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The Iowa PERINATAL Letter

High Risk Obstetrical Legal Situations

Physicians who practice obstetrics are at risk for malpractice claims whenever there is a less than optimal outcome. In addition those who practice obstetrics pay some of the highest malpractice premiums of any specialty physician group. Although not every bad outcome can be avoided, the practice of safe obstetrics can reduce this risk. Recently, as an educational component of the visits that the Statewide Perinatal Team make to each of your hospitals, I have included a discussion with those in attendance of 5 obstetrical situations that are high risk for legal liability. We also discuss means by which these liabilities can be decreased. These five situations are:

1) Fetal Heart Rate Tracings
2) Pitocin and misoprostol (cytotec) use
3) VBAC
4) Shoulder Dystocia
5) Operative Vaginal Deliveries (Forceps and Vacuum)

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High Risk Obstetrical Legal Situations

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High Risk OB Legal Situation #1—Fetal Heart Rate Tracings

Good communication and thorough documentation can improve the odds that a lawsuit will not be filed or that a lawsuit that is filed can be successfully defended. As part of achieving good communication when it comes to discussing fetal heart rate tracings I recommend that all labor and delivery personnel become acquainted with and begin using the standardized terminology for fetal heart rate patterns endorsed by the NICHD, ACOG (ACOG Practice Bulletin #62), and other professional societies (Table 1). The purpose for this adoption is to have all care providers using the same terminology for interpretation of fetal monitor strips to ensure safe and consistent patient care.

In addition to the need to improve our communication and documentation with respect to fetal heart rate monitoring a recent published article describes common mistakes in FHR monitoring and provides excellent counsel on how to avoid these legal pitfalls. The author describes 5 areas of concern, and I have paraphrased these below.

a) ***Delayed use of internal fetal monitors.***

Often patients and caregivers prefer not to use internal fetal monitors for a variety of reasons. They are invasive, they may be viewed as unnatural, and they do have certain inherent risks. However, internal fetal monitors should be liberally used in certain situations, including times when the fetal heart rate is difficult to pick up or interpret, if there is any question concerning maternal versus fetal heart rate, during preparation for cesarean section in the OR, and during the second stage of labor if external monitors are only recording segments of the fetal heart rate. If an adverse neonatal outcome occurs, those gaps in the fetal heart rate monitor strip can often lead to allegations of negligent monitoring directed against both the physician and the nurses.

b) ***Discontinuing fetal monitoring too soon.***

This often happens in situations where a reactive nonstress test has been achieved, however there are also some decelerations seen on the strip. When this is seen, prolongation of the monitoring period may be warranted. In addition, if delivery is thought to be imminent, sometimes fetal monitors are removed but then, for whatever reason delivery is delayed longer than anticipated. This may result in several minutes where no fetal monitoring is obtained.

c) ***Not adequately monitoring the fetus during placement of conduction anesthesia.***

Placement of conduction anesthesia can take time, especially in difficult patients (obese, scoliosis etc). Patterns in fetal heart rate may change during or after placement of conduction anesthesia. Changes in maternal position during placement of conduction anesthesia may make recording of fetal heart tones difficult, especially if external monitors are being utilized. For these reasons it is important to monitor the fetus at least intermittently during these episodes. If possible internal monitoring should be considered.

d) ***Not monitoring the fetus in the OR.***

The time from decision to incision for a cesarean section may differ due to the indications for the cesarean section. This time period may be increased in hospitals where the surgical team is not immediately available in the hospital. A considerable amount of time may pass between discontinuing fetal monitoring in the labor room and delivery of the fetus in the OR. It is important to continue to assess fetal well being during this time. If possible, internal fetal monitors should be used during this preparatory time. I suggest that if internal monitors can be used that they be left on the fetal scalp until delivery of the fetus through the hysterotomy. If internal monitoring is not possible then external monitoring should be used up to the time of maternal abdominal prep, which should not be done until appropriate anesthesia has been obtained, thereby decreasing the duration of non-monitoring to the smallest amount of time possible.

e) ***Confusing the maternal and fetal heart rates.***

Most might be surprised how often this occurs. The Iowa Statewide Perinatal Team sees this numerous times a year during our visits to the state's hospitals. Unfortunately, some of these end with less than optimal outcomes. Because of the technology employed in external fetal heart rate monitors it is not uncommon for the monitor to actually record the maternal and not the fetal heart rate. This problem is unique to external monitoring, assuming a living fetus (the maternal heart rate can be transmitted through a dead fetus). Maternal heart rate can, at times, be significantly elevated, such as during a maternal fever or with pushing in the second stage of labor. In addition, the fetal heart rate may slow during a deceleration. This may result in the monitor becoming "confused" and may start to record the maternal heart rate instead of the fetal heart rate. Therefore there is continual need for health care providers to distinguish the maternal heart rate from that

of the fetus. If there is any question, an internal fetal monitor should be placed on the fetal scalp and a pulse oxymeter on the mother. This will usually clarify the situation. This is a clinically dangerous situation that may lead to a compromised newborn which surprises the health care provider and may then also lead to delayed or compromised resuscitation of the depressed newborn. A typical pattern seen when the maternal heart rate is being recorded instead of the fetal heart rate is seen in Figure 1. When an acceleration of the heart rate mirrors the contraction pattern, especially during the second stage of labor, suspicion should be raised that the monitor has started recording the maternal heart rate.

High Risk OB Legal Situation #2—Pitocin and Misoprostol (Cytotec) Use

Each hospital must have policies, procedures, and protocols developed by nursing and medical staff. These should be evaluated and revised on an ongoing basis. If the physician requests deviation from the institution's policy, procedures, or protocol, ensure that the physician writes the order. Before an induction for any indication, clinical or psychosocial, ACOG (1995b) recommends a risk-benefit analysis and discussion of the advantages and disadvantages with the patient including the risk of cesarean birth or the possibility of a repeat induction. Prior to the initiation of the oxytocin infusion or cytotec administration a physician or qualified nurse should examine the patient vaginally to assure the adequacy of the maternal pelvis as well as the position of the fetus. A 20-minute baseline fetal monitoring strip is recommended before initiation of oxytocin. Although there is no consensus in the literature on the ideal oxytocin dosage regimen, (ACOG states that the beginning dose may range from 0.5mU/minute to 6mU/minute, with increasing increments of the same, at intervals between 15-40 minutes) available data support a lower dosage rate of infusion, and SOGC recommends "using the minimum dose to achieve active labor, increasing the dosage no more frequently than every 30 minutes and reevaluating the clinical situation often (every 30-60 minutes) and especially if the oxytocin dosage rate reaches 20 mU/min." The Statewide Perinatal Program supports a lower dosage approach to oxytocin use, e.g. initial dose of 1-2 mU/min., increasing by 1-2 mU/min. every 30-40 minutes. Whatever pitocin policy you decide upon, it can be a double-edged sword in the case of a bad birth outcome. A legal case can be difficult to defend if the policy was not followed or either the nursing personnel or the physicians are not aware of what the policy states. Remember also that any dose of pitocin can cause uterine hyperstimulation. All obstetrical personnel must be able to identify uterine hyperstimulation when it occurs. When encountered the pitocin should be turned off until the hyperstimulation has resolved.

With respect to the use of cytotec in the obstetrical arena we recommend that dose of 25 mcg be employed when administered vaginally for term inductions. A 50 mcg dose can lead to an increased incidence of uterine hyperstimmulation. In addition, prostaglandins, especially misoprostol (cytotec), should not be used in any woman with a prior uterine scar, regardless of gestational age or clinical situation due to the increased risk of uterine rupture.

High Risk OB Legal Situation #3—VBAC

This topic has been superbly addressed by Dr. Frank Zlatnik in previous editions of *The Iowa Perinatal Letter* and much of what I discuss here is taken from those discussions. The changing views in the U.S. related to VBAC over the past decade have been considered in *The Iowa Perinatal Letter* ("VBAC Revisited: Déjà Vu All Over Again," vol. XIX, no. 3, p. 11, 1998; and "VBAC: The Pendulum Swings," vol. XXI, no. 1, p. 4, 2000) and by the American College of Obstetricians and Gynecologists in the Practice Bulletin #5 published in July 1999 ("Vaginal Birth After Previous Cesarean Delivery").

If VBAC is offered, then, per ACOG recommendations, the surgical team must be "immediately available." The Statewide Perinatal Team interprets "immediately available" to mean in the hospital.

"That physicians should be immediately available to provide emergency care" in the woman undergoing VBAC has had very significant implications for Iowa hospitals. ACOG points out that, as opposed to other obstetric complications that may arise without warning, VBAC attempts to represent elective procedures. If a service plans to offer VBAC to its patients, "surgical, anesthetic, and nursing support should be available when a woman attempting VBAC is in active labor in order that prompt cesarean delivery can be undertaken should it be required." Dr. Zlatnik stated this as "all hands on deck."

"There are trade-offs here as a woman desiring VBAC may have to travel from her local facility to a center hospital in order to be afforded this opportunity. The delays inherent in additional travel time to the hospital for the woman in labor may present additional risks." As ACOG states in the last statement in the Summary, "the ultimate decision to attempt VBAC or undergo a repeat cesarean delivery is an individual one made by the patient and her physician based on individual risks, benefits, and values."

In addition, prostaglandins, especially misoprostol (cytotec), should not be used in any woman with a prior uterine scar, regardless of gestational age or clinical situation due to the increased risk of uterine rupture.

Table 1. Definitions of Fetal Heart Rate Patterns

Pattern	Definition
Baseline	• The mean FHR rounded to increments of 5 beats per min during a 10 min segment, excluding: —Periodic or episodic changes —Periods of marked FHR variability —Segments of baseline that differ by more than 25 beats per min • The baseline must be for a minimum of 2 min in any 10-min segment
Baseline variability	• Fluctuations in the FHR of two cycles per min or greater • Variability is visually quantitated as the amplitude of peak-to-trough in beats per min —Absent—amplitude range undetectable —Minimal—amplitude range detectable but 5 beats per min or fewer —Moderate (normal)—amplitude range 6–25 beats per min —Marked—amplitude range greater than 25 beats per min
Acceleration	• A visually apparent increase (onset to peak in less than 30 sec) in the FHR from the most recently calculated baseline • The duration of an acceleration is defined as the time from the initial change in FHR from the baseline to the return of the FHR to the baseline • At 32 weeks of gestation and beyond, an acceleration has an acme of 15 beats per min or more above baseline, with a duration of 15 sec or more but less than 2 min • Before 32 weeks of gestation, an acceleration has an acme of 10 beats per min or more above baseline, with a duration of 10 sec or more but less than 2 min • Prolonged acceleration lasts 2 min or more but less than 10 min • If an acceleration lasts 10 min or longer, it is a baseline change
Bradycardia	• Baseline FHR less than 110 beats per min
Early deceleration	• In association with a uterine contraction, a visually apparent, gradual (onset to nadir 30 sec or more) decrease in FHR with return to baseline • 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 or more) decrease in FHR with return to baseline • Onset, nadir, and recovery of the deceleration occur after the beginning, peak, and end of the contraction, respectively
Tachycardia	• Baseline FHR greater than 160 beats per min
Variable deceleration	• An abrupt (onset to nadir less than 30 sec), visually apparent decrease in the FHR below the baseline • The decrease in FHR is 15 beats per min or more, with a duration of 15 sec or more but less than 2 min
Prolonged deceleration	• Visually apparent decrease in the FHR below the baseline • Deceleration is 15 beats per min or more, lasting 2 min or more but less than 10 min from onset to return to baseline

Figure 1. Maternal/Fetal Tracing

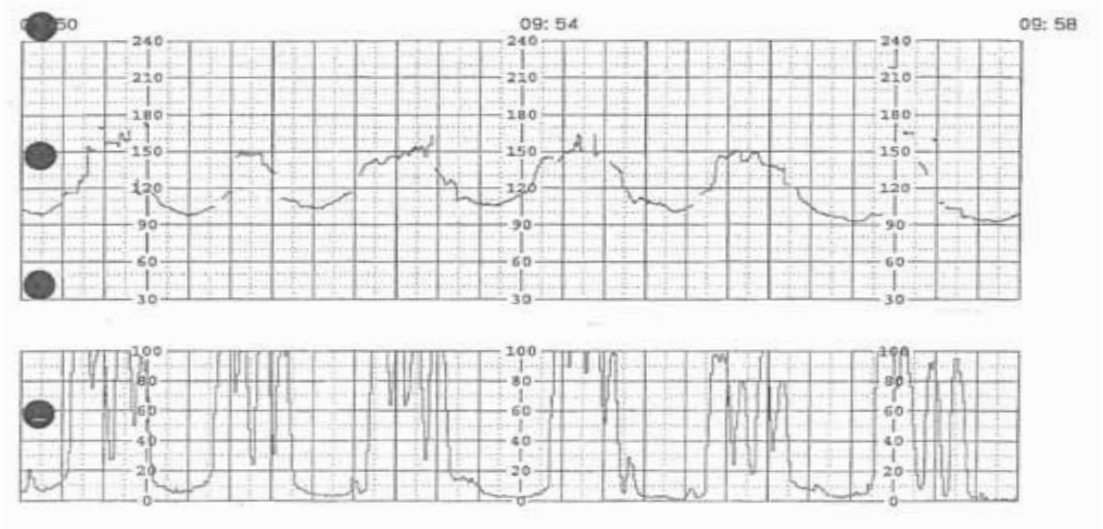

Figure 2

B-1b CLINICAL NOTES

Delivery Note – Shoulder Dystocia

• File most recent sheet of this number ON BOTTOM •

DATE
HOSP.#
NAME
BIRTH DATE
ADDRESS

IF NOT IMPRINTED, PLEASE PRINT DATE, HOSP. #, NAME AND LOCATION

When and how diagnosis of shoulder dystocia was made: _____

_____

EFW (clinical): _____ EFW (ultrasound): _____ Diabetes: ☐ Yes ☐ No Type: _____

Date of delivery: _____ Time of delivery: _____ 2nd stage length_____ hours/minutes

Head-body interval: _____ min/seconds Anesthesia: _____

Position of head at delivery: _____ which shoulder anterior: _____

Obstetric providers present at delivery: Staff Physicians: _____

Assistants: _____

Nurses: _____

Pediatrician called: ☐ Yes ☐ No Pediatricians Present: _____

Maneuvers used:

McRoberts	☐ Yes	☐ No
Suprapubic pressure	☐ Yes	☐ No
Wood's cork-screw	☐ Yes	☐ No
Deliver posterior shoulder	☐ Yes	☐ No
Episiotomy	☐ Yes	☐ No

Other (e.g., Zavanelli, fracture anterior clavicle) _____

Note results obtained from each maneuver: _____

_____

_____

Birthweight: _____ Apgar Scores: _____

Cord gases sent? ☐ Yes ☐ No If yes, results:

Cord blood: UA pH _____ base excess _____ UV pH _____ Base excess: _____

Infant moving all extremities at birth? ☐ Yes ☐ No Describe shoulder, clavicle, humerus: _____

_____

Mother's condition: _____ EBL: _____

Mother informed of dystocia, potential sequelae: ☐ Yes ☐ No

Recommendations for future pregnancies: _____

Physician Signature: _____ Date: _____

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B 1b
C LABORATORY
D X-RAY EXAM
E CONSULTATION
F SPEC.EXAM
G THERAPY
H PATHOLOGY
I PT. QUES.

High Risk OB Legal Situation #4—Shoulder Dystocia

Shoulder dystocia remains an unpredictable obstetrical emergency and should be anticipated at all vaginal deliveries. The various maneuvers available to treat this condition should be well known by all labor and delivery personnel. Extensive and thorough documentation is a must when a shoulder dystocia is encountered. Often the outcome of a legal proceeding involving a shoulder dystocia situation will be determined by the thoroughness of the documentation. Several recent articles addressing shoulder dystocia have suggested various forms that can be used to ensure adequate documentation. The University of Iowa has produced a shoulder dystocia checklist/note to aid in this documentation (Figure 2). In addition to thorough documentation, the use of shoulder dystocia drills or simulations can aid in teaching obstetrical personnel how to most effectively and efficiently respond to this low frequency-high acuity event.

High Risk OB Legal Situation #5—Operative Vaginal Delivery

Because of the potential legal risks associated with a less than optimal outcome after an operative vaginal delivery, good documentation, including a preoperative note, should be included in the chart whenever possible. Points that should be addressed in a preoperative vaginal delivery note include such items as estimated fetal weight, adequacy of maternal pelvis, the amount of molding, the fetal station, fetal position, fetal heart rate pattern, and uterine contraction pattern should be addressed. In addition the indication for the operative vaginal trial (ACOG Practice Bulletin #17, June 2000), the fact that the patient has been informed of the risks of operative vaginal delivery as well as those of abdominal surgery, and that the physician feels that the patient is an adequate candidate for operative vaginal delivery should also be documented. In a postoperative note, especially when vacuum has been used, the post procedure note should include total pressure applied, length of duration that the vacuum was applied, number of contractions through which pulls were done, whether there was or was not fetal decent with each attempt, and the number of vacuum pop offs, if any. Any personnel that use a vacuum should also be familiar with the manufacturers printed material that is provided regarding the device that is used. I also suggest that after any operative vaginal delivery case a fetal cord PH be obtained at the time of delivery.

—Stephen K. Hunter, MD, PhD
Maternal Fetal Specialist
Associate Director

MARK YOUR CALENDARS!

WHAT: 34th Annual Iowa Conference on Perinatal Medicine*

WHEN: April 9-10, 2008 (Wednesday-Thursday)

WHERE: West Des Moines Marriott Hotel

This annual conference is designed to provide state-of-the-art information on obstetric and newborn care practices.

13.2 CEUs or 13.2 contact hours will be awarded by University of Iowa Hospitals and Clinics Department of Nursing (IBN approved provider #34).

The University of Iowa Carver College of Medicine has approved this educational activity for 11.0 *AMA PRA Category 1 Credit(s)*™.

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