

UNIVERSITY OF MICHIGAN HOSPITALS AND HEALTH CENTERS

Home Care Services

HomeMed • MedEQUIP • Michigan Visiting Care
Michigan Visiting Nurses • Wheelchair Seating Service

PROCEDURE

UMHHC-HCS: 253.029
First Approved Date: 8/1998
Current Approved Date: 1/18/16
Approval Signatures:
Signatures on File

TITLE: Management of Chemotherapy Extravasation

DEFINITIONS:

Cytotoxic (Antineoplastic) Drugs: Drugs with a mechanism of action that focuses on killing a cell, generally by DNA strand breakage, tubular poison, or transcription-type mechanisms. These may be used to treat cancer as well as some non-cancerous conditions, such as systemic immune-mediated diseases.

Extravasation: An inadvertent administration of a vesicant solution and/or medication into the surrounding tissues. A vesicant solution is a solution or medication that causes the formation of blisters, with subsequent sloughing of tissues occurring from tissue necrosis.

Irritant: A drug that may produce local pain and inflammation at the administration site and along the path of the vein through which the drug is administered, but does not cause tissue destruction. See Exhibit 1.

Irritant with Vesicant-Like Properties: A drug that is categorized as an irritant but may display vesicant-like properties with stronger concentrations and/or larger volumes of extravasation. Some drugs may have conflicting information of being classified as a vesicant or as an irritant. See [Exhibit A](#).

Vesicant: A drug that has the potential to cause cellular damage or tissue destruction, if extravasation occurs. See Exhibit 1.

PROCEDURES:

For clinician handling call over the phone:

- A. Assess for subjective/objective signs of an extravasation (complaints of burning at/around IV site or along vein track, pain at IV site or along vein track, non-specific discomfort). If extravasation suspected, provide instructions as detailed below:
- B. Instruct patient/caregiver to:
 1. Stop infusion
 2. Wash hands and apply gloves.
 3. Clamp and disconnect IV tubing. Do not remove port needle, if applicable.
 4. Aspirate catheter. Note: if patient/caregiver unable move to step 5.
 - a. If patient/caregiver able to aspirate catheter,
 - i) Attach an empty 10 mL syringe to the IV catheter.
 - ii) Aspirate back as much fluid (drug, tissue fluid) as possible
 - b. If blood is NOT aspirated:
 - i) Do NOT flush catheter as can cause further tissue damage

5. Apply warm or cold compresses according to type of chemotherapy agent (see Exhibit A for specific medications)
6. Instruct patient to protect the site from undue pressure and to elevate and not use the affected extremity
7. Instruct to go immediately to the emergency department, Cancer Center Infusion Room or physician's office for further follow up care.

C. Document incident in patient's medical record, including:

1. Date and time of event occurred.
2. Type and location of IV access
3. Concentration and estimated amount of fluid aspirated from catheter
4. Subjective symptom(s) reported by patient
5. Immediate nursing interventions

D. Document in Event Tracking, as Patient Safety Report and notify HCS nurse manager or designee(s).

E. For home nurse providing direct patient care:

1. Assess for subjective/objective signs of an extravasation
 - a. Subjective: complaints of burning at/around IV site or along vein track, pain at IV site or along vein track, non-specific discomfort.
 - b. Objective: no blood return, swelling/bleb at IV site, slowed/stopped flow rate, blistering, red streaking along vein track, redness at IV site
2. Stop infusion
3. Wash hands, gown and apply gloves.
4. Clamp and disconnect IV tubing. Do not remove port needle, if applicable.
5. Attach 10 mL syringe to IV catheter
6. Aspirate back as much fluid (drug, tissue fluid) as possible. If blood is aspirated, remove 2 mL and flush with 5 mL normal saline and restart infusion.
7. DO NOT flush catheter if unable to obtain a blood return.
8. Apply warm or cold compresses according to type of chemotherapy agent (see Exhibit A for specific medications)
9. Instruct patient to protect the site from undue pressure and to elevate and not use the affected extremity
10. Instruct to go immediately to the emergency department, Cancer Center Infusion Room or physician's office for further follow up care.

F. Document incident in patient's medical record:

1. Date and time extravasation occurred.
2. Type and location of IV access
3. Concentration and estimated amount of extravasated vesicant

4. Subjective symptom reported by patient
 5. Objective symptoms of site assessment (if in the home). Measurement of edema, redness, assessment of involved extremity, if applicable for range of motion, discomfort with movement
 6. Immediate nursing interventions
- G.** Document in Event Tracking, Patient Safety Report and nurse manager or designee(s).
- H.** Aftercare
1. Assess site, assessing for skin integrity, discoloration, sensation, pain, mobility of extremity, and other symptoms during nursing visit.
 2. Report changes to medical team
 3. Administer pain medications as ordered.
 4. Instruct patient/caregiver how to give local care, if indicated
 - a. How to give local care, if indicated
 - b. To protect from sunlight
 - c. To monitor site daily and report the following to the medical team: fever, chills, skin changes such as blistering or sloughing, increased pain at site.

EXHIBITS:

1. Management of Chemotherapy Extravasation

UMHHC/HCS REFERENCES:

1. University of Michigan Health System Policy #63-01-077, Management of Extravasation of Cytotoxic (Antineoplastic) Drugs

APPROVAL AND REVISIONS:

1. August 1998, new format.
2. May 2001, reviewed and revised.
3. October 2004, reviewed; no changes.
4. August 2006, reviewed; no changes.
5. December 2008, reviewed; no changes.
6. January 2010, reviewed; no changes.
7. January 2013, reviewed; added after care; update to exhibit; separated actions by patient phone call or nursing visit.
8. January 2016, reviewed with minor content corrections.

EXHIBIT 1

MANAGEMENT OF CHEMOTHERAPY EXTRAVASATION

VESICANT CYTOTOXIC DRUGS		
DRUG: DOXORUBICIN	SPECIFIC INTERVENTION TYPICAL COOLING	Initially, apply dry cold pack for 1 hour after extravasation, and then apply dry cold pack for 15 minutes QID for first 24 hours after extravasation.
DOXORUBICIN/VINCRIStINE	TOPICAL COOLING	Initially, apply dry cold pack for 1 hour after extravasation, and then apply dry cold pack for 15 minutes QID for first 24 hours after extravasation.
VINCRIStINE	TOPICAL HEAT	Apply dry heat for 20 minutes QID for first 24-48 hours after extravasation
IRRITANT CYTOTOXIC DRUGS		
DRUG: FLUOROURACIL ETOPOSIDE	SPECIFIC INTERVENTION NONE TOPICAL HEAT	Apply dry heat for 20 minutes QID for first 24-48 hours after extravasation.