Suprapubic Aspiration of Urine

Pre-Procedure

- The child should not have passed urine in the previous 60 minutes prior to the procedure. If so, feed the child and wait 30-60 minutes.
- If the child is stable it is preferrable to do the suprapubic aspiration prior to carrying out any other invasive procedures

General

- Suprapubic aspiration of urine is a simple and safe technique for obtaining an uncontaminated specimen of urine in children
- In stable children, perform first before other invasive procedures like bloods and lumbar puncture (in case the child voids)
- The procedure should be done quickly once you expose the genitals, so prepare everything before you undo the nappy
- Standard aseptic non touch technique with sterile gloves is required

Indications

- Children < 6 months of age who need a urine culture.
- Children < 1 year old who need a repeat urine culture because the previous urine culture is contaminated

Contraindications

- Urinated in the previous 1 hour
- Distended abdomen
Suprapubic Aspiration of Urine

- Known coagulopathy
- Skin infection over puncture site
- Urogenital abnormality

**Preparation**

**Staff**

- Doctor to carry out procedure
- Nurse to hold the child throughout procedure
- Assistant to catch urine

**Equipment**

SPA equipment

- 3ml or 5ml syringe
- Alcohol wipe
- 23 gauge needle
- Sterile gloves
- Urine container (yellow top)
- IV pressure pad (‘dot’)

**Procedure**

**Medications**

- Can give a small amount of sucrose to infants prior to the procedure

**Positioning and technique**

- Confirm the patient has not passed urine in the last 60 minutes. If they have then give a feed and wait for 30-60 minutes.
- The child lies supine in a frog leg position
- The nurse is to hold the child steady and restrain the legs in an extended position
• An assistant is to be ready to catch the urine with an open urine jar, if the patient passes urine

**Check the bladder size /volume** using one of the following 3 methods:

1. **Curvilinear ultrasound probe** to check bladder volume:
   Transverse view, depth (D) 2-3 cm or Transverse diameter (T) 3.5cm (recommended method) or
2. **Bladder scanner** (minimum 20ml) – scan 3 times to confirm, or
3. **Gently percuss the bladder**, fundus should be 1-2 finger breadths above the pubic symphysis (PS)

1. **Wipe the skin** from the pubis to umbilicus in a circular motion 5cm diameter with the alcohol wipe
   
   ![X]

2. **Insert the needle** perpendicular to the skin at 1-2cm superior to the pubic symphysis (the suprapubic crease level) at midline
   
   ![X]

3. **Aspirate gently** after the needle goes through the skin. Remember to aspirate as you *insert*, as well as when you *withdraw* the needle.

4. **Advance** the needle 2-3cm deep if needed (i.e. whole length of the 23G needle)
   
   • If urine is not obtained, do not remove the needle, but withdraw it to a subcutaneous layer and redirect it slightly more superior, and then more inferior to the pubic symphysis if needed
   • The procedure should be abandoned if still unsuccessful and an alternate method of urine collection should be considered
   • Further attempts at SPA should be at the discretion of the Senior Doctor on duty

**Post-Procedure**

**Complications**

All these complications are rare:

• Transient, gross or microscopic haematuria
• Intestinal perforation
• Bladder haematuria
• Abdominal wall abscess
References

- Porter FN. Percussion as aid to suprapubic aspiration. *Archives of Disease in Childhood.* 1988 August; 63(8): 998.
## Suprapubic Aspiration of Urine

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