EXTRAVASATION INJURIES

RECOGNITION AND ASSESSMENT

- Extravasation injuries occur when there is leakage of intravenous infusates into surrounding tissues, and can lead to tissue necrosis. The degree of injury depends on nature of fluid extravasated.
- Fluids commonly causing tissue damage include:
  - Intravenous glucose >10% concentration
  - Fluids containing calcium, potassium, THAM (trometamol) or sodium bicarbonate (e.g. parenteral nutrition)
- Preterm babies are at particular risk owing to immature nature of skin and reduced integrity of venous walls.

Symptoms and signs

- Swelling and/or induration and/or discolouration and/or pain
- Tenderness at IV access site
- Raised infusion pressure if pressure sensitive pump used

PREVENTION

- Use central line for administering fluids likely to cause tissue damage on extravasation
- Use pressure-sensitive pumps and set appropriate alarm limits
- Monitor IV access sites hrly
- If using peripheral infusions, determine whether additives required. Do not use unnecessary additives
- Use transparent dressings (e.g. Opsite/Tegaderm) to secure percutaneous devices
- Avoid name tags in limbs with IV line to avoid tourniquet effect in event of extravasation

TREATMENT

- Stop infusions
- Aspirate fluid if possible through cannula
- Remove percutaneous device
- Apply warm compress to disperse extravasated fluid

Documentation and discussion

- Examine site for injury and document findings accurately in notes, including:
  - Time
  - Site
  - Size
  - Areas of necrosis
  - Risk of infection
  - Status of limb proximal and distal to site
- Obtain photographs of wound, with scale if possible, for records
- Complete local incident form
- Discuss with parents at earliest opportunity and document discussion
- Involve wound care nurse and plastic surgeons at an early stage

Dressing

- Use Duoderm to dress wound
- Dressing must not impair limb movement and must cover affected area only
- Apply Hydrogel to wound to reduce scarring
- Document status of wound with each dressing change

Hyaluronidase

- Not recommended for extravasation of vasoconstrictive medications or if site infected
- Use only if authorised by consultant or senior middle grade staff, and within 1-2 hr of extravasation
How to give

- Dissolve 1 ampoule (1500 units per ampoule) with 3 mL water for injection to make solution of 500 units/mL
- Using aseptic technique, inject 500-1000 units beneath area of damaged skin
- For large lesions:
  - using a scalpel, make 4 small incisions around periphery of extravasated site
  - insert blunt Verres needle, or pink cannula with needle removed, into each incision in turn, inject hyaluronidase and irrigate damaged tissue with 25-100 mL of sodium chloride 0.9% per incision
  - sodium chloride should flow freely out of other incisions
  - massage out any excess fluid using gentle manipulation
  - cover with paraffin gauze for 24-48 hr