



## Cord Blood Gas Sampling Procedure

### **Purpose**

The purpose of this guideline is to

- provide safe and effective care for women
- establish a local approach to care, that is evidence based and consistent
- inform good decision making

### **Scope**

- obstetric staff employed by the Hutt Valley DHB
- midwifery staff employed by the Hutt Valley DHB
- Hutt Valley DHB maternity access agreement holders.
- Anaesthetic staff

### **Procedure**

A paired (arterial and venous) cord blood gas analysis is required in the following circumstances (RANZCOG, 2006).

Lactate can be done on the hand held machine

- When there has been concern about the fetal heart rate in labour or following any abnormal FHR pattern
- Operative deliveries
- Low apgars < 7 at 5 mins
- Baby born in poor condition
- After foetal blood sampling analysis during labour

Discuss with mother and partner the reason for taking cord blood

At delivery the midwife/nurse/practitioner will take (minimum 0.4ml) cord blood in heparinised syringe.

Correct documentation on lab form and syringe. The syringe will be taken to laboratory immediately, phone the lab before leaving the ward.

## **Collecting Umbilical Cord Blood**

Once the umbilical cord is cut, a blood sample is usually taken.

Be sure the umbilical cord is clamped on both ends. Handle the cord carefully. It's delicate and slippery. If the cord is damaged, it may not be possible to draw a sample from it.

Identify the umbilical artery and the umbilical vein. In the cord the vein is the larger of the two. Usually a sample is drawn from the umbilical vein in one syringe and another sample from the umbilical artery in a different syringe. Be sure the syringes contain heparin. This will prevent the blood from clotting. If the blood clots, the sample may not be able to be run through the blood gas machine.

Grasp one end of the umbilical cord with your non-dominant hand to prevent it from moving. With the dominant hand, hold the syringe between the thumb, the index finger and the middle finger, similar to how you would hold a pencil.

Insert the needle into the umbilical vein slowly at a 45-degree angle. Be careful to avoid going completely through the vein. The syringe is self filling, allow it to fill with blood. Obtain the required amount of blood according to hospital policy between 0.5 & 1ml and remove the needle from the umbilical cord.

Remove the needle from the syringe and push any air bubbles out of the syringe. Bubbles can interfere with accurate results if they are left in the sample. Place a cap on the syringe to prevent the blood from spilling out. Label the syringe according to hospital policies. Be sure to indicate on the label the sample is from the umbilical vein. Repeat the same procedure in step four on the umbilical artery and label the sample accordingly.

## **Tips & Warnings**

Always take the cord blood gas sample to the lab for analysis promptly. The sample needs to be refrigerated if it cannot be sent to lab within 30min. (Allowing the sample to sit around too long can cause inaccurate results).

Keep personal safety in mind. Always use gloves when drawing a blood sample. Since the blood may also squirt when you insert the needle, consider using a face shield.

Do not discard the umbilical cord.

## **Reference:**

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[http://www.ehow.com/how\\_4684863\\_draw-cord-blood-gas.html](http://www.ehow.com/how_4684863_draw-cord-blood-gas.html)