INTERMITTENT FETAL HEART AUSCULTATION

POLICY

Physicians, Registered Midwives (RM) and Registered Nurses (RN) perform intermittent auscultation (IA) of the fetal heart rate (FHR) as the preferred technique of fetal health surveillance for low risk antepartum and intrapartum women.

Applicability: Intermittent auscultation of the fetal heart rate occurs in the Diagnostic Ambulatory and Acute Perinatal Programs.

PROCEDURE

1.1 Terminology and Definitions

<table>
<thead>
<tr>
<th>Normal FHR Auscultation</th>
<th>Abnormal FHR Auscultation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• FHR 110 – 160 beats per minute (bpm)</td>
<td>• FHR less than (&lt;) 110 bpm</td>
</tr>
<tr>
<td>• Accelerations heard</td>
<td>• FHR greater than (&gt;) 160 bpm</td>
</tr>
<tr>
<td></td>
<td>• Changing* FHR</td>
</tr>
<tr>
<td></td>
<td>• Decelerations heard</td>
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</tbody>
</table>

*FHR baseline is increasing or decreasing over time

Criteria for Early Labour

Irregular, short contractions and 1 or more of:

• Rupture of membranes
• Bloody show
• The woman feels she needs support to cope with labour

Criteria for Active Labour

• Frequent painful & regular contractions > 2/10 minutes, lasting > 45 seconds
• Cervical length < 0.5 centimetres (cm)
• Nulliparous: > 3 cm dilated
• Parous: > 4 cm dilated

1.2 Intermittent Auscultation Technique

Palpate maternal abdomen for fetal presentation/position.

• Place the Doppler or fetoscope over the area of maximum intensity, usually the fetal back. An external ultrasound transducer may be used with the paper recorder turned off.
  1) Count the auscultated fetal heart rate for a minimum of 60 seconds
  2) Determine the average baseline fetal heart rate per minute
  3) Listen for accelerations* by auscultating the fetal heart rate when fetal activity/movements occur whenever possible
  4) Differentiate maternal heart rate from fetal heart rate by palpating maternal pulse simultaneously with fetal heart auscultation

• Interpret the FHR as normal or abnormal

Accelerations*

Intrapartum

• If no spontaneous accelerations are heard during active labour for up to 2 hours, auscultate the fetal heart rate for a prolonged period (2 - 5 minutes) between contractions to assess for presence of accelerations prior to considering application of the electronic fetal monitor
• If no accelerations are heard, then apply the electronic fetal monitor for an intermittent tracing for a minimum of 20 minutes. If the tracing is Normal, remove the electronic fetal monitor and resume intermittent auscultation.
• Communicate plan of care with the woman and all care providers

Antepartum

• When auscultating as per CF0400 App C, use other fetal health surveillance methods such as fetal movement counting to corroborate fetal health status.
1.3 Clinical Area/ Clinical Event

Auscultate the FHR in the clinical area as follows:

<table>
<thead>
<tr>
<th>Diagnostic Ambulatory Antepartum Home Care</th>
<th>Once during each woman’s antenatal visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antepartum</td>
<td>Upon admission</td>
</tr>
<tr>
<td></td>
<td>According to the diagnosis and frequency listed in Frequency of Intermittent Auscultation (CF0400 C) or as ordered by the physician/ RM</td>
</tr>
<tr>
<td></td>
<td>Increase the frequency of IA when there is a change in a woman’s condition</td>
</tr>
<tr>
<td>Delivery Suite and Single Room Maternity Care (SRMC)</td>
<td>Upon admission</td>
</tr>
<tr>
<td></td>
<td>After vaginal examination</td>
</tr>
<tr>
<td></td>
<td>Before and after artificial rupture of membranes (ARM)</td>
</tr>
<tr>
<td></td>
<td>Immediately following spontaneous rupture of membranes</td>
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<tr>
<td></td>
<td>Before administration of analgesics</td>
</tr>
</tbody>
</table>

Auscultate the FHR during the clinical events as follows:

<table>
<thead>
<tr>
<th>Intrapartum - First Stage and - Passive Second Stage</th>
<th>In early labour* every hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In active labour* every 15 minutes after a contraction</td>
</tr>
<tr>
<td></td>
<td>If an abnormal FHR is heard, auscultate the FHR again after the next contraction to clarify characteristics</td>
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<tr>
<td></td>
<td>If a woman is fully dilated, but is not actively pushing, auscultate the fetal heart rate every 15 minutes after a contraction</td>
</tr>
<tr>
<td>- Active Second Stage</td>
<td>Every 5 minutes after a contraction when a woman is actively pushing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Epidural Analgesia</th>
<th>During insertion:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Every 15 - 30 minutes (to allow uninterrupted time for completion of the procedure)</td>
</tr>
<tr>
<td></td>
<td>Following epidural catheter initiation and each additional epidural medication administration</td>
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<tr>
<td></td>
<td>NOTE: does not apply to continuous infusion:</td>
</tr>
<tr>
<td></td>
<td>Every 5 minutes for 30 minutes</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgical Day Care</th>
<th>Prior to an elective cesarean section:</th>
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<tbody>
<tr>
<td></td>
<td>During admission process</td>
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<tr>
<td></td>
<td>Just prior to going to the operating room</td>
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</tbody>
</table>

* See definitions of early and active labour 2.1.

1.4 Management of Abnormal Fetal Heart Rate by Intermittent Auscultation - Initial Actions:

When an abnormality is detected by IA:
- Increase frequency of IA to verify the FHR findings
- Auscultate again after the next 2 - 3 contractions
- Palpate uterine contractions to clarify relationship between FHR and uterine contractions
- Clarify components to classify auscultation as normal or abnormal
- Assess potential causes for the fetal heart rate characteristics:
- Assess maternal vital signs
• Differentiate maternal heart rate from fetal heart rate by palpating maternal pulse simultaneously with fetal heart auscultation
• If unable to obtain adequate fetal heart rate by auscultation, obtain assistance from Charge Nurse and inform primary care provider
• Communicate plan of care with the woman and all care providers

Additional Actions
• Change maternal position
• Perform vaginal exam as needed
• Correct hypovolemia or hypotension - administer bolus of IV fluids as needed
• Interpret abnormal findings in conjunction with total clinical picture

When the FHR is severely abnormal by IA (severe prolonged deceleration or severely abnormal baseline) proceed below

Next Steps:
When the FHR remains abnormal by IA after verification as above:
• Initiate EFM
• Notify primary care provider
• Complete ongoing maternal and fetal assessments as indicated
• Institute intrauterine resuscitation measures:
  - Change maternal position
  - Administer IV fluids as needed
  - Consider administering oxygen at 8 -10 litres/ minute

1.5 Ongoing Assessment
If the FHR assessment by EFM is normal after 30 minutes consider returning to IA. If the FHR assessment is atypical or abnormal:
• Continue fetal assessment per Intrapartum Fetal Surveillance
• Consider fetal scalp stimulation test
• Consider Fetal Scalp Blood Lactate Sampling
• Communicate plan of care to woman and with all care providers

DOCUMENTATION
Document FHR characteristics, normal or abnormal interpretation, interventions and communications.

<table>
<thead>
<tr>
<th>Diagnostic Ambulatory Antepartum Home Care</th>
<th>Antenatal Record Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antepartum</td>
<td>Antepartum Assessment Flow Sheet</td>
</tr>
<tr>
<td>Birthing/ SRMC</td>
<td>Labour Partogram Triage and Assessment Record</td>
</tr>
</tbody>
</table>

REFERENCES

INTERMITTENT FETAL HEART AUSCULTATION


Fetal Scalp Blood Lactate Sampling

Frequency of Intermittent Auscultation (2012).


Intrapartum Electronic Fetal Heart Monitoring


Mobile Labour Epidural Analgesia

Umbilical Cord Blood Gas Analysis

APPENDIX

Appendix A  Decision Support Tool – Intermittent Auscultation in Labour for Healthy Women Without Risk Factors for Adverse Perinatal Outcome