



*Perinatal Webinar:
EFM Update*

*June 12, 2015
Perinatal Education Programs 2015
Palmetto Health Richland ~ Perinatal Systems
Michelle Flanagan, RNC, BSN - Obstetrical Outreach Educator*



Disclosure:

“Please note that this Power Point presentation is an educational tool that is general in nature. It is not intended to be an exhaustive review of the subject matter or the opinion of Palmetto Health. Materials presented in this presentation should not be considered a substitute for actual statutory or regulatory language. Always refer to your legal counsel and the current edition of a referenced statute, code and/or regulation for precise language.”

Objectives

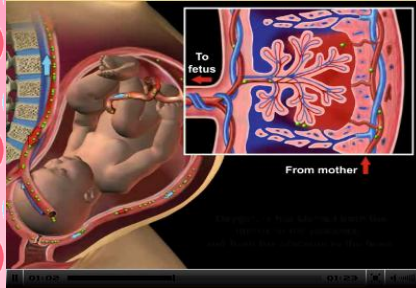
- **Purpose and Goal:**
 - Participants will be able to describe new updates related to evaluation of Electronic Fetal Monitoring including appropriate physiology and interventions.
- **Continuing Education Objectives:**
 - At the conclusion of this program, the participant should be able to:
 - discuss current terminology related to Electronic Fetal Monitoring.
 - understand current trends in category 2 management for Electronic Fetal monitoring



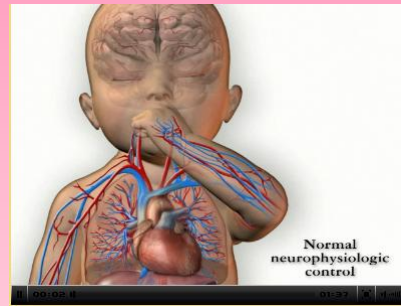
Discuss current terminology related to Electronic Fetal Monitoring.

- Review of terminology
- What are the issues with current terminology

Fetal Oxygenation / Placental Function



- <http://utilis.net/fhm/2463.htm>



- <http://utilis.net/fhm/2567.htm>

EFM History

- “In 1958, Hon published the first set of data on 80 women who underwent successful electronic recording of ‘instantaneous fetal heart rate throughout labor and delivery.’”

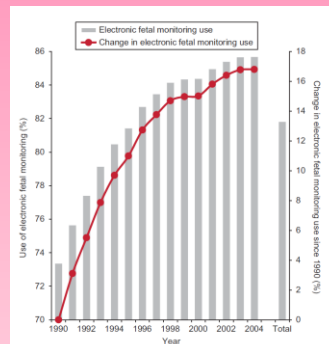
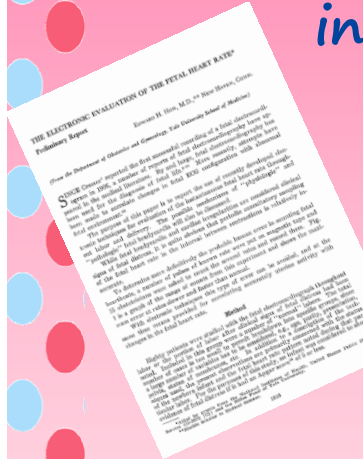


Fig. 1. Trends in the use of electronic fetal monitoring; U.S. singleton live births, 1990-2004.
Ananth. Trends in EFM Use in the United States. *Obstet Gynecol* 2013.

Ananth, CV PhD, MPH, et al. Electronic Fetal Monitoring in the United States Temporal Trends and Adverse Perinatal Outcomes. *Obstet Gynecol* 2013;121:927-33.

Hon's First Article – EFM introduced....



1220

HON

Am. J. Obst. & Gynec.
June, 1958

Summary

1. Modern electronic techniques provide a more accurate indication of the fetal heart rate during normal and abnormal labor than it is possible to obtain by present clinical methods.
2. With normal breech presentations and the majority of vertex presentations studied, the fetal heart rate does not slow significantly with contractions.
3. In the minority of vertex presentations, usually in primigravidas, the instantaneous fetal heart rate may drop as low as 60 to 70 beats per minute and may return to normal 10 to 15 seconds before the contraction is over.
4. In vertex presentations, fetal bradycardia with contractions is probably related to an increase in intraamniotic pressure which in turn is related to the amount of cervical dilatation present.
5. A preliminary evaluation of a working clinical hypothesis based on changes in the instantaneous fetal heart rate suggests the possibility of a more sensitive index of fetal distress.

Conclusion

The use of modern electronic techniques for the evaluation of changes in the fetal heart rate during labor and delivery may permit a more valuable and accurate identification of fetal distress than is at present available by clinical methods.

What do we know about Electronic Fetal Monitoring?

- “There is a complex interplay of antepartum complications, suboptimal uterine perfusion, placental dysfunction, and intrapartum events can result in adverse neonatal outcome. ... The fetal brain modulate the fetal heart rate through an interplay of sympathetic and parasympathetic forces. Thus, fetal heart rate monitoring can be used to determine if a fetus is well oxygenated.”

ACOG Practice Bulletin #106, July 2009 reaffirmed 2013. “Intrapartum Fetal Heart Rate Monitoring: Nomenclature, Interpretation, and General Management Principles”

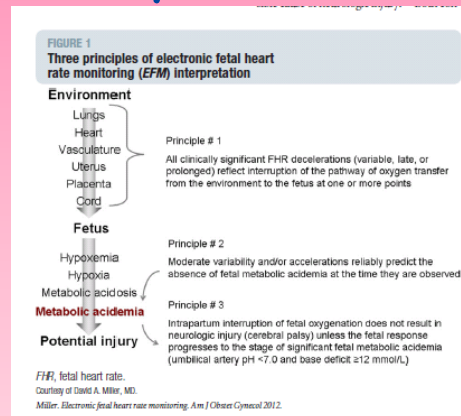
What's the Point of EFM?

- “Intrapartum EFM is intended to assess the adequacy of fetal oxygenation during labor. Fetal oxygenation involves the transfer of oxygen from the environment to the fetus and the fetal physiologic response if oxygen transfer is interrupted.”

Electronic fetal heart rate monitoring: applying principles of patient safety
David A. Miller, MD; Lisa A. Miller, CNM, JD American Journal of Obstetrics & Gynecology APRIL 2012

To improve interpretation:

- Strong foundation:
 - NICHD Terminology
 - Understanding of Maternal-Fetal physiology
 - Appropriate and timely interventions



NICHD Terminology

- Do you know your EFM Terminology?

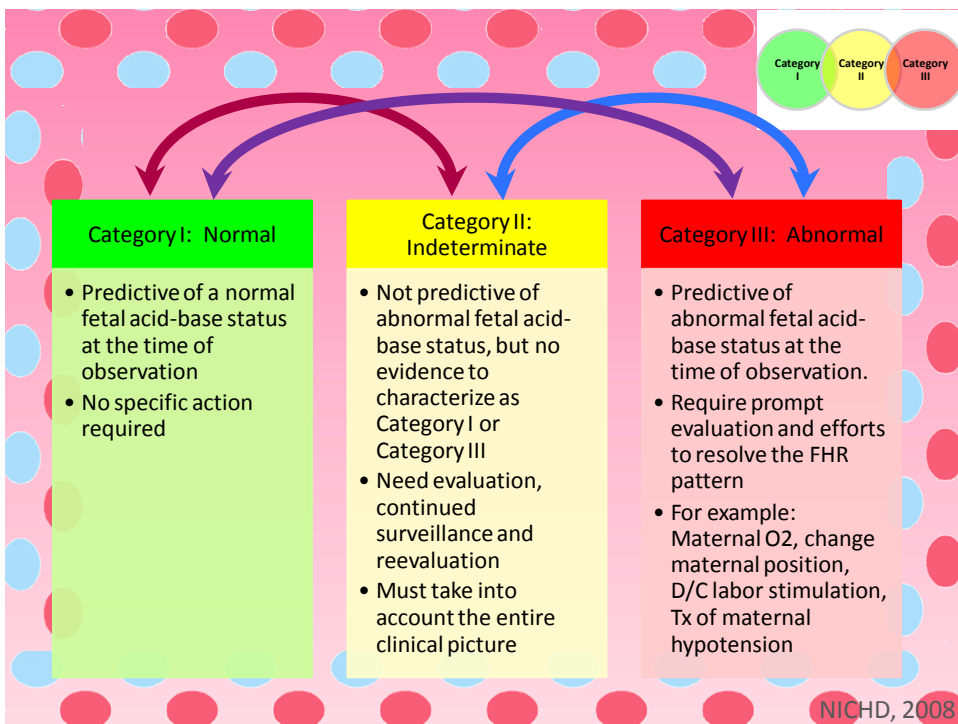


TABLE 1
Standardized FHR definitions

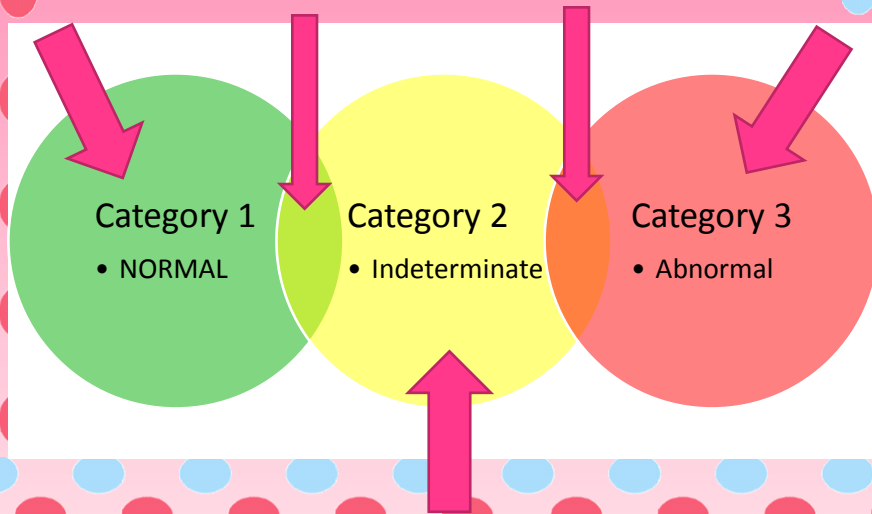
Pattern	Definition
Baseline	The mean FHR rounded to increments of 5 beats/min during a 10 min segment, excluding accelerations, decelerations and periods of marked FHR variability. The baseline must be for a minimum of 2 min (not necessarily contiguous) in any 10-min segment, or the baseline for that segment is defined as "indeterminate"
Tachycardia	Baseline FHR >160 beats per min
Bradycardia	Baseline FHR <110 beats per min
Baseline variability	Fluctuations in the FHR baseline that are irregular in amplitude and frequency. Variability is measured from the peak to the trough of the FHR fluctuations and is quantitated in beats/min. Variability is classified as follows: Absent – amplitude range undetectable Minimal – amplitude range detectable but ≤ 5 beats/min Moderate – amplitude range, 6–25 beats/min Marked – amplitude range, >25 beats per min No distinction is made between short term variability (or beat-to-beat variability or R-R wave period differences in the electrocardiogram) and long-term variability because in actual practice they are visually determined as a unit
Acceleration	A visually apparent abrupt increase (onset to peak <30 sec) in the FHR from the baseline. At 32 weeks of gestation and beyond, an acceleration has a peak at least 15 beats/min above baseline and a duration of at least 15 sec but <2 min. Before 32 weeks of gestation, an acceleration has peak at least 10 beats/min above baseline and a duration of at least 10 sec but <2 min. Prolonged acceleration lasts ≥ 2 min but <10 min. If an acceleration lasts ≥ 10 min, it is a baseline change
Early deceleration	In association with a uterine contraction, a visually apparent, gradual (onset to nadir ≥ 30 sec) decrease in FHR with return to baseline. In general, the nadir of the deceleration occurs at the same time as the peak of the contraction
Late deceleration	In association with a uterine contraction, a visually apparent, gradual (onset to nadir ≥ 30 sec) decrease in FHR with return to baseline. In general, the onset, nadir, and recovery of the deceleration occur after the beginning, peak, and end of the contraction, respectively
Variable deceleration	An abrupt (onset to nadir <30 sec), visually apparent decrease in the FHR below the baseline. The decrease in FHR is at least 15 beats/min and lasts at least 15 sec but <2 min
Prolonged deceleration	Visually apparent decrease in the FHR at least 15 beats/min below the baseline lasting at least 2 min but <10 min from onset to return to baseline
Periodic deceleration	Accompanies a uterine contraction
Episodic deceleration	Does not accompany a uterine contraction
Sinusoidal pattern	Visually apparent, smooth, sine wave-like undulating pattern in FHR baseline with a cycle frequency of 3–5 per min which persists for ≥ 20 min

FHR, fetal heart rate.
Adapted from Macones et al.¹⁰

Miller. Electronic fetal heart rate monitoring. Am J Obstet Gynecol 2012.



Dynamic Nature of EFM



In reviewing the basics of EFM, have we uncovered some issues?

- Accuracy and efficacy of utilizing EFM in intrapartum and antepartum patients?
- What does all of this mean? How do we determine what to do?
- Anything else?
 - Management of Strips?





Understand Current Trends in Category 2 Management for Electronic Fetal Monitoring

- Management algorithms
- Goals of Interventions
- Ensuring oxygenation of the fetus

Question:



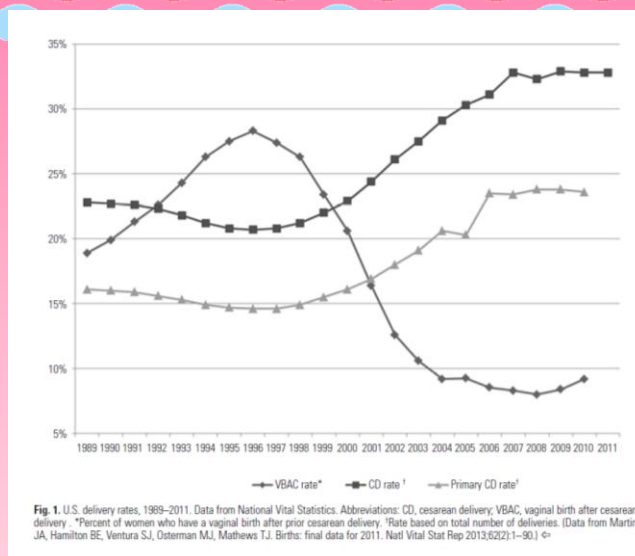
- What are the main goals of Electronic Fetal Monitoring?
 1. Record fetal heart rate and uterine activity
 2. Indicate normal and abnormal uterine activity
 3. Indicate signs of fetal hypoxia
 4. Attempt to prevent poor birth outcomes and prevention of Cerebral Palsy (CP)

*So, that leads us directly to another question,
"How well do we do these things?"*

What are common results of EFM Intrapartum and Antepartum Period

- Increase Operative Vaginal Delivery
- Increased Cesarean Delivery

Ananth, CV PhD, MPH, et al. Electronic Fetal Monitoring in the United States Temporal Trends and Adverse Perinatal Outcomes. *Obstet Gynecol* 2013;121:927–33.



Safe prevention of the primary cesarean delivery. *Obstetric Care Consensus No. 1. American College of Obstetricians and Gynecologists. Obstet Gynecol* 2014;123:693–711.

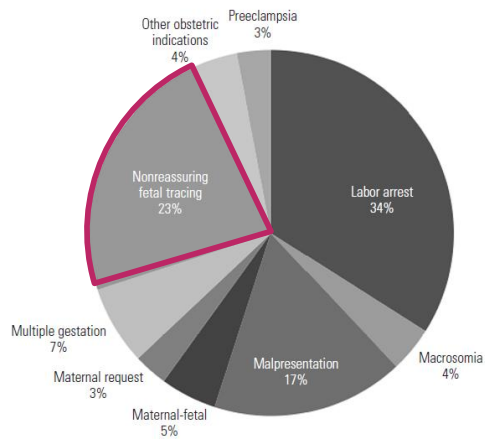


Fig. 3. Indications for primary cesarean delivery. (Data from Barber EL, Lundsberg LS, Belanger K, Pettiker CM, Funai EF, Illuzzi JL. Indications contributing to the increasing cesarean delivery rate. *Obstet Gynecol* 2011;118:29–38.) ←

Safe prevention of the primary cesarean delivery. *Obstetric Care Consensus No. 1. American College of Obstetricians and Gynecologists. Obstet Gynecol* 2014;123:693–711.

Prediction of Acidemia

- Can we make predictions of fetal acidemia?
 - What tells us signs of Acidemia or Hypoxia in the Fetus?
 - Recall Categories
 - Category 1: “Normal”
 - Category 2 : “Indeterminate”
 - Category 3: “Abnormal”
 - Study looked at ways to improve prediction of fetal compromise

Tomas Prior, MD, BSc, et al. Prediction of Fetal Compromise in Labor. *Obstet Gynecol* 2014;123:1263–71

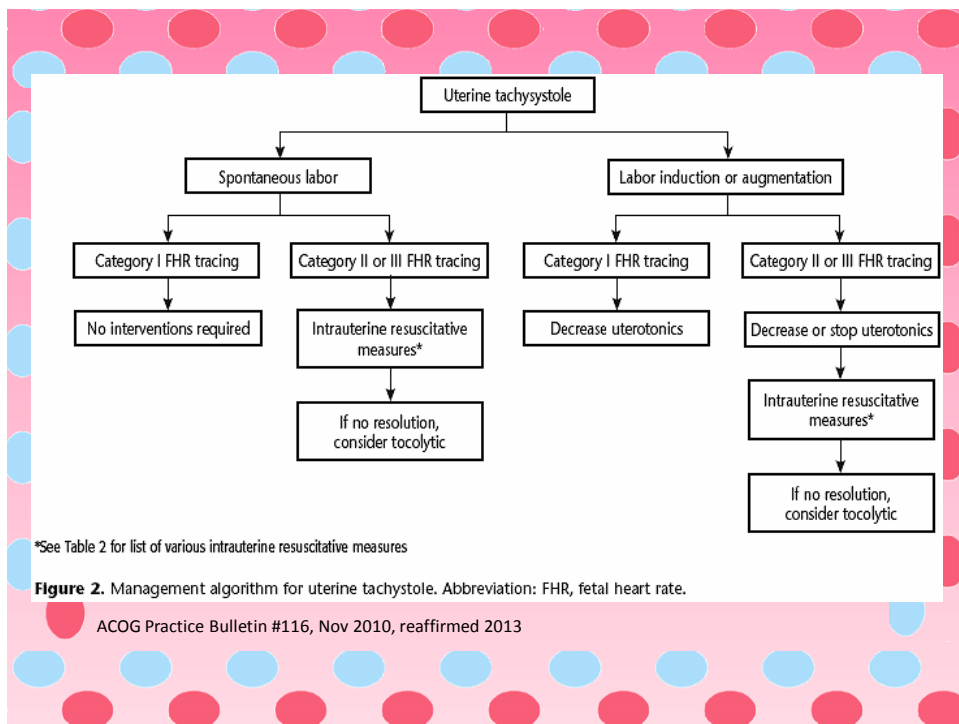
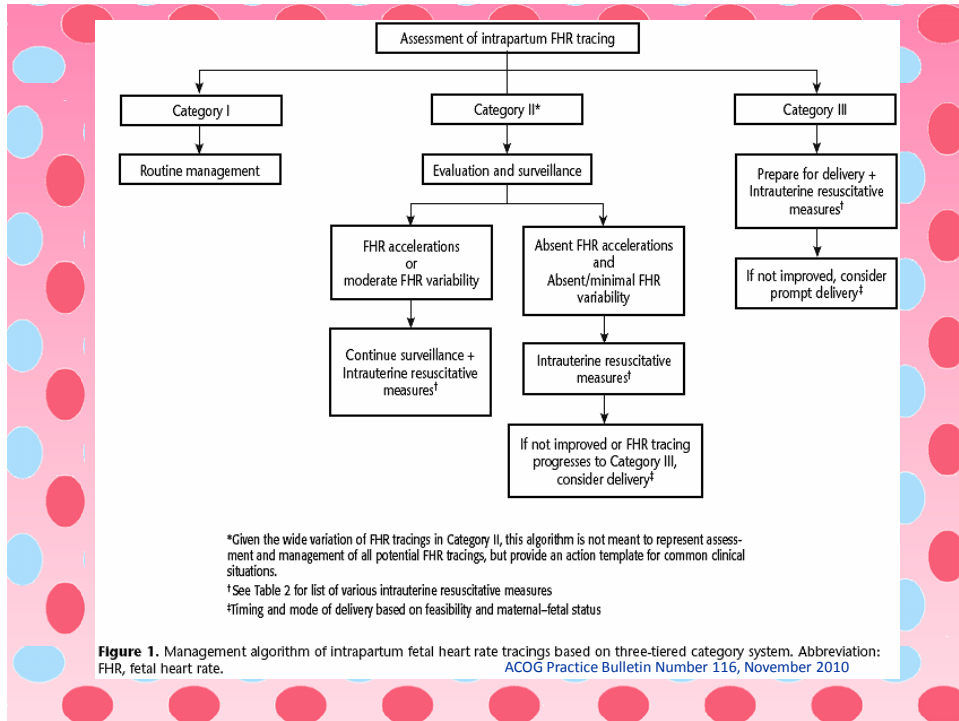


Table 2. Various Intrauterine Resuscitative Measures for Category II or Category III Tracings or Both

Goal	Associated Fetal Heart Rate Abnormality*	Potential Intervention (s) [†]
Promote fetal oxygenation and improve uteroplacental blood flow	Recurrent late decelerations Prolonged decelerations or bradycardia Minimal or absent fetal heart rate variability	Initiate lateral positioning (either left or right) Administer maternal oxygen administration Administer intravenous fluid bolus Reduce uterine contraction frequency
Reduce uterine activity	Tachysystole with Category II or III tracing	Discontinue oxytocin or cervical ripening agents Administer tocolytic medication (eg, terbutaline)
Alleviate umbilical cord compression	Recurrent variable decelerations Prolonged decelerations or bradycardia	Initiate maternal repositioning Initiate amnioinfusion If prolapsed umbilical cord is noted, elevate the presenting fetal part while preparations are underway for operative delivery

*Evaluation for the underlying suspected cause(s) is also an important step in management of abnormal FHR tracings.

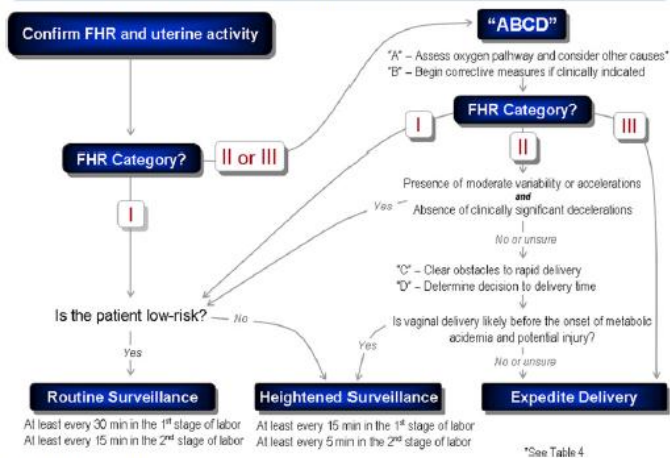
[†]Depending on the suspected underlying cause(s) of FHR abnormality, combining multiple interventions simultaneously may be appropriate and potentially more effective than doing individually or serially (Simpson KR, James DC. Efficacy of intrauterine resuscitation techniques in improving fetal oxygen status during labor. *Obstet Gynecol* 2005;105:1362-8).

Data from Young BK, Katz M, Klein SA, Silverman F. Fetal blood and tissue pH with moderate bradycardia. *Am J Obstet Gynecol* 1979;135:45-7; Chauhan SP, Roach H, Naef RW 2nd, Magann EF, Morrison JC, Martin JN Jr. Cesarean section for suspected fetal distress. Does the decision-incision time make a difference? *J Reprod Med* 1997;42:347-52; Schauberger CW, Chauhan SP. Emergency cesarean section and the 30-minute rule: definitions. *Am J Perinatol* 2009;26:221-6; and Schifrin BS, Hamilton-Rubinstein T, Shields JR. Fetal heart rate patterns and the timing of fetal injury. *J Perinatol* 1994;14:174-81.

ACOG Practice Bulletin Number 116, November 2010

FIGURE 2

A standardized "ABCD" approach to electronic fetal heart rate monitoring (EFM) management

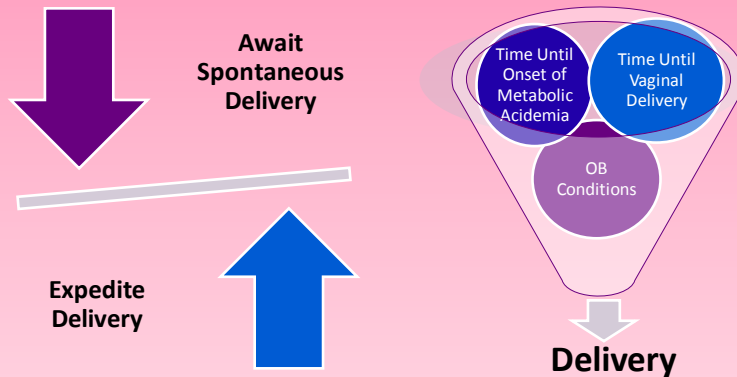


FHR, fetal heart rate.

Courtesy of David A. Miller, MD.

Miller. *Electronic fetal heart rate monitoring.* *Am J Obstet Gynecol* 2012.

Standardized Approach Continued: When to Deliver?



Electronic fetal heart rate monitoring: applying principles of patient safety
David A. Miller, MD; Lisa A. Miller, CNM, JD. American Journal of Obstetrics & Gynecology APRIL 2012

Electronic Fetal Monitoring

- **Strength**
 - Ability to predict the absence of metabolic acidemia and hypoxic neurologic injury with an extremely high degree of reliability.
- **Weakness**
 - Inability to predict the presence of these conditions with any clinically relevant accuracy.



Electronic fetal heart rate monitoring: applying principles of patient safety
David A. Miller, MD; Lisa A. Miller, CNM, JD. American Journal of Obstetrics & Gynecology APRIL 2012

Can we Determine Fetal Asphyxia?

What is Fetal Asphyxia?

TABLE 1-1. Definitions and Implications of Physiologic Terms Relevant to Hypoxic-Ischemic Encephalopathy ⁶

Physiologic Term	Definition and Implication
Hypoxia	Reduced amount of oxygen delivered to tissues; unlikely to cause encephalopathy or brain injury in the fetus or newborn infant
Hypoxemia	Reduced oxygen concentration in blood; associated with hypoxia but unlikely to cause brain injury if cerebral blood flow is adequate
Hypoxemia-ischemia	Reduced amount of oxygen and inadequate volume of blood delivered to tissues; can cause brain injury if delivery of oxygen and glucose falls below critical levels
Metabolic acidosis	Low pH because of increase in lactic acid in the blood that reflects the severity of asphyxia and hypoxia-ischemia
Respiratory acidosis	Low pH because of increased carbon dioxide in blood; may protect the brain because of cerebral vasodilation and increased cerebral blood flow
Mixed acidosis	Low pH that reflects both increased carbon dioxide and lactic acid
Asphyxia	Marked impairment of gas exchange leading, if prolonged, to progressive hypoxemia, hypercapnia, and significant metabolic acidosis. The term asphyxia, which describes a process of varying severity and duration rather than an end point, should not be applied to birth events unless specific evidence of markedly impaired intrapartum or immediate postnatal gas

Neonatal Encephalopathy and Neurologic Outcome 2nd Ed. Task Force on Neonatal Encephalopathy ACOG/AAP, March 2014.

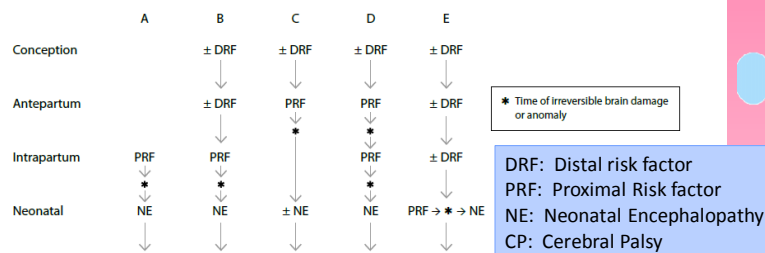


FIG. 1-1. Prenatal and perinatal causal pathways to cerebral palsy in term infants. Distal risk factors exert a pathogenic effect on fetal brain development starting at a time that is remote from the onset of irreversible brain injury. Examples include genetic abnormalities, environmental and sociodemographic factors, and some placental abnormalities. Proximal risk factors exert pathogenic effects on fetal brain development at a time that closely predates or coincides with the onset of irreversible brain injury. Examples include abruptio placentae, chorioamnionitis, and twin-twin transfusion. There are multiple potential causal pathways that lead to cerebral palsy in term infants, and the signs and symptoms of neonatal encephalopathy may range from mild to severe, depending on the nature and timing of the brain injury. A. Intrapartum brain injury that is due to a proximal risk factor may lead to neonatal encephalopathy and subsequent cerebral palsy. B. Intrapartum brain injury may be the result of both distal and proximal risk factors that predispose the fetus to brain injury and cerebral palsy. C. Brain injury or anomaly may occur in the antepartum period as a result of distal and proximal risk factors. When brain injury or anomaly occurs at a time that is remote from the delivery process, neonatal encephalopathy may or may not be seen after birth. D. Brain injury may occur at multiple points during gestation. E. Proximal risk factor and brain injury may occur in the neonatal period following predisposing distal risk factors. Abbreviations: DRF, distal risk factor; PRF, proximal risk factor. (Note: Fig. 1-1- also appears in Chapter 13 as Fig. 13-1.) ⁶

Neonatal Encephalopathy and Neurologic Outcome 2nd Ed. Task Force on Neonatal Encephalopathy ACOG/AAP, March 2014.

Can we Determine Fetal Oxygenation Better?

- What has been tried?
 - Fetal Blood sample
 - Fetal ECG Analysis
 - ST segment changes

Westerhuis, M, et al (JUNE 2010) Cardiotocography Plus ST Analysis of Fetal Electrocardiogram Compared With Cardiotocography Only for Intrapartum Monitoring - A Randomized Controlled Trial. *Obstetrics and Gynecology*. VOL. 115, NO. 6.

What does ACOG say?

- Abnormal fetal surveillance is based on physiologic changes that alter fetal heart rate and fetal activity.
 - Fetal heart rate, fetal movement, and tone in particular are impacted by uteroplacental fetal blood flow alterations and are thereby sensitive to fetal hypoxemia and acidemia.

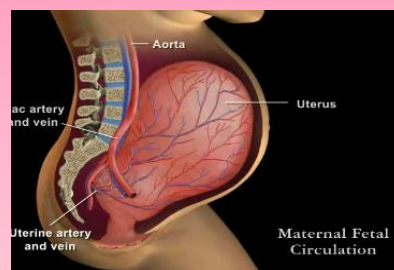


Image from: <http://utilis.net/fhm/2418.htm>

ACOG Guidelines at a Glance: Antepartum fetal surveillance February 06, 2015 By Haywood L. Brown, MD
<http://contemporaryobgyn.modernmedicine.com/contemporary-obgyn/news/acog-guidelines-glance-antepartum-fetal-surveillance>

Expert Interpretations

- Specific Issues:
 - Lack of agreement in interpretation
 - Role of EFM in rising C-Section Rate
 - Litigation



So, what do I do with that information?

Clark et al. August 2013. Intrapartum management of category II fetal heart rate tracings: towards standardization of care. American Journal of Obstetrics & Gynecology

New Thoughts on Category 2 Strips

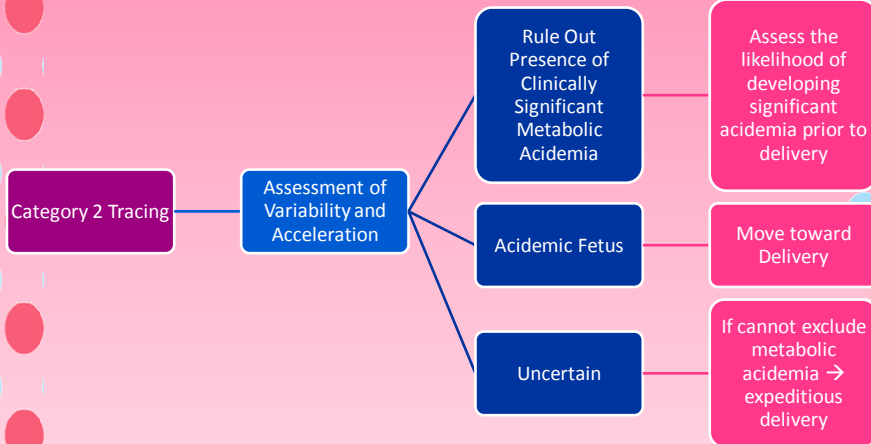
- Suggestion to “start over” with respect to EFM
 - Language
 - Interpretation
 - Management
- “The management of category 2 FHR patterns remains the most important and challenging issue in the field of FHR monitoring, and is arguably 2nd only to preterm birth as the most pressing issue in clinical obstetrics.”



Image from: <http://www.cliparthut.com>

Clark et al. August 2013. Intrapartum management of category II fetal heart rate tracings: towards standardization of care. American Journal of Obstetrics & Gynecology

Management of Category 2

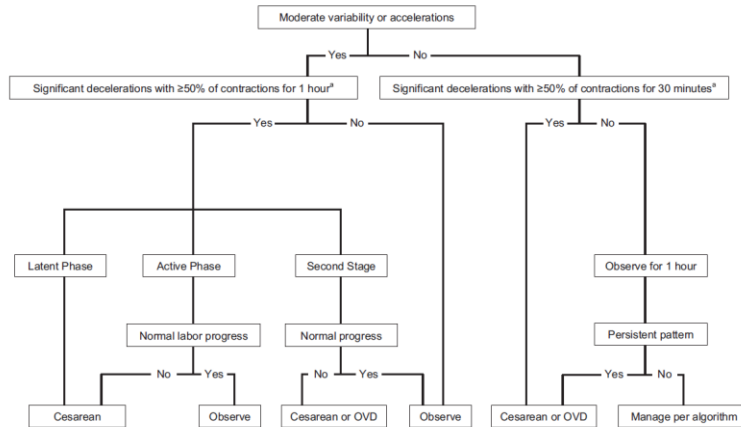


Clark et al. August 2013. Intrapartum management of category II fetal heart rate tracings: towards standardization of care. American Journal of Obstetrics & Gynecology

OBSTETRICS
Intrapartum management of category II fetal heart rate tracings: towards standardization of care
 Steven L. Clark, MD, Michael P. Sington, MD, Thomas J. Casati, MD, Bruce K. Johnson, MD, David A. Miller, MD, Kathleen E. Stinson, MD, PhD, Michael A. Stoltzfus, MD, PhD, Gary A. Shaw, MD, James T. Farrow, MD, Richard L. Berkowitz, MD, PhD, Michael J. Hayes, MD, Larry C. Cahill, MD, Jeffrey M. VanDusen, MD, T. Fereshteh Davarian, MD, Frank H. Taylor, MD, Lisa A. Miller, MD, Dr. Larry D. V. Hawkins, MD

Intrapartum Management Issues

FIGURE 1
Algorithm for management of category II fetal heart rate tracings



OVD, operative vaginal delivery.

*That have not resolved with appropriate conservative corrective measures, which may include supplemental oxygen, maternal position changes, intravenous fluid administration, correction of hypotension, reduction or discontinuation of uterine stimulation, administration of uterine relaxant, amnioinfusion, and/or changes in second stage breathing and pushing techniques.

Clark. Category II FHRT. Am J Obstet Gynecol. 2013.

TABLE

Management of category II fetal heart rate patterns: clarifications for use in algorithm

1. Variability refers to predominant baseline FHR pattern (marked, moderate, minimal, absent) during a 30-minute evaluation period, as defined by NICHD.
2. Marked variability is considered same as moderate variability for purposes of this algorithm.
3. Significant decelerations are defined as any of the following:
 - Variable decelerations lasting longer than 60 seconds and reaching a nadir more than 60 bpm below baseline.
 - Variable decelerations lasting longer than 60 seconds and reaching a nadir less than 60 bpm regardless of the baseline.
 - Any late decelerations of any depth.
 - Any prolonged deceleration, as defined by the NICHD. Due to the broad heterogeneity inherent in this definition, identification of a prolonged deceleration should prompt discontinuation of the algorithm until the deceleration is resolved.
4. Application of algorithm may be initially delayed for up to 30 minutes while attempts are made to alleviate category II pattern with conservative therapeutic interventions (eg, correction of hypotension, position change, amnioinfusion, tocolysis, reduction or discontinuation of oxytocin).
5. Once a category II FHR pattern is identified, FHR is evaluated and algorithm applied every 30 minutes.
6. Any significant change in FHR parameters should result in reapplication of algorithm.
7. For category II FHR patterns in which algorithm suggests delivery is indicated, such delivery should ideally be initiated within 30 minutes of decision for cesarean.
8. If at any time tracing reverts to category I status, or deteriorates for even a short time to category III status, the algorithm no longer applies. However, algorithm should be reinstated if category I pattern again reverts to category II.
9. In fetus with extreme prematurity, neither significance of certain FHR patterns of concern in more mature fetus (eg, minimal variability) or ability of such fetuses to tolerate intrapartum events leading to certain types of category II patterns are well defined. This algorithm is not intended as guide to management of fetus with extreme prematurity.
10. Algorithm may be overridden at any time if, after evaluation of patient, physician believes it is in best interest of the fetus to intervene sooner.

FHR, fetal heart rate; NICHD, Eunice Kennedy Shriver National Institute of Child Health and Human Development.

Clark. Category II FHRT. *Am J Obstet Gynecol* 2013.

Clark et al. August 2013. Intrapartum management of category II fetal heart rate tracings: towards standardization of care. *American Journal of Obstetrics & Gynecology*

Interventions

**Nursing
assessment /
Intervention**

Fetal response

**Maternal
Response**

**Provider
assessment /
Intervention**

Does your personal experience, professional experience, clinical practice patterns or psychological factors affect your response to FHR?

What were the findings?

Intervention for Fetal Distress Among Obstetricians, Registered Nurses, and Residents

Similarities, Differences, and Determining Factors

Giuseppe Chiossi, MD, Maged M. Costantine, MD, Joy M. Pfannstiel, MD, Gary D. V. Hankins, MD, George R. Saade, MD, and Zhao Helen Wu, PhD

OBJECTIVE: To explore the factors possibly associated with the intrapartum management of nonreassuring fetal status and the factors affecting the decision to expedite delivery for fetal distress among different obstetric health care providers.

METHODS: In a cross-sectional study, a standardized hypothetical clinical scenario of management of fetal distress was presented by a study investigator to labor and delivery personnel, including faculty obstetricians, residents, and registered nurses (N=52). An intervention index was calculated for each faculty by dividing the number of cesarean and operative deliveries for nonreassuring fetal status by the actual number of laboring patients supervised by each faculty in 2008.

Giuseppe Chiossi, MD. Intervention for Fetal Distress Among Obstetricians, Registered Nurses, and Residents
Similarities, Differences, and Determining Factors VOL. 118, NO. 4, OCTOBER 2011 OBSTETRICS & GYNECOLOGY

Does Your Personal Perspective Affect Timing of Interventions in the Intrapartum?

“Results of this study indicate that different providers may develop a uniform approach to fetal distress when they practice in the same environment and follow the available electronic fetal heart rate monitoring guidelines, overcoming the effects of different personal experiences, professional background, clinical practice, and psychological traits.”

Giuseppe Chiossi, MD. Intervention for Fetal Distress Among Obstetricians, Registered Nurses, and Residents Similarities, Differences, and Determining Factors VOL. 118, NO. 4, OCTOBER 2011 OBSTETRICS & GYNECOLOGY

Study Findings:

- The time of delivery and the specific fetal heart rate features indicative of fetal distress did not differ among the respondents
- Ideal Delivery Route vacuum assisted versus cesarean
- Registered nurses notified obstetricians about their concern for the fetal status earlier than residents
- NO effect on delivery:
 - Sociodemographic factors
 - Previous negative professional experiences
 - Perception of the respondents’ labor and delivery skills
 - Health care professionals’ age, number of years of practice, and percentage of professional time spent working in labor and delivery
 - number of complications from operative deliveries or shoulder dystocia encountered by the respondents or their colleagues and mentors
 - specific characteristics of the different providers’ practice
 - Providers’ psychological backgrounds
 - Sociodemographic background, professional experience, health care profession, clinical practice, and personality traits
- Medical professionals considered gravidity, parity, and patients’ education relevant in the decision of how to expedite delivery in the second stage of labor

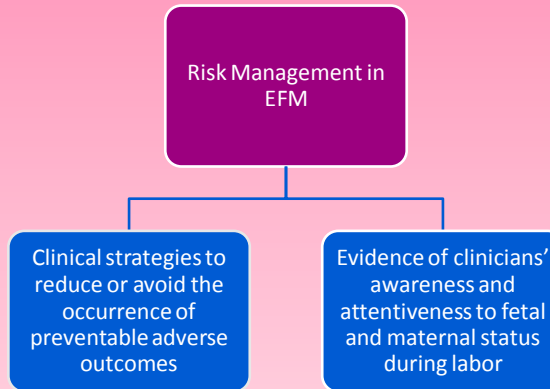
Nursing Documentation

- “A fundamental principle of nursing documentation is that nursing notes and entries must provide a comprehensive picture of patient care such that it will support the nurse’s answers to questions raised at deposition or trial, and this principle applies equally well to physician and midwifery documentation.”
- Simplification of documentation while maintaining and meeting all legal and professional requirements is crucial.



LISA MILLER, CNM, JD. Intrapartum Fetal Monitoring: Liability and Documentation CLINICAL OBSTETRICS AND GYNECOLOGY Volume 54, Number 1, 50–55

Successful risk management in EFM requires a 2-pronged approach:



LISA MILLER, CNM, JD. Intrapartum Fetal Monitoring: Liability and Documentation
 CLINICAL OBSTETRICS AND GYNECOLOGY Volume 54, Number 1, 50-55

EFM Documentation



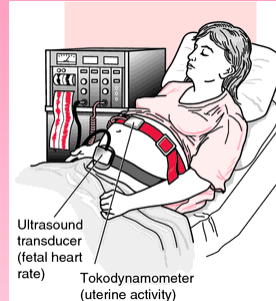
- Standardization of EFM terminology, interpretation, and management
- Clinicians must be able to provide proof of competent care and timely and appropriate interventions.
- The frequency of documentation should be proportional to the acuity level of the individual patient

LISA MILLER, CNM, JD. Intrapartum Fetal Monitoring: Liability and Documentation
 CLINICAL OBSTETRICS AND GYNECOLOGY Volume 54, Number 1, 50-55

Questions?

- Because you are listening to an archived webinar, please forward all questions to the presenter at:

michelle.flanagan@palmettohealth.org or
PerinatalSystems@Palmettohealth.org



<http://img.tfd.com/mk/F/X2604-F-08.png>

Thank you!

- Upon completion of this archived webinar, please complete the Evaluation you were provided on the website or via email.
- Return the evaluation to the Perinatal Systems office and you will receive your Nursing CE electronically via email. Please be sure to include your email address on the evaluation form.
- Any further questions, please contact our Michelle at the following:
 - 803.434.7243
 - Michelle.flanagan@palmettohealth.org

