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Management of Uterine Hyperstimulation

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| Specialty: | Maternity |
| Approval Body | Labour Ward Forum / Antenatal Ward Forum |
| Approval Date: | 8 th February 2023 |
| Date for Review: | 8 th February 2026 |

Management of Uterine Hyperstimulation

Definition:

Hyperstimulation is defined as **either**:

- ≥ 5 contractions in ten minutes over a 30 minute period ^{2, 5}

OR

- Contractions lasting more than 2 minutes in duration

AND

- Resulting in fetal heart rate changes (a risen or unstable baseline rate, decelerations, reduced variability)

NB: For women who have any increased uterine activity (frequency, duration or strength) associated with CTG changes hyperstimulation should be considered and the same process followed.

Remember, some at risk fetuses will have limited reserve to cope with even minimal uterine activity.

Uterine Tachysystole is defined as:

- ≥ 5 contractions in 10 minutes over a 30-minute period

AND

- The CTG remains 'Normal' ¹
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Excessive uterine activity is the most frequent cause of fetal hypoxia/acidosis¹, and must therefore be identified early on and managed effectively. In the presence of uterine tachysystole, consider tocolysis even where there are no current fetal heart rate concerns.

A CTG is unable to identify the strength or character of uterine activity and should not be relied upon to assess these features. The tocodynamometer will pick up any increases in intra-abdominal pressure, including maternal position change or breathing movements. In order to diagnose hyperstimulation the midwife or doctor must assess the contractions by palpating uterine activity over 10 minutes, recording in the notes the length, strength and frequency of contractions.

Hyperstimulation may occur naturally, although more rarely. Where contractions are >5 in 10 minutes over a 30-minute period during active labour

a CTG is required to assess fetal wellbeing. The Normal Labour Care Pathway must be exited in this situation ⁴

Causes:

- Over-stimulation or hyper-sensitivity to oxytocin
- Hyper-sensitivity to Prostaglandins
- Hyper-stimulation of uterus due to build up effect of oxytocin by previously administered prostaglandin
- Spontaneous or syntocinon induced labours, particularly in multiparae, it may be a consequence of fetal malpresentation or malposition or cephalopelvic disproportion.
- Frequent, low amplitude, uterine contractions are observed with abruption of the placenta and may be associated with FHR changes and vaginal bleeding.

Consideration must be given to the **whole clinical picture**, including existing risk of hyperstimulation i.e. use of prostaglandins, PV bleeding. For women who have had a previous caesarean section, the likelihood of uterine rupture is increased and therefore a full assessment including a lower threshold for intervention considered.

Management:

Induction of labour

If uterine hyperstimulation occurs during induction of labour, request obstetric review and:

- Perform a fetal assessment using a CTG
- Position into left lateral (or right if more comfortable for the woman)
- Remove Propess (if applicable)
- Consider Terbutaline, particularly if there are fetal heart rate concerns

Do not discontinue the CTG until you can classify it as 'normal'

Pharmacological methods of induction can cause hyperstimulation. Consideration should be given to the use of mechanical forms of induction e.g. a balloon catheter, in women or babies at higher risk i.e. previous caesarean section, growth <10th centile or abnormal dopplers³.

Mechanical methods are less likely to cause hyperstimulation³ and should be considered where hyperstimulation has already occurred.

National guidelines⁴ recommend that:

'In the presence of abnormal FHR patterns and uterine hyper contractility not secondary to oxytocin infusion, tocolysis should be considered. If the FHR

trace is normal, oxytocin may be continued until the woman is experiencing 4 or 5 contractions every 10 minutes. Oxytocin should be reduced if contractions occur more frequently than 5 contractions in 10 minutes. If the FHR trace is classified as abnormal, oxytocin should be stopped and a full assessment of the fetal condition undertaken by an obstetrician before oxytocin is recommenced.'

In Labour

Where uterine hyperstimulation is identified immediate resuscitative action must be taken to improve utero-placental oxygenation, particularly in the presence of

- Acute hypoxia i.e. prolonged deceleration
- Sub-acute hypoxia i.e. persistent decelerations >50% of the time below the baseline rate

Management

Request urgent obstetric review, and:

- Advise/continue continuous CTG monitoring
- Stop/reduce oxytocin infusion (depending on clinical assessment of fetal wellbeing/compensatory response)
- Position into left lateral (or right if more comfortable for the woman)
- Consider immediate acute tocolysis e.g. Terbutaline
- Ensure the woman is kept fully informed of concerns and actions

Consider restarting oxytocin infusion only if necessary for the progress of the labour, and once the fetus is no longer needing to compensate. This decision must be made and documented by an Obstetrician BEFORE oxytocin is recommenced.

Continuous CTG monitoring is recommended with the use of Oxytocin⁵.

Tocolysis

1) Terbutaline (Bricanyl)

Dose: 0.25mg (250mcg) administered by subcutaneous injection

Instructions: A Bricanyl vial comes in a preparation of 0.5mg/ml (A 1ml volume is in the vial). Draw up 0.5ml and administer under the skin (arm/stomach).

This dose can be repeated once after 15 minutes in the presence of ongoing concerns with fetal wellbeing.

2) Salbutamol

100mcg IV or as aerosol inhalation.

3) Glyceryl trinitrate (GTN) administered as 200mcg IV bolus or as 400mcg as sublingual spray.

NB: The above drugs are not licensed for use for this indication. NICE recommends informed consent should be obtained and documented.

Improvement usually begins within 5 minutes as utero-placental perfusion is restored due to the relaxation of the smooth uterine muscle. Side effects may include transient maternal tachycardia, flushing of skin and headache.

References:

1. International Federation of Obstetricians and Gynaecologists. (2015). FIGO Consensus guidelines on intrapartum fetal monitoring: cardiotocograph. *International journal of Obstetrics & Gynaecology*.
doi.org/10.1016/j.ijgo.2015.06.020
2. National Institute for Health and Care Excellence. (2017). *Intrapartum Care for healthy women and babies*. Available at <https://www.nice.org.uk/guidance/cg190>
3. National Institute for Health and Care Excellence. (2021). *Inducing Labour*. Available at <https://www.nice.org.uk/guidance/ng207/chapter/Recommendations>
4. All Wales Clinical Pathway for Normal Labour. (2021). *Maternity Network Guideline*. Available at [file:///C:/Users/ca180114/Downloads/Final%20All%20Wales%20Clinical%20Pathway%20parts%202%20and%203%20Dec2020%20\(002\).pdf](file:///C:/Users/ca180114/Downloads/Final%20All%20Wales%20Clinical%20Pathway%20parts%202%20and%203%20Dec2020%20(002).pdf)
5. National Institute for Health and Care Excellence. (2022). *Fetal Monitoring in Labour*. Available at <https://www.nice.org.uk/guidance/ng229/resources/fetal-monitoring-in-labour-pdf-66143844065221>

Maternity Services

Checklist for Clinical Guidelines being Submitted for Approval

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| Title of Guideline: | Protocol for the Management of Uterine Hyperstimulation |
| Name(s) of Author: | Labour Ward Forum |
| Chair of Group or Committee approving submission: | Labour Ward Forum |
| Brief outline giving reasons for document being submitted for ratification | To update current policy which has expired |
| Details of persons included in consultation process: | Consultant Obstetricians / Midwifery Staff |
| Name of Pharmacist (mandatory if drugs involved): | N/A |
| Issue / Version No: | 4 |
| Please list any policies/guidelines this document will supercede: | Protocol for the Management of Uterine Hyperstimulation – Dated 15 th November 2021 |
| Date approved by Group: | |
| Next Review / Guideline Expiry: | |
| Please indicate key words you wish to be linked to document | Hyperstimulation, Management of Uterine |
| File Name: Used to locate where file is stores on hard drive | Z:\npt_fs2\Maternity Incidents Stats Etc\Policies\Ratified - Obs |

