

Use of Contrast Medium to confirm position of percutaneous long-line tip

Background

Following aseptic insertion the position of a percutaneous long-line tip must be confirmed by x-ray and documented in the notes. For the majority of babies in intensive care we would expect that it is possible to place a “Nutraline” (see separate guideline). Nutralines are usually easily seen with plain radiography, the use of contrast to confirm position should not be routine and should be discussed with the consultant on-call/senior registrar.

On occasion circumstances will dictate the placement of a small caliber line (“Premicath”). With the ability to manipulate x-rays on PACS you can often see the tip clearly, if this is the case contrast is not routinely required but tip position should be clearly documented in the infants records.

Premicaths are very fine (28G/1FR, internal diameter 0.7mm) and visualising these lines on X-Ray can be difficult. Omnipaque™ is kept in the clean utility room, it is in the locked cupboard next to the “Potassium containing fluids”.

Target patient group

For use when premicath or Nutraline tip position was not visualised on x-ray.

Method

1. Request X-ray
2. Draw up 0.4ml of Omnipaque™ (240mg Iohexol/ml) in a 5ml syringe and prescribe on Kardex. (Large amount will be wasted – smallest vial 20ml)
3. A member of medical staff must give the Omnipaque™ as X-ray is taken
 - a. Explain procedure to radiographer
 - b. Staff member must wear appropriate protection
 - c. Once baby is lying on plate, and radiographer has retired to safe distance ready to acquire image, start injecting Omnipaque™ as bolus into long line
 - d. When 0.2ml has been delivered, request radiographer acquires image whilst you continue to inject the remainder of the dye
4. Review image and document findings

Notes

- If you are, or think that you may be pregnant, you should not be exposed to x-rays and cannot carry out this procedure.
- The dose of Iohexol delivered is well within the described “safe” limit, even for a 400g neonate (0.4ml would be 1ml/kg, range of dosing is 2-4ml/kg for angiography/CT enhancement in older children).
- If you require imaging of a Nutraline, the volume should be 0.6ml, and the film should be taken after 0.4ml has been infused.
- If there are still doubts regarding the line position, the images should be reviewed by a consultant – should repeat images be required, the dose of Omnipaque™ can be safely repeated.