

Creating Safer Perinatal Departments in Hospitals:

Introducing High-impact, Rapidly-delivered Training in Electronic Fetal Monitoring

Introduction

Improving patient safety has become a universal mantra for healthcare organizations throughout the country. The objectives to improve clinical outcomes, implement better patient safeguards, and make fewer medical errors have been widely embraced by leaders in hospitals, health systems, government agencies, healthcare corporations, and healthcare accrediting bodies. The Department of Health and Human Services' Agency for Healthcare Research and Quality (AHRQ), for example, has launched an industry-wide program where performance safety indicators are measured in hospitals on an ongoing basis, resulting in a series of safety benchmarks.

Leading AHRQ's slate of 20 safety indicators is birth and obstetric trauma, which comprises 20% of the list. In their initial effort to promote patient safety in perinatal departments, HCA, the nation's largest proprietary hospital corporation, began by investigating their malpractice claims and soliciting the expertise of their physicians and clinical staff. They discovered that plaintiff attorneys often indicated that nurses and physicians had not properly read fetal heart monitoring strips or failed to act appropriately. In response, HCA created and executed an innovative patient safety program for perinatal departments with education as its cornerstone—beginning with training in electronic fetal monitoring.

Central to most labor and delivery units today, electronic fetal monitoring (EFM) is important for alerting clinicians when a fetus is compromised. This technology has undoubtedly benefited many thousands of patients, while, at the same time, EFM ranks as one of hospitals' most challenging areas of risk management.

Here's why:

- Over 50% of a typical hospital's budget for risk management is spent in the Labor and Delivery area (*Jury Verdict Research, 2001*).
- The #1 most frequent allegation in perinatal malpractice claims is delayed diagnosis of fetal distress—which is monitored via EFM (*Risk Management Fdn. of Harvard Medical Institutions, 2004*)
- Over half of liability claims against physicians were obstetric and almost half of those (46%), EFM was a variable (*American College of Obstetricians and Gynecologists (ACOG)*).
- In 75% of birth-related lawsuits, the award or settlement is over \$1 million (*Jury Verdict Research, 2001*)

Given these statistical facts, it comes as no surprise that risk managers have long been focused on risk management models to minimize claims from the labor and delivery area in hospitals. Pioneering thought leaders in perinatal risk management, however, now advocate that increasing safety and decreasing claims are two sides of the same coin. The dual focus of improving patient care and risk management is well demonstrated in the pioneering approach to this issue at HCA, led by their field-based perinatal physician

and nurse workgroups. Their innovative Patient Safety Program started from the ground-up with physicians and hospital advisory groups' buy-in. Working collaboratively with these groups throughout the development and implementation of HCA's program, a powerful template was built for identifying best practices in healthcare delivery. The result: patient safety has been strengthened and perinatal claims have fallen 40% at HCA since 1996 (Lenckus, 2005).

Core Question: How can we create safer perinatal departments in hospitals?

From the dual perspective of patient safety and risk management, malpractice lawsuits provide a rough compass that points in the direction of opportunities for improvement in clinical practices. Since EFM is the focal point of almost half of all obstetric malpractice cases, an opportunity to create safer perinatal departments is presented via EFM training and education. This paper will document the magnitude of the problem and present a compelling rationale for online EFM training as a powerful solution to help create safer perinatal departments in hospitals.

What are the most recurrent problems in perinatal care?

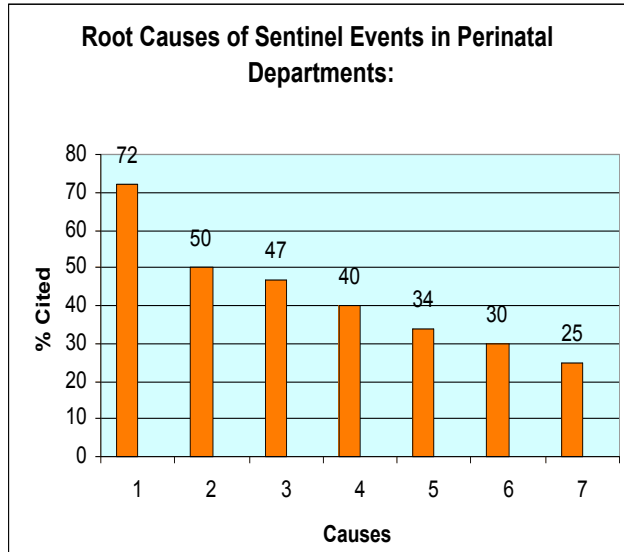
To answer this question, MMI Company, Inc., a risk management company and liability insurer, analyzed medical malpractice claims and documented perinatal injuries at 263 hospitals over a 12-year period (1998). They found that the majority of claims and perinatal injury could be traced to five common recurrent problems:

- 1) Failure to recognize and/or appropriately respond to antepartum/intrapartum fetal distress;
- 2) Failure to perform a timely cesarean delivery (30 minutes from decision to incision) when indicated;
- 3) Failure to appropriately resuscitate a depressed infant;
- 4) Inappropriate use of oxytocin leading to uterine hyperstimulation, uterine rupture, and fetal distress and/or death; and
- 5) Inappropriate use of forceps/vacuum leading to fetal trauma and/or preventable shoulder dystocia.

Competence in EFM is a necessary, bottom-line skill needed to address the first of the five most common recurrent problems in perinatal care. A primary objective of EFM is to detect the lack of fetal well-being, thus providing an alert to take appropriate measures in response. Failure to detect a lack of fetal well-being often leads to failure to perform a timely cesarean delivery—the second recurrent problem.

With the top five problem areas identified, what are the root causes of sentinel events in perinatal departments?

To investigate the origins of sentinel events in perinatal care, the *Joint Commission on Accreditation of Healthcare Organizations (JCAHO)* recently published data regarding the root causes of 47 cases of perinatal death or permanent disability in infants whose birth weight exceeded 2500 g (2004). The causes reported were as follows:



- Root Causes (% cited)**
1. Communications issues (72%)
 2. Org. culture impeded teamwork (50%)
 3. Competency of staff (47%)
 4. Issues with orientation & training (40%)
 5. Insufficient fetal monitoring (34%)
 6. Concerns w/ credentialing & Supervision for nurse-midwives & physicians (30%)
 7. Staffing problems (25%)

While fetal monitoring is explicitly cited as being a root cause of sentinel events in 34% of cases, issues surrounding EFM may be inherent in a sizable portion of the other six root causes identified. For example, miscommunications often occur in reporting concerns in EFM based solely on word choice. Adopting a standard nomenclature has been widely advocated as an important means of improving communication about EFM. Certainly “competency in staff” may include competency in EFM. When the pervasive nature of EFM skills is considered, EFM deficiencies may, in fact, be a “shadow root cause” for *most* sentinel events in hospitals’ perinatal departments.

What are the most common allegations made in regard to EFM?

Among malpractice claims where issues surrounding EFM are explicitly stated as part of an allegation, the *Journal of Perinatal & Neonatal Nursing* (L.M. Greenwald & M.Mondor, 2003) reports that the most common allegations include:

- Failure to accurately assess maternal-fetal status
- Failure to appreciate a deteriorating fetal condition
- Failure to appropriately treat a nonreassuring fetal heart rate
- Failure to correctly communicate maternal-fetal status to the physician / nurse-midwife.
- Failure of the physician / nurse-midwife to respond when there is a clinical disagreement between the nurse and responsible physician / nurse-midwife.
- Failure to institute the chain of command when there is a clinical disagreement between the nurse and responsible physician / nurse-midwife.

“Lack of proficiency in electronic fetal monitoring is legal suicide for the obstetric nurse.”

M. McRae, RN, DMSe
Journal of Obstetric, Gynecologic, and Neonatal Nursing, 1993

Since three of the six most common allegations involving EFM in malpractice claims directly relate to competence and skill levels in EFM, training seems to offer an obvious solution. However, training in this proficiency [EFM] is severely lacking--at every level of professional education.

In a survey of 48 generic baccalaureate schools of nursing, Kinnick (1989) discovered that “18 of the schools used less than one hour, 26 used one or two hours, and only four schools used more than two hours to teach fetal monitoring in theory class.” This finding is consistent with the observations of Jan Meyers, assistant vice president of Corporate Quality at HCA, who notes that nurses and physicians do not typically learn to read fetal heart monitoring strips in school. As a result, some have a couple of hours of on-the-job training and some have sophisticated training that they picked up on their own.

In inexperienced or uneducated hands, EFM becomes a liability. When a nurse is deposed in a malpractice case involving interpretation of fetal heart monitoring patterns, the plaintiff’s attorney often asks for detailed information about education and competencies in fetal heart assessment. It is not unusual for the attorney to test the nurse’s knowledge of basic electronic fetal monitoring concepts, including terminology, interpretation of strips, and appropriate nursing interventions for nonreassuring fetal heart rate patterns (McRae, 1999).

Consequences

✓ ***Patient safety is now a top priority for most hospitals.***

The seminal publication “*To Err is Human*”, published by the Institute of Medicine (IOM), has stimulated a plethora of scholarship and inquiry on patient safety. Despite healthcare professionals’ best efforts at providing excellent care, a poor obstetric outcome is an ongoing risk that sometimes occurs. The reduction of human error in the delivery of healthcare is now at the forefront of most hospital CEOs’ agenda. In the 14th Annual HIMSS Leadership Survey of 355 health care systems (2003), 43% of CEOs reported that “increasing patient safety” is a top business issue for their organization over the next two years.

✓ ***Malpractice claims have increased—exponentially.***

On average, a malpractice claim is brought against a hospital for every 1,000 deliveries. According to the Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN), liability judgments have increased 500% in some states since 1989, with one verdict exceeding \$268 million in 2001. By contrast, the average award from birth-related lawsuits in 2001 was \$2.5 million. In more than 75% of the cases, the award or settlement is over \$1 million (*Jury Verdict Research, 2002*).

✓ ***Malpractice Insurance Costs have Skyrocketed.***

Economic realities for obstetricians are equally stark. According to the American College of Obstetricians and Gynecologists, 76.5% OF ACOG fellows have been sued at least once, while 25% of them will be sued four or more times. Concurrently, in the past 14 years, reimbursement for obstetric care has declined slightly while the increase in liability insurance—from \$8,900 for \$1M/3M coverage in 1980 to \$142,000 per year in 2004—has been exponential (Young, 2005).

✓ ***Financial squeeze is placed on hospitals.***

As the economics of obstetric care have deteriorated, obstetricians have attempted to maintain income by reducing liability coverage—which can cost hospitals. Many physician insurance policies pay a maximum of only \$1 million today—which, given tort

law in most states, can place a severe financial squeeze on hospitals in large judgments. Hypothetically, if \$10 million is awarded to a successful plaintiff and the obstetrician is found 90% negligent and is insured for \$1 million, the policy will pay the \$1 million. If the nurse is found to be only 10% responsible, the hospital may have to pay the remaining \$9 million.

✓ ***Perinatal nurses are increasingly sued.***

Plaintiffs' attorneys increasingly include nurses as defendants so that settlements and trial verdicts can generate as much money as possible, particularly in Obstetrics (O'Sullivan, 1996). In the four-year period of 1996-2000, the number of cases in which nurses have been named as defendant or codefendant rose at least 10%. Today, nurses are held accountable for failure to communicate, failure to recognize deterioration in a patient's condition, and failure to initiate appropriate and timely interventions. Lack of knowledge and poor judgment are major causes of litigation, according to the American Nursing Association (2001).

✓ ***Shortage of obstetric physicians is predicted.***

The risk of liability claims and the high cost of liability insurance are taking a toll on obstetricians. The average age that they stop practicing obstetrics is now 48, according to the latest membership survey of ACOG. The risk of liability claims or litigation caused 14% of the survey respondents to stop practicing obstetrics, a significant increase from both the 1999 (8.9%) and 1996 (8.9%) surveys. ACOG also reported that the number of U.S. medical graduates that entered Ob-Gyn residencies was down significantly in 2004.

An Urgent Call for EFM Training!

Perhaps more than any other area in the hospital, an investment in EFM training stands a high probability of yielding strong ROI for patient safety and risk management. In the JCAHO study cited earlier in this paper that reported the root causes of perinatal death or permanent disability (see page 3), the first recommendation was to conduct team training for all staff in perinatal areas.

The pervasive knowledge and skill deficiencies in EFM are widely acknowledged. "Many obstetric nurses lack skills in pattern recognition, interpretation of ominous fetal tracings, and basic EFM concepts. Yet, these nurses are practicing in hospitals around the country," explained Maureen McRae in the *Journal of Obstetrics, Gynecology, and Neonatal Nursing*.

Even more disconcerting is the fact that nurses' EFM training—although generally considered lower than is desirable—is often more up-to-date than that made available to physicians and midwives. As Simpson et al. (2003) explain, "Following graduation from their respective programs, nurses tend to attend more continuing education programs in EFM than do physicians, and many hospitals require specific competency documentation for nurses working with EFM, though few require similar documentation from physicians or certified nurse-midwives."

"Lack of current education in the areas of fetal heart rate interpretation, in particular, as well as neonatal resuscitation, are common areas of litigation."

Dunn et al.
Clinics in Perinatology
(2005)

Important Criteria for Selecting High-Impact EFM Training

- ✓ ***EFM training must be ongoing, continually updated, and include the latest technological advances.***

Thought-leaders in perinatal care stress the importance of committing to a perinatal training and education program that allows physicians and nurses to update their EFM skills on a regular basis. Staying abreast of the latest technological advances in the field is mandatory to maintain competence.

- ✓ ***EFM training must be readily accessible and available anytime to healthcare professionals.***

The continuous, 24/7 schedule of work shifts required of hospital personnel means that a very flexible mode of training is needed. A traditional classroom-type of training modality would prove near impossible logistically, as well as being costly for the healthcare organization.

- ✓ ***EFM training for nurses, nurse-midwives, and physicians should be well coordinated.***

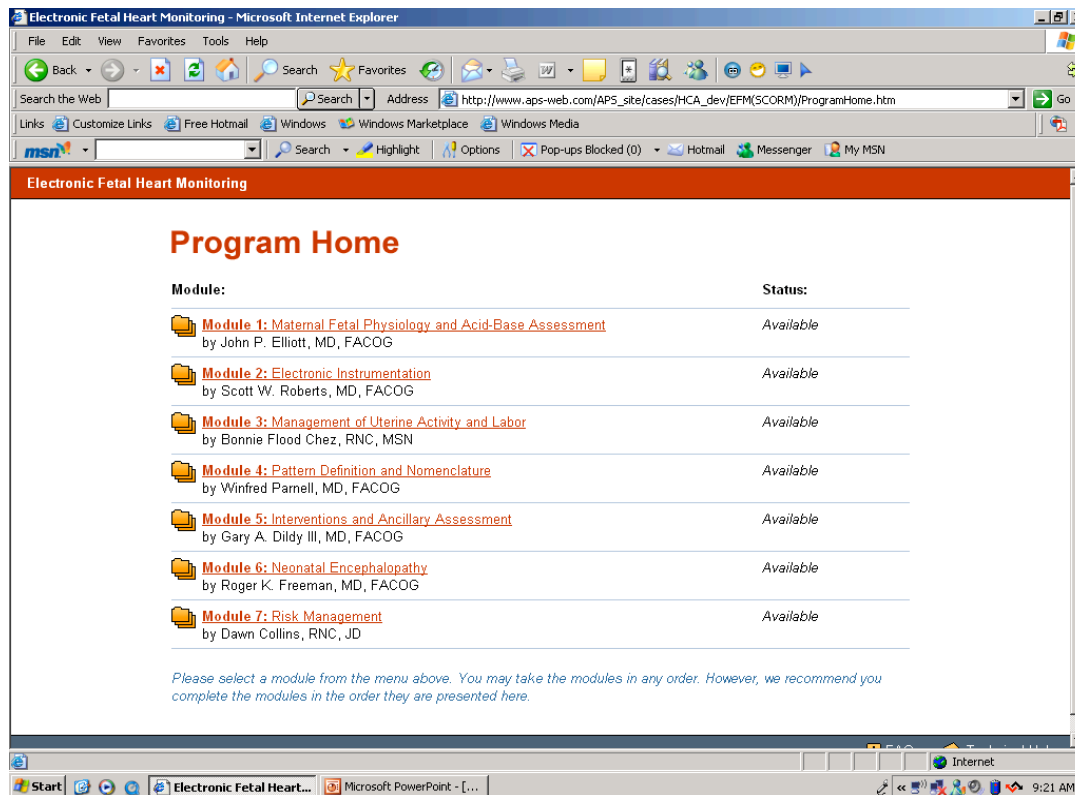
Communication problems among perinatal teams are the most frequently cited cause of perinatal death and permanent injury. As such, Simpson and Knox (2003) recommend that perinatal teams adopt and universally use one common language for fetal heart rate patterns via EFM for all professional communication and medical record documentation. At the very least, this goal requires the utmost coordination of training materials and content. At best, joint EFM training and education programs would be offered to all physicians and nurses working in an organization's perinatal team.

An Ideal Solution:

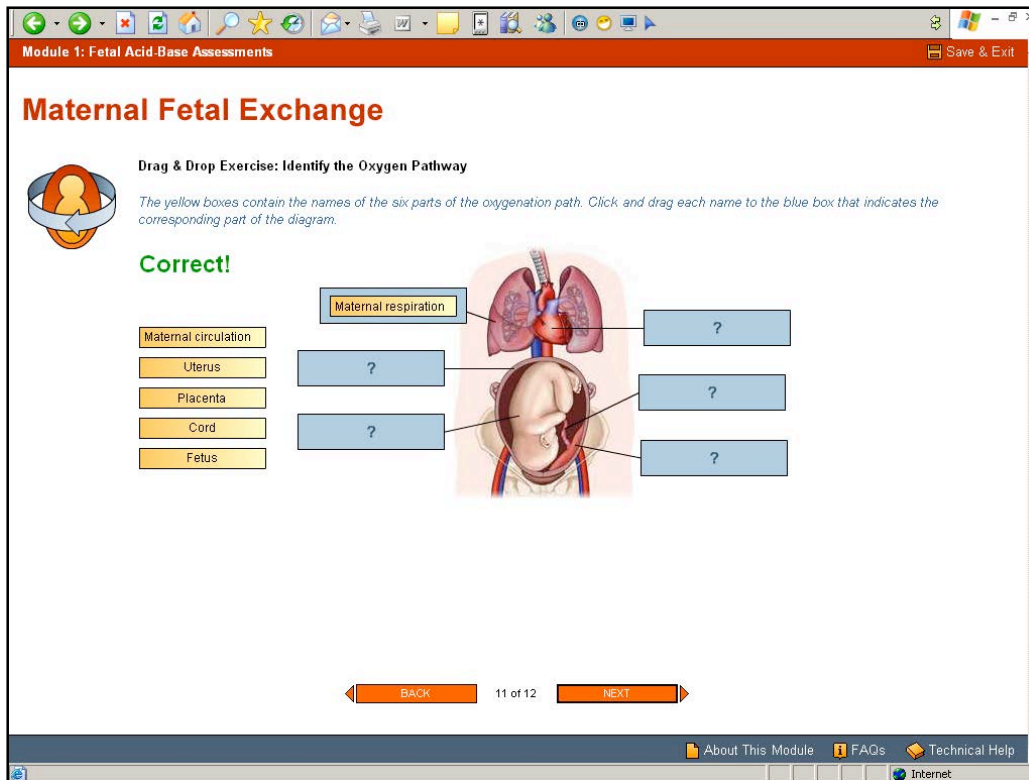
The Advanced Fetal Monitoring & Assessment Program

Description of the Program

Developed by HCA, in collaboration with Advanced Practice Strategies (APS), the Advanced Fetal Monitoring & Assessment Program is an online learning program focused on best practices in EFM. It consists of seven modules, each centered on a different area of EFM.



All modules are case-based and each includes a collection of ancillary resources, such as expert opinions, animations, and links to medical research papers. Consistent with the best adult learning principles, the program is highly interactive, visually engaging, and includes numerous knowledge checks, exercises, and multimedia throughout each module. The program is accredited by ACOG for 12 CME cognates for physicians and it is accredited by HealthStream for 14 CE contact hours for nurses.



What makes this Program Ideal?

- ✓ ***It meets all important criteria for high-impact EFM training.***

As an online learning program, content can be easily updated as new research findings are published, thus providing physicians and nurses with the most up-to-date information available. Delivered via the Internet translates into 24/7 access, a key advantage for busy healthcare professionals who often work in the “off-shift,” particularly in perinatal departments. Importantly, with EFM training available online, the information is delivered in a consistent manner, using consistent terminology—a key factor in promoting a well coordinated program among physicians and nurses.

“One of the most important factors is to have consistent, understandable terminology and communications between all caregivers regarding EFM patterns. This can only happen if all those involved learn the same information and have common understanding of the physiology and management needed.”

**Dawn E. Collins, JD
(2005)**

- ✓ ***Among physicians, in particular, online learning promotes long-term knowledge gain and behavior change better than classroom-based learning activities.***

As reported in *JAMA* (September 7, 2005), a randomized controlled trial comparing performance outcomes for physicians participating in Internet-based CME versus traditional, classroom-based (live) activities was conducted. The researchers concluded that online CME can produce objectively measured changes in behavior as well as sustained gains in knowledge that are comparable or superior to those realized from effective live activities.

- ✓ ***The Advanced Fetal Monitoring & Assessment Program is compliant with ACOG guidelines.***

The program was, in fact, actively developed in collaboration with ACOG as a partner. The healthcare industry's most highly regarded and prestigious professional association in obstetrics and perinatal care, ACOG, provides the clinical foundation for the guidelines and knowledge provided in the Advanced Fetal Monitoring and Assessment Program.

- ✓ ***The Advanced Fetal Monitoring & Assessment Program is highly endorsed by thought-leaders in obstetrics and perinatal care.***

Here's what they're saying:

"This course [Advanced Fetal Monitoring and Assessment Program] is absolutely necessary for physicians. They need the basics, then they can apply their other knowledge."

John Elliott, MD, FACOG (2005)

"As a physician who does a great deal of medical legal expert work, I find that many physicians and nurses do not have an adequate knowledge base of EFM. This program will be valuable in credentialing physicians and nurses with respect to a basic knowledge in EFM that should be a minimum standard for hospitals and insurance companies who share risk with physicians and nurses."

Roger Freeman, MD, FACOG (2005)

"In reviewing the seven modules in this program, it is immediately evident that each addresses both basic and advanced concepts pertaining to fetal physiology and EFM. It often is neglect or lack of recognition of the basics which leads to avoidable adverse fetal outcomes, and thus underscores the importance of continuously emphasizing the basics—like that presented in the Advanced Fetal Monitoring and Assessment Program."

Gary A. Dildy III, MD, FACOG (2005)

"One should not have to "sell" anyone on this program [Advanced Fetal Monitoring and Assessment Program]. To not take advantage of it, for at least a solid beginning for MD competence validation, is a real opportunity missed."

Bonnie Flood-Chez, RN

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