Policy Guideline: Placenta and Cord Management – Disposal, Placental Swabbing and Cord Gas Analysis

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Target Audience:

People who need to know about this document in detail	Maternity Services Acute and Community Clinical and Leadership Medical and Nursing/Midwifery colleagues
People who need to have a broad understanding of this document	Board Members, Management Board. Senior Leaders. Board Committees.
People who need to know that this document exists	All staff involved in the development of Health Board Policies and Maternity Services Clinical and Leadership Teams.

Integrated Impact Assessment:

Equality Impact Assessment Date & Outcome	**Date: 21/5/2025** **Outcome:** No potential negative impact has been identified.
Welsh Language Standard	No
Date of approval by Equality Team:	(00/00/0000)
Aligns to the following Wellbeing of Future Generation Act Objective	Provide high quality, evidence based, and accessible care

Disclaimer:

If the review date of this document has passed please ensure that the version you are using is the most up to date version either by contacting the author or CTM_Corporate_Governance@wales.nhs.uk

Contents

1. Introduction

This guideline applies to all midwives and obstetric clinicians involved in intrapartum and immediate postpartum care. It expands the scope of the previous "Placenta Policy Guidance (V2)" beyond safe placenta disposal to include standardised procedures for umbilical cord blood gas sampling and placental swabbing under specific clinical indications.

Note: The Health Board utilises the terms "woman" and "women" in obstetric guidelines, but these recommendations apply equally to birthing people who do not identify as women. Partners or designated others should be included in relevant discussions as appropriate.

All placentae should be handled in accordance with this guideline to ensure both safe disposal and proper clinical investigation when indicated. This combined policy is aimed at maintaining high standards of neonatal care, infection control, and legal accountability following each birth. It should be read in conjunction with related policies on safe tissue disposal and infection management.

2. Guidelines Standards and Procedures

The University Health Board (UHB) has a responsibility for the safe handling and disposal of all human tissue, including placentae.

All placentae should be checked and disposed of in accordance with current Health Board policy and guidance following each birth (Appendix 1).

Occasionally parents request to take their placenta home. This guideline has been produced following consultation with the Health Board HTARI (Human Tissue Authority Reportable Incident) Lead, Infection Control Team, and Senior Midwives. A placenta is "human tissue", which must be incinerated at a high temperature or buried at a significant depth and not placed in domestic or council waste bins. It is the parents' responsibility to ask their local council, if there are any specific guidelines to be followed, in relation to disposal of any placental products no longer required, that have been requested to be taken home, that then become the property of the woman.

It is recommended that the following guidelines are followed and that the Midwife instructs the mother on safe disposal procedure.

Following birth women or birthing people who have no history of infection pre- or post-birth will be allowed to take the placenta home from the hospital, following the completion and signing of a request form (Appendix 2). One Copy of appendix 2 to be placed into the hospital records, one copy to be given to the woman for their records

and one copy to be saved locally to be available for audit compliance. Health Board staff to follow the process as defined in agreed flowchart (Appendix 3).

2.1. For Disposal outside the Health Board

- The placenta must be placed in a small white plastic bag and then placed in a plastic sealable container supplied by the woman.
- The bag should be immediately labelled with the woman's details and addressograph and must remain with the woman.
- As the placenta will rapidly deteriorate it needs to be taken home as soon as possible after the birth and the woman/delegated other, should be advised to store the placenta in a cool place, preferably a refrigerator or freezer storage unit. It is not the Health Boards responsibility to advise if the placenta should be stored in refrigeration or freezer units containing edible food and drinks produce. This is the responsibility and the choice of the woman/delegated other.
- The Health Board would advocate that the placenta should be stored in a refrigerator that does not contain any food and buried within 48 to 72 hours.
- Alternatively, the placenta can be kept in its container, on ice for no more than 48 hours prior to burial. But not within the hospital setting, this must be at home. The placenta as soon as it is delivered, **MUST** be given immediately to the woman or delegated other to take home and will not be stored on hospital grounds stored in the specimen's refrigerator.
- It is important to remove the placenta from the plastic sealable container and plastic bag prior to burial. The parent should be advised of this if appropriate to do so.
- The parent should be advised to bury the placenta deeply in the garden to prevent scavenging animals from digging the placenta up.
- They should place an identifying marker on the site to prevent accidental exposure at a later date.
- While the risk of getting an infection from a healthy placenta is not high, standard hygiene precautions should always be followed;

  - cover any cuts or abrasions.
  - wear protective gloves.
  - wash hands thoroughly afterwards.

- The placenta must NOT be disposed of in the domestic or council refuse.
- The placenta must be buried on private property and not in public places such as parks or cemeteries.
- A form must be signed by the woman/birthing partner accepting responsibility for the safe disposal of the placenta. This form must also be signed by the midwife (see Appendix 2). One Copy of appendix 2 to be placed into the hospital records, one copy to be given to the woman or birthing partner for their records and one copy to be sent to document lead to audit compliance.

- If the care of the woman is handed over to another midwife there must be clear communication that the woman has chosen to take placenta home.
- There must be clear documentation in the midwifery records that the woman has chosen to take her placenta home.
- The birthing partner or relative may take responsibility for the removal of the placenta from the Hospital site.

- **Note: if the woman has an infection or is a carrier of a blood borne infection, the placenta must be retained by the Trust for disposal by incineration.**

2.3 Placental Swabbing for Infection (Maternal and Fetal Sides)

Purpose: Placental swabs for microbiology are taken in specific situations to identify pathogens that could have caused intrauterine infection or neonatal sepsis. Culturing the placenta's maternal and fetal surfaces can confirm chorioamnionitis or other infection, guiding antibiotic choices for mother and baby. In cases of stillbirth or early neonatal death, placental cultures may provide forensic insight into the cause (e.g. unrecognised infection) and are an important part of a thorough investigation. This section outlines when to take placenta swabs, how to do so safely, and how to handle the specimens.

Indications - When to Swab the Placenta: Not every placenta requires microbiological swabbing; targeted swabs should be taken when clinical factors raise suspicion of infection. Placentas should be swabbed on both fetal and maternal sides for the following indications:

- **Maternal sepsis or suspected chorioamnionitis:** Any case where the mother had intravenous antibiotics in labour for pyrexia or confirmed/suspected infection warrants placenta swabs. (This includes chorioamnionitis diagnosed clinically, e.g. maternal fever ≥38°C with uterine tenderness or foul fluid, even if treated, to identify the causative organism).
- **Foul-smelling amniotic fluid:** Offensive or malodorous liquor noted during labour or at delivery is a red flag for infection (often anaerobic bacteria). A placenta swab should be taken if "offensive liquor" was documented.
- **Prolonged rupture of membranes (PROM ≥24 hours):** Extended time between membrane rupture and birth increases infection risk. If membranes were ruptured ≥24h before delivery (regardless of maternal fever), swab the placenta to detect any subclinical infection.
- **Unexpectedly poor neonatal condition at birth:** If a baby is born in unexpected poor condition (low Apgar's, need for resuscitation) consider placental swabs. The placenta may reveal an infection that wasn't evident (for instance, subclinical chorioamnionitis causing fetal compromise).
- **Stillbirth (IUD) or early Neonatal Death (NND):** *In all cases of intrauterine fetal demise or neonatal death*, placenta swabs must be taken and the placenta itself sent for full pathological examination. This is essential for determining if infection played a role in the demise. (Refer also to the Stillbirth Management guideline for additional steps on handling the placenta in these scenarios.)

Note: In many of the above situations, the placenta will also meet criteria for histopathology. Swabbing for microbiology should be done prior to placing the placenta in formalin or sending it to pathology, as fixatives will kill organisms.

Procedure – Placental Swabbing Technique: *Two swabs should be collected, one from the fetal side of the placenta and one from the maternal side.* Use standard charcoal transport swabs (Amies medium swabs) or other appropriate bacteriology swab kits as per hospital lab protocol. Use aseptic technique and avoid contamination from external sources by following these steps:

1. **Prepare for Sampling:** Wear sterile gloves and ensure the placenta is placed on a clean surface. Have two swabs ready, each labelled in advance as "maternal surface" and "fetal surface" to avoid mix-up. Do not use the same swab on both sites.
2. **Identify Fetal vs Maternal Sides:** The fetal side of the placenta is the shiny, membrane-covered side where the umbilical cord inserts (chorioamniotic membranes). The maternal side is the reddish, convoluted side that was attached to the uterus (decidua and cotyledons).
3. **Fetal Side Swab:** Peel back a section of the amnion (the thin transparent membrane) to expose the underlying chorion. Using the first swab, swab between the amnion and chorion, this area was in contact with amniotic fluid and fetal side of the infection, and by lifting the amnion you minimise picking up skin or vaginal bacteria. Rotate the swab tip on the tissue to ensure adequate fluid uptake. Be careful not to touch the swab tip to any non-placental surface. Place the swab back into its sterile tube immediately after sampling.
4. **Maternal Side Swab:** With the second swab, sample the maternal surface. If there are blood clots adherent, gently move a clot aside with a sterile instrument to access the placental tissue itself (the cotyledon surfaces), this ensures you're culturing bacteria from the placenta rather than just maternal blood. Swab the basal plate (maternal side tissue) thoroughly, again rotating the swab tip to collect any exudate or discoloured areas. The maternal side swab targets organisms in the decidua (maternal blood space) that may not be present on the fetal side. Avoid touching the area where the placenta was in contact with the table or your gloves' skin. Return the swab to its tube.
5. **Labelling:** Clearly label each swab tube with the patient's name, hospital number, date/time, and source, e.g. "Placenta – Fetal surface" and "Placenta – Maternal surface." Proper source identification is critical for the microbiology lab's processing and for interpretation of results. In the lab request (electronic or paper form), provide clinical details (e.g. "suspected chorioamnionitis, maternal pyrexia 38.5°C" or "IUD at 35 weeks") so that appropriate culture media are used.
6. **Transport:** Send the swabs to the microbiology lab as soon as possible. The charcoal medium will preserve organisms for a short period, but faster processing yields better results.

Clinical Value of Placental Cultures: Placental swabbing and subsequent culture results can significantly inform care:

- **Guiding Antibiotic Therapy:** If a specific pathogen is grown from the placenta, antibiotic regimens for mother and baby can be tailored. For instance, a placenta culture growing *Group B Streptococcus* or *E. coli* will prompt confirmation that the newborn is covered for those organisms (or may influence duration of antibiotics). In suspected chorioamnionitis, a positive culture helps confirm the diagnosis and can lead to targeted treatment (e.g. adding anti-anaerobic coverage if Bacteroides is identified on the maternal side swab). Conversely, if cultures are negative, clinicians might consider non-infectious causes for the baby's symptoms or maternal fever. *(Note: A negative placenta swab does not completely rule out infection, it could be due to prior antibiotic administration, but a positive result is very informative.)*
- **Confirming Chorioamnionitis:** Histological examination remains the gold standard to diagnose chorioamnionitis (looking for neutrophils in membranes, etc.), but microbiological evidence is a helpful adjunct. A placenta swab that grows a typical chorioamnionitis organism (such as *Ureaplasma, Fusobacterium* or other vaginal flora) supports the clinical diagnosis. This can be important in explaining neonatal outcomes (e.g. preterm labour or cerebral palsy cases where infection was a contributor). It also provides closure in stillbirth cases to identify an infectious cause.
- **Medico-Legal and Quality Assurance:** From a risk management perspective, performing placenta swabs in the above scenarios demonstrates adherence to protocol and thorough care. In any case of early neonatal sepsis, long NICU admission, or perinatal death, investigators will ask: *Were appropriate cultures taken?* A documented positive placental culture can substantiate that an infection was present at birth, which might influence medico-legal judgments (for example, distinguishing an unavoidable infection-related outcome from a possible mismanaged labour). Even in internal reviews, the presence of placental culture results can shed light on events and guide future practice improvements. Failing to obtain a swab when indicated could be seen as a missed opportunity to fully evaluate the clinical picture.

Documentation and Follow-Up: It is crucial to document and act on placental swab results:

- **Intrapartum/Newborn Notes:** Document in the maternity record that placenta swabs were taken, including the reason (e.g. "placenta swabs taken due to offensive liquor" or "placenta swabs for prolonged ROM and maternal pyrexia"). Similarly, note in the neonatal notes or newborn examination that placental cultures are pending, so the neonatal team are aware to check results.
- **Lab Requests:** Ensure the microbiology request (paper form or electronic entry) is fully completed with maternal details and clinical indications.
- **Results Tracking:** Placenta culture results typically take a few days. Significant positive results (like growth of pathogenic bacteria) should prompt a phone call from the lab; however, do not assume no news is good news. Document the results in both the maternal and neonatal record when available, along with any change in treatment this necessitates.
- **Communication with the family:** If a significant infection is identified on the placenta, the woman (and neonatal team) should be informed. For example, if *Group B Strep* grew on the placenta and the baby is well at discharge, the

parents should be advised on signs of late-onset infection, and the finding should be communicated in discharge summaries for vigilance.

- **Storage/Transfer:** If the placenta was sent to pathology after swabbing, note that in the records. Pathology and microbiology will correlate findings in multidisciplinary review (e.g. PMRT). The act of taking swabs and the rationale should be clearly written as part of the birth documentation.
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3. Cord Gas Analysis

Aim of policy and introduction

This guidance is for clinicians to safely obtain cord blood samples to support decision making around ongoing management of care.

Paired cord gas sampling (venous and arterial) provides a practical objective measurement of the neonate's condition at birth. Arterial cord blood provides information on the acid-base of the neonate. Venous cord blood reflects both maternal acid-base status and placental function. Together, results provide information on possible oxygen deficiency of the neonate.

It is important to note that NICE (2022) do not routinely advise obtaining cord gases on all babies; however, it is recognised that selective, rather than routine cord blood gas analysis can miss collection of samples from some high-risk deliveries and subsequently new-born babies with birth asphyxia. An emerging theme through DATIX and ATAIN has been the absence of paired cord gases. Please note criteria for taking paired cord blood samples below:-

Indications for obtaining cord blood samples but not limited to:

- Any birth where a CTG has been performed
- All unplanned Caesarean birth including Cat 3.
- Multiple birth
- Assisted vaginal birth
- Any preterm birth <37/40
- Meconium-stained liquor
- Shoulder Dystocia
- APH
- Apgar <7 at 5 minutes
- Any baby born in poor condition (including MLU)
- Suspected or confirmed maternal or fetal infection

Cord Gases

SHARED LEARNING- MIDWIVES AND OBS

Which Births?

Cord gas analysis is for all babies with continuous CTG monitoring, other risk factors in labour and/or at birth or unexpectedly born in poor condition. This is used *to inform neonatal resuscitation and early care decisions.*

Guiding Neonatal Resuscitation & Care

Cord gas results, available within minutes, **can support clinical decision-making in the crucial first moments of newborn care.** This is the *primary* reason for performing this POCT.

Fast Processing Saves Lives

Aim to have cord blood gases *analysed within 5-10 minutes* of birth. This is the role of the second midwife and midwives in theatre require support to achieve this.

Impact on Clinical Management

Compromised or late samples *can mislead management decisions*. E.g. a low pH from a delayed sample might alarm the team to possible HIE even if the baby's true initial pH was higher. This could lead to unnecessary separation of baby and mother for observation or treatment. On the other hand, not obtaining paired cord gas at all in a baby with low Apgar scores can leave the team guessing about whether intrapartum hypoxia was a factor, potentially *delaying critical interventions*.

Preserving Newborn Safety

If samples show unexpected acidosis, the team can observe the baby more vigilantly even if Apgars were okay. This can *prompt early interventions to preempt late deterioration*.

Sample Deterioration

Ongoing cellular metabolism *will gradually alter gas values*. If left at room temperature, pH tends to drop (becoming more acidotic) as CO_2 accumulates and oxygen is consumed; base excess can worsen over time.

Best Practice Points

- Collect cord samples while waiting for signs of separation of the placenta.
- Paired cord samples are more likely to be obtained when taken immediately after delayed cord clamping.
- Support staff in theatre by processing their sample.

Cord Gases

SAMPLING TECHNIQUE

Which Births?

Shoulder Dystocia
Unplanned LSCS & Cat 3
Continuous CTG monitoring
Unexpectedly born in poor condition
Maternal/Neonatal signs of infection

Why they matter...

They support clinical decision-making in the crucial first moments of newborn care. This is the *primary* reason for performing this POCT.

Paired Cord Gas Sampling Technique

Immediate Sampling: Obtain samples as soon as possible after birth as delays can affect accuracy due to metabolic changes in the blood. Ideally while waiting for signs of placental separation for vaginal births. For Caesarean birth, as soon as placenta is delivered.

Preparation: Use aseptic technique with two heparinised syringes.

Blood Collection:

- Clamp both ends of a segment of cord approximately 10-20 cm in length and milk cord from placenta if required to ensure enough blood for sampling.
- Clean the cord segment gently with gauze to remove maternal blood or fluids.
- Sample Artery first (smaller diameter, thick-walled, often contracts or pulsates) drawing 0.5-1 ml.
- Sample Vein second (larger diameter, thinner-walled) again drawing 0.5-1 ml of blood.

Expelling Air and Mixing Sample:

- Immediately expel any air bubbles carefully from the syringe. Do not bang or flick the sample to avoid creating lots of little air bubbles and/or haemolysing the sample.
- Gently invert the syringe several times to mix the sample with the heparin, preventing clotting.
- Place syringe caps securely to prevent exposure to air.

Correct Labeling: Clearly label each syringe, along with maternal identification, date, and time of sampling.

Immediate Analysis: Promptly analyse samples. This is the responsibility of the second midwife, and midwives in theatre require support to achieve this.

If unable to obtain paired samples, escalate for someone else to try

Optimal Cord Management

Umbilical cord blood samples can be obtained from the unclamped cord, providing it is done immediately after birth. Evidence suggests the procedure is safe and has no effect on the volume of blood received by the baby, or the results themselves.

Storage and processing

Cord samples should be obtained immediately after birth however, in cases where cord gases have not been taken at birth, the cord should be double clamped. This should occur in ALL births.

The heparinised sample can be left at room temperature for up to 30 minutes, refrigerate if a delay is anticipated. This is particularly important for cases when a baby is born in good condition but deteriorates following birth.

When to Escalate:

pH <7.1

Base deficit of > -12mmol/l

Arterial Lactate ≥5

Sodium <120 mmol/

- Inform neonatal team for plan of care
- Complete a Datix

Documentation

All staff should document results in both maternal AND neonatal notes, either by printing results or handwriting them. If a sample is unable to be obtained or there is suspected duplicate samples, then this should be acknowledged, and the reason why clearly documented.

Please complete a DATIX when cord blood results fall outside of the normal ranges or if there are any equipment issues and record the DATIX number in the notes.

References

Intrapartum care for healthy women and babies (NICE 2023)

Cord Blood Analysis Guideline (mkuh.nhs.uk 2021)

4. Education and Training

All staff that work within the maternity services at CTM UHB will be informed of and aware of the process of the management and disposal of a placenta following birth. This will be undertaken during the induction process and will also be advised and delivered to midwives and Doctors in training at all Hospital sites.

5. Supporting References

https://publicdocuments.sth.nhs.uk/pd9728_ReleaseOfHumanTissue.pdf -Sheffield teaching hospitals NHS Foundation Trust 2022

https://placentaremediesnetwork.org/placenta-remedies-businesses-to-be-regulated-in-the-uk/ accessed on 29 March 2023

6. Supporting Policies

Policy for the sensitive disposal of pregnancy remains (PATH 02) CTMUHB

SharePoint under: Policies - Nursing

Appendix 1 – Process For Placenta Examination and Histological investigation of Placentae Following Birth Guideline

Bwrdd Iechyd Prifysgol Cwm Taf University Health Board

APPENDIX one- Process for Placenta Examination and Histological investigation of Placenate Following Birth Guideline

Examination of the placenta following birth

Following birth, the placenta and membranes must be checked for completeness and must be clearly documented in the maternity records.

All placentae, regardless of mode of delivery, should be appropriately labelled and stored on the labour ward for a period of 24 hours. In the delegated specimens reftigerator on labour ward. Only after this time should arrangements be made for the appropriate disposal of the placenta in line with the Health Boards agreed process of disposal.

Univeral Disposal of a Placenta following birth

All placentae, regardless of mode of delivery, should be appropriately labelled and stored on the labour ward for a period of 24 hours. In the delegated specimens reftigerator on labour ward. Only after this time should arrangements be made for the appropriate disposal of the placenta in line with the Health Boards agreed process of disposal.

The majority of women will agree that the midwife will dispose of the placenta following the birth of their baby. The Placenta must be retained by the Health Board for incineration and disposed of as per Health Board Guidance.
Gain consent & Inform the woman of the agreed process in place

Storage and Transport Instructions

Placenta must be **placed inside a placenta bag**. The **placenta bag should be labelled** with the womans details and the date and time of the birth. The placenta should then be placed in a further container (which of note would hold placentas belonging to other women that have given birth in the last 24 hours). This container will be stored in a delegated specimens reftigerator on labour ward. At a home confinement, place the placenta into the placenta bag and place into a placenta pot and transport to hospital.

Under no circumstances will the placenta be stored on the unit if the woman has requested to take it home. Also ensure to report any incidents regarding the incorrect storage and dispoal of a placenta immediately on Datix and inform the midwife in charge.

Appendix 2 – Release of Human Tissue (Placenta and Umbilical Cord only) to a woman for transfer from hospital premises or to remain at home with the woman following birth:

Appendix 2

Release of Human Tissue (Placenta and Umbilical Cord only) to a woman for transfer from hospital premises or to remain at home with the woman following birth:

Name: ……
DOB: ……..
Hospital Number: ……..
NHS number: ……
(Patient details or addressograph sticky)

The following human tissue removed from the above woman following birth has been released to ……..
on …… / ……. / ……..

Nature of human tissue being release ……
Storage method for transfer-transport ……..
Tissue given to woman / carer (delete as appropriate)
Authorising member of staff:

Signature.....
Printname:.....

Designation ……..
CTM site : POW/PCH/Tirion/Home
Statement of woman:

Appendix 3 – Process for Releasing a Placenta to a Woman following Birth

APPENDIX Three- Process for Releasing a Placenta to a Woman following Birth

Woman requests to take placenta home

Midwife to assess eligibility
Does the woman have a known infection? For example: bloodborne virus, sepsis, chorioamnionitis

YES

Placenta must be retained by the Health Board for incineration and disposed of as per Health Board Guidance.
Inform the woman

NO

If **NO**

Consent and Documentation
Ensure woman (or designated relative/partner) signs the "Release of Human Tissue" form.
Document request and signed consent in maternity records.

Storage and Transport Instructions
Placenta must be **double-bagged in plastic** and placed in the **sealed container** before leaving the hospital.
Give immediately to the woman following confirmation of correct details, to arrange transportation home.
Under no circumstances will your placenta be stored on the unit if you have requested to take home.
Under no circumstances will your placenta be stored on the unit if the woman has requested to take home.

Placenta Collection Timing
Preferably given directly to the woman.
If the woman remains in hospital, partner/relative will transfer the placenta on her behalf.
Placenta must be taken home as soon as possible.