MUSKOKA ALGONQUIN HEALTHCARE	**Policy:**	**Intrapartum Fetal Surveillance**
	Number:	
Approved by: Medical Advisory Committee	**Manual:**	
Signature:	**Section:**	
	Page:	

PURPOSE:

The goal of intrapartum fetal surveillance is to detect potential fetal decompensation and to allow timely and effective intervention to prevent perinatal/neonatal morbidity or mortality. Fetal health surveillance includes the following activities:

- Fetal heart rate monitoring (intermittent auscultation and continuous electronic fetal monitoring)

POLICY:

This policy is to apply to Registered Nurses and Midwives providing obstetrical care to labouring patients in active labour.

Intermittent Auscultation

1. Intermittent Auscultation (IA) is to be used for all women with low risk labour in the absence of risk factors. See Appendix 1: *Antenatal and intrapartum conditions associated with increased risk of adverse fetal outcome where intrapartum continuous electronic fetal surveillance may be beneficial.*

2. Intermittent Auscultation is to be done after uterine activity is assessed by palpation and the fetal lie determined; place the fetoscope or the Doppler transducer over the back of the fetus. While the maternal pulse is being assessed, the FHR is auscultated between uterine contractions to establish the FHR baseline.

3. IA is to be done q15-30 minutes in the active first stage of labour. In the second stage of labour IA is to be done q15mins during the passive second stage and then q5 mins after pushing is initiated.

4. IA is to be done immediately after and between contractions for 30 to 60 seconds.

5. While doing IA, if an abnormal fetal heart rate is found, re-position the patient and re-assess in, if the abnormal finding continues place the patient on continuous electronic fetal monitoring (EFM). Once a normal NST is obtained and no risk factors are identified EFM can be discontinued and IA can be initiated again.

6. IA may be used following an epidural after a normal 30 minute EFM strip is obtained and no risk factors are identified.

7. In the presence of abnormal fetal heart rate characteristics detected by IA increased surveillance through continuous electronic fetal monitoring should be started. Ensure that MRP has been made aware.

Electronic Fetal Monitoring

1. Correct time and speed should be checked on electronic fetal monitor strip.
2. When atypical or abnormal findings of the fetal heart rate are found during EFM the nurse or midwife must perform intrauterine resuscitation measures as well as notify the MRP
3. Practitioners should use standard terminology when describing fetal heart rate patterns. (See SOGC Classification of Intrapartum EFM tracings). Terminology includes normal tracing, atypical tracing and abnormal tracing. (See Appendix 3)
4. Labour inductions/augmentations with oxytocin require continuous electronic fetal monitoring. When a normal tracing is identified, it may be appropriate to interrupt the electronic fetal monitoring tracing for up to 30 minutes to facilitate periods of ambulation or position change providing that a) the maternal-fetal condition is stable and b) if oxytocin is being administered, the infusion rate has not been increased in the past 30 minutes.
5. Continuous Electronic Fetal Monitoring (EFM) is required for the risk factors identified in Appendix 1.

DOCUMENTATION

1. Standard documentation practices are expected among all caregivers. Documentation may consist of narrative notes or the use of a comprehensive flow sheet, such as the partogram, detailing the periodic assessments. The following information should be included.

Intermittent Auscultation

1. Uterine activity characteristics obtained by palpation:
    - Frequency
    - Duration
    - Intensity
    - Relaxation between contractions
2. FHR data:
    - Numerical baseline rate (in bpm)
    - Rhythm (regular or irregular)
    - Nature of the changes (gradual or abrupt accelerations or decelerations))
3. Interpretation of findings as normal or abnormal and specific actions taken when changes in FHR occur.
4. Other maternal observations and assessments.
5. Maternal and fetal responses to interventions.
6. Communication with the primary care provider when the findings are abnormal.

Electronic Fetal Monitoring

1. The indication for initiating EFM as well as the mode of EFM, whether external or internal, must be documented.
2. Monitoring strips must have the patient sticker, date and time charted on the graph paper.
3. Uterine activity characteristics are obtained by palpation and/or external/internal tocotransducer:
    - Frequency
    - Duration
    - Intensity
    - Relaxation between contractions
4. Baseline rate, variability, the presence/absence of accelerations and the presence and type of decelerations must be documented.
5. Classification of the tracing as normal, atypical or abnormal and specific actions taken when the tracing is atypical or abnormal, including documentation of communication with the primary care provider.
6. Other maternal observations and assessments.
7. Maternal and fetal responses to interventions.

INTERNAL FETAL MONITORING

Internal fetal monitoring is performed with a spiral electrode inserted through the maternal vagina and cervix and attached to the fetal scalp or other presenting part. Internal monitoring may be indicated when the external tracing is inadequate for accurate interpretation.

Responsibility:

The Most Responsible Physician is responsible for inserting and attaching the electrode to the presenting part of the fetus, and the RN/RM is responsible for monitoring the fetal heart rate.

Equipment:

1. Monitor leg electrode and connector cable.
2. Spiral electrode.
3. Sterile gloves.
4. Lubricant.
5. Amnihook (if membranes not ruptured).

Method:

1. Explain the procedure and equipment as well as the rationale for its use to the patient to ensure the opportunity to obtain informed consent.
2. Have patient assume a low semi-Fowler's position with knees flexed to allow easier access to the cervix.

3. Continue external fetal monitoring until the internal scalp electrode is placed.
4. Attach leg cable to patient using a leg electrode.
5. Physician will do vaginal examination and place scalp electrode on fetal head.
6. Attach the electrode wires to the leg cable.
7. Plug leg cable into monitor outlet.
8. Unplug external transducer.
9. Evaluate fetal heart rate and rhythm. Listen for audible beep with each QRS complex. Observe digital display.
10. Record procedure on labour and delivery flow sheet and progress notes.

REFERENCES:

Champlain Maternal Newborn Regional Program. (2011) *Intermittent Auscultation of the Fetal Heart Rate.*

Enkin, M., Keirse, M., Neilson, J., Crowther, C., Duley, L., Hodnett, E. & Hofmeyr, J. (2000) *A guide to effective care in pregnancy and childbirth. 3rd Edition.* Oxford University Press, New York.

Feinstein, N.F., Sprague, A. & Trepanier, M.J. (2000) *Fetal heart rate auscultation.* AWHONN.

Liston, R., Sawchuck, D.& Young, D. (2007) Fetal Health Surveillance: Antepartum & Intrapartum Consensus Guideline SOGC Clinical Practice Guideline; Vol 29, No.9.

Perinatal Death Review – Feb. 2011

Perinatal Partnership Program of Eastern & Southwestern Ontario (2008). *Electronic Fetal Monitoring Document.*

Perinatal Partnership Program of Eastern & Southwestern Ontario (2009). *Non-Stress Test Document*

Sixth Annual Report of the Chief Coroner of Ontario December 1999.

SOGC Clinical Practice Guidelines (2007). *Fetal Health Surveillance Antepartum & Intrapartum Consensus Guideline*

Sprague, A. (1995). Auscultation of FHR – Decision Tree, PPPESO & Ottawa Hospital Maternal Newborn Program.

Tucker, S., Miller, L., & Miller, D. (2009) *Fetal Monitoring: A Mulitdisciplinary Approach.* Mosby: St. Louis: Missour

APPENDIX 1: Antenatal and intrapartum conditions associated with increased risk of adverse fetal outcome where intrapartum electronic fetal surveillance may be beneficial.

Antenatal	
Maternal	Hypertensive disorders of pregnancy Pre-existing diabetes mellitus/Gestational diabetes Antepartum hemorrhage Maternal medical disease: cardiac, anemia, hyperthyroidism, vascular disease and renal disease. Maternal MVA/Trauma Morbid obesity BMI > 40
Fetal	Intrauterine growth restriction Prematurity Oligohydramnios Abnormal umbilical artery Doppler velocimetry Isoimmunization Multiple pregnancy Breech presentation
Intrapartum	
Maternal	Vaginal bleeding in labour Intrauterine infection/chorioamnionitis Previous Caesarean Section Prolonged membrane rupture > 24 hours at term Induced labour Augmented labour Hypertonic uterus Preterm labour Post-term pregnancy(>42 weeks)
Fetal	Meconium staining of the amniotic fluid Abnormal fetal heart rate on auscultation

Adapted from SOGC Fetal Health Surveillance: Antepartum and intrapartum Consensus Guideline 2007

APPENDIX 2: CHARACTERISTICS OF THE AUSCULTATED FETAL HEART

NORMAL	**ABNORMAL**
Normal baseline heart rate: 110-160 bpm	Abnormal baseline heart rate. a) Tachycardia >160 bpm b) Bradycardia < 110bpm
Presence of accelerations	Presence of decelerations.

MANAGEMENT OF ABNORMAL FETAL HEART RATE BY INTERMITTENT AUSCULTATION	
TACHYCARDIA	• Reposition woman to increase uteroplacental perfusion or alleviate cord compression. • Rule out fever, dehydration, drug effect, prematurity • Correct maternal hypovolemia, if present, by increasing IV fluids. • Check maternal pulse and blood pressure.
DECELERATIONS	• Stop oxytocin • Reposition woman. • Assess for passage of meconium. • Correct hypotension, as per Physician's order, if present. • Administer oxygen at 8-10 Lpm
BRADYCARDIA	• Reposition woman to increase uteroplacental perfusion or alleviate cord compression. • Perform vaginal exam to assess for prolapsed cord or relieve cord compression. • Administer oxygen at 8-10 Lpm. • Correct maternal hypovolemia, if present, by increasing IV fluids. • Check maternal pulse and blood pressure.
ADDITIONAL MEASURES	• Continue to auscultate FHR to clarify and document components of FHR. • Consider initiation of electronic fetal monitoring (EFM). • If abnormal findings persist despite corrective measures, and ancillary tests are not available or desirable, expedited delivery should be considered.

Adapted from: Feinstein, N. F., Sprague, A., Trepanier, M.J. *(*2000). *Fetal heart rate auscultation.* AWHONN (Association of Women's Health, Obstetric and Neonatal Nurses).Washington Society of Obstetricians & Gynecologists of Canada (2007). *Clinical Practice Guidelines*

APPENDIX 3: SOGC Classification of Intrapartum EFM tracings

	Normal Tracing	**Atypical Tracing**	**Abnormal Tracing**
Baseline	▪ 110-160 bpm	▪ 100 – 110 bpm ▪ >160 bpm for 30-80 minutes **6.** Rising baseline	< 100 bpm ▪ > 160 bpm for >80minutes ▪ Erratic baseline
Variability	▪ 6 – 25 bpm ▪ ≤ 5bpm for <40 min.	▪ ≤ 5bpm for 40-80 minutes.	▪ ≤ 5bpm for >80min ▪ ≥ 25bpm for >10min ▪ Sinusoidal
Decelerations	None or occasional uncomplicated variables or early decelerations.	Repetitive (≥3) uncomplicated variable decelerations. Occasional late decelerations. Single Prolonged deceleration >2 min but <3 min.	Repetitive(≥3) complicated variables: Decelerations to <70 bpm for > 60 secs. Loss of variability in trough or in baseline Biphasic decelerations Overshoots Slow return to baseline Baseline lower after deceleration Baseline tachycardia or bradycardia Late decelerations >50% of contractions Single prolonged deceleration > 3 min but < 10 min.
Accelerations Term Fetus	Spontaneous accelerations present (FHR increases >15 bpm lasting >15 sec) (<32 weeks' gestation increase in the FHR >10bpm lasting > 10 seconds)	No acceleration with fetal scalp stimulation	Usually absent ****
Action	**EFM may be interrupted for periods of up to 30 min if maternal-fetal condition stable and/or oxytocin infusion rate STABLE.**	**Further vigilant assessment required, especially when combined features present.**	**ACTION REQUIRED** **Review overall clinical situation, obtain scalp lactate if appropriate / prepare for delivery.**

**** Usually absent, but if accelerations are present, this does not change the classification of tracing.**

Society of Obstetricians & Gynecologists of Canada, Clinical Practice Guidelines Sept. 2007: Fetal Health Surveillance: Antepartum & Intrapartum Consensus Guideline

Fetal Well-Being During Labour, MORE OB, Module 1, Sept. 2010.