3.3.1 Prevention and Management of Extravasations

Guidance for Prevention of Extravasation

Vesicant antineoplastic agents should be administered by qualified personnel. Vesicant/irritant drugs should be administered via Central Venous Catheters (CVCs) whenever possible. It is ***highly recommended*** that all infusions of vesicants be given via a CVC.

Consider the following measures to prevent extravasation:

1. Anticipate the possibility of extravasation.
2. Ensure extravasation treatment protocol and antidotes are readily available.
3. Careful vein selection for PIVs. (See section below.)
4. Minimize number of venipunctures in starting PIVs.
5. Ensure good blood return from site prior to and during administration and upon completion.
6. Ensure free flowing intravenous fluids during administration of vesicant chemotherapy when applicable.
7. Frequent monitoring of PIV/port needle sites or CVC site and monitor for increase in pump pressures.

Extravasation supplies should be available.

Starting a New PIV for Administration of Vesicant Drugs

Choose PIV site carefully. Choose the most distal position of a vein and in this order if possible:

1. Dorsum of hand
2. Forearm
3. Wrist (potential damage to tendons and nerves should extravasation occur)

Avoid the antecubital fossa since this area is dense with tendons and nerves; damage here can result in loss of structure and function.

If first attempt is unsuccessful, select another site preferably in another limb. Avoid a distal point in the same vein because of the potential for extravasation “downstream.”

Guidance for Management of Extravasation of Vesicant

The following guidance is recommended for the management of extravasation. The medical team should be notified immediately and treatment must be individualized to each extravasation event.

For an immediate intervention, follow the SLAPP mnemonic:

- S = Stop the infusion and assess the area
- L = Leave the needle or catheter in place
- A = Aspirate
- P = Pull the needle

- P = Provider should be notified

Important Steps	Key Points
1. STOP the IV infusion. Do not remove the IV/port needle yet.	Click here to access the Flowchart available for quick reference.
2. Detach IV tubing/syringe from the IV/port needle. Attach a new syringe to the IV/port needle as close as possible to insertion site. Aspirate as much drug, blood and tissue fluid as possible. Remove the syringe.	
3. Notify the medical team of extravasation as soon as possible.	
4. REMOVE the original angiocatheter/port needle.	
5. Consult Sub-Section 3.3.2 Antidotes and Treatment for Extravasation. Notify Pharmacy.	
6. Continue as per table below for each drug.	
7. Administer analgesics as ordered.	Corticosteroid cream (e.g., hydrocortisone 1% cream) may reduce inflammation. Silver Sulfadiazine cream, povidone iodine ointment or sterile dressings may also provide symptomatic relief or prevent secondary infection.
8. For PIVs, restart the IV at another site, preferably in the opposite limb or in the same limb proximal to the infiltrated area, if needed. For Port-a-catheter, re-access to heparin lock.	
9. Immobilize the affected limb or area. Elevate the affected area to promote venous drainage and to reduce edema.	
10. Document the extravasation occurrence in the patient's chart and complete your hospital Safety Report. Delineate the infiltrated area on patient's skin with a permanent marker. Photo documentation may be helpful. Consent may be required.	
11. Consult Plastics upon Medical Doctor (MD)/Nurse Practitioner (NP) discretion and/or no improvement of site in 24 hours.	

Important Steps	Key Points
12. **Extravasation known:** Follow up as directed by Plastics. If Plastics not consulted, return to clinic in 24–48 hours for assessment, then weekly for one month minimum. **Extravasation suspected:** Telephone call in 24 hours by nurse to assess and then in one week minimum.	Provide information to patient/family with what to look for and when to call. The site should be observed daily by the patient and/or parent for one month as there may be delayed reaction.

Guidance for Management of Extravasation of Irritant Drugs

The following guidance is recommended for the management of extravasation of irritant drugs. The medical team should be notified immediately and treatment must be individualized to each patient. While the medical team may elect to use an antidote if one exists, or topical medications, it is important to realize that many patients recover fully with no drug treatment at all.

Important Steps	Key Points
1. Stop IV infusion. Do not remove angiocatheter/port needle yet.	Click here to access the Flowchart available for quick reference.
2. Detach IV tubing/syringe from IV/port needle. Attach a new syringe to IV/port needle as close as possible to insertion site. Aspirate as much drug, blood, and tissue fluid as possible. Remove the syringe.	
3. Notify the medical team of extravasation as soon as possible.	
4. REMOVE the original angiocatheter/port needle. Dispose in proper hazardous waste container.	
5. Continue as per Sub-Section 3.3.2 Antidotes and Treatment for Extravasation for each drug.	
6. Administer analgesics as ordered.	Corticosteroid cream (e.g., hydrocortisone 1% cream) may reduce inflammation. Silver Sulfadiazine cream, Povidone iodine ointment or sterile dressings may also provide symptomatic relief or prevent secondary infection.
7. For PIVs, restart the IV at another site, preferably in the opposite limb or in the same limb proximal to the infiltrated area, if needed. For Ports, re-access to heparin lock or re-establish IV.	

Important Steps	Key Points
8. Immobilize the affected limb or area. Elevate the affected area to promote venous drainage and to reduce edema.	
9. Document the extravasation of occurrence in the patient's chart and complete your hospital safety report. Delineate the infiltrated area on the patient's skin with a permanent marker. Photo documentation may be helpful. Consent may be required.	
10. Consult Plastics upon MD or Nurse Practitioner discretion and/or no improvement of site in 24 hours.	
11. **Extravasation known:** Follow up as directed by Plastics. If Plastics not consulted, return to clinic in 24–48 hours for assessment, then weekly for one month minimum. **Extravasation suspected:** Telephone call in 24 hours by nurse to assess and then in one week minimum.	Provide information to patient/family with what to look for and when to call. The site should be observed daily by the patient and/or parent for one month as there may be delayed reaction. Click here for sample documents.

This guidance document was developed by Ms. Julie Dowler, Ms. Denise Reniers and Ms. Anne Chambers, Children's Hospital, London Health Sciences Centre, London, in consultation with Ms. Lisa Honeyford, The Hospital for Sick Children, Ms. Kirsty Morelli, Scarborough Health Network and Ms. Mary Jo Decourcy, London Health Sciences Centre, based on the sources in Sub-Section 3.3.4.

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Record of Updates

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