Rationale

Most laboratory tests requiring less than 1ml of blood can be carried out using capillary blood obtained from the heel.

Automated incision devices with a penetrative depth of not more than 1.0 mm should be used to obtain the sample (Guidelines for Newborn Blood Spot Sampling 2012).

The posterior aspect of the heel should be avoided. Reducing the density of heel pricks should reduce the associated pain (Jain and Rutter 1999).

Before taking a heel prick sample consider whether a venous sample would be more appropriate as:

- A venous sample is less painful for the infant.
- Poor peripheral perfusion does not permit successful capillary sampling.
Indications for heel prick.

- Most routine blood tests requiring less than 1ml of blood
- Metabolic and genetic screening tests
- Blood glucose and Lactate analysis
- Blood gases
- Newborn Blood spot screening

Procedure.

- Collect equipment needed, including cotton wool, capillary tube and/or blood bottle, appropriate depth incision device, clean tray and a sharps bin.
- Wash hands as per hand washing guidelines and put on non-sterile gloves.
- Ensure the baby is in a safe and comfortable position, offer the baby oral sucrose if appropriate (refer to the protocol for the administration of sucrose).
- Clean the area with cotton wool and sterile water if the area is visibly contaminated. False positive results for blood spot screening may be obtained if the heel is contaminated.
- With the foot dorsiflexed (see fig 2) prick the heel with a disposable lancet to a depth of not more than 1mm in the plantar surface of the heel (see shaded areas diagram A & B)

Fig 2: Suggested method for holding the heel prior to blood sampling (Vedder 2015)
➢ Allow the foot to hang down to aid blood flow and squeeze the foot gently to allow the blood collect in globules, which can then be collected.
➢ If frequent sampling is required, try to sample from alternate heels/sites to prevent them becoming sore.
➢ Once the sample has been obtained apply pressure to the site with cotton wool until the bleeding has stopped. Avoid the use of adhesive spot plasters
➢ Dispose of the incision device in the sharps bin
➢ Document procedure and result once obtained

Complications

➢ Haemolysis of the sample.
➢ Infection from the puncture site.
➢ Sore heels.

References