Guideline for Diagnosis and Management of Clinical Chorioamnionitis

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Division/Department	Maternity Services
Reference	ABUHB/F&T/1353
Applies to (delete as appropriate)	Local Maternity Department
Approving Forum	Clinical Effectiveness Forum (CEF)
Date Approved	17/08/2026
Review Date	17/08/2029

Version Control:

Version No	Approved	Author
1	17/08/2026	Mary Bilcliffe/ Claire Hill

Policy on a Page: Key Messages

Aim:

To support clinicians in the diagnosis and early recognition of **clinical** chorioamnionitis and to provide clear, evidence-based recommendations for its management, with the aim of optimising outcomes for both mothers and their babies.

Summary of key changes (for revised documents only)

First iteration of document, therefore, not applicable.

Key Messages:

- Gibbs Criteria for **Clinical** Chorioamnionitis
- These criteria include maternal fever (>37.8 °C) with any two other criteria, including:
  - Maternal tachycardia (heart rate > 100 beats/min
  - Uterine tenderness
  - Foul-smelling amniotic fluid/vaginal discharge
  - Fetal tachycardia (heart rate greater 160 beats/min)
  - Maternal leukocytosis (white blood cell count greater than 15 x 10(9)/L).

Target Audience:

This guideline applies to all midwives and obstetric clinicians of all grades.

Training:

Clinical chorioamnionitis is taught on the national IFS programme annually and discussed periodically during case reflections.

Contents

1. Introduction/Overview[1]

This guideline focuses on the identification and management of **clinical chorioamnionitis**, rather than suspected infection. Subclinical or Histopathological chorioamnionitis can be asymptomatic and may only be definitively diagnosed following delivery through histopathology. In contrast, clinical chorioamnionitis presents with recognisable maternal and fetal signs that enable timely diagnosis and intervention.

Chorioamnionitis is an intra-amniotic infection characterised by inflammation and/or infection of intrauterine structures, including the placenta, chorion, and amnion[31]. It is identified in around 1–5% of deliveries at term [1 3]; however, estimates can vary based on diagnostic criteria used and risk factors identified [4]. For example, chorioamnionitis can complicate up to one third of pregnancies with preterm labour [5].

Clinical chorioamnionitis is a well-known risk factor for adverse maternal and perinatal outcomes. Affected mothers have an increased rate of endometritis [2 7], post-operative wound infections [2 8], sepsis [9 10], septic pelvic thrombophlebitis [11 12], postpartum haemorrhage [13], pelvic abscess [2] amongst other complications. There are also many recognised Neonatal complications including congenital sepsis [6 14-21] as well as localised infections such as pneumonia [14 15] and organ dysfunction related to Fetal Inflammatory Response Syndrome (FIRS). In addition, clinical chorioamnionitis has been associated with an increased risk of long-term complications such as cerebral palsy (CP) [17 21-29] with a 78-fold increased risk of CP when overlayed with hypoxia [30].

Recognising these significant risks to maternal and neonatal morbidity and mortality, the purpose of this guideline is to support clinicians in the early recognition of clinical chorioamnionitis and to provide clear, evidence-based recommendations for its management, with the aim of optimising outcomes for both mothers and their babies.

2. Scope

This guideline is intended for use locally by midwives and obstetricians of all grades working within ABUHB maternity services.

The diagnostic element of this guideline can and should be used by community maternity services within ABUHB however, ongoing management would require transfer into the Grange Hospital Site or another Obstetric supported unit.

3. Statement/Background

If you have difficulty understanding any part of this guideline- including due to learning, sensory, or communication needs- please speak with your Line Manager or contact the authors of this guideline for support or clarification.

Staff must take a proactive approach to identifying and meeting the accessibility and communication needs of people with disabilities and/or language barriers, including offering information in alternative formats, arranging interpretation or communication support as required, and not relying solely on individuals to request adjustments.

The term "woman/ women" will be used throughout this document however, it is recognised that this refers to all pregnant, birthing and postnatal people regardless of gender identification.

4. Aim

Purpose of this guideline is to support clinicians in the early recognition of clinical chorioamnionitis and to provide clear, evidence-based recommendations for its management, with the aim of optimising outcomes for both mothers and their babies.

This guideline should be read in conjunction with the following-

- Management of spontaneous preterm pre-labour rupture of membranes <34 weeks' gestation (PPROM) (Aneurin Bevan University Health Board, 2024)
- Induction of Labour Guideline (Aneurin Bevan University Health Board, 2026)
- Labour ward guidelines (Aneurin Bevan University Health Board, 2021)
- Pre term Labour and Birth Guideline (Aneurin Bevan University Health Board, 2024)
- Antenatal Fetal Surveillance Guideline (Aneurin Bevan University Health Board, 2025)
- Intrapartum Fetal Surveillance Guideline (Aneurin Bevan University Health Board, 2025)

5. Main Body

Risk Recognition and Mitigation

The pathogenesis of intra-amniotic infections is most commonly due to ascending infections[1 33]. Intrauterine infection can also be transmitted via transplacental transfer, or as an iatrogenic infection via procedures such as amniocentesis.

There are multiple studies reporting risk factors for chorioamnionitis, which include prelabour rupture of membranes (PROM), prolonged labour, alcohol and tobacco use, bacterial vaginosis (BV), colonization with group B streptococcus (GBS), amongst other pathogens [15 34-38]. The management of these risk factors are outlined below.

Recurrent Vaginal Examinations

Research suggests that >8 vaginal examinations (VE) increase the risk of chorioamnionitis 1.7 times[32].

To ensure that this risk of infection is reduced, ensure VEs are only performed when necessary and that sterile VE packs are used where available. If there are no sterile VE packs, ensure good hand hygiene and

the use of sterile gloves. *Please refer to the Infection Prevention & Control - Hand Hygiene Guide for further information.*

PPROM/ PROM/ GBS Positive

Amniotic fluid contains natural antimicrobial properties. However, specific strains of GBS possess specialized genes and surface proteins that protect them against these defences, allowing bacteria to survive and multiply[39]. Antibiotics should be administered once rupture of membranes (ROM) is confirmed to reduce the risk of infection.

Consider expediting birth as per the local Induction of Labour (IOL) Guideline [41].

For further information, please refer to the Management of spontaneous preterm pre-labour rupture of membranes <34 weeks gestation (PPROM) [42] for management of PPROM <34 weeks' gestation, and the Induction of Labour (IOL) Guideline [43] for management of spontaneous rupture of membranes (SROM)/ prolonged rupture of membranes (PROM) >34 weeks' gestation.

Intrapartum Pyrexia

There is a 3-fold risk of cerebral palsy with intrapartum pyrexia alone. Given this is an independent risk factor for fetal injury, ensure this is managed i.e., Paracetamol administration, tepid sponging, fan application and management of environmental factors. Avoid prolonged labour where maternal pyrexia cannot be treated.

Diagnosis

Traditionally, the diagnosis of clinical chorioamnionitis has been based on the signs and symptoms of patients presenting with microbial associated intrauterine inflammation and bacterial infection, first described by Gibbs et al [1].
These criteria include maternal fever (>37.8 °C) with any two other criteria, including:

- Maternal tachycardia (heart rate > 100 beats per minute
- Uterine tenderness
- Foul-smelling amniotic fluid/vaginal discharge
- Fetal tachycardia (heart rate >160 beats per minute
- White blood cells (WCC) >15 x 10(9)/L

Management <34 weeks' gestation

Non-Labouring

On diagnosis of clinical chorioamnionitis:

- Transfer to the obstetric-led labour ward for ongoing care.
    - If transfer is not achieved after 30 minutes due to resource availability, there must be escalation to a senior obstetrician and the senior midwifery manager on-duty/ on-call. A Datix should also be completed for delayed transfer (*Transfer, Discharge> Transfer> Transfer Delayed*). There must be robust documentation via the Badgernet system regarding the reason for delay, in addition to any resulting actions.
    - Where immediate transfer to the obstetric-led labour ward cannot be completed in view of resource availability, one-to-one care provision with continuous fetal monitoring on the maternity wards/ maternity triage should be facilitated until transfer can occur.
- If there is an obstetrician decision for immediate delivery, these cases should be treated as category 1 urgency classification in accordance with the National Institute for Health and Care Excellence (NICE, 2025) [44].
- If identified in the community setting, transfer the woman via ambulance to the obstetric-led labour ward in the Grange University Hospital. Please refer to the All Wales Guideline for Maternity Transfers from Community and Freestanding Midwifery Units [42].
- Commence the Sepsis Six Pathway (Appendix 1) and complete all elements, unless maternal and fetal compromise is present necessitating immediate, expedited birth.

- Maternal observations should be performed as follows-
    - Heart rate (HR): 15-minutely
    - Blood pressure (BP), respiration rate (RR), oxygen (O2) saturations, temperature: 1-hourly
- Control maternal pyrexia. If maternal pyrexia cannot be achieved/ controlled, birth should be expedited by the safest method possible.
    - Paracetamol
    - Fan/ cool sponging for maternal comfort
    - If maternal pyrexia cannot be achieved/ controlled, consideration should be given to expediting birth by the safest method possible.
- **If <26 weeks' gestation**, the method of fetal monitoring should be discussed with a senior obstetrician and performed on the obstetric-led labour ward accordingly. The fetal monitoring method should be agreed in partnership with the woman following a thorough counselling discussion and the attainment of informed consent. If birth is likely to occur within the proceeding 4-6 hours, consider 15-minutely intelligent intermittent auscultation (IIA) for fetal monitoring. Where birth is being delayed until after this time, individualised care planning should be undertaken by a senior obstetrician.
- **If >26 weeks' gestation**, the usual recommendation where active management is planned would be for continuous fetal monitoring via a cardiotocograph (CTG) during fetal optimisation. In a small number of cases, active birth planning may not be appropriate and continuous fetal monitoring with CTG may not be beneficial. In these circumstances, thorough joint counselling with senior obstetricians and neonatologists should be undertaken to ensure collaborative, informed decision-making.
    - In the event that immediate transfer to the obstetric-led labour ward cannot be facilitated, continuous electronic fetal monitoring via a cardiotocograph (CTG) should be continued on the antenatal ward/ in maternity triage until the point of transfer to the obstetric-led labour ward. Where possible, the

continuous electronic fetal monitoring should be made visible in the obstetric-led labour ward *'handover room'.*

- Dawes-Redman CTG should not be utilised in the presence of diagnosed clinical chorioamnionitis.

- Alert the neonatal team of the diagnosis and anticipated birth of a preterm baby with clinical chorioamnionitis to support effective neonatal management.
- A thorough counselling discussion should take place with the woman in conjunction with the neonatal team with gestation specific risks discussed.
- Perinatal optimisation is vital should there be no evidence of acute maternal/ fetal deterioration (as per Gibb's Diagnostic criteria). However, expediting birth should not be delayed where there is clinical deterioration.
    - Magnesium sulphate (MGSO4) should be prioritised. If clinically appropriate, 4-hours of MGSO4 should be given prior to birth. Please refer to the Pre term Labour and Birth Guideline [43] for further information pertaining to MGSO4 administration.
    - There is a benefit to a single dose of antenatal corticosteroid and this should be offered where time allows, though this should be clinical scenario-based decision. Where there is suspicion of maternal sepsis (Appendix 1) or severe systemic infection, a senior obstetric review of the whole clinical picture should be undertaken prior to the administration of corticosteroids, as these are considered a critical clinical caution [45] [46].
- Send placental swab and placenta for histopathology testing to confirm diagnosis of clinical chorioamnionitis. Placental swabbing should be undertaken in accordance with the following 'How to take Placental Swabs for microbiology' video.

Labouring

On diagnosis of clinical chorioamnionitis, the management should proceed as per the above 'Non-Labouring' management with the addition of the following-

- Please refer to the Pre term Labour and Birth Guideline [43] for information pertaining to management of pre term labour and birth.
- In the absence of CTG concerns and if labour is progressing, then vaginal birth can be facilitated. However, any acute maternal/ fetal deterioration/ clinical concern should prompt expedited birth. A preterm fetus has reduced capacity to tolerate infection/ hypoxia, and may respond quickly at the onset of hypoxic stress particularly overlayed with infection.
- Syntocinon augmentation should not be used in the presence of clinical chorioamnionitis in view of the preterm fetus' reduced capacity as stated above.

Management >34 weeks' gestation

Non-Labouring

On diagnosis of clinical chorioamnionitis:

- Transfer to the obstetric-led labour ward for ongoing care.
    - If transfer is not achieved after 30 minutes due to resource availability, there must be escalation to a senior obstetrician and the senior midwifery manager on-duty/ on-call. A Datix should also be completed for delayed transfer (*Transfer, Discharge> Transfer> Transfer Delayed*). There must be robust documentation via the Badgernet system regarding the reason for delay, in addition to any resulting actions.
    - Where immediate transfer to the obstetric-led labour ward cannot be completed in view of resource availability, one-to-one care provision with continuous fetal monitoring on the

maternity wards/ maternity triage should be facilitated until transfer can occur.

- If there is an obstetrician decision for immediate delivery, these cases should be treated as category 1 urgency classification in accordance with the National Institute for Health and Care Excellence (NICE, 2025) [44].
- If identified in the community setting, transfer the woman via ambulance to the obstetric-led labour ward in the Grange University Hospital. Please refer to the All Wales Guideline for Maternity Transfers from Community and Freestanding Midwifery Units [42].
- Commence the Sepsis Six Pathway (Appendix 1) and complete all elements, unless maternal and fetal compromise is present necessitating immediate, expedited birth.
- Maternal observations should be performed as follows-
    - Heart rate (HR): 15-minutely
    - Blood pressure (BP), respiration rate (RR), oxygen (O2) saturations, temperature: 1-hourly
- Control maternal pyrexia. If maternal pyrexia cannot be achieved/ controlled, birth should be expedited by the safest method possible.
    - Paracetamol
    - Fan/ cool sponging for maternal comfort
    - If maternal pyrexia cannot be achieved/ controlled, consideration should be given to expediting birth by the safest method possible.
- Commence continuous electronic fetal monitoring on the obstetric-led labour ward to ensure effective fetal surveillance.
    - In the event that immediate transfer to the obstetric-led labour ward cannot be facilitated, continuous electronic fetal monitoring via a cardiotocograph (CTG) should be continued on the antenatal ward/ in maternity triage until the point of transfer to the obstetric-led labour ward. Where possible, the continuous electronic fetal monitoring should be made visible in the obstetric-led labour ward *'handover room'.*
- Expedite birth via caesarean section.

- Send placental swab and placenta for histopathology testing to confirm diagnosis of clinical chorioamnionitis. Placental swabbing should be undertaken in accordance with the following 'How to take Placental Swabs for microbiology' video.

Labouring

On diagnosis of clinical chorioamnionitis, the management should proceed as per the above 'Non-Labouring' management with the addition of the following-

- If birth is not expected within 4-hours and there are signs of fetal hypoxia or maternal sepsis (Appendix 1), expedite birth to reduce the risk of neonatal morbidity/ mortality.
- If birth is expected within 4-hours and there are no signs of fetal hypoxia or maternal sepsis, continue continuous electronic fetal monitoring and regular multi-disciplinary reassessment.

Postnatal

- Offer postnatal follow-up with a consultant obstetrician to explain the diagnosis, management, and implications for future pregnancies. This should occur 4- 6 weeks postnatal with placental histology findings. In the event that placental histology is not available, it may be beneficial to await this prior to postnatal follow-up to ensure all relevant information is accessible to support subsequent management.
- Review and action all outstanding investigation results (including microbiology, blood cultures and placental histology). Communicate and document any positive results via the Badgernet system, ensuring appropriate follow-up is arranged.
- Inform the neonatal team of all cases of diagnosed clinical chorioamnionitis and communicate any positive maternal results received postnatally to support neonatal management.
- Women who have experienced a preterm birth prior to 34 weeks' gestation should be counselled regarding future pregnancy risks

and advised that referral for serial transvaginal cervical length surveillance (TVS) may be recommended in a subsequent pregnancy to monitor for cervical shortening or cervical insufficiency.

- Document the diagnosis, results, neonatal involvement, and future pregnancy recommendations in the discharge summary and electronic maternity records (Badgernet).

6. Roles and Responsibilities

It is the responsibility of the maternity team to ensure that this guideline is adhered to when diagnosing and managing clinical chorioamnionitis.

7. Consultation

All new or significantly revised policies will be subject to consultation within the division via the Clinical Effectiveness Forum (CEF) and with relevant professional groups and/ or individuals present.

Individuals with expertise in obstetrics, midwifery and safeguarding have been consulted with in the development of this policy.

8. Equality Impact Assessment

An equality impact assessment has been carried out and approved as this guideline prioritises care based on standardised assessment and clinical need.

9. Training Requirements

Staff are expected to access appropriate training where provided. Training needs will be identified through appraisal and clinical/ educational supervision.

The diagnosis and management of clinical chorioamnionitis and information contained within this guideline is taught on the mandatory, annual Intrapartum Fetal Surveillance (IFS) Wales multi-disciplinary study day.

10. Audit and Review

This policy will be reviewed on a 3-yearly basis, unless significant changes to clinical practice/ national policy arise.

Maternal/ neonatal outcomes will be monitored via the local maternity dashboard. Adverse maternal/ neonatal outcomes will be reviewed on an individual basis via local governance arrangements. Patient experience will be gauged through CIVICA and Listening to People procedures.

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12. Appendices

Appendix 1- Sepsis 6 Pathway

**Full Sepsis 6 Pathway can be accessed by double clicking the below Appendix.*

Risk Assessment & Action for Suspected Maternal Sepsis

(adapted from UK Sepsis Trust Inpatient Maternal Sepsis Tool – 2016)

1. **Has MOEWS been triggered?**
2. **Does the woman look sick?**
3. **Is the fetal heart rate ≥ 160 bpm?**
4. **Could this woman have an infection?**
   Common infections include:
   - Chorioamnionitis/endometritis
   - Urinary tract infection
   - Wound infection
   - Influenza/pneumonia
   - Mastitis/breast abscess

Affix Patient ID

If YES to any of the above, complete risk assessment

High Risk criteria
(tick all those that are appropriate)

- Respiratory rate ≥ 25 ☐
- SpO_2 < 92% without O_2 ☐
- Heart rate > 130 ☐
- Systolic BP ≤ 90 ☐
- Altered mental status/ Responds only to voice, pain or unresponsive ☐
- Blood Lactate ≥ 2.0* ☐
- Non-blanching rash/mottled/ cyanotic ☐
- Urine < 0.5 mL/kg/hr ☐
- No urine for 18 hours ☐

If ONE criterion is present:

Commence 'Sepsis Six' NOW

- Immediate obstetric review ST3 or higher (transfer to Obstetric Unit if in the community)
- Inform Consultant Obstetrician & Consultant Anaesthetist
- Commence Maternal Critical Care Chart
- Commence 'High Risk of Maternal Sepsis' Pro forma

Moderate Risk criteria
(tick all those that are appropriate)

- Respiratory rate 21–24 ☐
- Heart rate 100–130 ☐
- Systolic BP 91–100 ☐
- Temperature < 36°C ☐
- No urine output for 12–18 hours ☐
- Fetal heart > 160bpm/Pathological CTG ☐
- Prolonged ruptured membranes ☐
- Recent invasive procedure ☐
- Bleeding/wound infection/vaginal discharge/abdominal pain ☐
- Close contact with Group A Strep ☐
- Relatives concerned about mental/ functional status ☐
- Diabetes/ gestational diabetes/ immunosuppressed ☐

If TWO criteria are present (also consider if only ONE criterion):

Send bloods:

FBC, lactate, CRP, U+Es, LFTs, clotting

OBSTETRIC REVIEW (ST3 or higher) within one hour

Consider 'Sepsis Six'

Review Bloods: If lactate ≥ 2 or Acute Kidney Injury present, follow HIGH Risk Pathway

Low Risk criteria
(tick all those that are appropriate)

- Respiratory rate ≤ 20 ☐
- Heart rate < 100 ☐
- Systolic BP > 100 ☐
- Normal mental status ☐
- Temperature: 36 – 37.3°C ☐
- Looks well ☐
- Normal CTG ☐
- Normal urine output ☐

If ALL criteria are present:

LOW RISK OF SEPSIS

Review & monitor for improvement or deterioration

Consider obstetric needs & full clinical picture

* NB: Lactate measurement may be transiently elevated during and immediately after normal labour and birth. If unsure, repeat sample.

Completed by:

Name: Designation: Time:

Signature: Date: