

## Cord blood gas sampling protocol MATY020

<b>Type:</b> Protocol	HDSS Certification Standard:
<b>Issued by:</b> Maternity PPG Group	<b>Version:</b> 1.1
<b>Applicable to:</b> Hutt Valley DHB	<b>Contact person:</b> CHOD O & G
<b>Lead DHB:</b> Hutt Valley DHB	<b>Level:</b>

*Hutt Maternity Policies provide guidance for the midwives and medical staff working in Hutt Maternity Services. Please discuss policies relevant to your care with your Lead Maternity Carer.*

### Purpose:

The purpose of this protocol is to;

- Establish a local approach to care, that is evidence based and consistent
- Inform good decision making
- Provide safe and consistent advice and care to pregnant people and their newborns

### Scope:

For the purposes of this document, staff will refer to:

All staff within Hutt Valley DHB. This includes staff not working in direct contact with patients/consumers. Staff are taken to include anyone engaged in working to the Hutt Valley DHB. This may include but is not limited to:

- Employees irrespective of their length of service
- Agency workers
- Self-employed workers
- Volunteers
- Consultants
- Third party service providers, and any other individual or suppliers working in Hutt Maternity, including Lead Maternity Carers, personnel affiliated with third parties, contractors, temporary workers and volunteers
- Students

### Roles and Responsibilities:

- The midwife in attendance is responsible for ensuring bloods are taken, correctly labelled and sent to lab
- After birth of the placenta, the midwife or theatre nurse in attendance will obtain samples for testing from the umbilical cord.

### Protocol Content:

#### Indications

A paired (arterial and venous) cord blood gas analysis is indicated in the following circumstances (RANZCOG, 2019).

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- When there has been concern about fetal compromise in labour
- Operative delivery undertaken for fetal compromise
- Apgars <4 at 1 minute or <7 at 5 minutes
- Baby born in poor condition
- Fetal blood sampling performed in labour

## Procedure

If possible, discuss in advance with birthing person, and any whānau/support people they wish to include, the reason for taking cord blood gases.

### *Collection of umbilical cord blood*

The blood sample is usually taken once the umbilical cord is cut.

Clamp the umbilical cord on both ends. Handle carefully; if the cord is damaged, it may not be possible to draw a sample from it.

Identify umbilical artery and umbilical vein. In the cord the vein is the larger of the two.

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.

Draw a 0.5-1ml sample) from the umbilical vein into a heparinised syringe. If the blood clots, the sample may not be able to be run through the blood gas machine.

Using foam cube provided, safely remove the needle from the syringe.

Place cap provided on the syringe and push the stopper until resistance is met to expel any air bubbles. Bubbles can interfere with accurate results if they are left in the sample.

Repeat process with a second syringe from umbilical artery.

### *Cautions*

- 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
- Keep personal safety in mind. Always use gloves when drawing a blood sample. Consider need for face shield as blood may squirt on insertion of needle
- Do not discard the umbilical cord

### *Correct documentation*

On tubes:

- Baby of [birthing person's full name]
- Baby's date of birth and sex
- Identify samples as "Arterial" and "Venous"

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On the lab form:

- Use white sticker label (available in birthing suite or theatre) with identical details to those on tubes, on standard lab form
- Under Other Tests, request “Paired cord blood gases”

The syringes should be taken to laboratory immediately.

Results will be called through to ward or theatre once available;

- Notify paediatric staff if abnormal
- Document results in baby notes
- Document Lactate result on NOC NEWS chart



Newborn blood results cannot be uploaded to Concerto until NHI number is created and provided to lab. Call lab for results and to provide NHI.

## References:

RANZCOG (2019). Intrapartum Fetal Surveillance Clinical Guideline (Fourth Edition).

[https://ranzcoг.edu.au/RANZCOG\\_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/IFS-Guideline-4thEdition-2019.pdf?ext=.pdf](https://ranzcoг.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/IFS-Guideline-4thEdition-2019.pdf?ext=.pdf) Accessed 25 August 2021

## Related Documents:

- Umbilical Cord Clamping and Placental Birth Guideline **MATY138**

## Keywords for searching:

1. Cord blood gas
2. Cord blood
3. Cord lactate
4. MATY020

## Informed Consent:

The right of a consumer to make an informed choice and give informed consent, including the right to refuse medical treatment, is enshrined in law and in the Code of Health and Disability Consumers’ Rights in New Zealand. This means that a woman can choose to decline treatment, referral to another practitioner, or transfer of clinical responsibility. If this occurs follow the process map on page 18 of the Referral Guidelines (Ministry of Health, 2012).

## Tangata Whenua Statement:

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The Women's Health Service recognises the rights and responsibilities of Māori as tangata whenua and Treaty Partners. This allows and acknowledges the importance of cultural diversity in all aspects of our care and practice in Aotearoa New Zealand.

As stated in [Te Pae Amorangi](#) (Hutt Valley DHB Māori Health Strategy) 2018-2027, Hutt DHB as a Crown agency is committed to our role in maintaining active relationships with iwi, under Te Tiriti o Waitangi. This strategy recognises the established principles of Partnership, Participation and Protection and recognises steps towards the reviewed interpretation of Te Tiriti principles to date (from the [Wai 2575](#) claim into health). These are tino rangatiratanga, equity, active protection, partnership and options.

Attention in particular is drawn to:

- **Article one – Kāwanatanga:** actively engaging and working alongside with local iwi through the Hutt Valley [Māori Health Unit](#)
- **Article two – Tino Rangatiratanga:** Self-autonomy, self-determination; the responsibility to enable Māori to exercise their authority over their own health, determinants and definition of health
- **Article three – Ōritetanga:** equal health outcomes of peoples; ensuring that policy, guidelines or programmes do not further perpetuate any inequity
- **Article four (the 'oral clause') – Wairuatanga:** spirituality; thriving as Māori and the importance of health providers understanding health in te ao Māori (the Māori world), acknowledging the interconnectedness and inter-relationship of all living and non-living things.

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