for a third time (see section F of this procedure for verification #3)~~ and ~~will~~ complete the witness section on the **medication barcode scanning**~~Caremobile~~ device.

~~2)~~**1) Outpatient Infusion Center will document on the EMAR.**

~~xii.~~**xiv.** Using the alcohol prep pads, clean the patient's IV access port three times

~~xiii.~~**xv.** Wrap sterile gauze around IV ports during IV push to reduce the potential for spraying

~~xiv.~~**xvi.** Inject drug into distal port of IV with free flowing solution at the prescribed rate (minimum of 100ml/hour). Verify blood return every 2-3 m**L**~~l~~ of drug administration.

~~xv.~~**xvii.** Flush line with 10-20m**L**~~l~~ of IV solution between administration of drugs or prior to discontinuing IV.

1) Prevents incompatibility reaction and avoids exposure to anti-neoplastic agents.

~~xvi.~~**xviii.** Dispose of syringes in the puncture proof container labeled "Chemotherapy waste".

~~xvii.~~**xix.** Recheck IV lines to be sure lines are leading to patient and are connected to the correct IV port.

~~xviii.~~**xx.** Remove PPE in the following order and place in a chemotherapy waste bag and seal

1) Outer pair of gloves
2) Chemo gown
3) Face Shield or splash goggles
4) N-95 mask
5) Final pair of gloves

~~xix.~~**xxi.** See ~~TCMC~~**PCS Procedure:** Disposal of Chemotherapy Waste ~~Procedure~~ for proper disposal of contaminated materials

b. **IV Continuous or Intermittent**

i. Donning two pair of chemotherapy gloves, examine the Chemotherapy pre-filled IV bag and tubing for leakage or damage in the medication room before administration.

ii. **Complete** Verification #1 ~~& #2 (see section F of this procedure) should be completed~~.

iii. Assemble equipment for use during administration.

1) Extravasation Kit
2) Personal Protective Equipment (PPE) (Face shield or goggles, N-95 mask, chemotherapy disposable gown, two pairs of chemotherapy gloves).
3) Chemotherapy puncture proof waste disposal container
4) Leak-proof bag marked "Chemotherapy Waste"
5) "Chemotherapy" identification stickers
6) Disposable plastic –backed absorbent liner
7) Plastic tape
8) 3 Alcohol Prep Pads

iv. Review all manufacture's recommendations pertaining to the administration (located in the ~~TCMC~~**TCHD** Drug Formulary or package insert), pre-medication, IV fluid compatibility, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.

v. Extravasation is a possible risk from vesicant administration. If extravasation occurs, the nurse must take immediate action. Follow ~~TCMC~~**TCHD**'s Chemotherapy Extravasation Procedure.

vi. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:

1) Extravasation
   a) Burning
   b) Pain
   c) Heat
   d) Ulceration
   e) Swelling

2) Signs and symptoms of hypersensitivity and anaphylaxis
   a) Uneasiness
   b) Tightness of the chest
   c) Shortness of breath-with or without wheezing
   d) Hives or rash
   e) Local or generalized itching
   f) Periorbital or facial edema
   g) Lightheadedness or dizziness

vii. IV Chemotherapy shall be administered on a single Alaris IV pump with no other IV medications or IV fluids running except for the mainline compatible flush bag for the IV chemotherapy agent.

viii. Don PPE in the following order before administration:
1) Face shield or splash goggles
2) N-95 mask
3) First pair of chemo gloves
4) Chemo gown with the cuffs over the first pair of gloves
5) Second pair of chemo gloves over the cuffs of the gown

ix. Prime all IV tubing with a compatible IV fluid before administering the chemotherapy intravenously if not already done by pharmacy.

x. At the patient's bedside, program the Alaris pump using the appropriate chemotherapy drug guardrail profile with the witnessing second Chemotherapy Competent Nurse (preferred) **or TCHD RN**.
1) Power on the Alaris IV pump and select **New Patient**.
2) Select the **Oncology Profile.**
3) Enter the patient's **medical record number**.
4) Select Channel letter that will be used.
5) Select **Guardrail Drugs**.
6) Select the appropriate chemotherapy agent to be administered from the Alaris Oncology Drug Guardrail List.
7) Verify and confirm correct dosing program.
8) Review **Clinical Advisory Warning** on the Alaris IV pump and **Confirm** when read.
9) Input the **Drug Amount**, **Diluent Volume**, **BSA** (if applicable). Verify dose and select **Next.**
10) Input **Rate** and Volume to be infused (**VTBI**).

xi. Using the ~~Caremobile~~**medication barcode scanning** device **at the patient's bedside**, scan the patient and the ordered chemotherapy IV bag per the ~~Tricity Medical Center's Patient Care Service~~**PCS Policy:** Medication Administration ~~Procedure~~.
~~11)~~**1) Outpatient Infusion Center will do the verification of the medication by using the 2 patient identifiers and verify the medication matches the physicians order.**

xii. **Complete Verification #2** ~~A second Chemotherapy Competent Registered Nurse (preferred) will~~ **including** verify**ication of** the Alaris infusion guardrail set up and rate as well as the chemotherapy agent for accuracy at the patient's bedside ~~for a third time~~ and ~~will~~ complete the witness section on the **medication barcode scanning** ~~Caremobile~~ device (see ~~section F of this procedure for~~ verification #~~23~~).
~~12)~~**1) Outpatient Infusion Center will document on the EMAR.**

~~xi.~~**xiii.** Label the IV pump and the IV chemotherapy bag with a ~~TCMC~~**TCHD** approved "Chemotherapy" identification sticker before administration.

~~xii.~~**xiv.** Inspect IV site and check patient's IV for blood return.

~~xiii.~~**xv.** Use disposable plastic –backed absorbent liner under the IV

~~xiv.~~**xvi.** Using the alcohol prep pads, clean the patient's IV access port three times.

~~xv.~~**xvii.** Securely attach the IV tubing to the patient's venous access device or, if using a secondary set, to the primary tubing

~~xvi.~~**xviii.** Tape the two IV connections together

~~xvii.~~**xix.** Review dose and then select **Start** to begin infusion on the Alaris pump.

~~xviii.~~**xx.** When infusion is complete, don PPE as instructed~~(viii)~~.

~~xix.~~**xxi.** Dispose of contaminated IV tubing and IV bags in a sealed chemotherapy waste bag and place in a puncture- proof chemotherapy waste container

~~xx.~~**xxii.** Remove PPE in the following order and place in a chemotherapy waste bag and seal:

1) Outer pair of gloves
2) Chemo gown
3) Face Shield or splash goggles
4) N-95 mask
5) Final pair of gloves

~~xxi.~~**xxiii.** See ~~TCMC~~**PCS Procedure:** Disposal of Chemotherapy Waste ~~Procedure~~ for proper disposal of contaminated materials

c. **Intramuscular (IM) and Subcutaneous (SQ)**

i. Donning two pair of chemotherapy gloves, examine the chemotherapy pre-filled IV syringe for leakage or damage in the medication room before administration.

ii. **Compete** Verification #1 ~~& #2 (see section F of this procedure) should be completed~~.

iii. Assemble equipment for use during administration.

1) ~~Personal Protective Equipment (~~PPE~~)~~ (Face shield or goggles, N-95 mask, chemotherapy disposable gown, two pairs of chemotherapy gloves).
2) Chemotherapy puncture- proof sharps waste container
3) Leak-proof bag marked "Chemotherapy Waste"
4) "Chemotherapy" identification sticker
5) Appropriate size sterile needle (Use smallest needle possible)
6) 2x2 **gauze pads**
7) Alcohol Prep Pads
8) Band-Aid

iv. Review all manufacture's recommendations pertaining to the administration (located in the ~~TCMC~~**TCHD** Drug Formulary or package insert), pre-medication, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.

v. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:

1) Signs and symptoms of hypersensitivity and anaphylaxis
   a) Uneasiness
   b) Tightness of the chest
   c) Shortness of breath-with or without wheezing
   d) Hives or rash
   e) Local or generalized itching
   f) Periorbital or facial edema
   g) Lightheadedness or dizziness

vi. Label chemotherapy syringe with a ~~TCMC~~**TCHD** approved "Chemotherapy" identification sticker before administration.

vii. Don PPE in the following order before administration:

1) Face mask or Splash Goggles
2) N-95 mask
3) First pair of chemo gloves

4) Chemo gown with the cuffs over the first pair of gloves
5) Second pair of chemo gloves over the cuffs of the gown

viii. Remove cap and connect sterile needle of the appropriate size for administering the drug.

ix. Do not expel air from the syringe or prime the needle.

x. Using the ~~Caremobile~~**medication barcode scanning** device at the patient's bedside, scan the patient and the ordered chemotherapy per the ~~Tricity Medical Center's Patient Care Service~~ **PCS Policy:** Medication Administration ~~Procedure~~.

1) **Outpatient Infusion Center will do the verification of the medication by using the 2 patient identifiers and verify the medication matches the physicians order.**

xi. **Complete Verification #2 and complete the witness section on the medication scanning device.** ~~A second Chemotherapy Competent Registered Nurse (preferred) will verify the accuracy of the chemotherapy agent for a third time (see section F of this procedure for verification #3) and will complete the witness section on the Caremobile device.~~

~~2)~~**1) Outpatient Infusion Center will document on the EMAR.**

~~x.~~**xii.** Review the manufacturers injection site recommendation

~~xi.~~**xiii.** Cleanse injection site with alcohol prep pads

~~xii.~~**xiv.** After administering the drug, do not re-cap and do not message injection site.

~~xiii.~~**xv.** Place the syringe with the needle attached directly into the puncture- proof chemotherapy waste container.

~~xiv.~~**xvi.** Remove PPE in the following order and place in a chemotherapy waste bag and seal

1) Outer pair of gloves
2) Chemo gown
3) Face Shield or splash goggles
4) N-95 mask
5) Final pair of gloves

~~xv.~~**xvii.** See ~~TCMC~~ **PCS Procedure:** Disposal of Chemotherapy Waste ~~Procedure~~ for proper disposal of contaminated materials

~~xvi.~~**xviii.** Monitor injection site every hour for signs and symptoms of infection and bleeding post injection.

~~xvii.~~**xix.** Educate patients going home after injection to **assess**~~access~~ the injection site twice a day for bleeding and signs and symptoms of infection.

G. ADMINISTERING ORAL CHEMOTHERAPY

1. Oral Chemotherapy may **not** be **crushed, scored** or **capsules opened** on the nursing units. All oral chemotherapy agents that need to be altered in this manner must only be done by the pharmacy in a controlled environment. If patient is unable to take the chemotherapy agent orally in a whole form and an alternative route (Nasogastric tube, gastric tube etc.) is available, notify the pharmacy **as soon as possible** (ASAP) so alterations can be made to the original medication form so the agent can be administered safely.
2. **Procedure**
   a. **Oral Chemotherapy**
      i. Verify that the patient has signed a ~~TCMC~~**TCHD** approved consent form for chemotherapy administration.
      ~~ii. Oral chemotherapy orders and agents will be verified for accuracy before administration. Accuracy will be determined by verifying:~~
      ~~1) Date /Time of Administration~~
      ~~2) Patient Name~~
      ~~3) Chemotherapy Agent~~
      ~~4) Dose~~
      ~~5) Route~~

~~6) Patient's Height and Weight (If applicable)~~
~~7) Patient's body surface area (BSA) (If applicable)~~

~~iii.~~**ii.** **Complete** Verification #**1**2 ~~(see section F of this procedure) should be completed~~.

~~iv.~~**iii.** **Oral chemotherapy must be initially checked for accuracy on the first dose by two chemotherapy nurses using the Verification #1 and all subsequent doses can be checked by a chemotherapy nurse and a TCHD RN following the PCS Policy: Medication Administration 7 rights (see Verification #2).**

~~v.~~**iv.** Assemble disposal equipment for use during administration
1) Personal Protective Equipment (PPE)
2) Two pairs of chemotherapy gloves.
3) If administering an oral chemotherapeutic agent that is in a liquid or powder form, a face shield or goggles, N-95 mask, and chemotherapy disposable gown is recommended. It is recommended to wear a face shield anytime there is a potential for chemotherapy splashing.
4) Leak-proof bag marked "Chemotherapy Waste"

~~vi.~~**v.** Review all manufactures recommendations pertaining to the administration, pre-medication, labs and potential side effects (located in the ~~TCMC~~**TCHD** Drug Formulary or package insert), of the specific chemotherapeutic agent before agent is administered.

~~vii.~~**vi.** Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:
1) Hypersensitivity and anaphylaxis
   i) Uneasiness
   ii) Tightness of the chest
   iii) Shortness of breath-with or without wheezing
   iv) Hives or rash
   v) Local or generalized itching
   vi) Periorbital or facial edema
   vii) Lightheadedness or dizziness

~~viii.~~**vii.** Assess patient's ability to swallow prior to administration

~~ix.~~**viii.** Don two chemotherapy gloves before handling the oral chemotherapy agent and during administration.

ix. Using the ~~Caremobile~~**medication barcode scanning** device at the patient's bedside, scan the patient and the ordered chemotherapy per the ~~Tri-City Medical Center's Patient Care Service~~ **PCS Policy:** Medication Administration ~~Procedure~~.
1) **Outpatient Infusion Center will do the verification of the medication by using the 2 patient identifiers and verify the medication matches the physician's order).**

x. **Complete Verification #2**~~A second Chemotherapy Competent Registered Nurse (preferred) will verify the accuracy of the chemotherapy agent for a second time (see section F of this procedure for verification #3)~~ and ~~will~~ complete the witness section on the ~~Caremobile~~**medication barcode scanning** device.
~~2)~~**1) Outpatient Infusion Center will document on the EMAR.**

~~x.~~**xi.** Dispose of all materials that came into contact with the chemotherapeutic agent (i.e. medication cup, manufacturer's container or packaging) in a leak-proof chemotherapy waste bag and seal
1) See ~~TCMC~~**PCS Procedure:** Disposal of Chemotherapy Waste ~~Procedure~~ for proper disposal of contaminated material.

H. RELATED DOCUMENTS:

1. **Acute Care Services (ACS) 2 P Advanced Oncology- Chemotherapy Addendum Nursing Skills Checklist**
2. **Outpatient Infusion Center Skills Checklist**
3. **PCS Policy: Chemotherapy Prescribing, Processing and Preparations**
4. **PCS Policy: Oncology Patient Care-Education Rounding**
5. ~~1.~~ PCS Policy: Medication Administration
6. ~~2.~~ PCS Procedure: Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids
7. **PCS Procedure: Chemotherapy Extravasation**
8. **PCS Procedure: Disposal of Chemotherapy Waste**

I. REFERENCES

1. Mafrica, Leonard. Safe Handling of Hazardous Drugs. Oncology Nursing Society. (2003)
2. National Institute for Occupational Safety and Health, (2004). Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings, Retrieved from the NIOSH website at http://www.cdc.gov/niosh/docs/2004-165/#c
3. **Oncology Nursing Forum: Vol.39, No.1 (Jan 2012) Revisions to the 2009 American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards: Expanding the Scope to Include Inpatient Settings**
4. Oncology Nursing Society, (201~~0~~**4**~~9~~). Chemotherapy and Biotherapy Guidelines, **Fourth**~~Third~~ Edition.

Move from Oncology Manual to Patient Care Services

Tri-City Medical Center	Distribution: Patient Care Services
PROCEDURE:	**CHEMOTHERAPY ADMINISTRATION**
Purpose:	To outline the chemotherapy competent nurse's responsibility when administering a chemotherapeutic agent: A. Notification of a Chemotherapy Order B. Safe Handling C. Requirements Prior to Administering a Chemotherapeutic Agent D. Patient Preparation E. Documentation F. Administrating Intravenous and Intramuscular Chemotherapy I. IV Push II. IV Continuous or Intermittent III. Intramuscular and Subcutaneous G. Administering Oral Chemotherapy
Supportive Data:	See References
Equipment:	See Equipment Lists for specific administration methods

Clean Copy

A. **NOTIFICATION OF A CHEMOTHERAPY ORDER:**

1. All inpatient units must notify the oncology unit's Assistant Nurse Manager (ANM) or designee when a chemotherapy order has been written for a patient on a unit other than the oncology unit. Notification must be done as soon as the order is written and no later than a 12-hour notice. The oncology unit must be notified so staffing can be adjusted appropriately for patient safety.
2. Nursing must notify Pharmacy via phone and by scanning the chemotherapy orders as soon as possible when a chemotherapy order is received.

B. **SAFE HANDLING:**

1. Many drugs used in the treatment of cancer (i.e. chemotherapy) are considered to be hazardous to health care workers. The term hazardous refers to drugs/chemicals that require special handling because of potential health risks. Therefore, it is imperative that those who work with chemotherapy drugs adhere to this procedure, the pharmaceutical companies recommendations, the Material Safety Data Sheet that pertains to the particular hazardous agent and the Tri-City Healthcare District's (TCHD) policies including but not limited to:
   a. Patient Care Services (PCS) Procedure: Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids
   b. PCS Procedure: Disposal of Chemotherapy Waste.
2. Transporting Chemotherapy Agents
   a. Transport syringes containing chemotherapy in a sealed container, with the luer lock end syringe capped.
   b. All chemotherapy agents will be placed in a leak proof sealable bag labeled "Chemotherapy" and then placed in the designated impervious carrying receptacle that is also labeled "chemotherapy" before agent can be transported.
   c. The nurse transporting a chemotherapy agent will carry a spill kit at all times in case of a potential chemotherapy spill.
   d. In case of an accidental spill or exposure please see PCS Procedure: Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids procedure as well as the PCS Procedure: Disposal of Chemotherapy Waste.
3. Transporting patients that are receiving intravenous chemotherapy

Department Review	Clinical Policies and Procedures	Nurse Executive Committee	Division of Oncology	Pharmacy & Therapeutics Committee	Medical Executive Committee	Professional Affairs Committee	Board of Directors
6/09,8/09,8/10,11/13, 5/16	6/16	07/16	07/16	6/16	08/16		1/07, 08/09, 8/10;7/13

a. Transporting a patient that is receiving intravenous chemotherapy should be avoided if at all possible due to the potential risk of a chemotherapy spill, extravasation at the IV site and physiological complications associated with chemotherapy administration.
b. If a patient must be transported to another department the nurse must carry a chemotherapy spill kit at all times. The nurse must ensure that the IV site, IV bag(s) and IV lines that are connected to the chemotherapy and the patient are visible and secure to prevent extravasation and spillage of the chemotherapy agent during transport.

C. **REQUIREMENTS PRIOR TO ADMINISTERING A CHEMOTHERAPEUTIC AGENT:**

1. All inpatients receiving IV chemotherapy for the first time are required to have an Oncology Patient Care-Education Rounding completed 24 -36 prior to the first chemotherapy dose. See the PCS Policy: Oncology Patient Care-Education Rounding Policy.
2. At the Outpatient Infusion Center a physician must be on the premises at all times if chemotherapy is being infused into a patient(s).
3. Chemotherapy may only be administered by a **Chemotherapy Competent Registered Nurse** (RN). A Chemotherapy Competent RN is defined by the following requirements:
   a. Has taken and passed an Oncology Nursing Society approved chemotherapy course.
   b. Has completed Chemotherapy Administration competency validation by a TCHD chemotherapy competent nurse (see example Acute Care Services (ACS) 2 P Advanced Oncology- Chemotherapy Addendum Nursing Skills Checklist or Outpatient Infusion Center Skills Checklist).
   c. Completes Chemotherapy Administration competency annually
4. A Chemotherapy Consent form must be signed by the patient or designee prior to the administration of the chemotherapy regimen..
5. For chemotherapy orders see PCS Policy: Chemotherapy Prescribing, Processing and Preparations.

D. **PATIENT PREPARATION:**

1. Set up continuous pulse oxymetry for all patients receiving monoclonal antibodies.
2. Explain to the patient and family/caregivers who will administer the chemotherapy, the route, and the planned sequence of events.

E. **DOCUMENTATION:**

1. The administering Chemotherapy Competent Nurse will complete a Cerner Chemotherapy Administration AdHoc Form on every chemotherapy agent administered.
2. All chemotherapy agents will require a second electronic signature by a Chemotherapy Competent RN verifying accuracy of the chemotherapy agent and order on the Chemotherapy Administration AdHoc Form (Verification #1) and the Cerner Electronic Medication Administration Record (EMAR) by using their Cerner password (Verification #2).
   a. Off unit chemotherapy Verification #1 can be witnessed by the floor pharmacist if a second chemotherapy nurse is not available.

F. **ADMINISTERING INTRAVENOUS (IV), INTRAMUSCULAR (IM) AND SUBCUTANEOUS (SQ) CHEMOTHERAPY**

1. IV, IM and SQ chemotherapy orders and agents will be verified twice for accuracy before administration. Accuracy will be determined by verifying:
2. **VERIFICATION # 1 - Chemotherapy Nurse/Chemotherapy Nurse**
   a. Verification for accuracy will be completed by two Chemotherapy Competent RNs when the chemotherapy agent arrives on the unit and documented in the Cerner Chemotherapy Administration AdHoc Form.
      i. A floor Pharmacist/ Chemotherapy Competent RN can do the #1 verification if two Chemotherapy Competent RNs are not available on the off unit areas.
   b. Verification #1 will be determined by verifying:
      i. Date /Time of Administration

ii. Patient Name
iii. Chemotherapy Agent
iv. Dose
v. Diluents /Volume (If applicable)
vi. Rate of Administration (If applicable)
vii. Route
viii. Patient's Height and Weight
ix. Patient's body surface area (BSA)-If applicable
x. Area under the curve (AUC) if applicable

3. **VERIFICATION #2- Chemotherapy Nurse/ Chemotherapy Nurse or TCHD RN (IV, IM and SQ Chemo Only)**
   a. At the patient's bedside a second verification for accuracy will be completed and documented on the electronic medication administration record (EMAR)
   b. Verification #2 will be determined by verifying the 7 rights the following per the PCS Policy: Medication Administration:
      i. Verify correct:
         1) Patient
         2) Dose
         3) Time
         4) Medication
         5) Route/ Rate (if applicable)
         6) Documentation
         7) Reason
4. All intravenous Vesicant Chemotherapy will only be administered via a Central Venous Catheter and should never be administered peripherally.
   a. Exception- Paclitaxel may be administered via peripheral IV if the IV site is visually assessed every 15 minutes for signs and symptoms of extravasation (Inpatient ratio would be 2:1).
5. All intravenous chemotherapy will be administered through an Alaris IV pump using the oncology profile and specific guardrail for the chemotherapy agent.
6. Peripheral Non-Vesicant Chemotherapy Administration:
   a. Start a new peripheral IV if site is more than 24 hours old.
   b. Avoid flexion joint sites.
   c. Preferably select a large vein between wrist and elbow.
   d. Avoid veins in the hand, wrist and antecubital fossa.
   e. Tape IV site so it can be monitored.
7. Extravasation Prevention
   a. Blood return must be checked prior to administration of any chemotherapy agent.
      i. Vesicants: Verify blood return and IV patency prior to, during and post administration of a vesicant.
   b. Inspect IV site for signs and symptoms of the following before administration:
      i. Peripheral
         1) Redness
         2) Inflammation
         3) Infiltration
         4) Patient comfort level at IV site
      ii. Central Venous Catheters (CVC)
         1) Erythema
         2) Swelling
         3) Drainage
         4) Leakage
         5) Venous thrombosis of the ipsilateral chest (CVC located in the chest region).

8. Verify that the patient has signed a TCHD approved consent form for chemotherapy administration.
9. Don personal protective equipment (PPE) in the following order before spiking a pre-filled chemotherapy IV bag or when manipulating a syringe that contains a chemotherapy agent:
    a. Face shield or splash goggles
    b. N-95 mask
    c. First pair of chemo gloves
    d. Chemo gown with the cuffs over the first pair of gloves
    e. Second pair of chemo gloves over the cuffs of the gown
10. **Procedure:**
    a. **IV Push**
        i. Don two pair of chemotherapy safe gloves.
            1) Examine the chemotherapy pre-filled IV syringe for leakage or damage in the medication room before administration.
        ii. Complete Verification #1 .
        iii. Assemble equipment.
            1) Extravasation Kit
            2) PPE (face shield or splash goggles, N95 mask, chemotherapy gown, 2 pairs of chemotherapy gloves). It is recommended to wear a face shield anytime there is a potential for chemotherapy splashing.
            3) Chemotherapy puncture- proof waste disposal container
            4) Leak-proof bag marked "Chemotherapy Waste"
            5) Plastic –backed absorbent pad
            6) Sterile gauze
            7) 3 Alcohol Prep Pads
        iv. Review all manufacture's recommendations (located in the TCHD Drug Formulary or package insert) pertaining to the administration, pre-medication, IV fluid compatibility, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.
        v. Extravasation is a possible risk from vesicant administration. If extravasation occurs, the nurse must take immediate action. Follow PCS Procedure: Chemotherapy Extravasation.
        vi. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion) , chemo safety for body fluids and when to notify the nurse for signs and symptoms of:
            1) Extravasation
                a) Burning
                b) Pain
                c) Heat
                d) Ulceration
                e) Swelling
            2) Signs and symptoms of hypersensitivity and anaphylaxis
                a) Uneasiness
                b) Tightness of the chest
                c) Shortness of breath-with or without wheezing
                d) Hives or rash
                e) Local or generalized itching
                f) Periorbital or facial edema
                g) Lightheadedness or dizziness
        vii. IV Chemotherapy shall be administered with no other IV medications or IV fluids running except for the mainline compatible IV fluid used during the IV push chemotherapy administration.

viii. Label the IV pump and the IV push chemotherapy syringe with a TCHD approved "Chemotherapy" identification sticker before administration.
ix. Inspect IV site and check patient's IV for blood return.
x. Don PPE in the following order before administration:
  1) Face shield or splash goggles
  2) N-95 mask
  3) First pair of chemo gloves
  4) Chemo gown with the cuffs over the first pair of gloves
  5) Second pair of chemo gloves over the cuffs of the gown
xi. Place plastic –backed absorbent pad under the patient's arm to prevent drug contact with patient's skin.
xii. Using the medication barcode scanning device at the patient's bedside, scan the patient and the ordered chemotherapy per the PCS Policy: Medication Administration.
  1) Outpatient Infusion Center will complete the verification of the medication by using the 2 patient identifiers and verify the medication matches the physicians order.
xiii. Complete Verification #2 and complete the witness section on the medication barcode scanning device.
  1) Outpatient Infusion Center will document on the EMAR.
xiv. Using the alcohol prep pads, clean the patient's IV access port three times
xv. Wrap sterile gauze around IV ports during IV push to reduce the potential for spraying
xvi. Inject drug into distal port of IV with free flowing solution at the prescribed rate (minimum of 100ml/hour). Verify blood return every 2-3 mL of drug administration.
xvii. Flush line with 10-20mL of IV solution between administration of drugs or prior to discontinuing IV.
  1) Prevents incompatibility reaction and avoids exposure to anti-neoplastic agents.
xviii. Dispose of syringes in the puncture proof container labeled "Chemotherapy waste".
xix. Recheck IV lines to be sure lines are leading to patient and are connected to the correct IV port.
xx. Remove PPE in the following order and place in a chemotherapy waste bag and seal
  1) Outer pair of gloves
  2) Chemo gown
  3) Face Shield or splash goggles
  4) N-95 mask
  5) Final pair of gloves
xxi. See PCS Procedure: Disposal of Chemotherapy Waste for proper disposal of contaminated materials

b. **IV Continuous or Intermittent**
i. Donning two pair of chemotherapy gloves, examine the Chemotherapy pre-filled IV bag and tubing for leakage or damage in the medication room before administration.
ii. Complete Verification #1.
iii. Assemble equipment for use during administration.
  1) Extravasation Kit
  2) Personal Protective Equipment (PPE) (Face shield or goggles, N-95 mask, chemotherapy disposable gown, two pairs of chemotherapy gloves).
  3) Chemotherapy puncture proof waste disposal container

4) Leak-proof bag marked "Chemotherapy Waste"
5) "Chemotherapy" identification stickers
6) Disposable plastic –backed absorbent liner
7) Plastic tape
8) 3 Alcohol Prep Pads

iv. Review all manufacture's recommendations pertaining to the administration (located in the TCHD Drug Formulary or package insert), pre-medication, IV fluid compatibility, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.

v. Extravasation is a possible risk from vesicant administration. If extravasation occurs, the nurse must take immediate action. Follow TCHD's Chemotherapy Extravasation Procedure.

vi. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:

1) Extravasation
   a) Burning
   b) Pain
   c) Heat
   d) Ulceration
   e) Swelling
2) Signs and symptoms of hypersensitivity and anaphylaxis
   a) Uneasiness
   b) Tightness of the chest
   c) Shortness of breath-with or without wheezing
   d) Hives or rash
   e) Local or generalized itching
   f) Periorbital or facial edema
   g) Lightheadedness or dizziness

vii. IV Chemotherapy shall be administered on a single Alaris IV pump with no other IV medications or IV fluids running except for the mainline compatible flush bag for the IV chemotherapy agent.

viii. Don PPE in the following order before administration:

1) Face shield or splash goggles
2) N-95 mask
3) First pair of chemo gloves
4) Chemo gown with the cuffs over the first pair of gloves
5) Second pair of chemo gloves over the cuffs of the gown

ix. Prime all IV tubing with a compatible IV fluid before administering the chemotherapy intravenously if not already done by pharmacy.

x. At the patient's bedside, program the Alaris pump using the appropriate chemotherapy drug guardrail profile with the witnessing second Chemotherapy Competent Nurse (preferred) or TCHD RN.

1) Power on the Alaris IV pump and select New Patient.
2) Select the Oncology Profile.
3) Enter the patient's medical record number.
4) Select Channel letter that will be used.
5) Select Guardrail Drugs.
6) Select the appropriate chemotherapy agent to be administered from the Alaris Oncology Drug Guardrail List.
7) Verify and confirm correct dosing program.
8) Review Clinical Advisory Warning on the Alaris IV pump and Confirm when read.

9) Input the Drug Amount, Diluent Volume, BSA (if applicable). Verify dose and select Next.
10) Input Rate and Volume to be infused (VTBI).

xi. Using the medication barcode scanning device at the patient's bedside, scan the patient and the ordered chemotherapy IV bag per the PCS Policy: Medication Administration.
1) Outpatient Infusion Center will do the verification of the medication by using the 2 patient identifiers and verify the medication matches the physicians order.

xii. Complete Verification #2 including verification of the Alaris infusion guardrail set up and rate as well as the chemotherapy agent for accuracy at the patient's bedside and complete the witness section on the medication barcode scanning device (see verification #2).
1) Outpatient Infusion Center will document on the EMAR.

xiii. Label the IV pump and the IV chemotherapy bag with a TCHD approved "Chemotherapy" identification sticker before administration.

xiv. Inspect IV site and check patient's IV for blood return.

xv. Use disposable plastic –backed absorbent liner under the IV

xvi. Using the alcohol prep pads, clean the patient's IV access port three times.

xvii. Securely attach the IV tubing to the patient's venous access device or, if using a secondary set, to the primary tubing

xviii. Tape the two IV connections together

xix. Review dose and then select Start to begin infusion on the Alaris pump.

xx. When infusion is complete, don PPE as instructed.

xxi. Dispose of contaminated IV tubing and IV bags in a sealed chemotherapy waste bag and place in a puncture- proof chemotherapy waste container

xxii. Remove PPE in the following order and place in a chemotherapy waste bag and seal:
1) Outer pair of gloves
2) Chemo gown
3) Face Shield or splash goggles
4) N-95 mask
5) Final pair of gloves

xxiii. See PCS Procedure: Disposal of Chemotherapy Waste for proper disposal of contaminated materials

c. **<u>Intramuscular (IM) and Subcutaneous (SQ)</u>**

i. Donning two pair of chemotherapy gloves, examine the chemotherapy pre-filled IV syringe for leakage or damage in the medication room before administration.

ii. Compete Verification #1 .

iii. Assemble equipment for use during administration.
1) PPE (Face shield or goggles, N-95 mask, chemotherapy disposable gown, two pairs of chemotherapy gloves).
2) Chemotherapy puncture- proof sharps waste container
3) Leak-proof bag marked "Chemotherapy Waste"
4) "Chemotherapy" identification sticker
5) Appropriate size sterile needle (Use smallest needle possible)
6) 2x2 gauze pads
7) Alcohol Prep Pads
8) Band-Aid

iv. Review all manufacture's recommendations pertaining to the administration (located in the TCHD Drug Formulary or package insert), pre-medication, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.

v. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:
   1) Signs and symptoms of hypersensitivity and anaphylaxis
      a) Uneasiness
      b) Tightness of the chest
      c) Shortness of breath-with or without wheezing
      d) Hives or rash
      e) Local or generalized itching
      f) Periorbital or facial edema
      g) Lightheadedness or dizziness

vi. Label chemotherapy syringe with a TCHD approved "Chemotherapy" identification sticker before administration.

vii. Don PPE in the following order before administration:
   1) Face mask or Splash Goggles
   2) N-95 mask
   3) First pair of chemo gloves
   4) Chemo gown with the cuffs over the first pair of gloves
   5) Second pair of chemo gloves over the cuffs of the gown

viii. Remove cap and connect sterile needle of the appropriate size for administering the drug.

ix. Do not expel air from the syringe or prime the needle.

x. Using the medication barcode scanning device at the patient's bedside, scan the patient and the ordered chemotherapy per the PCS Policy: Medication Administration.
   1) Outpatient Infusion Center will do the verification of the medication by using the 2 patient identifiers and verify the medication matches the physicians order.

xi. Complete Verification #2 and complete the witness section on the medication scanning device.
   1) Outpatient Infusion Center will document on the EMAR.

xii. Review the manufacturers injection site recommendation

xiii. Cleanse injection site with alcohol prep pads

xiv. After administering the drug, do not re-cap and do not message injection site.

xv. Place the syringe with the needle attached directly into the puncture- proof chemotherapy waste container.

xvi. Remove PPE in the following order and place in a chemotherapy waste bag and seal
   1) Outer pair of gloves
   2) Chemo gown
   3) Face Shield or splash goggles
   4) N-95 mask
   5) Final pair of gloves

xvii. See PCS Procedure: Disposal of Chemotherapy Waste for proper disposal of contaminated materials

xviii. Monitor injection site every hour for signs and symptoms of infection and bleeding post injection.

xix. Educate patients going home after injection to assess the injection site twice a day for bleeding and signs and symptoms of infection.

G. **ADMINISTERING ORAL CHEMOTHERAPY**

1. Oral Chemotherapy may **not** be **crushed, scored** or **capsules opened** on the nursing units. All oral chemotherapy agents that need to be altered in this manner must only be done by the

pharmacy in a controlled environment. If patient is unable to take the chemotherapy agent orally in a whole form and an alternative route (Nasogastric tube, gastric tube etc.) is available, notify the pharmacy as soon as possible (ASAP) so alterations can be made to the original medication form so the agent can be administered safely.

2. **Procedure**
   a. **Oral Chemotherapy**
      i. Verify that the patient has signed a TCHD approved consent form for chemotherapy administration.
      ii. Complete Verification #1 .
      iii. Oral chemotherapy must be initially checked for accuracy on the first dose by two chemotherapy nurses using the Verification #1 and all subsequent doses can be checked by a chemotherapy nurse and a TCHD RN following the PCS Policy: Medication Administration 7 rights (see Verification #2).
      iv. Assemble disposal equipment for use during administration
         1) Personal Protective Equipment (PPE)
         2) Two pairs of chemotherapy gloves.
         3) If administering an oral chemotherapeutic agent that is in a liquid or powder form, a face shield or goggles, N-95 mask, and chemotherapy disposable gown is recommended. It is recommended to wear a face shield anytime there is a potential for chemotherapy splashing.
         4) Leak-proof bag marked "Chemotherapy Waste"
      v. Review all manufactures recommendations pertaining to the administration, pre-medication, labs and potential side effects (located in the TCHD Drug Formulary or package insert), of the specific chemotherapeutic agent before agent is administered.
      vi. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:
         1) Hypersensitivity and anaphylaxis
            a) Uneasiness
            b) Tightness of the chest
            c) Shortness of breath-with or without wheezing
            d) Hives or rash
            e) Local or generalized itching
            f) Periorbital or facial edema
            g) Lightheadedness or dizziness
      vii. Assess patient's ability to swallow prior to administration
      viii. Don two chemotherapy gloves before handling the oral chemotherapy agent and during administration.
      ix. Using the medication barcode scanning device at the patient's bedside, scan the patient and the ordered chemotherapy per the PCS Policy: Medication Administration.
         1) Outpatient Infusion Center will do the verification of the medication by using the 2 patient identifiers and verify the medication matches the physician's order).
      x. Complete Verification #2 and complete the witness section on the medication barcode scanning device.
         1) Outpatient Infusion Center will document on the EMAR.
      xi. Dispose of all materials that came into contact with the chemotherapeutic agent (i.e. medication cup, manufacturer's container or packaging) in a leak-proof chemotherapy waste bag and seal
         1) See PCS Procedure: Disposal of Chemotherapy Waste for proper disposal of contaminated material.

H. **RELATED DOCUMENTS:**

1. Acute Care Services (ACS) 2 P Advanced Oncology- Chemotherapy Addendum Nursing Skills Checklist
2. Outpatient Infusion Center Skills Checklist
3. PCS Policy: Chemotherapy Prescribing, Processing and Preparations
4. PCS Policy: Oncology Patient Care-Education Rounding
5. PCS Policy: Medication Administration
6. PCS Procedure: Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids
7. PCS Procedure: Chemotherapy Extravasation
8. PCS Procedure: Disposal of Chemotherapy Waste

I. **REFERENCES**

1. Mafrica, Leonard. Safe Handling of Hazardous Drugs. Oncology Nursing Society. (2003)
2. National Institute for Occupational Safety and Health, (2004). Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings, Retrieved from the NIOSH website at http://www.cdc.gov/niosh/docs/2004-165/#c
3. Oncology Nursing Forum: Vol.39, No.1 (Jan 2012) Revisions to the 2009 American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards: Expanding the Scope to Include Inpatient Settings
4. Oncology Nursing Society, (2014). Chemotherapy and Biotherapy Guidelines, Fourth Edition.

Tri-City Medical Center	Distribution: Outpatient Infusion Center
PROCEDURE:	**AMBULATORY INFUSION PUMPS**
Purpose:	To safely manage care of patients who start medication infusion via ambulatory infusion pump.
Supportive Data:	AIPs are commonly used to deliver a variety of medications, including chemotherapy. Patient safety can be jeopardized if the devices are mishandled when filling, programming, attaching and monitoring.
Equipment:	External ambulatory infusion pump

A. **DEFINITIONS:**

1. Ambulatory Infusion Pump (AIP): an external medical device used to deliver medications to a patient in a controlled manner in an outpatient setting.

B. **POLICY:**

1. AIP will be handled according to manufacturer's Operation Manual.
2. All patients will be educated prior to initiation of AIP for drug infusion.
3. Patients will come no less than once weekly for monitoring while on the AIP.
   a. This may include AIP discontinuation appointment.
   b. Monitoring will include inspection of AIP operation and assurance that drug volume is infusing correctly.

C. **PROCEDURE:**

1. Patient Education
   a. Patients will sign a consent outlining the risks and responsibilities.
   b. Patients will be instructed to call prescribing clinician or phone number located on AIP with questions.
   c. For pumps containing chemotherapy: Patients will be instructed on how to use a chemotherapy spill kit and given a kit to take home.
2. Programming
   a. The AIP will be programmed by pharmacy.
      i. The AIP will be reprogrammed and battery will be replaced at each refill.
      ii. AIP will be set to patient lock-out before dispensing to patient.
3. Preparing/Refilling
   a. Pharmacy to dispense/verify the medication or solution used for refills.
   b. Pharmacy is to dispense no more than 5 days' worth of drug infusion to limit risk of drug errors.
   c. Chemotherapy only: Pharmacy will follow Pharmacy Policy: Chemotherapy Prescribing, Processing and Preparation.
      i. This is to include priming line in Compounding Aseptic Containment Isolator.
4. Administration
   a. RN to install reservoir and tubing set into AIP per Operation Manual.
   b. 2 RNs will independently check pump settings against reservoir label before attaching AIP to patient.
   c. Chemotherapy only: Nursing will follow the Oncology Procedure: Chemotherapy Administration.
5. Discontinuing Use of the AIP
   a. Nursing will ensure all drug is delivered before stopping device.

Department Review	Pharmacy & Therapeutics Committee	Division of Oncology	Medical Executive Committee	Professional Affairs Committee	Board of Directors
01/16	06/16	07/16	08/16		

i. Pharmacy/MD will be notified immediately of any evidence of over or under infusion.

b. The AIP will be stopped, clamped and disconnected.
c. Reservoir/tubing set will be disposed of per TCHD policies and procedures.
d. Battery will be disposed of properly.
e. AIP will be cleaned with isopropyl alcohol (all medications) and sodium hypochlorite/neutralizer (hazardous drug leaks/spills only) prior to being returned to pharmacy.

6. Documentation
   a. Drug, dose, rate, total volume to be infused, start and stop time, and actual volume infused (after AIP disconnection) will be recorded on eMAR.
   b. Tracking of AIP serial number dispensed to patient will be performed by entering on Cerner medication label.
7. Maintenance
   a. AIPs shall be sent back to manufacturer upon request for maintenance or according to the manufacturers' maintenance schedule.
      i. The AIP shall not be used if due for maintenance.
   b. Manufacturer will perform all functional verification tests prior to shipping back to TCHD.
   c. If an AIP is suspected to be dysfunctional for any reason, it will be quarantined and sent back to manufacturer for repair.

D. RELATED DOCUMENTS:

1. Oncology Procedure: Chemotherapy Administration
2. Patient Care Services Policy: Patient Owned/Supplied Equipment Brought Into the Facility
3. Patient Care Services Policy: Chemotherapy Prescribing, Processing and Preparation

E. REFERENCES

1. Institute for Safe Medication Practices. 2015. *ISMP*. [ONLINE] Available at: https://www.ismp.org. [Accessed 24 December 15].
2. Infusion Pumps. 2015. *U.S. Food and Drug Administration.* [ONLINE] Available at: http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/GeneralHospitalDevicesandSupplies/InfusionPumps/ [Accessed 24 December 15].

Tri-City Medical Center	Distribution: Outpatient Infusion Center
PROCEDURE: CHEMOTHERAPY ADMINISTRATION	
Purpose: To outline the chemotherapy competent nurse's re chemotherapeutic agent: A. Notification of a Chemotherapy Order B. Safe Handling C. Requirements Prior to Administering a Chemotherapeutic Agent D. Patient Preparation E. Documentation F. Administrating Intravenous and Intramuscular Chemotherapy I. IV Push II. IV Continuous or Intermittent III. Intramuscular and Subcutaneous G.A. Administering Oral Chemotherapy	
Supportive Data: See References	
Equipment: See Equipment Lists for specific administration methods	

DELETE – duplicate to Patient Care Services Procedure: Chemotherapy Administration

A. **SAFE HANDLING:**

1. Many drugs used in the treatment of cancer (i.e. chemotherapy) are considered to be hazardous to health care workers. The term hazardous refers to drugs/chemicals that require special handling because of potential health risks. Therefore, it is imperative that those who work with chemotherapy drugs adhere to this procedure, the pharmaceutical companies recommendations, the Material Safety Data Sheet that pertains to the particular hazardous agent and the Tri-City Medical Center's (TCMC) Patient Care Services (PCS) Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids procedure as well as the TCMC's PCS procedure for Disposal of Chemotherapy Waste.
2. Transporting Chemotherapy Agents
   a. Transport syringes containing chemotherapy in a sealed container, with the luer-lock end syringe capped.
   b. All chemotherapy agents will be placed in a leak proof sealable bag labeled "Chemotherapy" and then placed in the designated impervious carrying receptacle that is also labeled "chemotherapy" before agent can be transported.
   c. A spill kit will be available at all times in case of a potential chemotherapy spill.
   d. In case of an accidental spill or exposure please see TCMC PCS Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids procedure as well as the TCMC's PCS procedure for Disposal of Chemotherapy Waste.

B. **REQUIREMENTS PRIOR TO ADMINISTERING A CHEMOTHERAPEUTIC AGENT:**

1. **A physician must be on the premises of the outpatient infusion center at all times if chemotherapy is being infused into a patient(s).**
2. Chemotherapy may only be administered by a **Chemotherapy Competent Registered Nurse**. A Chemotherapy Competent Registered Nurse is defined by the following requirements:
   a. Has taken and passed an Oncology Nursing Society approved chemotherapy course.
   b. Has completed competency validation by a TCMC chemotherapy competent nurse on all chemotherapy areas of the TCMC's RN Outpatient Infusion Center's Skills Checklist.
3. All chemotherapy orders from a physician must be written on the TCMC approved Chemotherapy Order Form. All sections of the TCMC approved Chemotherapy Order Form must be completed for the chemotherapy order to be valid. Verbal or telephone orders for any antineoplastic agents are not permitted at TCMC (per PCS Medication Administration policy).

Department Review	Division of Oncology	Pharmacy & Therapeutics Committee	Medical Executive Committee	Professional Affairs Committee	Board of Directors
2/13, 10/14, **06 16**	11/14, **07/16**	01/15, **06/16**	3/13; 2/15, **08/16**	3/13; 3/15	3/13; 3/15

Chemotherapy Orders that are received via fax on a TCMC approved Chemotherapy Order Form are acceptable. Any chemotherapy order or clarification of a chemotherapy order from a physician that has been received verbally or via telephone will not be recognized as a valid chemotherapy order. Telephone orders from the physician related to start/stop times for the chemotherapy and pre-medications are acceptable. Pharmacy may verify chemotherapy drug and dose via phone per the TCMC Pharmacy policy Chemotherapy, Prescribing, Processing and Preparation.

4. All patients at TCMC that have an order for any antineoplastic agent to be administered while in our care, must have a TCMC approved consent form completed in full prior to the administration of any antineoplastic agent.

C. **PATIENT PREPARATION**

1. Set up continuous pulse oxymetry for all patients receiving monoclonal antibodies.
2. Explain to the patient and family/caregivers who will administer the chemotherapy, the route, and the planned sequence of events.

D. **DOCUMENTATION**

1. The administering Chemotherapy Competent Nurse will complete a Cerner Chemotherapy Administration AdHoc Form on every chemotherapy agent administered.
2. All chemotherapy agents will require a second electronic signature by a Chemotherapy Competent Registered Nurse (preferred) or a Registered Nurse (if a second chemotherapy competent nurse is unavailable) verifying accuracy of the chemotherapy agent and order on the Cerner Electronic Medication Administration Record (EMAR) by using their Compass password.

E. **ADMINISTERING INTRAVENOUS (IV), INTRAMUSCULAR (IM) AND SUBCUTANEOUS (SQ) CHEMOTHERAPY**

1. IV, IM and SQ chemotherapy orders and agents will be verified two times for accuracy before administration. Accuracy will be determined by verifying:
   a. Date /Time of Administration
   b. Patient Name
   c. Chemotherapy Agent
   d. Dose
   e. Diluents /Volume (If applicable)
   f. Rate of Administration (If applicable)
   g. Route
   h. Patient's Height and Weight
   i. Patient's body surface area (BSA) If applicable
2. **VERIFICATION # 1 -Pharmacy/ Nurse**
   a. A TCMC pharmacist will co-sign with a Chemotherapy Competent Registered Nurse on the TCMC Pharmacy/Nurse Chemotherapy Verification Form that the chemotherapy agent that was delivered to the nursing unit is accurate.
3. **VERIFICATION #2- Nurse/Nurse**
   a. A second verification for accuracy will be completed by two Chemotherapy Competent Registered Nurses (preferred) and documented on the Cerner Chemotherapy Administration AdHoc Form. After this the two chemotherapy competent nurses will verify two patient identifiers and the Alaris pump guardrails and settings for accuracy at the patient's bedside or chair before administration. If a second Chemotherapy Competent Registered Nurse is not available a TCMC registered nurse may co-sign to verify the accuracy of the chemotherapy agent and order.
4. All intravenous Vesicant Chemotherapy will only be administered via a Central Venous Catheter and should never be administered peripherally.
5. All intravenous chemotherapy will be administered through an Alaris IV pump using the oncology profile and specific guardrail for the chemotherapy agent.

6. If two chemotherapy drugs must run simultaneously, each drug must run through two different brains (A and B) on the Alaris pump.
7. Peripheral Non-Vesicant Chemotherapy Administration-Start a new peripheral IV if site is more than 24 hours old. Avoid flexion joint sites. Preferably select a large vein between wrist and elbow. Avoid veins in the hand, wrist and antecubital fossa. Tape IV site so it can be monitored.
8. Extravasation Prevention
    a. Blood return must be checked prior to administration of any chemotherapy agent.
    b. Inspect IV site for signs and symptoms of the following before administration:
        i. Peripheral
            1) Redness
            2) Inflammation
            3) Infiltration
            4) Patient comfort level at IV site
        ii. Central Venous Catheters (CVC)
            1) Erythema
            2) Swelling
            3) Drainage
            4) Leakage
            5) Venous thrombosis of the ipsilateral chest (CVC located in the chest region).
9. Verify that the patient has signed a TCMC approved consent form for chemotherapy administration.
10. Don PPE in the following order before spiking a pre-filled chemotherapy IV bag, when manipulating a syringe that contains a chemotherapy agent or anytime there is a risk for exposure to chemotherapy or body fluid containing chemotherapy:
    a. Face shield or splash goggles
    b. N-95 mask
    c. First pair of chemo gloves
    d. Chemo gown with the cuffs over the first pair of gloves
    e. Second pair of chemo gloves over the cuffs of the gown
11. **IV Push Procedure:**
    a. Don two pair of chemotherapy safe gloves.
    b. Examine the chemotherapy pre-filled IV syringe for leakage or damage in the medication room before administration.
    c. Verification #1 & #2 (see section E of this procedure) should be completed.
    d. Assemble equipment
        i. Extravasation Kit
        ii. Personal Protective Equipment (PPE) (Face shield or splash goggles, N95 mask, chemotherapy gown, 2 pairs of chemotherapy gloves). It is recommended to wear a face shield anytime there is a potential for chemotherapy splashing.
        iii. Chemotherapy puncture- proof waste disposal container
        iv. Leak-proof bag marked "Chemotherapy Waste"
        v. Plastic –backed absorbent pad
        vi. Sterile gauze
        vii. 3 Alcohol Prep Pads
    e. Review all manufacture's recommendations (located in the TCMC Drug Formulary or package insert) pertaining to the administration, pre-medication, IV fluid compatibility, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.
        i. Extravasation is a possible risk from vesicant administration. If extravasation occurs, the nurse must take immediate action. Follow TCMC's PCS Chemotherapy Extravasation Procedure.
    f. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational

pamphlets located on 2 Pavilion) , chemo safety for body fluids and when to notify the nurse for signs and symptoms of:

i. Extravasation
   1) Burning
   2) Pain
   3) Heat
   4) Ulceration
   5) Swelling

ii. Hypersensitivity and anaphylaxis
   1) Uneasiness
   2) Tightness of the chest
   3) Shortness of breath with or without wheezing
   4) Hives or rash
   5) Local or generalized itching
   6) Periorbital or facial edema
   7) Lightheadedness or dizziness

g. Administer IV Chemotherapy with no other IV medications or IV fluids running except for the mainline compatible IV fluid used during the IV push chemotherapy administration.

h. Label the IV pump and the IV push chemotherapy syringe with a TCMC approved "Chemotherapy" identification sticker before administration.

i. Inspect IV site and check patient's IV for blood return.

j. Don PPE in the following order before administration:
   i. Face shield or splash goggles
   ii. N-95 mask
   iii. First pair of chemo gloves
   iv. Chemo gown with the cuffs over the first pair of gloves
   v. Second pair of chemo gloves over the cuffs of the gown

k. Place plastic –backed absorbent pad under the patient's arm to prevent drug contact with patient's skin.

l. Use two patient identifiers prior to administration per the TCMC's PCS Medication Administration Policy.
   i. A second Chemotherapy Competent Registered Nurse (preferred) will verify:
      1) Chemotherapy agent and order for accuracy
      2) Two patient identifiers at the patient's bedside or chair
      3) Document as a witness in Cerner on the EMAR.

m. Use alcohol prep padsto clean the patient's IV access port three times

n. Wrap sterile gauze around IV ports during IV push to reduce the potential for spraying

o. Inject drug into distal port of IV with free flowing solution at the prescribed rate (minimum of 100ml/hour). Verify blood return every 2-3ml of drug administration.

p. Flush line with 10-20ml of IV solution between administration of drugs or prior to discontinuing IV.
   i. Prevents incompatibility reaction and avoids exposure to anti-neoplastic agents.

q. Dispose of syringes in the puncture proof container labeled "Chemotherapy waste".

r. Recheck IV lines to be sure lines are leading to patient and are connected to the correct IV port.

s. Remove PPE in the following order and place in a chemotherapy waste bag and seal
   i. Outer pair of gloves
   ii. Chemo gown
   iii. Face Shield or splash goggles
   iv. N-95 mask
   v. Final pair of gloves

t. See TCMC PCS Disposal of Chemotherapy Waste Procedure for proper disposal of contaminated materials

12. **IV Continuous or Intermittent Procedure:**
    a. Don two pair of chemotherapy gloves, examine the Chemotherapy pre-filled IV bag and tubing for leakage or damage in the medication room before administration.
    b. Verification #1 & #2 (see section E of this procedure) should be completed.
    c. Assemble equipment for use during administration.
        i. Extravasation Kit
        ii. Personal Protective Equipment (PPE) (Face shield or goggles, N-95 mask, chemotherapy disposable gown, two pairs of chemotherapy gloves).
        iii. Chemotherapy puncture proof waste disposal container
        iv. Leak-proof bag marked "Chemotherapy Waste"
        v. "Chemotherapy" identification stickers
        vi. Disposable plastic –backed absorbent liner
        vii. Plastic tape
        viii. 3 Alcohol Prep Pads
    d. Review all manufacture's recommendations pertaining to the administration (located in the TCMC Drug Formulary or package insert), pre-medication, IV fluid compatibility, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.
        i. Extravasation is a possible risk from vesicant administration. If extravasation occurs, the nurse must take immediate action. Follow TCMC's PCS Chemotherapy Extravasation Procedure.
    e. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets located on 2 Pavilion), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:
        i. Extravasation
            1) Burning
            2) Pain
            3) Heat
            4) Ulceration
            5) Swelling
        ii. Hypersensitivity and anaphylaxis
            1) Uneasiness
            2) Tightness of the chest
            3) Shortness of breath with or without wheezing
            4) Hives or rash
            5) Local or generalized itching
            6) Periorbital or facial edema
            7) Lightheadedness or dizziness
    f. Administer IV Chemotherapy on a single Alaris IV pump with no other IV medications or IV fluids running except for the mainline compatible flush bag for the IV chemotherapy agent.
    g. Don PPE in the following order before administration:
        i. Face shield or splash goggles
        ii. N-95 mask
        iii. First pair of chemo gloves
        iv. Chemo gown with the cuffs over the first pair of gloves
        v. Second pair of chemo gloves over the cuffs of the gown
    h. Prime all IV tubing with a compatible IV fluid before administering the chemotherapy intravenously if not already done by pharmacy.
    i. Program the Alaris pump at the patient's bedside, using the appropriate chemotherapy drug guardrail profile with the witnessing second Chemotherapy Competent Nurse (preferred).
        i. Power on the Alaris IV pump and select New Patient.

ii. Select the Outpatient Profile.
iii. Enter the patient's medical record number.
iv. Select Channel letter that will be used.
v. Select Guardrail Drugs.
vi. Select the appropriate chemotherapy agent to be administered from the Alaris Oncology Drug Guardrail List.
vii. Verify and confirm correct dosing program.
viii. Review Clinical Advisory Warning on the Alaris IV pump and Confirm when read.
ix. Input the Drug Amount, Diluent Volume, BSA (if applicable). Verify dose and select Next.
x. Input Rate and Volume to be infused (VTBI).

j. Use two patient identifiers prior to administration TCMC PCS Medication Administration Policy.
   i. A second Chemotherapy Competent Registered Nurse (preferred) will verify:
      1) Chemotherapy agent and order for accuracy
      2) Two patient identifiers at the patient's bedside or chair
      3) Verifying the Alaris guardrail settings for accuracy
      4) Document as a witness in Cerner on the EMAR.

k. Label the IV pump and the IV chemotherapy bag with a TCMC approved "Chemotherapy" identification sticker before administration.
l. Inspect IV site and check patient's IV for blood return.
m. Use disposable plastic –backed absorbent liner under the IV
n. Use the alcohol prep pads to clean the patient's IV access port three times.
o. Securely attach the IV tubing to the patient's venous access device or, if using a secondary set, to the primary tubing
p. Tape the two IV connections together
q. Review dose and then select Start to begin infusion on the Alaris pump.
r. When infusion is complete, don PPE as instructed .
s. Dispose of contaminated IV tubing and IV bags in a sealed chemotherapy waste bag and place in a puncture- proof chemotherapy waste container
t. Remove PPE in the following order and place in a chemotherapy waste bag and seal:
   i. Outer pair of gloves
   ii. Chemo gown
   iii. Face Shield or splash goggles
   iv. N-95 mask
   v. Final pair of gloves
u. See TCMC PCS Disposal of Chemotherapy Waste Procedure for proper disposal of contaminated materials

13. **Intramuscular (IM) and Subcutaneous (SQ) Procedure**
   a. Don two pair of chemotherapy gloves, examine the chemotherapy pre-filled IV syringe for leakage or damage in the medication room before administration.
   b. Verification #1 & #2 (see section E of this procedure) should be completed.
   c. Assemble equipment for use during administration.
      i. Personal Protective Equipment (PPE) (Face shield or goggles, N-95 mask, chemotherapy disposable gown, two pairs of chemotherapy gloves).
      ii. Chemotherapy puncture- proof sharps waste container
      iii. Leak-proof bag marked "Chemotherapy Waste"
      iv. "Chemotherapy" identification sticker
      v. Appropriate size sterile needle (Use smallest needle possible)
      vi. 2x2
      vii. Alcohol Prep Pads
      viii. Band-Aid

d. Review all manufacture's recommendations pertaining to the administration (located in the TCMC Drug Formulary or package insert), pre-medication, labs and potential side effects of the specific chemotherapeutic agent before agent is administered.
e. Educate patient on the procedure, reason for wearing protective garments, potential side effects of the agent (Patient information located in Micromedix and educational pamphlets), chemo safety for body fluids and when to notify the nurse for signs and symptoms of:
    i. Signs and symptoms of hypersensitivity and anaphylaxis
        1) Uneasiness
        2) Tightness of the chest
        3) Shortness of breath with or without wheezing
        4) Hives or rash
        5) Local or generalized itching
        6) Periorbital or facial edema
        7) Lightheadedness or dizziness
f. Label chemotherapy syringe with a TCMC approved "Chemotherapy" identification sticker before administration.
g. Don PPE in the following order before administration:
        1) Face mask or Splash Goggles
        2) N-95 mask
        3) First pair of chemo gloves
        4) Chemo gown with the cuffs over the first pair of gloves
        5) Second pair of chemo gloves over the cuffs of the gown
h. Remove cap and connect sterile needle of the appropriate size for administering the drug.
i. Do not expel air from the syringe or prime the needle.
j. Use two patient identifiers prior to administration TCMC's PCS Medication Administration Policy.
    i. A second Chemotherapy Competent Registered Nurse (preferred) will verify:
        1) Chemotherapy agent and order for accuracy
        2) Two patient identifiers at the patient's bedside or chair
        3) Document as a witness in Cerner on the EMAR.
k. Review the manufacturers injection site recommendation
l. Cleanse injection site with alcohol prep pads
m. After administering the drug, do not re-cap and do not massage injection site.
n. Place the syringe with the needle attached directly into the puncture- proof chemotherapy waste container.
o. Remove PPE in the following order and place in a chemotherapy waste bag and seal
    i. Outer pair of gloves
    ii. Chemo gown
    iii. Face Shield or splash goggles
    iv. N-95 mask
    v. Final pair of gloves
p. See TCMC PCS Disposal of Chemotherapy Waste Procedure for proper disposal of contaminated materials
q. Monitor injection site for signs and symptoms of bleeding, redness, and rash post injection.
r. Educate patients going home after injection to access the injection site twice a day for bleeding and signs and symptoms of infection.

F. **RELATED DOCUMENTS;**

1. PCS Chemotherapy Exposure, Spills and Handling of Contaminated Linen with Chemotherapeutic agents and Bodily Fluids Procedure
2. PCS Chemotherapy Extravasation Procedure

3. PCS Disposal of Chemotherapy Waste Procedure
4. PCS Medication Administration Policy
5. Pharmacy Chemotherapy, Prescribing, Processing and Preparation Policy

G. **REFERENCES:**

1. National Institute for Occupational Safety and Health, (2004). Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings, Retrieved from the NIOSH website October 2014, at http://www.cdc.gov/niosh/docs/2004-165/#c.
2. Oncology Nursing Society, (2014). Chemotherapy and Biotherapy Guidelines, Fourth Edition.
3. Mafrica, Leonard. Safe Handling of Hazardous Drugs. Oncology Nursing Society. (2011)

Tri-City Medical Center	Distribution: Outpatient Infusion
PROCEDURE:	CHEMOTHERAPY EXPOSURE, SPILLS, AND HANDLING OF LINENS CONTAMINATED WITH CHEMOTHERAPEUTIC AGENTS AND BODY FLUIDS, ACCIDENTAL EXPOSURE TO RADIOACTIVE I_{131} BODY FLUIDS
Purpose:	To outline staff responsibility and management of exposures, and handling of contaminated linens.
Supportive Data:	To prevent staff exposure to chemotherapy and ra
Equipment:	Chemotherapy Spill Kit

DELETE – duplicate to Patient Care Services Policy Chemotherapy Exposure, Spills, and Handling of Linens Contaminated With Chemotherapeutic Agents and Body Fluids, Accidental Exposure to Radioactive I_{131} Body Fluids

A. **POLICY:**

1. Many drugs used in the treatment of cancer are considered to be hazardous to health care workers.
   a. The term hazardous refers to drugs/chemicals requiring special handling because of potential health risks.
2. Staff working with chemotherapy drugs and the body fluids of patients that have received chemotherapy shall adhere to this procedure and reference Patient Care Services Disposal of Chemotherapy Waste procedure.
   a. Body fluid includes sweat, saliva, emesis, urine, feces, semen, vaginal fluid, or blood.
3. Do not use chemical inactivators due to the potential for dangerous by-products.
   a. Exception: Sodium thiosulfate is used to inactivate nitrogen mustard.

B. **PROCEDURE FOR SPILL MANAGEMENT:**

1. For chemotherapy spills greater than 400 mL in any department:
a. Open spill kit and immediately post a sign that warns others of the presence of cytoxic spill (included in kit).
b. Remove personnel and patients from the immediate area.
i. Immediate area is approximately 20-foot perimeter.
c. Nursing to contact Environmental Services (EVS).
i. EVS to contact EOC Safety Officer regarding the chemotherapy spill at 760- 926-0225 (pager).
2. For chemotherapy spills less than 400 mL:
a. EVS Responsibilities for spills on hard surfaces estimated at 400 mL or less:
i. Open spill kit and immediately post a sign that warns others of the presence of cytoxic spill (included in chemo spill kit).
ii. Don personal protective equipment in the following order:
1) N-95 mask (For additional mask(s) please use the N-95 masks located on the unit.)
2) First pair of chemotherapy gloves
3) Chemotherapy gown with the cuffs over the first pair of gloves
4) Second pair of chemotherapy gloves over the cuffs of the gown
5) Splash goggles or face shield
6) Protective shoe covers
iii. Place spill pillows from spill kit in a "V" position on outer perimeter of spill to prevent spreading of fluid.
iv. Place one towel from the spill kit over spill to absorb fluid.
v. Pick up saturated towel and spill pillows and place in small chemotherapy waste bag.
vi. Use brush to sweep any glass or fragments into scoop and place in small chemotherapy waste bag with discarded towels and spill pillows.
vii. Use the hospital approved disinfectant 3 procedures of the EVS guidelines to complete the cleaning.
viii. After hospital approved disinfectant 3 cleaning, use remaining towels to wipe up the rinse and fully dry area. Place towels in small chemotherapy waste bag and seal.

Department Review	Division of Oncology	Pharmacy & Therapeutics Committee	Medical Executive Committee	Professional Affairs Committee	Board of Directors
3/13, 5/16	3/13, 07/16	06/16	08/16	3/13	3/13

ix. Place sealed bag in Spill Kit box and seal the box with bright orange chemotherapy waste label.
x. Remove personal protective equipment in the following order.
1) Outer pair of gloves
2) Chemotherapy gown
3) N95 mask
4) Splash goggles or face shield
5) Protective shoe covers
6) Final pair of gloves
xi. Place personal protective equipment in large chemotherapy waste bag along with spill kit box and seal the bag.
xii. Place sealed bag in the designated chemotherapy waste area on the unit.
xiii. Complete the Hazardous Drug Exposure Report and give to the supervisor of the EVS department.
xiv. The EVS supervisor shall submit copies of the Hazardous Drug Exposure Report to Employee Health Services and to the EOC Officer.
b. Infusion Center/Pharmacy Responsibilities for spills on hard surfaces estimated between 200 mL and 400 mL:
i. Open spill kit and immediately post a sign that warns others of the presence of cytoxic spill (included in chemo spill kit).
ii. Delegate to a co-worker to contact EVS Supervisor of the chemotherapy spill. and/or EOC Safety Officer regarding the chemotherapy spill. EVS is responsible for spills on the oncology and pharmacy units that is between 200 mL and 400 mL.
1) 760-644-6972 (Day Shift) or pager 760-926-0841
2) 760-644-6973 (Evening Shift) or pager 760-926-0832
3) 760-644-6974 (Night Shift) or pager 760-926-0834
4) 760-926-0225 (EOC Officer pager)
c. Infusion Center/Pharmacy (responsibilities for spills on hard surfaces estimated at less than 200 mL)
i. Open spill kit and immediately post a sign that warns others of the presence of cytoxic spill (included in chemo spill kit).
ii. Contact or delegate a co-worker to contact Environmental Services (EVS) Supervisor of the chemotherapy spill.
1) 760-644-6972 (Day Shift) or pager 760-926-0841
2) 760-644-6973 (Evening Shift) or pager 760-926-0832
3) 760-644-6974 (Night Shift) or pager 760-926-0834
iii. Don personal protective equipment in the following order:
1) N-95 mask (For additional mask(s) please use the N-95 masks located on the unit.)
2) First pair of chemotherapy gloves
3) Chemotherapy gown with the cuffs over the first pair of gloves
4) Second pair of chemotherapy gloves over the cuffs of the gown
5) Splash goggles or face shield
6) Protective shoe covers
iv. To clean up a spill from a hard surface estimated as less than 200 mL:
1) Place spill pillows in a "V" position on outer perimeter of spill to prevent spreading of fluid.
2) Place one towel from the spill kit over spill to absorb fluid.
3) Pick up saturated towel and spill pillows and place in small chemotherapy waste bag.
4) Use brush to sweep any glass or fragments into scoop and place in small chemotherapy waste bag with discarded towels and spill pillows.
5) EVS must use the hospital approved disinfectant 3 procedure of their EVS guidelines to complete the cleaning.

6) After EVS has completed the hospital approved disinfectant 3 cleaning, use remaining towels to wipe up the rinse and fully dry area. Place towels in small chemotherapy waste bag and seal.
7) Place sealed bag in Spill Kit box and seal the box with bright orange chemotherapy waste label.
8) Remove personal protective equipment in the following order:
(i) Outer pair of gloves
(ii) Chemotherapy gown
(iii) N95 mask
(iv) Splash goggles or face shield
(v) Protective shoe covers
(vi) Final pair of gloves
9) Place personal protective equipment in large chemotherapy waste bag along with spill kit box and seal the bag.
10) Place sealed bag in the designated chemotherapy waste area on the unit.
11) Complete the Hazardous Drug Exposure Report and give to the clinical manager on the nursing unit.
12) The clinical manager shall submit copies of the Hazardous Drug Exposure Report to Employee Health Services and to the Environment of Care (EOC) Safety Officer.

C. **PROCEDURE -- EXPOSURE AND PREVENTION RELATED TO CHEMOTHERAPY AGENTS AND BODY FLUIDS:**
1. In the event of skin exposure to chemotherapeutic agent; remove any contaminated garment and immediately wash contaminated skin with soap and water.
2. In case of eye exposure, immediately flush the eye with saline solution or water for at least 5 minutes.
3. All linen exposed to a chemotherapy agent or body fluid of a patient that is currently receiving or has received chemotherapy in the past 48 hours, must be placed (using chemotherapy gloves and gown) in a Yellow chemotherapy waste bag and tagged by the EVS with a "Special Handling Ticket" before adding it to the general hospital linen.
4. Contact EVS when chemo waste linen bag is ¾ full. EVS will place the chemo waste linen bag in a regular hospital blue linen bag and will place a special handling ticket on the outside of the blue linen bag before it can be placed in the general hospital linen.
5. Place any disposable cytoxic contaminated materials into a sealed, leak proof chemo waste plastic bag. Use puncture proof containers for sharp or breakable items.
6. All containers will be clearly labeled citing the hazardous nature of the contents-Chemotherapy.
7. Report any cytotoxic exposures or spills to your supervisor.
8. Report any employee exposure to employee health services and/or emergency department.
a. Fill out Illness/Injury Investigation Report
9. Report any patient exposure to the patient's healthcare provider and per institution policy.

D. **PROCEDURE - PRECAUTIONS WHEN HANDLING BODY FLUIDS OF A PATIENT RECEIVING CHEMOTHERAPY(Precautions need to be taken during and 48 hours after last Chemotherapy Dose):**
1. Wear appropriate personal protective equipment (PPE) which may include the following:
a. N-95 mask
b. Double chemotherapy gloves
c. Chemotherapy gown
d. Splash goggles or face shield
e. Protective shoe covers
2. Disposing of body fluid

a. Dispose of body fluids in the toilet.
b. DO NOT USE THE TOILET SPRAYER. Rinse containers with a cup of water to prevent splashing
c. Before flushing toilet, cover open toilet with chux. (New chux to be used with each flush).
d. Flush toilet twice
e. Place personal protective equipment and chux in chemotherapy waste bag.
f. Infusion clinic will place sealed chemo waste bag in the designated chemotherapy waste area on the unit.
3. All linen exposed to a chemotherapy agent or body fluid of a patient that is currently receiving or has received chemotherapy in the past 48 hours, must be placed (using chemotherapy gloves and gown) in a Yellow chemotherapy waste bag and tagged by the EVS with a "Special Handling Ticket" before adding it to the general hospital linen.
4. Skin care of incontinent adult receiving chemotherapy
a. Clean patients skin well after voiding or having a bowel movement
b. Apply protective barrier ointment or cream before diapering
5. All disposable equipment (i.e. Foley catheter, bedpan, graduated cylinder, and diapers) used in caring for chemotherapy patients must be disposed of in a chemotherapy waste container and placed in the designated chemotherapy waste area on the unit.

F. **REFERENCES**:

1. ONS Chemotherapy and Biotherapy Guidelines and Recommendation for Practice, 2011, Third Edition
2. Center for Disease Control and Prevention. Antineoplastic Agents – Occupational Hazards in Hospitals.2004 Print.
3. Health Waste Management (HCWM). *The 10 Categories of HCRW #9* Genotoxi/Cytotoxic Waste.2006 Print.
4. "Preventing Occupational Exposure to Antieoplastic and Other Hazardous Drugs in Health Care Settings." NIOSH. National Institute for Occupational Safety and Health, 2004. http://www/cdc/gov/niosh/docs/2004-165/#c. "Kendall Chemobloc Procedure." Tyco Healthcare. 2006 <www.tycohealthcare.com>
5. Leonard, Safe Handling of Hazardous Drugs. Oncology Nursing Society, 2003. Print.
6. Oncology Nursing Society. Manual for Radiation Oncology Nursing Practice and Education, 4th Edition, 2012. Print

Tri-City Medical Center	Distribution: Outpaient Infusion Center
PROCEDURE:	**CHEMOTHERAPY EXTRAVASATION**
Purpose:	To outline the responsibility of the registered nu extravasation
Supportive Data:	The Oncology Nursing Society Chemotherapy Biotherapy and Guidelines sets the standard for best practice in the care of oncology patients.
Equipment:	Extravasation Kit

DELETE – follow Patient Care Services Chemotherapy Extravasation

A. **DEFINITIONS:**

1. Extravasation -- Passage or escape into tissue of antineoplastic drugs. Tissue slough and necrosis may occur.
   a. Extravasation is a medical emergency. Immediate intervention must occur if extravasation is suspected.
2. Flare Reaction -- A local allergic reaction to an agent, manifested by streaking or red blotches along the vein, but without pain.

B. **POSSIBLE SIGNS AND SYMPTOMS OF EXTRAVASATION:**

1. Swelling (most common)
2. Stinging, burning, or pain at the injection site (not always present)
3. IV flow rates that slow or stop
4. Lack of blood return (extravasation can occur with the presence of a blood return)
5. Erythema, inflammation, or blanching at the injection site (not always immediately evident)
6. Induration
7. Vesicle formation
8. Ulceration
9. Necrosis -- Tissue damage may progress for six months after the incident
10. Sloughing
11. Damage to tendons, nerves and joints

C. **CHEMOTHERAPEUTIC VESICANTS AND IRRITANTS THAT CAN CAUSE TISSUE DAMAGE**

1. **Vesicants**
   a. Alkylating Agents
      i. CISplatin
      ii. Mechlorethamine Hydrochloride
   b. Antitumor Antibiotic
      i. DOXOrubicin
      ii. DAUNOrubicin
      iii. Mitomycin
      iv. Dactinomycin
      v. Epirubicin (non-formulary)
   c. Vinca Alkaloid or Micro-tubular Inhibiting Agent
      i. vinCRIStine
      ii. vinBLAStine
      iii. Vindesine (non-formulary)
      iv. Vinorelbine
   d. Taxane
      i. PACLItaxel
2. **Irritants**
   a. Alkylating Agents
      i. CARBOplatin
      ii. Dacarbazine
      iii. Ifosfamide

Department Review	Division of Oncology	Pharmacy & Therapeutics Committee	Medical Executive Committee	Professional Affairs Committee	Board of Directors
3/13, 5/16	07/16	06/16	3/13, 08/16	3/13	3/13

iv. Melphalan
v. Mitoxantrone
vi. OXALIplatin

b. Nitrosourea
i. Carmustine

c. Antitumor Antibiotic
i. DAUNOrubicin liposomal
ii. Bleomycin

d. Epipodophyllotoxin
i. Etoposide
ii. Teniposide (non-formulary)

D. **PROCEDURE:**

1. Initial management
a. Stop administration and IV fluids immediately.
b. Don two (2) pairs of chemotherapy gloves.
c. Disconnect the IV tubing from the IV device (central or peripheral IV site). DO NOT REMOVE the IV device.
d. If the patient has an implanted port, assess the site for proper needle placement using a 10 ml syringe.
e. Attempt to aspirate the residual drug from the IV device by using a 1-3 ml syringe.
f. Notify the physician and report the patient's symptoms, amount of extravasation and the extent of the extravasation. For central lines, collaborate with physician regarding discontinuation of the central line, need for a radiographic flow study to determine the cause of the extravasation and future plans for IV access.
g. If **no antidote** is ordered, gently remove needle from the implanted port or the peripheral IV catheter and dress the site.
i. Consult with physician before removing a central line or PICC per the TCMC Central Venous Access Procedure.
h. If an **antidote** is ordered, administer the antidote per the manufacturers recommendations, then gently remove needle from the implanted port or the peripheral IV catheter and dress the site.
i. Consult with physician before removing a central line or PICC per the TCMC Central Venous Access Procedure.
i. Apply a hot or cold compress per table in attachment A
j. Document the following information in the medical record:
i. Description of the events that occurred
ii. Drug
iii. Dilution
iv. Amount of Drug Infiltrated
v. Method of Drug Administration
vi. Type of IV device
vii. Description of Site
1) Size
2) Color
3) Texture
k. Document Physician Notification

2. Post-Extravasation Care
a. Photograph the initial extravasation site including:
i. Measuring guide for size or length / width / depth
ii. Date of photograph
iii. Patients initials
iv. Medical record number
i. Location

b. Adhere picture to a progress note and put it in the progress note section of the patient's chart. Repeat weekly if appropriate.
c. Instruct the patient to rest and elevate the site for 48 hours and then may resume normal activity.
d. Give patient written instructions regarding what symptoms they should report immediately, local care of the site, pain management and the plan for follow up. Document all patient education in the Cerner Education All Topics Powerform.
e. Educate patient to ensure that no medications are given distally to an extravasation injury.

E. **REFERENCES:**

1. Infusion Nursing Society (January/February 2006). Infusion Nursing Standards of Practice. *Journal of Infusion Nursing*, Vol. 29, Number 1S.
2. The Oncology Nursing Society (2005). ONS Chemotherapy and Biotherapy (2nd ed.), p. 78-83.

Table 13 Vesicants and Irritants from ONS Chemotherapy and Biotherapy Guidelines Second Edition, pp 79-81.

Vesicants

Classification	Medication(s)	Local Care	Nursing Considerations
Alkylating agent	Cisplatin (Platinol®)	Isotonic sodium thiosulfate may be used as an antidote. Prepare 1/6 molar solution. * If 10% sodium thiosulfate solution: Mix 4 ml with 6ml sterile water for injection. * If 25% sodium thiosulfate solution: Mix 1.6 ml with 8.4ml sterile water. Aspirate residual drug. Use 2 ml 10% sodium thiosulfate for each 100 mg cisplatin. Remove needle. Inject into subcutaneous (SQ) tissue.	Vesicant potential is seen when a concentration of more than 20 ml of 0.5 mg/ml extravasates. If less than this, drug is an irritant; no treatment is recommended (Dorr, 1994).
	Mechlorethamin hydrochloride (nitrogen mustard, Mustargen®)	Isotonic sodium thiosulfate may be used as an antidote. Prepare 1/6 molar solution. * If 10% sodium thiosulfate solution: Mix 4 ml with 6ml sterile water for injection. * If 25% sodium thiosulfate solution: Mix 1.6 ml with 8.4ml sterile water. Aspirate residual drug. Use 2 ml antidote for every 1 mg drug extravasated. Remove needle. Inject antidote into (SQ) tissue.	Sodium thiosulfate neutralizes nitrogen mustard, which is then excreted via the kidneys. Time is essential in treating extravasation. Heat and cold have not proven effective (Dorr, 1990, 1994).
Antitumor antibiotic	Doxorubicin (Adriamycin®)	Apply cold pad with circulating ice water, ice pack, or cryogel pack for 15 – 20 minutes at least four times per day for the first 24 – 48 hours (Harwood & Govin, 1994). Elevate site for 48 hours, then resume normal activity (Goodman, 2000).	Extravasations of less than 1 – 2 ml often heal spontaneously. If greater than 3 ml, ulceration often results (Goodman, 2000). Protect area of extravasation from sunlight and heat. Some studies suggest that 99% dimethyl sulfoxide (DMSO) 1-2 ml applied to site every six hours is beneficial (Bertelli, 1995; Olver et al., 1988; St Germain et al., 1994). Other studies show delayed healing with DMSO (Harwood & Bachur 1987).
	Daunorubicin (Cerubidine®)	=	Little information is known. In mouse experiments, topical DMSO afforded some benefit (Olver et al., 1988).
	Mitomycin (Mutamycin®)	=	Protect area of extravasation from sunlight. Delayed skin reactions have occurred in areas far from original IV site. Some research studies show benefit with use of 99% DMSO 1-2 ml applied to site every six hours for 14 days. More studies are needed (Alberts & Dorr, 1991).
	Dactinmycin (actinomycin-D, Cosmegen®)	Apply ice to increase comfort at the site. Elevate site for 48 hours, then resume normal activity (Goodman, 2000).	Application of heat may exacerbate tissue damage.
	Epirubicin (Ellence®) idarubicin (Idamycin®)	=	Local care measures are unknown. Cold, DMSO, and corticosteroids were shown to be ineffective in experiments with mice (Soble et al., 1987).
Vinca alkaloid or micro-tubular inhibiting agent	Vincristine (Oncovin®)	Apply warm pack for 15-20 minutes at least four times per day for the first 24-48 hours and elevate (Larson, 1985; Rudolph & Larson, 1987).	This method of treatment is very effective for rapid absorption of drug (Bellone, 1981; Dorr, 1994; Goodman, 2000; Laurie et al., 1984).
	Vinblastine (Velban®)	Same as above	Same as above
	Vindesine (Eldisine®) [in Canada]	Same as above	Same as above
	Vinorelbine (Navelbine®)	Same as above	Same as above
Taxane	Paclitaxel Taxol®)	Apply ice pack for 15-20 minutes at least four times a day for the first 24 hours.	Its vesicant potential has been documented (Ajani et al., 1994; Herrington & Figueroa, 1997). Paclitaxel has rare vesicant potential (probably because of dilution in 500 ml diluent) (Dorr et al., 1996). In a review of literature, Stanford and Hardwicke (2003) concluded that paclitaxel may be a mild vesicant. Ice has been effective in decreasing local tissue damage in a mouse model (Dorr et al.,

			1996). Conservative management with cold packs may be the most appropriate strategy (Sanford & Hardwicke, 2003).
Irritants			
Classification	**Medication Name(s)**	**Local Care**	**Nursing Considerations**
Alkylating agent	Carboplatin (Paraplatin®)	=	May cause phlebitis Local care measures are unknown.
	Darcarbazine (DTIC-Dome®)	=	May cause phlebitis Protect dacarbazine from sunlight.
	Ifosfamide (Ifex®)	=	May cause phlebitis Local care measures are unknown.
	Melphalan (Alkeran®)	=	May cause phlebitis Local care measures are unknown.
	Mitoxantrone (Novantrone®)	=	Administer with caution; may cause tissue damage if extravasation occurs. Local care measures unknown. Ulceration is rare unless a concentrated dose infiltrates (Dorr, 1990).
	Oxaliplatin (Eloxatin®)	=	Vesicant properties have been reported and the agent is at least an irritant (Ener et al., 2004; Kretzschmar et al., 2003). Extravasation of moderate to high doses led to pronounced symptoms of inflammation but without subsequent necrosis. High-dose dexamethasone should be considered as a therapeutic intervention (Kretzschmar et al., 2003).
Nitrosourea	Carmustine (BiCNU®)	=	May cause phlebitis Local care measures are unknown.
Antitumor antibiotic	Daunorubicin citrate liposomal (DaunoXome®)	=	May cause pain or burning at IV site Little information is known.
	Doxorubicin liposomal (Doxil®)	=	May produce redness and tissue edema Low ulceration potential If ulceration begins or if pain, redness, or swelling persists, treat like doxorubicin.
	Bleomycin (Blenoxane®)	=	May cause irritation to tissue Little information is known.
Epipodophyllotoxin	Etoposide (VP-16, Etopophos®, VePesid®)	Apply warm pack.	Treatment is necessary only if large amount of concentrated solution extravasates. In this case, treat like vincristine or vinblastine (Dorr, 1994). May cause phlebitis, urticaria, or redness
	Teniposide (VM-26, Vumon®)	=	Same as above

Tri-City Health Care District
Oceanside, California

DELETE – follow Patient Care Services Chemotherapy Prescribing, Processing and Preparation

OUTPATIENT INFUSION CENTER – POLICY MANUAL

ISSUE DATE: 2/13 SUBJECT: CHEMOTHERAPY, WRITING, AND PREPARATION

REVISION DATE:

Department Approval:	~~3/13~~05/16
~~Director Approval:~~	~~3/13~~
Division of Oncology Approval:	07/16
Pharmacy & Therapeutics Committee Approval:	06/16
Medical Executive Committee Approval:	08/16
Professional Affairs Committee Approval:	
Board ~~O~~of Directors Approval:	03/13

~~A. **PURPOSE:**~~

~~1. All chemotherapy prescribed for Tri-City Medical Center patients will be processed according to the following policy to ensure accuracy in prescribing, preparing, and administering.~~

~~B. **POLICY:**~~

~~1. Orders written for chemotherapy agents shall meet the following criteria:~~

~~a. Written on the standard pre-printed "Chemotherapy Order Form"~~

~~i. Telephone and verbal orders will not be accepted~~

~~b. Filled out completely, including the patients name, 2nd identifier (medical record number or date of birth), diagnosis, allergies, height, weight, BSA, protocol or reference (if needed), regimen, cycle number, therapy start date, and adjunctive medications related to chemotherapy~~

~~c. Signed by a physician (MD or DO) in Oncology (and initialed by person penning order (if different person signing order) before processed by the pharmacy~~

~~d. Written using the generic name of the agent and free of any unapproved abbreviations used to identify the agent being prescribed. The pharmacist may clarify chemotherapy orders and write the generic name next to any commonly used abbreviation or brand names. Brand names must include the name in generic.~~

~~e. Free of any number prefixes such as "5-fluorouracil", which could be misinterpreted as part of the order dose or schedule requirements and free of trailing zeros~~

~~f. Written using the metric system: dose/m^2 or dose/kilogram or dose/AUC (area under the curve) and with the calculated dose included~~

~~g. Written as the amount per dose per day (e.g. cisplatin 20 mg/m^2 daily x 5 days, or cytarabine 3000 mg/m^2/dose every 12 hours on days 1,3, and 5) NEVER written as total amount needed per course of therapy~~

~~h. Accompanied by a copy and/or name of a readily available reference or the protocol name and number used in determining the prescribed regimen if the regimen is unfamiliar to the pharmacist.~~

~~i. The new protocol will be added to the pharmacy oncology literature file~~

~~i. Pharmacy will not accept orders from Nurse Practitioners (NPs) and Physician Assistants (PAs) for any chemotherapy agent regardless of indication or use.~~

~~C. **EXCEPTIONS FOR NON-CANCEROUS DIAGNOSIS**~~

1. Physicians that are without chemotherapy privileges may write for chemotherapy only if they have been granted privileges by the medical staff to do so as related to their specialty including but not limited to: ectopic pregnancy, rheumatoid arthritis, systemic lupus erythematosus, certain dermatologic conditions, certain ophthalmic procedures, other auto-immune conditions as identified in the literature.
2. Pharmacy shall request orders written outside a physicians specialty be co-signed by a physician specialist in that area.
3. These order may be written on a standard physician order form and are not subject to all other requirements stated above

D. **PROCESS:**

1. The pharmacist will confirm that the order has been prescribed according to the criteria above.
2. The pharmacist shall contact the physician to request that any order not meeting these criteria be changed.
3. Changes to regarding drug, dosing parameters, route, diagnosis, or patient name/2nd identifiers will only be accepted by pharmacy if re-written by the physician on the Chemotherapy Order Form.
4. A pharmacist may change the order with "verbal order read back" regarding the dose, infusion time, height/weight, dates of therapy.
5. If there is a discrepancy in the medication order, the nurse caring for the patient will be notified of the problem and the possible delay in the delivery of the medication.
   a. Base solution may be changed at the discretion of the pharmacist
   b. Corrected carboplatin doses (GYN service) based on AUC or GFR may be calculated by the pharmacist and documented on the original order by the pharmacist. The pharmacist must read back the change from the actual written transcription to the physician.
6. Once the prescribing criteria have been met, the pharmacist is responsible for verifying the accuracy of the order by (1) reviewing the diagnosis and prescribed regimen (2) calculating the patients BSA, unit conversions, patient specific dose and frequency (3) reviewing base fluid, administration times, and supportive care medications.
7. All changes to original orders must be documented on a chemotherapy order form. Addendums or changes to orders must be documented according to hospital policy. A copy will be placed with the chemotherapy work sheet and original order.
8. Changes to the order made by the physician (as above) must be double checked by a second pharmacist.
9. Unless specified, the pharmacist will determine the vehicle and volume of the diluent to be used based upon the protocol or reference, drug stability, and infusion guidelines listed in the package insert or the literature.
10. The pharmacist will review all appropriate lab values and document these on the chemotherapy work card.
11. Upon completion of the verification process, the pharmacist or trained technician will prepare a chemotherapy work sheet for use in preparing the prescribed dose. One card must be filled out for each patient. The following information should be documented:
    a. Patient name and medical record number
    b. Date of birth, height weight, body surface area
    c. Diagnosis, allergies, protocol number
    d. Medication name, medication instructions (e.g. protect from light, glass only, etc.)
    e. The compounding technician or pharmacist must double check the calculation when preparing every dose and record the compounded dose on the inside of the work card.

f. Changes in subsequent doses should be noted on the card or a new card may be generated.

g. Explanation of reason for changing subsequent doses shall be documented.

12. A copy of the order shall be attached to the chemotherapy work card. The order shall be entered into the pharmacy computer system under the patient's medication profile.

13. Labels shall be double checked against the written order for accuracy by the compounding technician or pharmacist for all doses.

14. All syringe labels shall contain the final concentration of the product (e.g. doxorubicin 50 mg/25 mL).

15. All minibag or large volume parenteral labels must include the volume of each component as well as a total volume and rate of administration.

16. Two pharmacists must check the chemotherapy work card, computer entry, and labels for all new adult chemotherapy orders.

17. The second pharmacist shall review the computer entries against the original order and work card.

18. The pharmacist preparing the chemotherapy work card and the one double checking the order must record their initials on the chemotherapy order (for written orders) or electronically for CPOE.

19. The verification process must be followed completely before any dose can be prepared.

20. Chemotherapy work cards are then forwarded to the technician for dose preparation.

E. **PREPARATION:**

1. The technician responsible for preparing the doses must gather the order, chemotherapy work card, patient-specific labels, medication, and associated supplies.

2. The technician is responsible for completing the chemotherapy work card, indicating the following:

   a. Time and date the product was prepared

   b. Medication used, concentration, volume used, and lot number/expiration date from the medication vial

   c. The technician must initial the work card and perform all calculations associated with the compounding process.

3. If an oral chemotherapy drug is to be physically manipulated or repackaged into a larger gel cap the process must be done in a biological safety cabinet (vertical flow hood) to prevent inhalation exposure.

4. All final parenteral chemotherapy medications need to be spiked and primed in the chemo hood.

   a. Excluding IV push syringes, leucovorin, and drugs that will not be spiked prior to administration (intra-arterial & intrathecal)

5. Upon completing the chemotherapy preparation process, the final product shall be labeled

6. All vials, minibags, and/or syringes used in the preparation of the dose must be checked by a pharmacist.

7. The syringes for each drug and/or solution used in preparing the product (including syringes used to dilute drug vials) must be pulled back to indicated the measured volume or shown to the pharmacist before injecting into IV solution.

8. All pharmacy-prepared chemotherapy agents must be double checked. If the pharmacist is involved in the preparation of the dose, a pharmacist who did not prepare the dose must perform the final check.

9. The pharmacist reviewing the prepared dose must check each prepared dose and associated supplies, and label against the original order and chemotherapy work card.

10. The pharmacist, working independently must verify the final preparation including:
    a. The correct medication has been used.
    b. The drug was reconstituted correctly using the correct volume and diluent
    c. The volume of drug used was accurately measured for the prescribed dose.
    d. The label is correct in regards to patient, dose number, unit, patient identifiers, drug components, route, rate, concentration, storage conditions, expiration date, caution statements (e.g. intrathecal use only)
    e. Final container integrity, correct type of final container (e.g. syringe/and or minibag type).
    f. All intrathecal doses must be placed in a separate transport bag
    g. Any IVP dose in syringe should be less than three quarters full to minimize the risk of chemo spill.
    h. Maximum syringe size dispensed should be 30 mL
    i. The pharmacist must sign their initials on the chemotherapy work card and label to signify product verification.
11. Following double check, the chemotherapy doses is place in a sealable chemotherapy transport bag.
12. A label with the patients first and last name and location shall be placed on the outside of the transport bag.
13. 1. The pharmacist must initial the label on the outside of the transport bag to ver.ify they have matched the patient name on the final product to the transport bag.

Tri-City Medical Center	Distribution: Outpatient Infusion Center
PROCEDURE:	DISPOSAL OF CHEMOTHERAPY WASTE
Purpose:	To outline the nursing responsibility and managem chemotherapy waste.
Supportive Data:	Oncology Nursing Society's Chemotherapy and Bi Recommendations for Practice 3rd Edition, 2011.
Equipment:	➢ Chemotherapy safe personal protective equipment ➢ Puncture proof container labeled "chemotherapy" container ➢ Gloves specified for use with chemotherapy agents ➢ Large yellow bag marked "chemotherapy waste" ➢ Gown specified for use with chemotherapy agents

DELETE – duplicate to Patient Care Services Policy Disposal of Chemotherapy Waste

A. **PROCEDURE:**

1. Place puncture proof chemotherapy container near patient upon initiating chemotherapy treatment.
2. Always use chemotherapy safe personal protective equipment when handling chemotherapy waste.
3. Place contaminated needles and syringes in a puncture proof container labeled "chemotherapy waste."
4. Place contaminated Intravenous (IV) tubing, IV bags, and all non-sharp materials in the large yellow plastic bag marked "chemotherapy waste." Tie off large yellow chemotherapy waste bag carefully gathering top portion of bag with one hand and slowly pull downward on gathered portion until internal air in bag resists further pulling down. Place yellow chemotherapy waste bag in puncture proof container labeled "chemotherapy waste." May place non-sharp chemotherapy waste directly into puncture proof chemotherapy container.
5. Upon completion of treatment, place puncture proof needle container in chemo waste room. If the container is less than 2/3 full, place lid gently on top.

   Completely close lid when the container is 2/3 full or if a potential risk is perceived. Document on top of the container that the puncture proof waste containers are full. Chemotherapy containers must be removed from the chemo waste room within 24 hours.
6. **Outpatient Infusion Center staff shall notify currently contracted Waste Management provider to pick-up full chemo waste containers.**

Review/Revision Date	Medical Department Review Division of Oncology	Pharmacy & Therapeutics Committee	Medical Executive Committee	Professional Affairs Committee	Board of Directors Approval
3/13, 5/16	3/13,07/16	6/16	3/13, 08/16	3/13	3/13

Move from Pharmacy Manual to Patient Care Services

Tri-City Health Care District
Oceanside, California

~~PHARMACY MANUAL~~Patient Care Services

ISSUE DATE: 11/11

REVISION DATE: 05/13, 06/14, 07/15

SUBJECT: Chemotherapy~~,~~ Prescribing, Processing~~,~~ and Preparation

Department Approval:	~~03/15~~05/16
Clinical Policies and Procedure Approval:	06/16
Nurse Executive Council Approval:	07/16
Division of Oncology Approval:	07/16
Pharmacy and Therapeutics Committee Approval:	~~03/15~~06/16
Medical Executive Committee Approval:	~~06/15~~08/16
Professional Affairs Committee Approval:	07/15
Board of Directors Approval:	07/15

A. **PURPOSE:**

1. All chemotherapy prescribed for Tri-City Healthcare District (TCHD) patients will be processed according to the following policy to ensure accuracy and safety in prescribing, processing~~,~~ and preparation of chemotherapeutic agents.

B. **CHEMOTHERAPY PRESCRIBING ~~POLICY~~PROCEDURE:**

1. Chemotherapy will encompass ~~all~~ anti-neoplastic agents used to treat cancer including monoclonal antibodies, oral tyrosine kinase inhibitors as well as traditional cytotoxic chemotherapy.
2. Orders written for chemotherapy agents shall meet the following criteria:
   - **a.** Written on the standard, pre-printed "Chemotherapy Order Form"
     - **i. Exception: TCHD Outpatient Infusion Center (OIC) may use institution specific Chemotherapy Orders.**
     - ~~a.~~**ii. Outpatient chemotherapy orders are invalid for use upon hospital admission. Orders must be rewritten on the standard, pre-printed "Chemotherapy Order Form".**
     - ~~i.~~**iii.** Telephone and verbal orders between physicians and physician assistant/nursing will not be accepted unless to hold or stop chemotherapy administration.
     - ~~ii.~~**iv.** Changes to orders regarding **chemotherapy** drug **name**, dosing parameters, route, ~~diagnosis,~~ or patient name/2nd identifiers will only be accepted by pharmacy if re-written by the physician on the Chemotherapy Order Form ~~or template~~.
       - **1) Exception:** A pharmacist may ~~change the order~~**modify an existing Chemotherapy Order Form** with "verbal/**telephone** order read back"~~.~~ ~~regarding the dose, infusion time, height/weight, dates of therapy.~~
       - ~~iii.~~**2) Pharmacists may shorten multi day continuous infusions from over 24 hour to 22 hours for logistical purposes without a "verbal/telephone order read back".**
     - ~~iv.~~**v.** Corrected carboplatin doses based on ~~AUC and CrCl~~**the Calvert equation** may be calculated by the pharmacist and documented on the original order ~~by the pharmacist~~. The pharmacist must read back the change ~~from the actual written transcription~~ to the physician.
     - ~~v. New orders or changes to orders must be documented in the electronic medical record (if applicable).~~
   - b. Complete orders must include:
     - i. Patient's full name and second patient identifier (medical record number, DOB)
     - ii. Date

iii. Diagnosis
iv. Regimen name and cycle number
v. Protocol name ~~and number (if applicable)~~
vi. Appropriate criteria to treat (i.e based on relevant laboratory results and toxicities)
vii. Allergies
viii. Reference to the methodology of the dose calculation or standard of practice equations (i.e calculation of creatinine clearance)
  1) For carboplatin calculated with the Calvert equation this includes:
    a) Target AUC
    b) Creatinine Clearance and equation used to calculate if different than Cockcroft-Gault
    c) Serum Creatinine used if different than current lab
    ~~viii.~~**d) Actual, ideal or adjusted weight used to calculate dose**
ix. Height, weight and any other variables used to calculate the dose (i.e BSA)
  1) Inpatient chemotherapy: height and weight should be measured within 48 hours from the start of the new cycle.
  ~~ix.~~**2) Outpatient chemotherapy: weight should be measured at the beginning of each new cycle. Height must be measured at the beginning of each new regimen.**
x. Dosage
  1) Doses may not include trailing zeros; use a leading zero for doses less than 1 mg
  2) Doses will use the metric system and include dose/m2, dose/kilogram or AUC (area under the curve) ~~where~~ **when** appropriate. The actual calculated dose will be included
  3) Written as the amount per dose per day (e.g. cisplatin 20 mg/m^2 daily x 5 days, or cytarabine 3000 mg/m^2/dose every 12 hours on days 1,3, and 5)- NEVER written as total amount needed per course of therapy as this could be interpreted as daily dose
xi. Route and rate (if applicable) for administration
xii. Length of infusion (if applicable)
xiii. Supportive care treatments appropriate for the regimen (including premedications, hydration, growth factors and hypersensitivity medications)
xiv. Sequence of drug administration (if applicable)
xv. Cumulative dose for medications with dose ceilings including daunorubicin, doxorubicin, doxorubicin liposomal, epirubicin, bleomycin, mitomycin C

c. Written using the generic name of the agent and free of any unapproved abbreviations used to identify the agent being prescribed. The pharmacist may clarify chemotherapy orders and write the generic name next to any commonly used abbreviation or brand names~~.~~
d. Free of any number prefixes such as "5-fluorouracil", which could be misinterpreted as part of the order dose or schedule requirements
e. Signed by a physician (MD or DO) ~~in~~ of Oncology or those who have been granted privileges to order chemotherapy ~~–~~ before processed by ~~the~~ pharmacy
  i. Signed by person drafting order if different then person signing order.
  ii. Note: Pharmacy will not accept orders from Nurse Practitioners (NPs) and Physician Assistants (PAs) for any chemotherapy agent regardless of indication or use.
  iii. New orders must be written prior to each new chemotherapy cycle.
    ~~iii.~~**1) Exception: Outpatient Infusion Center-** Orders must be reviewed and re-signed ~~every 6 months~~**yearly**.
f. Accompanied by a copy and/or name of a readily available reference or the protocol name and number used in determining the prescribed regimen if the regimen is unfamiliar to the pharmacist.
  i. ~~The new protocol will be added to the pharmacy oncology literature file~~=

3. Exceptions
   a. Physicians that are without chemotherapy privileges may write for chemotherapy only if they have been granted privileges by the medical staff to do so as related to their specialty including but not limited to:
      i. Ectopic pregnancy
      ii. Rheumatoid arthritis
      iii. Systemic lupus erythematosus
      iv. Certain dermatologic conditions
      v. Certain ophthalmic procedures
      vi. Other auto-immune conditions as identified in the literature~~.~~
      vii. Androgen deprivation therapy for prostate cancer
   b. All orders must be written on standard pre-printed "Chemotherapy Order Form" and subject to all other requirements stated above.
      i. Use of standard pre-printed form is not required only if:
         1) Oral agent is prescribed for a non-malignant condition and may be ordered via CPOE.
         2) Androgen deprivation therapy is prescribed by a urologist or oncologist for prostate cancer.
      ii. Outpatient oral chemotherapy may be continued in-house by an attending physician via CPOE. Pharmacist shall verify that patient is currently on oral chemotherapy regimen.
   c. Non-systemic chemotherapy such intrathecally, intravesically or directly in to an organ (i.e. chemoembolization) may be ordered and administered by a qualified physician in other areas of the hospital (interventional radiology, operating room). Use of standard pre-printed "Chemotherapy Order Form" is not required
   ~~d. Chemotherapy for non-malignant condition (i.e. methotrexate for Rheumatoid arthritis) may be administered by non-chemotherapy credentialed RN who has been educated regarding safe handling and disposal of chemotherapy agent~~

C. **CHEMOTHERAPY PROCESSING PROCEDURE~~OLICY~~:**
1. The pharmacist will confirm that the order has been prescribed according to the criteria above.
2. The pharmacist shall contact the physician to request that any order not meeting these criteria be changed.
3. All addendums or changes to original orders must be documented on a Chemotherapy Order Form. ~~A copy will be placed with the chemotherapy work sheet and original order.~~
4. Changes to the order made by the physician (as above) must be double checked by a second pharmacist.
5. If there is a discrepancy in the medication order, nursing will be notified of the problem and the possible delay in the delivery of the medication.
6. Once the prescribing criteria have been met, the pharmacist is responsible for verifying the accuracy of the order by:
   a. Confirming the two patient identifiers
   b. Reviewing the diagnosis and prescribed regimen (drug name, dose, route and frequency)
   c. Calculating the patients' BSA, unit conversions and patient-specific dose
   d. Reviewing diluents, drug volumes, rate of administration, drug concentration requirements, drug stability, administration times, infusion guidelines and supportive care medications
   e. Verifying appropriate labs have been ordered and are within acceptable ranges for the ordered chemotherapy medications or if treatment modifications are indicated
   f. ~~Reviewing the date the patient was last treated and then next planned treatment date to ensure the appropriate interval has elapsed since last treatment was administered~~**Confirming correct time interval has elapsed between treatments**
   g. Reviewing drug allergies and sensitivities along with adverse drug effect histories
   h. Current medication profile should be evaluated for potential drug interactions with antineoplastic therapy

7. Upon completion of the verification process, the pharmacist will prepare a chemotherapy work sheet for use in preparing the prescribed regimen. One worksheet must be filled out for each patient. The following information should be documented:
   a. Patient name second identifier (i.e DOB and/or medical record number)
   b. Height, weight, body surface area~~, CrCl and any other pertinent labs~~
      ~~i. Diagnosis, allergies, doctor's name, regimen name and protocol number (if applicable)~~
   c. Diagnosis, allergies, doctor's name and regimen name
   ~~b.~~**d.** Full generic medication name, dose/m2 or AUC, route, frequency and any special medication instructions that are different then institutional standards
   ~~c.~~**e.** Appropriate cycle number and day along with corresponding date of treatment
   ~~d.~~**f.** Cumulative dose for medications with dose ceilings
8. The order shall be entered into the electronic medical record under the patient's medication profile.
9. A second pharmacist must verify the accuracy of the regimen, chemotherapy work sheet and corresponding entries in medication profile ~~with each new cycle~~ and initial the work sheet to signify approval.
   a. Changes in subsequent doses should be noted on the chemotherapy worksheet and must be double checked and initialed by a second pharmacist.
   b. Explanation of reason for changing subsequent doses shall also be documented.

~~10. If paper orders are used, a copy of the order shall be attached to the chemotherapy worksheet~~

~~11.~~**10.** On the day of treatment, the verifying pharmacist must check the following:
   a. Dose changes based on weight:
      i. Cytotoxic chemotherapy: The dose is within 5% of treatment plan dose based on the current weight.
      ~~a.~~**ii. Monoclonal antibodies: The dose is within 10% of treatment plan dose based on the current weight.**
      ~~i.~~**iii.** Any questions regarding weight that could affect the treatment regimen will be brought to the physician's attention.
   b. Chemotherapy orders have not changed between the original regimen verification and the actual day of treatment **and all computerized order entries are correct.**~~.~~
   c. Appropriate labs ~~that~~ are drawn within the appropriate time interval and are regimen specific.
      i. Labs will be evidence based when national guidelines (e.g ASCO/NCCN) exist or determined by practitioner
      ii. Guidelines for timing of labs:
         1) In chemotherapy naïve patients (no prior chemo)- lab results should be no older than 7 days.
         2) For patients currently receiving chemo with the following frequencies:
            a) Every 7 days – lab results should be within 2 calendar days
            b) Every 14 days and beyond – lab results can be within 3 calendar days (i.e. 72 hours)
         3) Daily (consecutive days of chemo)~~.~~ – labs should be drawn on day 1.
         ~~i.~~**4) Older labs may be accepted at the pharmacists' discretion.**
      ~~ii.~~**iii.** Any abnormal lab values that could affect the treatment regimen will be brought to the physician's attention.
      ~~iii.~~**iv.** In the absence of treatment parameters, the lab values of ANC ≤ 1500 cells/μL, platelets ≤ 100,000/uL total bilirubin ≥ 1.4 mg/dL, CrCl <60 mg/dl (if drug renally cleared) and any other laboratory values specific to prescribed chemotherapy that are not within normal limits will be approved with physician before preparation of dose.

~~d. Ensure that the computerized order entry matches the order from which it was transcribed, or in the case of computerized physician order entry (CPOE), that the entry was inputted correctly.~~
~~i. This includes drug name, dose, route, order of administration, diluent, volume, order comments and rate.~~

~~e.~~**d.** Confirm the cycle has been checked and signed off by two pharmacists.

~~f.~~**e.** The pharmacist that performs steps a-e above will initial the chemotherapy worksheet signifying that this part of verification has been done.

~~g.~~**f.** A second pharmacist will verify steps a-f above and initial chemotherapy worksheet.

11. The verification process must be followed completely before any dose can be prepared.

12. Exceptions

~~12.~~**a. For TCMD OIC, the second pharmacist verification as outlined in C.11.f can be omitted.**

D. **CHEMOTHERAPY PREPARATION AND DISPENSING PROCEDURE~~OLICY~~:**

1. The technician responsible for preparing the doses must gather the order, chemotherapy worksheet, patient-specific labels, medication, and associated supplies.
2. The technician is responsible for ~~printing out a second "production" label for tracking purposes, indicating the following~~**recording the following for preparation records**:
   - **a. Patient name and one other identifier**
   - ~~a.~~**b.** Time and date the product was prepared
   - ~~b.~~**c.** Medication ~~used~~, concentration and volume used
   - ~~c.~~**d.** The lot number/expiration date from the medication vial **and IV diluent bag.**
3. The technician must initial the chemotherapy worksheet, product label and ~~production label~~**preparation records** and perform all calculations associated with the compounding process.
4. If an oral chemotherapy drug is to be physically manipulated or repackaged**,** ~~into a larger gel cap~~ the process must be done in a biological safety cabinet (vertical flow hood) to prevent inhalation exposure.
5. All intravenous chemotherapy will be prepared using a Closed System Transfer Device (CTSD) whenever possible in a Biological Safety Cabinet using Hazardous Drug Preparation guidelines.
6. All parenteral chemotherapy medications ~~need to~~**will** be spiked and primed in the chemo hood if ~~to be~~ dispensed ~~in~~ **as** IV piggyback.
7. The syringes for each drug and/or solution used in preparing the product (including syringes used to dilute drug vials) must be pulled back to indicated the measured volume or shown to the pharmacist before injecting into IV solution.

~~7. The pharmacist reviewing the prepared dose must check each prepared dose must check the patient specific label against the chemotherapy worksheet and original order. If CPOE is used, the pharmacist may check the label against the chemotherapy worksheet.~~

~~8. The pharmacist must ensure that the current cycle and verification boxes have been signed off on the chemotherapy work sheet.~~

~~9.~~**8.** The pharmacist, working independently must verify the ~~final preparation includes~~**following**:

- **a. The current cycle and verification boxes have been signed off on the chemotherapy work sheet.**
- **b. The patient specific labels match the chemotherapy worksheet.**
- ~~b.~~**c.** The correct medication has been **chosen**~~used.~~
- ~~c.~~**d.** The drug was reconstituted correctly using the correct volume and diluent
- ~~d.~~**e.** The volume of drug used was accurately measured for the prescribed dose~~.~~
- ~~e.~~**f.** The label is correct and includes at least:
  - i. Patient's full name and second patient identifier (i.e DOB or medical record number)
  - ii. Full generic drug name
  - iii. Drug administration route
  - iv. Total dose to be given
  - v. Total volume required to administer dosage
  - vi. Date of administration

vii. Date and time of preparation
viii. Date and time of expiration if not for immediate use
ix. Special handling instructions and caution statements (i.e intrathecal use only)
x. Final concentration of product on syringe labels (i.e doxorubicin 50mg/ 25ml)
xi. All minibag or large volume parenterals include volume of each component as well as a total volume ~~and~~
~~xi.~~**xii. R**~~r~~ate of administration~~.~~

~~f.~~**g.** Final container integrity and correct type of final container (e.g. syringe/and or minibag type) are appropriate for the specific chemotherapy.

~~g.~~**h.** All intrathecal doses
i. Must not be prepared during preparation of any other agents
ii. **L**~~Be uniquely l~~abeled with an identifiable intrathecal medication label
iii. Must be placed in a separate transport bag
iv. Be delivered ~~to the patient~~ only with other medications intended for administration intrathecally

~~h. Any IVP dose in syringe should be less than three quarters full to minimize the risk of chemo spill.~~

i. Maximum syringe size dispensed should be ~~30~~ **35** mL
i. **Any IV push dose in syringe should be less than three quarters full to minimize the risk of chemo spill.**

~~i.~~**j.** An overfill volume of 0.05 ml will be added to all subcutaneous doses

11. Upon completing the chemotherapy preparation process, the final product shall be affixed with patient specific labels
12. All ~~oral~~ **hazardous** chemotherapeutic agents regardless of **route and** indication shall be dispensed from the pharmacy with an auxiliary Chemotherapy Warning label
~~12.~~**13. Any IV line that has been primed with active drug will be dispensed from the pharmacy with appropriate auxiliary label**
~~13.~~**14.** The pharmacist must sign their initials on the chemotherapy work sheet, patient specific label and ~~tracking label~~**preparation records** to signify product verification.
a. The pharmacist must ensure the technician has initialed all aforementioned places as well.
15. ~~The~~ **All** chemotherapy doses are placed in a sealable chemotherapy ~~transport~~ bag
16. Delivery
a. Must be put into a chemotherapy cooler containing a spill kit for transportation out of pharmacy.
i. Chemotherapy leaving the hospital must be double bagged.
~~14.~~**b. Chemotherapy will only be delivered to designated oncology floors.**
~~15. If the chemotherapy is to leave the building, it must be double bagged and placed in a transport cooler with a spill kit inside.~~

E. REFERENCES

1. Neuss, M. N; et al. (2013) Updated American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards Including Standards for the Safe Administration and Management of Oral Chemotherapy. *Journal of Oncology Practice.*
2. American Society of Health-System Pharmacists. ASHP guidelines on preventing medication errors with antineoplastic agents. Am J Health-Syst Pharm. 2002; 59:1648–68.

Tri-City Medical Center	Distribution: Women & Newborn Services
PROCEDURE:	**DINOPROSTONE (CERVIDIL)**
Purpose:	To outline the nursing management of a patient receiving Dinoprostone (Cervidil) placement for labor induction. Dinoprostone (Cervidil) may be used for ripening of the cervix and induction of labor. Cervical Ripening may be required when induction of labor is indicated and the cervix is unfavorable
Supportive Data:	Dinoprostone (Cervidil) is indicated for ripening an unfavorable cervix in pregnant women at or near term with a medical or obstetrical indication for induction of labor. Cervical ripening refers to the softening and effacement (thinning) of the cervix, and is thought to represent the maturation of the reproduction system in terms of labor induction readiness. Procedure may be done by either a provider or a Registered Nurse (RN).
Equipment:	1. Dinoprostone (Cervidil) 10mg vaginal suppository with an intact retrieval tape 2. Single sterile exam glove 3. Sterile, water soluble lubricant

A. **POSSIBLE INDICATIONS FOR USE:**

1. Post Term Gestation
2. Intrauterine Growth Restriction (IUGR)
3. Oligohydramnios
4. Gestational Hypertension/ Pre-Eclampsia
5. Obstetrical or medical indication for induction of labor (Diabetes, Hypertension)
6. Premature Rupture of Membranes (PROM)
7. Fetal Demise

B. **CONTRAINDICATIONS:**

1. Abnormal Fetal Lie
2. Patients with known hypersensitivity to prostaglandins/Asthma
3. Existing tachysystole or uterine hypertonus
4. Clinical suspicion or evidence of Category III tracing
5. Abnormal presentation
6. Non-cephalic presentations (breech)
7. Placenta previa, vasa previa/abruption
8. Prior uterine scar (previous cesarean section or uterine surgery)
9. Unexplained heavy vaginal bleeding in third trimester
10. Contracted pelvis
11. Active herpes

C. **USE CAUTION WHEN ADMINISTERING TO WOMEN WITH:**

1. History of:
   a. Asthma
   b. Glaucoma
   c. Hepatic Disease
   d. Pulmonary Disease
   e. Renal Disease
   f. Cardiac Disease
   g. Multiparous with > 6 pregnancies.
   h. Polyhydramnios

Department Review	Department of OB/GYN	Division of Neonatology	Department of Pediatrics	Pharmacy & Therapeutics	Medical Executive Committee	Professional Affairs Committee	Board of Directors
1/95;2/97;3/03; 5/09;12/12;1/16	01/13, 02/16	n/a	n/a	6/16	5/13, 08/16	6/13	6/13

D. **PROCEDURE/PREPARATION:**

1. The RN shall verify provider's order and ensure informed consent was obtained and signed by the patient.
2. The RN shall verify prenatal record is available for review.
3. Maternal-Fetal assessment
   a. Maternal Assessment:
      i. Assess baseline maternal temperature, pulse, respirations, and blood pressure.
      ii. In the absence of ruptured membranes assess cervical dilatation, effacement, station, consistency and position of cervix prior to insertion of Dinoprostone (Cervidil).
      iii. Assess uterine activity, including palpation of contraction(s).
   b. Fetal Assessment:
      i. Obtain a 20-30-minute fetal heart rate tracing.
      ii. Confirm fetal lie and vertex presentation for viable fetus.
      iii. Notify the provider of a Category II or III fetal heart rate tracing BEFORE placing Dinoprostone (Cervidil).
4. Start a large bore peripheral intravenous (IV) line 18 G or larger.
5. Obtain lab work as ordered by provider.
6. Dietary restrictions limited to sips of clear liquids and/or ice chips per provider order

E. **INSERTION:**

1. Have the patient empty her bladder
2. Obtain Dinoprostone (Cervidil) suppository.
   a. Never use Dinoprostone (Cervidil) vaginal suppository without its retrieval system.
3. Don sterile examination glove and apply a minimal amount of lubricant.
   a. Excessive amounts of lubricant can prevent optimal release of the Dinoprostone (Cervidil) from the vaginal suppository.
4. Insert Dinoprostone (Cervidil) vaginal suppository immediately after removing it from its packaging:
   a. Place Dinoprostone (Cervidil) vaginal suppository between index and middle finger of sterile gloved hand and insert into vagina.
   b. Advance suppository to the posterior fornix and place suppository transversely.
   c. Ensure that retrieval system (length of attached tape) is accessible.
5. Maintain patient in a lateral recumbent position with a left or right tilt, for at least two hours, or as ordered by provider.

F. **MONITORING:**

1. Assess fetal heart rate and uterine activity every 30-minute X 4, then at hourly intervals during the latent phase of labor (cervical dilatation less than or equal to 4 cm).
   a. The need for continuous verses intermittent monitoring is based on fetal well-being and is at the discretion of the provider.
2. Vital signs (VS) (pulse, respirations, and blood pressure): monitor VS every 30 minutes x 2 after each dose, then every 4 hours if stable and patient is not in active labor. When patient is in active labor, monitor VS (pulse, respirations, and blood pressure) hourly. If patient has an epidural, refer to VS protocol per procedure.

G. **REMOVAL OF THE DINOPROSTONE (CERVIDIL) INSERT:**

1. Upon the onset of active labor
2. With Spontaneous rupture of membranes.
3. Prior to amniotomy.
4. Within 12 hours of insertion.
5. At least 30 minutes prior to the initiation of oxytocin augmentation.
6. Removal should be considered if tachysystole occurs.
   a. If fetal heart rate tracing is a Category II progressing to a Category III appropriate

intrauterine resuscitation measures should be implemented, such as position change, administer oxygen via non-rebreather mask, and IV fluids.

i. If no immediate improvement is observed, notify provider
ii. Remove Dinoprostone (Cervidil)
iii. Anticipate provider order for tocolytics such as terbutaline

H. **DOCUMENTATION:**

1. Document fetal heart rate status, uterine activity, and cervical status in the medical record.
2. Document placement of Dinoprostone (Cervidil) suppository in the medication record.
3. Document events, VS, and interventions associated with this procedure in the medical record.

I. **REFERENCES:**

1. Simpson, K. R., & Creehan, P. A. (2014). AWHONN's Perinatal Nursing 4th Ed. Philadelphia, PA: Wolters Kluwer / Lippincott Williams & Wilkins

~~1.~~**2.** ACOG Committee on Practice Bulletins- Obstetrics ACOG Practice Bulletin No 107: Induction of labor. Obstetrics and Gynecology 2009; 114:386.

~~2.~~**3.** Kennedy, B.B., Ruth, E.J., Martin, E.J. (2009) Intrapartum Management Modules (3rd Ed.)
a. Lippincott Williams and Wilkins

~~3.~~**4.** Wing, D.A. (2008) Induction of labor in women with prior cesarean delivery. Retrieved from www.uptodate.com 4/06/09.

~~4.~~**5.** Wing, D.A., Lockwood, C.J., Barss, V. Induction of labor. Retrieved from www.uptodate.com 08/12

~~1. Simpson, K. R., & Creehan, P. A. (200). AWHONN's Perinatal Nursing. Philadelphia, PA:~~
a. ~~Wolters Kluwer / Lippincott Williams & Wilkins~~.

ISSUE DATE: 10/94

SUBJECT: WNS~~WSC~~ ADMISSION REGISTRATION POLICY

REVISION DATE: 1/00, 6/03, 6/06, 06/13

~~Clinical Policies & Procedures Committee Approval:~~	~~02/13~~
~~Nurse Executive Committee Approval:~~	~~02/13~~
~~Medical Department Approval:~~	~~01/13~~
Department Approval:	07/16
Department of OB/GYN Approval:	n/a
Pharmacy & Therapeutics Committee Approval:	n/a
Medical Executive Committee Approval:	~~05/13~~ n/a
Professional Affairs Committee Approval:	06/13
Board of Directors Approval:	06/13

A. **ADMISSION TO LABOR AND DELIVERY:**

1. All patients who have sent pre-admission forms to Tri-City Medical Center will have a pre-admit number issued by the admitting/registration department **for anticipated vaginal birth.**

a. Unit secretaries will use the pre-admit number when the patient comes to the L&D unit to be evaluated regardless of the reason for the visit.

2. Patient's scheduled for Cesarean Section will have a pre-admission number assigned to them by the surgery scheduling center.

~~1.~~a. Do not use this account until the patient comes in for pre-operative laboratory work.

B. **ADMISSION TO A (LABOR-DELIVERY-RECOVERY LDR) ROOM:**

1. The patient will be given an account number for this visit and if a medical record number is needed because the patient has not been pre-admitted, the unit secretary will use the OB quick registration option in Cerner.

2. ~~Patient's~~Patients who do not have updated information in the computer will be asked to complete a registration form and provide the unit secretary her insurance and identification card, if available.

a. Copies of registration information and the cards shall be made and faxed to the appropriate department depending on these days and times:

i. Registration notices are sent to the main hospital registration/ admitting department Monday – Friday from 0500-1800 and Saturday from 0730-1600.

ii. Registration notices are sent to the Emergency Department (ED) Monday-Thursday 1800- 0500, Friday 1800-0730 and Saturday – Monday from 1600-0500.

iii. The main hospital registration is closed on Sundays.

~~1. Admit the patient through the hospital information system.~~

~~a. Admission notices generated between 0500 and 2100 are sent to main admitting.~~

~~b. Admission notices generated between 2100 and 055 are sent to ED registration.~~

~~2. Patients who have not been pre-admitted will be required to complete a pre-admission form.~~

~~a. This form will be faxed to the appropriate admitting/registration fax machine~~.

3. **The unit secretary will have ~~Have~~** the patient sign, **date and time the conditions of admission (COA)~~the following documents~~:**

a. ~~Conditions of admission f~~**F**or herself and her infant(s).

i. In the event of anticipated multiple deliveries, (e.g. twins), the mother is required to sign a **COA**~~conditions of admission~~ for each infant.

~~ii. HIPAA required documents.~~

4. **Obstetrical outpatient visits/ evaluation** ~~B Checks (obstetrical outpatient visits)~~
   - **a. The~~Each~~ patient is assigned an account number by the unit secretary for each visit and if the patient is admitted this will continue to be her account number.**
   - ~~a. OB check visit is given an OBCH designation and number (i.e., account number) via computer communication to admitting/registration.~~
     - ~~i. Exception: if a visit that begins as an OB check becomes an admission.~~
   - ~~b. A new OBCH number is issued for each visit.~~
   - **b. When ~~After~~** the patient **is ~~has been~~** discharged **the paperwork should be returned to the unit secretary for coding and disassembly. Paperwork should include:**
     - **i. Her signed conditions of admission**
     - **ii. Her face sheet**
     - **iii. Completed charge slip and visit classification**
     - **iv. Prenatal record, if obtained, can be refiled for next visit**
   - **c. If the patient returns for evaluation at another time, a new account number for the most current visit will need to be issued.**

5. **Obstetrical Admissions.**
   - **a. Send the completed registration notice to the appropriate department**
   - **b. Unit secretary will ready the patient's chart for admission and include applicable consents as indicated, prenatal record, signed, dated, and timed COAs.**
     - **i. Update the chart with allergies and any other pertinent information.**
     - ~~c. from her OBCH encounter, the OBCH chart is to be taken to the WCS control desk.~~
     - ~~i. The record is to be stamped with the OBCH FIN number, the log entry completed. After this, the record is to be filled with the prenatal record filing in cabinet at the front desk.~~

~~5.~~**6.** Newborn Admission:
   - a. When **the infant is born,** ~~the mother is admitted,~~ the infant will be issued **a medical record number and account number through the mom's record, which can connect the records.** ~~an admission number with the following information:~~
     - ~~i. Mother's last name(s)~~
     - ~~ii. The word "baby"~~
     - ~~iii. Medical record number~~
     - ~~iv. Account number~~
     - ~~v. The admitting obstetrician~~
     - ~~vi.~~**i.** ~~In the event of multiple deliveries, (e.g., twins), an additional designation will be added (e.g. Baby A, Baby B)~~
     - ~~b. Once the infant is delivered, admit the infant through the hospital information system (see 3.a, 3.b).~~
   - ~~i.~~**b. The Unit Secretary will ~~V~~v**erify that the name of the pediatrician/neonatologist~~/family practice physician is correct~~ **assigned to the family, gender of the baby and birth time**.
     - ~~ii. When the demographics and inpatient labels are issued by admitting/registration, discard the pre-admit labels in the approved manner.~~
     - **i. For multiples, the use of Baby A, B or C should be used to register each baby separately**
   - **c. The unit secretary shall print up the infant identification bands, face sheet, patient labels and give them to the primary nurse for review and verification.**
   - ~~c.~~**d. The notice of admission/ registration will be sent to appropriate department.**

ISSUE DATE: 10/94

SUBJECT: WNS ADMISSION REGISTRATION POLICY

REVISION DATE: 1/00, 6/03, 6/06, 06/13

Department Approval:	**07/16**
Department of OB/GYN Approval:	**n/a**
Pharmacy & Therapeutics Committee Approval:	**n/a**
Medical Executive Committee Approval:	**n/a**
Professional Affairs Committee Approval:	**06/13**
Board of Directors Approval:	**06/13**

A. **ADMISSION TO LABOR AND DELIVERY:**

1. All patients who have sent pre-admission forms to Tri-City Medical Center will have a pre-admit number issued by the admitting/registration department for anticipated vaginal birth.
   a. Unit secretaries will use the pre-admit number when the patient comes to the L&D unit to be evaluated regardless of the reason for the visit.
2. Patient's scheduled for Cesarean Section will have a pre-admission number assigned to them by the surgery scheduling center.
   a. Do not use this account until the patient comes in for pre-operative laboratory work.

B. **ADMISSION TO A (LABOR-DELIVERY-RECOVERY LDR) ROOM:**

1. The patient will be given an account number for this visit and if a medical record number is needed because the patient has not been pre-admitted, the unit secretary will use the OB quick registration option in Cerner.
2. Patients who do not have updated information in the computer will be asked to complete a registration form and provide the unit secretary her insurance and identification card, if available.
   a. Copies of registration information and the cards shall be made and faxed to the appropriate department depending on these days and times:
      i. Registration notices are sent to the main hospital registration/ admitting department Monday – Friday from 0500-1800 and Saturday from 0730-1600.
      ii. Registration notices are sent to the Emergency Department (ED) Monday-Thursday 1800- 0500, Friday 1800-0730 and Saturday – Monday from 1600-0500.
      iii. The main hospital registration is closed on Sundays.
3. .The unit secretary will have the patient sign, date and time the conditions of admission (COA):
   a. For herself and her infant(s).
      i. In the event of anticipated multiple deliveries, (e.g. twins), the mother is required to sign a COA for each infant.
4. Obstetrical outpatient visits/ evaluation
   a. The patient is assigned an account number by the unit secretary for each visit and if the patient is admitted this will continue to be her account number.
   b. When the patient is discharged the paperwork should be returned to the unit secretary for coding and disassembly. Paperwork should include:
      i. Her signed conditions of admission
      ii. Her face sheet
      iii. Completed charge slip and visit classification
      iv. Prenatal record, if obtained, can be refiled for next visit

c. If the patient returns for evaluation at another time, a new account number for the most current visit will need to be issued.

5. Obstetrical Admissions.
   a. Send the completed registration notice to the appropriate department
   b. Unit secretary will ready the patient's chart for admission and include applicable consents as indicated, prenatal record, signed, dated, and timed COAs.
      i. Update the chart with allergies and any other pertinent information.
6. Newborn Admission:
   a. When the infant is born, the infant will be issued a medical record number and account number through the mom's record, which can connect the records.
   b. The Unit Secretary will verify that the name of the pediatrician/neonatologist assigned to the family, gender of the baby and birth time.
      i. For multiples, the use of Baby A, B or C should be used to register each baby separately
   c. The unit secretary shall print up the infant identification bands, face sheet, patient labels and give them to the primary nurse for review and verification.
   d. The notice of admission/ registration will be sent to appropriate department.