

**STANDARD OPERATING PROCEDURE -  
EXTRAVASATION OF CONTRAST MEDIUM**

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## **STANDARD OPERATING PROCEDURE FOR TREATMENT OF EXTRAVASATION OF CONTRAST MEDIA**

### **Executive Summary**

Extravasation of contrast medium is not uncommon. It rarely gives rise to long-term complications. If extravasation occurs, the patient should be given an appropriate explanation, and should receive re-assurance. Instructions in the document should be followed.

### **CONTRAST EXTRAVASATION FACTORS:**

1. Conventional high osmolar agents cause more problems than non-ionic, low osmolar contrast media (LOCM)
2. Extent of extravasation is usually underestimated.
3. Some patients are at increased risk of harm, particularly patients with:
  - peripheral vascular insufficiency;
  - Raynaud's phenomenon;
  - fragile skin - children and the elderly.
4. Maximum reaction may not peak for 24-48 hours.

### **TREATMENT:**

1. For hand injections, as soon as extravasation becomes apparent:
  - stop injecting;
  - apply pressure to site;
  - find an alternative injection site and re-cannulate.

For small extravasations without significant swelling, discolouration or discomfort, no further treatment is required. For larger extravasations, where there is significant swelling, discolouration or discomfort, follow treatment guidelines as for pressure pump injections.
2. For pressure pump injections, as soon as extravasation becomes apparent:
  - stop the injection;
  - do not remove the cannula – the radiologist may attempt to draw back some of the extravasated contrast;
  - ask the supervising Radiologist to examine the patient;
  - elevate the extremity;
  - a cold pack may be applied, where considered appropriate, to the extravasation site;
  - alternatively, a pressure bandage may be applied (refer to notes at end of document).

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3. Radiologist should re-cannulate if required and the examination should be continued.
4. Post –examination - the patient should remain in the department for observation for up to an hour. During this time, the Radiographer or Nurse should periodically attend to the patient to ensure their well-being and the appearance of cannulation site improves or remains unchanged. Any deterioration in temperature, colour, degree of hardness or sensitivity should be reported to the supervising Radiologist. (See point 8 below)
5. Following the period of observation the Radiologist should re-examine the cannulation site to ensure that it is safe to discharge the patient.  
**(If the duration of this stay extends beyond 5pm, suitable arrangements will be needed to supervise the patient in the department, or alternative arrangements made with the Accident and Emergency department or Admissions Ward for continued observation, typically up to an hour after injection, with discharge from there).**
6. Give the patient an Extravasation Patient Information Leaflet.
7. The cold pack may be given to the patient to re-cool and use.
8. Alternatively, advise the patient to apply cool or cold compresses for first 6-12 hours.
9. Patient may take oral analgesia if required.
10. Where there has been a significant volume of extravasation, requiring medical or surgical intervention, or leading to significant patient distress, the incident should be documented in patient's case notes, or as part of the radiology report for the examination.

**FOLLOW-UP:**

The patient is informed that they will be contacted on the following day to enquire about their well being. If, at this time or subsequently, the patient reports an extravasation injury where there is residual pain, blistering, redness or other colour change, hardness, increased/decreased temperature of skin at extravasation site, change in sensation, then:

1. Record the patients' details;
2. During Radiology working hours the patient should attend the department for review by a Radiologist (review to be documented in patient's case notes), who will determine whether surgical opinion is warranted;
3. Outside Radiology working hours the patient is advised to contact the Accident and Emergency Department for review.

**APPLICATION OF A PRESSURE BANDAGE:**

1. Place a piece of sterile gauze over the injection site.
2. Tightly wrap a wide bandage around the limb to completely cover the area of swelling. Do not apply so tightly that the patient experiences any discomfort or swelling of the limb distal to the bandage, or that circulation is restricted.
3. Secure with tape.

**EXTRAVASATION ESTIMATED AT GREATER THAN 15MLS MUST BE DOCUMENTED IN THE SESSION DIARY, confirming that the SOP has been followed and the patient has been supplied with an information sheet**

**EXTRAVASATION should be reported as a clinical incident when it gives rise to significant harm or a complication requiring medical or surgical intervention, or where the patient makes a formal complaint.**

## Patient Information Leaflet

These are available in all departments and should be given to all patients where extravasation has been observed.