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Owner: Brenda Quatrochi: Certified Nurse Midwife
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Intermittent Auscultation of the Fetal Heart Rate

Document Type: Guideline
Clinical Care Guideline

PURPOSE

To describe the technique for intermittent auscultation (IA) of the fetal heart rate (FHR), identify the appropriate patient for IA and define criteria for continuation and discontinuation of IA. Intermittent auscultation with doppler or fetoscope is a tool for surveillance of the FHR during labor. With regard to neonatal outcomes, evidence from numerous randomized controlled trials has demonstrated IA and continuous external fetal monitoring (CEFM) are equivalent methods of intrapartum fetal surveillance. IA offers many benefits to the laboring woman including comfort, freedom of movement, hydrotherapy, non-traditional and out of bed positioning for labor and second stage. IA additionally confers the benefit of decreased cesarean sections, operative vaginal delivery and increased patient satisfaction.

SCOPE

A. Responsibility

1. Certified Nurse Midwives
2. Obstetrics and Gynecology Attending and Resident Physicians
3. Family Medicine Attending and Resident Physicians
4. Labor and Delivery Nursing

B. Inclusion:

1. Gestational age 36 weeks or greater
2. Vertex presentations
3. Singleton pregnancy
4. Fetal heart rate tracing upon admission (may include OB Screening Room tracing of at least 20 minutes of FHR tracing) with normal baseline rate and rhythm, presence of moderate variability (6-25 bpm), the absence of persistent variable decelerations and the absence of persistent late decelerations.

C. Exclusion:

1. Maternal contraindications

- a. Preeclampsia
 - b. Chronic uncontrolled HTN
 - c. Gestational Hypertension requiring antihypertensive therapy or evidence of growth restriction
 - d. Diabetes requiring medication
 - e. Previous cesarean in active labor or history of other significant uterine surgery
 - f. Suspected placenta abruption or placenta previa
 - g. History of or current coagulopathy
 - h. History of or current significant cardiac disorders
 - i. Cigarette smoking greater than 1 pack per day
 - j. Current illicit drug use
 - k. Active infections including tuberculosis, syphilis, acute hepatitis and HIV
 - l. Other severe medical or obstetrical problem
2. Fetal contraindications
- a. Intrauterine growth restriction
 - b. Multiple gestation
 - c. Gestational age less than 36 weeks
 - d. Isoimmunization
 - e. Major anomalies unless decided upon by OB team
 - f. In utero infections (TORCH infections)
 - g. Other severe fetal complications
3. Intrapartum contraindications
- a. Abnormal vaginal bleeding not considered bloody show
 - b. Thick meconium (includes any meconium not considered thin)
 - c. Chorioamnionitis
 - d. Epidural anesthesia
 - e. Pitocin Induction/Augmentation

GUIDELINE

A. Assessment:

1. Obtain baseline continuous fetal heart rate tracing of at least 20 minutes duration with patient in the lateral decubitus position. If normal baseline rate and rhythm identified with the presence of moderate variability (6-25bpm) and the absence of persistent variable decelerations and the absence of persistent late decelerations then IA may be initiated.
 - a. If patient has a recent tracing in the OB screening room that meets the above criteria for IA, then another 20 minute tracing does not need to be repeated on labor and delivery unless clinically indicated.
2. Perform Leopold's maneuvers to assist in optimal placement of auscultation device.

3. Assess uterine activity for onset, duration, and frequency of contractions.
4. Perform Auscultation of fetal heart rate for 60 seconds-2minutes between contractions to determine baseline rate and rhythm and for 60 seconds after a uterine contraction in order to assess fetal response to the UC.
 - a. Frequency of auscultation for the low risk patient is as follows:
 - i. Latent Labor: q 1 hour
 - ii. Active Labor: q 30 minutes
 - iii. Second Stage: q 15 minutes
 - b. Assess FHR before:
 - i. Artificial rupture of membranes (AROM)
 - ii. Administration of analgesia
 - iii. Transfer or discharge of patient (Continuous EFM may be used)
 - c. Assess FHR after:
 - i. AROM or spontaneous rupture of membrane
 - ii. Vaginal Exam
 - iii. Recognition of abnormal uterine activity patterns
 - iv. Recognition of abnormal vaginal bleeding
 - v. Palpate maternal pulse each time auscultation is performed in order to differentiate maternal from fetal heart rate. If any member of the care team is unable to differentiate between maternal and fetal heart rates, refer to the attached algorithm.
 - vi. Note and document palpable fetal movement

B. Criteria for continuation of IA: (see Attachment A)

1. Baseline FHR between 110-160 bpm
2. Normal rhythm
3. Absence of persistent decelerations
4. Absence of contraindications

C. Criteria for discontinuation of IA: (see Attachment A)

1. Baseline FHR < 110 bpm or > 160 bpm
2. Abnormal rhythm
3. Decelerations auscultated despite interventions on algorithm or second to severity of deceleration
4. Presence of contraindication
5. Difficulty distinguishing between maternal heart rate and FHR
6. Unit acuity and staffing preventing adherence to Clinical Care Guideline

D. Special Cases:

1. Parenteral Narcotics: High quality evidence supporting the need for continuous fetal monitoring during the administration of IV/IM narcotics for pain relief in labor is lacking. If a patient desires

narcotics for pain relief, IA may be initiated or continued as specified above and the guideline for administration of narcotics in labor should be followed.

2. Oligohydramnios: In cases of oligohydramnios not associated with other fetal or maternal complications, (for example postdates oligohydramnios in an otherwise healthy mother and baby) if a negative CST is obtained, intermittent auscultation may be used.
3. Induction of labor with misoprostol: Patient should be continuously monitored for 2 hours after each dose. After 2 hours if the FHR meets criteria for IA then IA may be initiated or continued. If a pattern of uterine hyperstimulation is assessed, initiate continuous fetal monitoring in order to closely observe fetal response.

E. Documentation:

1. Definitions:

- a. An acceleration shall be defined as it pertains to intermittent auscultation as an audible increase in fetal heart rate.
- b. A deceleration shall be defined as it pertains to intermittent auscultation as an audible decrease in fetal heart rate.

2. Documentation of baseline fetal heart rate, presence or absence of increases (accelerations) or decreases (decelerations) and presence of palpable fetal movement shall be documented in the "Fetus" section of the nurse's notes.
3. Additional descriptions or explanations of fetal heart rate changes or interventions shall be documented as remarks or comments.
4. Maternal heart rate must be documented with every auscultation.

EXTERNAL REFERENCES

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APPENDIX

- A. Algorithm - Auscultate FHR

Attachments:

 [A: Algorithm - Auscultate FHR](#)