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Crash cesarean section: What is your decision-to-delivery time?

Effective response times require coordination of a multidisciplinary team

CASE How fast can your team go?

A 28-year-old G1P0 woman at 37 weeks' gestation presents to the triage area of your labor and delivery unit with a complaint of decreased fetal movement for 24 hours. Fetal heart rate monitoring indicates a fetal heart rate of 60 bpm. The maternal heart rate is 86 bpm. By physical exam the uterus has normal tone. Cervical examination reveals that the cervix is closed and there is no umbilical cord in the vagina. Three minutes after being placed on the fetal heart rate monitor, an ultrasound exam confirms that the fetal heart rate is 60 bpm. Change in maternal position and oxygen by mask does not change the fetal heart rate. You call for a crash cesarean section. How fast can your team go?

As an obstetrical team moves to initiate a crash cesarean section, dozens of decisions need to be made in a seamless manner by a multidisciplinary operative team. Who will alert all the team members to the initiation of a crash section? Who will start the IV and place the Foley catheter? Will the consent be obtained verbally or in writing? Who will transport the patient to the operating room? Will a general anesthetic or spinal be utilized? Will a formal surgical preparation be performed or a "splash prep"? Will the obstetrician utilize a vertical or a transverse abdominal incision? What is the plan if a cesarean section is previously underway on another woman, and a crash section needs to be initiated on your patient?

Recommended intervals vary

There are no randomized clinical trials demonstrating that the faster a cesarean section is performed, the better the maternal and fetal outcome. The American College of Obstetricians and Gynecologists recommends that in an emergency, obstetrical units should be capable of initiating a cesarean section within 30 minutes of a decision to perform the procedure.¹ In Germany, the recommendation is that, in an emergency, the cesarean section should be initiated within 20 minutes.

These recommendations are based on the opinion of experts, not on prospective trials. Many authorities believe that in some clinical settings, such as with a major abruption or a cord prolapse, "decision-to-delivery" times in the 10- to 20-minute range are associated with better newborn outcomes than times in the 30- to 45-minute range.

How to improve response time?

Worldwide, many obstetrical units are unable to routinely achieve a 30-minute decision-to-incision interval.^{2,3} Some studies indicate that the presence of the operative team in the hospital improves response time and newborn outcomes.⁴ Crash cesarean section simulation drills and standardization of procedures for a crash cesarean section appear to reduce the decision-to-delivery interval.⁵

Dangers and precautions

Patient safety is a primary concern in all healthcare settings. One challenge with per-

FAST TRACK

For emergency cesarean section, ACOG recommends a 30-min decision-to-incision interval

forming a crash cesarean section is the potential that more harm than good will be done. For example:

- Women have died from anesthetic complications during attempts to perform a crash cesarean section. Anesthetic complications that have caused death include inability to maintain a patent airway, and vomiting resulting in aspiration and hypoxemia. For a patient who enters the labor and delivery unit directly from home, the risk is high that her stomach is not empty and general anesthesia is especially risky in this setting. Morbidly obese women may be at especially high risk for a major anesthetic complication.⁶
- For women with a massive placental abruption, disseminated intravascular coagulation may be present prior to initiating surgery. If a full-service blood bank is not immediately available, initiating a crash cesarean section in this setting can result in the death of the mother from surgical complications.
- Crash cesarean sections have been reported to be associated with an increased rate of obstetrical hemorrhage.⁷

It is critically important to document that the fetus has an active fetal heart rate before initiating a crash cesarean section. Sometimes, maternal vascular activity is misinterpreted as a fetal heart rate. Performing a crash cesarean section, only to discover that the fetus has been dead for many hours or days, is particularly devastating to the patient, her family, and all the care providers.

JCAHO advises simulation drills

Based on major adverse obstetrical outcomes reported by hospitals, the Joint Commission on Accreditation of Healthcare Organizations recommends that labor and delivery units regularly conduct simulated crash cesarean section procedures and debrief the entire team after the simulation.⁸ The crash cesarean section is a complex surgical procedure

that requires effective communication among a multidisciplinary delivery team, including obstetricians, nurses, anesthesiologists, pediatricians, and support personnel. The Joint Commission believes that maternal and newborn outcomes will be improved by practicing crash cesarean section procedures and improving communication among members of the delivery team. Simulation training and improved communications will increase the quality of patient care throughout the labor and delivery suite.



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What is your opinion?

Has your labor and delivery unit simulated a crash cesarean section in the past 6 months?

- Yes
 No
 I am not sure

For a woman at term who presents to your triage unit with a persistent fetal bradycardia confirmed by ultrasound, from the time you call for a crash cesarean section, approximately how many minutes does it take your team to deliver the baby?

- 5 to 10 minutes
 10 to 20 minutes
 20 to 30 minutes
 30 to 45 minutes

Respond via INSTANT POLL, at

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We will publish a summary of responses in an upcoming issue