

Ashford and St. Peter's NHS Trust

Guideline for X-rays on the Neonatal Unit (NNU)

These guidelines have been jointly written by the neonatal medical and nursing staff, and the radiology and radiography staff at St. Peter's. The aim is to enable X-ray tests that are required on babies to be carried out as smoothly and effectively as possible.

For Doctors

1. Request the X-ray

- a. The X-ray request must include the gestation of the baby and the reason for the request, in enough detail for the radiologist to report accurately
- b. Exceptionally in an emergency, if there is no hospital number, we have agreed that an X-ray can be obtained. PACS difficulties will be sorted out afterwards.
- c. If you require the examination very urgently you must phone the radiographers since many of their requests are urgent.
Mon to Fri 0800 to 2000 2501
Out of hours and all weekend 2143
- d. If you are looking for lung pathology and abdominal pathology you should request separate CXR and AXR. This provides high quality images with less unwanted scatter radiation to the baby. The only normal indication for a combined chest and abdomen is for the position of lines. Please request this examination with the specific PAS code 3342 plus the relevant clinical information and the radiographer will carry out the correct procedure.
- e. The requesting doctor must tell the baby's nurse that an X-ray has been ordered

For Radiographers and Nursing Staff

1. Identify the location of the baby

- a. On the white board opposite the main desk each baby's name is listed, identifying which of the 3 nurseries they are in (1 is the nearest etc), and the first name of the nurse who is looking after that baby and will be assisting with the X-ray

2. Infection Control

- a. Every time anyone enters a room on NNU, they must roll up their sleeves, remove hand and wrist jewellery, go to the sink and wash their hands. All staff are required to do this.
- b. Alcohol gel should then be applied to hands, before and after setting up the X-ray mobile

3. Getting assistance

- a. Ask for help from the nurse allocated to the baby. If they are not in the nursery for any reason, another nurse will be covering them

4. Set up the mobile at the bottom end of the cot.

- a. The tape measure next to the light beam diaphragm should be used to ensure that the FFD (focus to film distance) is at 100cm.

5. Positioning the baby

- a. The nurse will take charge of positioning the baby for X-ray

- b. For chest X-rays, the baby should be tilted 10-15° head up, and this is achieved using the tilt on the incubator or the cot. Foam pads must not be used.
- c. For abdominal X-rays the baby should be flat
- d. For combined CXR/AXR the baby should be on an incline as for CXR.
- e. We never do abdominal lateral decubitus views, but may request a lateral shoot-through (baby supine) for suspected GI perforation
- f. The nurse is also responsible for ensuring that ECG and other leads / lines are moved so that they do not obstruct the view of the X-ray, and that NGT/OGT (if clinically required) are in place before the cassette is placed
- g. The head of the baby must be in the midline and neutral position, not to one side. The nurse may need to hold this head position during the X-ray
- h. Arms and legs should be kept away from the area being studied in a comfortable position. These may need to be gently held.
- i. **Long-line position:** the limb with the line should be flexed to image the maximum line incursion
- j. **Umbilical line position:** UAC should be placed on the right side of the baby, UVC on the left side, with A or V marker if available
- k. If contrast is being used the line should be primed with contrast (0.3-0.5ml) and locked. **Never inject contrast during the X-ray.**
- l. Radiographers are not expected to handle the babies. Sometimes more than one nurse/doctor may be required.

6. Collimation and Shields

- a. Lead shields with “L” and “R” markers must be used on babies in incubators
- b. For babies in cots beam collimation is sufficient and there is a perspex lid on which the lead shields can be placed

7. Cassette placement

- a. Place cassette into plastic bag
- b. Rub hands again in alcohol gel
- c. Place cassette under baby. Do not pass it over the baby. Cassettes should not go under quilts or blankets as they interfere with the X-ray image quality
- d. Babies get cold quickly when they are on a cassette

8. Take the X-ray

- a. Rub hands in alcohol gel and remove cassette
- b. It is fine to leave the mobile in place whilst the X-ray quality is checked. Remember to wash hands again when entering the nursery.
- c. It is possible to view images both on the X-ray machine and in the processing room

9. Communication

- a. We wish to maintain the open, two way dialogue that exists between the staff on NNU and the X-ray department so that any suggestions can be considered and any difficulties can be dealt with quickly.

Guideline Development

This guideline was written by

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