LAC+USC MEDICAL CENTER POLICY

Subject:	Original Issue Date:	Policy #
GUIDELINES FOR FETAL HEART RATE MONITORING	3/12/13	**926**
	Supersedes: 5/17/19	Effective Date: 2/02/23

Departments Consulted:	Reviewed & Approved by:	Approved by:
Obstetrics and Gynecology Pediatrics/Neonatology Medicine Nursing Services Radiology Emergency Medicine Operating Rooms	Attending Staff Association Executive Committee Senior Executive Council	(Signature on File) Chief Medical Officer (Signature on File) Chief Executive Officer

PURPOSE

To provide guidelines for safe and effective use of fetal heart rate monitoring for pregnant patients during surgery or invasive procedures and for pregnant patients located in non-obstetric units within the hospital.

DEFINITIONS

Electronic fetal monitoring: A tool that provides data for evaluation of fetal heart rate and uterine activity that is performed by physicians, midwives and nursing personnel trained in fetal heart rate and uterine activity monitoring and interpretation.

A qualified individual to interpret fetal heart rate patterns: A licensed personnel who has passed the DHS fetal heart rate monitoring exam

Pre-Viability: < 22 0/7 weeks of gestational age

Threshold of Viability: 22 0/7 to 23 6/7 weeks gestational age

Age of Viability: ≥ 24 weeks gestational age

Non-viability or Pre-viability: A patient or infant who may be born with signs of life but may not survive after a few minutes or few hours after birth.

POLICY

- The gestational age will be accurately determined by the first day of the last normal menstrual period and/or by ultrasonography. If the last menstrual period is unknown or if there is a disagreement between the estimated gestational age by these methods, then the results of the sonographic imaging will be determinative.
- The estimated gestational age and the weight shall play a critical role in making decisions for antepartum management and resuscitation.

- The mother shall be the major decision maker for the fetus/infant. If unable, paternal and/or surrogate support may make decisions assuming that they are acting in the best interest of the infant and mother.
- A pregnant woman should never be denied indicated surgery, regardless of trimester.
- A team approach shall be used during antenatal counseling of the patient who is to undergo surgery or invasive procedures during pregnancy.
- The team may be composed of representatives from Obstetrics, Anesthesia, Neonatology, Surgeons, and nursing staff as appropriate for the individual patient circumstance.
- Obstetricians are uniquely qualified to discuss aspects of maternal physiology and anatomy that may affect intraoperative maternal-fetal well-being
- Fetal heart rate monitoring during surgery or procedures may assist in maternal positioning and cardiorespiratory management, and may influence a decision to deliver the fetus
- A qualified individual should be readily available to interpret the fetal heart rate patterns

PROCEDURE

NOTE: These are general guidelines to consider. Reasonable clinical judgment is required in all cases. Variations in practice may be warranted based on the needs of the individual patient.

- Obstetric consultation should be performed prior to non-obstetric surgery and invasive procedures.
- When possible, non-urgent surgery should be performed in the second trimester when preterm contractions and spontaneous abortion are least likely.
- If the fetus is considered pre-viable, obtaining the fetal heart rate by Doppler before and after the procedure is generally sufficient.
- If the fetus is considered to be viable, simultaneous electronic fetal heart rate and contraction monitoring should be performed before and after the procedure to assess fetal well-being and the absence of contractions.
- If fetal monitoring is to be used during surgery or a procedure, an obstetric provider with cesarean delivery capabilities should be available and a qualified individual should be readily available to interpret the fetal heart rate patterns.
- Intraoperative electronic fetal monitoring may be appropriate when all of the following apply:
    - Fetus is determined to be viable
    - It is physically possible to perform intraoperative electronic fetal monitoring

  - An obstetrician is available and willing to intervene during the surgical procedure for fetal indications
  - The woman has given informed consent to emergency cesarean delivery
  - The planned procedure or surgery will allow the safe interruption to provide access to perform an emergency delivery
  - Neonatology team is available for delivery and is willing to perform resuscitation of the neonate

- If fetal monitoring is to be used in a non-obstetric unit, a qualified individual should be readily available to interpret the fetal heart rate patterns.

- Documentation of fetal heart rate and uterine activity should be performed in accordance with Nursing Clinical Protocol regardless of location of the patient

- FHR monitoring, when required, shall be provided in the areas where the procedures are being performed.

Special Consideration: Monitoring The Fetus Within The Threshold Of Viability

NOTE: These recommendations are to be considered. Decisions should be based on reasonable clinical judgment, especially in emergent cases.

- A team approach, including obstetrics and neonatology, should be used when counseling women who are to undergo surgery or an invasive procedure while pregnant within the threshold of viability.

- The goal is always to protect the mother.

- The likelihood of possible emergency cesarean being necessary during the maternal procedure should be considered. A plan and preparation for possible emergent delivery and neonatal resuscitation in the event a cesarean section may be required.

- When a pregnant woman, with fetus within the threshold of viability, is to undergo surgery or an invasive procedure, the fetal heart rate (FHR) should be monitored as follows:

- At <23 0/7 weeks gestational age, the fetal heart rate by Doppler should be obtained and recorded prior to and after the procedure. No monitoring should be performed during the procedure.

- At 23 0/7 weeks to 23 6/7 weeks gestational age, electronic fetal monitoring should be used both before and after the surgery or procedure or can be used continuously throughout the procedure. This decision will be decided by the Obstetrician, taking into consideration the treatment goals, planned procedure and neonatology consultation regarding resuscitation plans.

- Management and resuscitation guidelines regarding the threshold of viability can be found in Policy # ASA 112, Threshold of Viability Guidelines

Required Resources

- Electronic fetal monitor
- Computer equipped with FetalLink
- Assigned personnel qualified in reading and interpreting fetal heart rate patterns as shown by passing the DHS fetal heart rate monitoring exam (i.e., Obstetrician, Certified Nurse Midwife or Obstetric RN)
- Obstetrical Consultation
- A plan for where an emergency delivery will occur.

RESPONSIBILITY

Attending Staff
Resident Staff
Nursing Staff

PROCEDURE DOCUMENTATION

Departmental policy and procedures

REFERENCES

MacDonald, H. (2002). American College of Pediatrics, Committee on Fetus and Newborn. Perinatal care at the threshold of viability. *Pediatrics,* 110: 1024-1027

Pignotti & Donzelli. (2008). Perinatal care at the threshold of viability: An international comparison of practical guidelines for the treatment of extremely preterm births. *Pediatrics*, 12: e193 – e199

American College of Obstetricians and Gynecologists Committee on Obstetric Practice. Committee Opinion #474 Nonobstetric Surgery During Pregnancy, Reaffirmed 2015.

Threshold of Viability Guidelines, LAC+USC Medical Center Policy # ASA 112

Electronic Fetal Monitoring, LAC+USC Medical Center Nursing Clinical Protocol, 2015

REVISION DATES

March 12, 2013, April 12, 2016; May 17, 2019, February 2, 2023