ASSESSMENT OF FETAL WELL BEING

SCOPE

All maternal transports with a live fetus of viable gestation.

INSTRUCTIONS

- Review a 20-minute EFM strip for baseline, variability, and periodic/spontaneous changes.

- Normal baseline is 120-160 bpm. A baseline of 100-120 in a term fetus with normal variability and no decelerations may be normal.

- Fetal Bradycardia = a baseline of < 120 for an infant < 37 weeks or, < 100 for a term infant. This may be a late sign of hypoxia or a result of a cardiac arrhythmia. Treatment should consist of maternal O2, IV bolus and position changes. Fetal bradycardia may also be result of maternal drugs (propranolol) and maternal hypothermia. Treat maternal hypothermia with warming measures. See fetal distress protocol if above measures fail to resolve bradycardia. Delivery at the referring facility is indicated for unresolved fetal bradycardia with loss of variability or late decelerations.

- Fetal Tachycardia = Baseline FHR > 160 bpm. Fetal tachycardia may be a result of maternal pain and anxiety, betamimetic therapy, maternal fever/sepsis, fetal sepsis and maternal/fetal hypotension. Treatment should consist of calming measures, fluid bolus, decreasing or stopping betamimetics (see protocol), oxygen, IV antibiotics for fever/sepsis, antipyretics and positioning for optimal uterine blood flow. Delivery at the referring facility is indicated for unresolved fetal tachycardia with loss of variability, late decels or sustained BL FHR > 180 without betamimetics on board.

- Normal LTV = fluctuations in FHR of 6-25 bpm in 3 or more cycle changes per minute.

- Decreased, absent, or increased LTV (>25 bpm) may represent a compromised or hypoxic infant. Treatment includes maternal oxygen, IV bolus, and positioning. Delivery at the referring facility is indicated if there is loss of LTV with late decels or persistent severe variable decels that are unresolved with the above measures.

- Accelerations = are a positive or reassuring sign. An NST is reactive if there are 2 or more accels of at least 15 bpm amplitude, lasting at least 15 seconds long in a 20 minute period. Fetuses of all gestational ages have sleep phases of 20-45 minutes where the FHR pattern may not be reactive. Intervention for a non-reactive strip may include: acoustical stimulation, scalp stimulation, uterine stimulation, maternal oral glucose and maternal position changes. Maternal sedatives/analgesics may also result in a non-reactive fetus. Non-reactivity in the absence of any ominous signs (decels, loss of
variability) does not preclude transport. Maternal oxygen, lateral positioning and adequate hydration should be provided.

- Early Decelerations = begin and end with contractions and are generally related to head compression against the cervix during a contraction. Often seen in early active labor and with CPD. These need no intervention (unless the patient is not supposed to be contracting or unless they are repetitive and severe).

- Late decelerations = are always considered ominous. They are a result of utero-placental insufficiency. UPI may be caused by an abruption, placental aging/calcification and maternal hypotension. Late decels need immediate intervention with maternal oxygen, IV bolus and positioning for maximum uteroplacental perfusion. Late decels that are repetitive or non-responsive to the above interventions may need tocolytics to remove the stress of contractions and/or immediate delivery at the referring facility.

- Variable decelerations = are a result of cord compression. They are not considered ominous in and of themselves but should be treated with position changes to relieve the compression. Variable decels that are >45-60 seconds and drop to < 60 bpm are more concerning. If they continue the fetus will likely become compromised. Variable decels in the presence of decreased LTV or with a slow return to BL should be considered serious. Intervention for serious variable decels includes maternal oxygen, IV bolus, position changes (including knee-chest) and tocolysis if they are occurring with contractions. If there is no improvement with the above measures, delivery at the referring facility is indicated.

- A fetal monitor strip may be faxed to Providence L&D or the LifeMed Alaska Medical Control if the flight team is unsure of the interpretation of is the referring personnel and the flight team is not in agreement on the interpretation and plan of care/intervention.