**MANAGEMENT OF EXTRAVASATION: TREATMENT SUMMARY**

- **Extravasation suspected** – resistance or absence of free flow, swelling, discomfort, burning, pain. STOP the injection immediately, but leave the cannula in place.
- **Aspirate as much fluid as possible through the cannula, try to draw back about 3-5ml of blood.**

**Vinca alkaloids**
- Vinblastine
- Vincristine
- Vindesine
- Vinorelbine

**Vesicant drugs**
- Amsacrine
- Bendamustine Hydrochloride
- Carmustine
- Dacarbazine
- Daunorubicin
- Doxorubicin
- Epirubicin
- Idarubicin
- Mitomycin
- Mustine
- Paclitaxel
- Plicamycin
- Streptozocin
- Treosulphan

**Extreme pH, osmolarity, or toxic excipients**
- Aciclovir
- Alopurinol
- Aminophylline
- Amiodarone
- Amphotericin
- Calcium chloride
- Calcium gluconate
- Ciprofloxacins
- Clarithromycin
- Co-trimoxazole
- Dizapam
- Erythromycin
- Etomidate
- Foscarnet
- Ganciclovir
- Hypertonic glucose (10% or greater)
- Hypertonic saline (1.8% or greater)
- Magnesium sulphate
- Mannitol
- Methohexitene
- Methylen blue
- Parenteral nutrition
- Phenyltoin
- Potassium chloride (>=40mmol per litre)
- Sodium bicarbonate
- Spironolactone
- Vancomycin
- X-ray contrast media

**Exfoliant or Irritant drugs**
- Aclarubicin
- Arsenic Trioxide
- Busulphan
- Carboplatin
- Cisplatin
- Cladribine
- Daunorubicin (liposomal)
- Docetaxel
- Doxorubicin (liposomal)
- Etoposide
- Etoposide phosphate
- Fluorouracil
- Fluorouracil
- Gancitoxan
- Mitoxantrone
- Oxaliplatin
- Raltitrexed
- Teniposide
- Topotecan
- Trastuzumab

**Vascular regulators**
- Adrenaline
- Alprostadil
- Dobutamine
- Dexamethasone
- Dopamine
- Epoprostenol
- Noradrenaline

**Neutral drugs**
- Aldesleukin
- Asparaginase
- Bleomycin
- Bortezomib
- Cladribine
- Clofarabine
- Cyclophosphamide
- Cytarabine
- Fludarabine
- Gemicitabine
- Ifosfamide
- Interferons
- Melphalan
- Monoclonal antibodies
- Neltarabine
- Pemtrexed
- Pentostatin
- Thiopeta

**Aim: spread and dilute**
- Reconstitute 1500iu of Hyaluronidase with 1ml Water for Injection.
- Give this Hyaluronidase solution in 0.1-0.2ml subcutaneous injections at 6 to 8 sites around the circumference of the extravasation area.
- Apply a HOT pack for 24 hours. Remove the pack every 3 hours for 20 to 30 minutes replace with a fresh pack.
- Apply Hydrocortisone Cream 1% four times a daily for as long as erythema persists.

**Aim: localisation 1.**
- For bendamustine hydrochloride, cammustine, mustine, paclitaxel and treosulphan treat as in ‘Aim: localisation 2’. For all other vesicant drugs treat as detailed below.
- Apply a thin layer of DMSO 50% cream to the marked area immediately using a cotton bud and cover with gauze. Avoid contact with unaffected skin.
- Repeat DMSO application every 2 hours for 24 hours then every 6 hours for 7 days.
- Immediately after first DMSO application apply COLD pack for 30 minutes. Repeat every 4 hours for 24 hours.
- 3 hours after first DMSO application apply hydrocortisone 1% cream. Repeat every 6 hours for 7 days.

**Aim: localisation 2.**
- Apply cold pack for 30 minutes every 4 hours for 24 hours.
- Apply hydrocortisone cream 1% every 6 hours for 7 days or as long as erythema persists’ NB for liposomal daunorubicin / liposomal doxorubicin treat as in ‘Aim: localisation 1’ but delay DMSO application until 8 - 12 hours post incident and continue for 10 - 14 days. Commence treatment with hydrocortisone 1% cream and COLD pack immediately.

**Aim: symptomatic treatment**
- Apply hydrocortisone cream 1% four times each day if erythema is present.

**EXTRAVASATION KITS ARE AVAILABLE**
- LLAN - Chemotherapy Day Unit : ICU : MAU : Pharmacy Emergency Cupboard : Theatres Ground Floor

**DOCUMENTATION**
- Inform the patient’s consultant.
- Complete a Cardiff and Vale NHS Trust Incident Record Form (HSIDO/02).
- Document the extent of extravasation in the patient’s medical notes.
- Consider including a photographic record of the injury and treatment progress.
- Complete an extravasation report (Green Card) and post or complete on-line at http://www.extravasation.org.uk/Documentation.htm
- Return opened extravasation kit to pharmacy for replacement.
- Check the site regularly and review at least twice daily, initially. Then according to the severity of the injury and progress.
- The treatment proposed above is “first aid” only. Seek further advice – early review by plastic surgeon is advisable.

Further information
More detailed information may be obtained from the National Extravasation Information Service: http://www.extravasation.org.uk/home.html