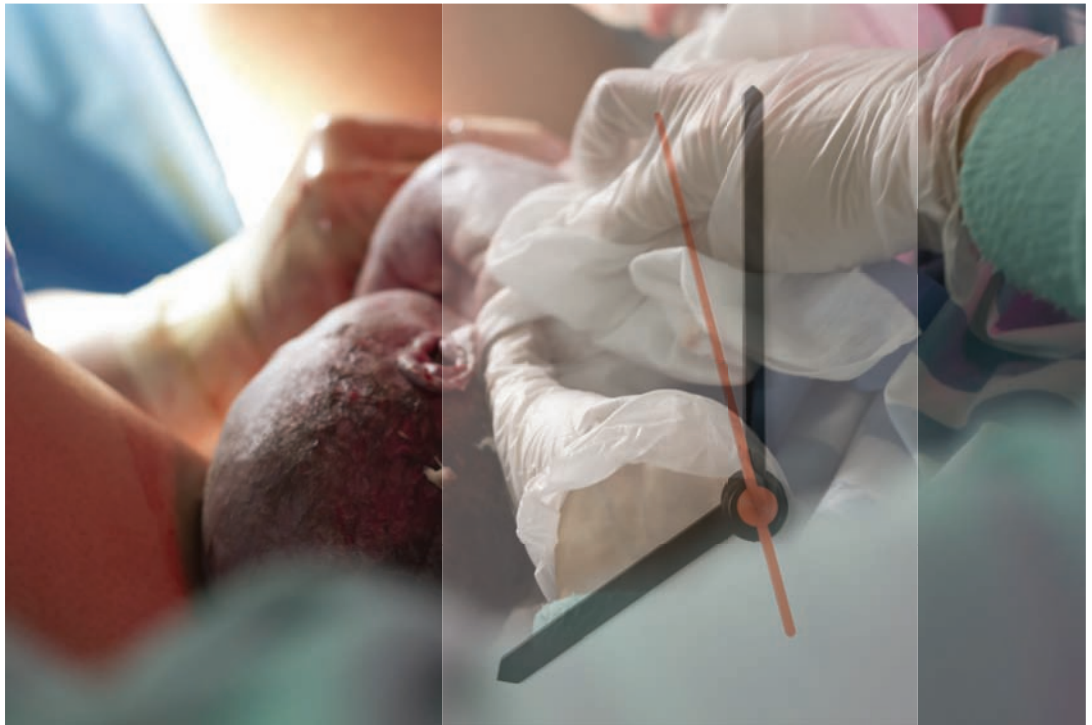




A Second Look



Beliefs and Practices of Obstetric Care Providers Regarding Umbilical Cord Clamping

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The optimal timing for umbilical cord clamping after birth for full-term and preterm infants has yet to be established and controversy exists (American College of Obstetricians and Gynecologists [ACOG], 2012). If the umbilical cord remains unclamped for a small amount of time (approximately 30 to 120 seconds), rather than clamping immediately (15 to 20 seconds), placental transfusion occurs, increasing blood volume to the newborn and improving blood flow

to vital organs (ACOG, 2012; Rabe, Diaz-Rossello, Dunley, & Dowswell, 2012). Concerns related to delayed clamping of the umbilical cord have been documented as potentially jeopardizing resuscitation efforts, excessive placental transfusion, technical difficulties and interfering with attempts to bank cord blood (ACOG notes

Abstract The optimal timing for umbilical cord clamping after birth has yet to be established, and controversy exists. There is evidence of potentially significant health benefits of delayed cord clamping for both full-term and preterm newborns, but this practice has not been widely adopted. This column takes a second look at two recent studies in which researchers examined the beliefs and practices of obstetric care providers regarding umbilical cord clamping in North America. Nurses who are aware of the latest science and who understand both existing practice patterns as well as practice barriers to delayed clamping can be leaders in and advocates for change. DOI: 10.1111/1751-486X.12149

Keywords cord clamping | delayed cord clamping | placental transfusion | umbilical cord



that timing of clamping should not be altered for the purpose of banking cord blood; ACOG, 2012). On the other hand, documented neonatal benefits include increased blood volume, reduction of blood transfusions, decrease in intracranial hemorrhage in preterm infants and less

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iron deficiency anemia in term infants (ACOG, 2012). It's clear that ongoing research is needed to evaluate risks and benefits for full-term and preterm infants, as well as for maternal health.

Increasing evidence has emerged favoring a delay in umbilical cord clamping for at least 1 minute after birth or to when the cord pulsation has stopped in uncomplicated full-term births. A recent Cochrane review explored umbilical cord clamping data from 15 randomized controlled trials involving 3,911 women and infant pairs and found some potentially important benefits of delayed cord clamping in healthy full-term births (McDonald, Middleton, Dowswell, & Morris,

2013). Clamping the cord during the third stage of labor, more than 1 minute after birth did not pose any increased risk to the mother (specifically postpartum hemorrhage) and was associated with improved neonatal outcomes. Healthy, full-term infants who experienced delayed cord clamping were found to have significantly higher birth weights, elevated hemoglobin concentrations immediately post birth and increased iron reserves lasting up to 6 months post birth as compared to infants where early or immediate cord clamping (<60 seconds post birth) occurred (McDonald et al., 2013). This is potentially an important consideration as rapid brain development occurs during the first 6 months of life, and iron plays a critical role in neurologic and cognitive development (Andersson, Domellöf, Andersson, & Hellström-Westas, 2013). The risk of delayed cord clamping was related to jaundice (elevated levels of bilirubin); fewer infants in the early cord clamping groups required phototherapy for jaundice. Overall, the benefits outweighed this risk in full-term infants, as long as access to phototherapy to treat possible jaundice is available (McDonald et al., 2013).

Similarly, the effects of timing of umbilical cord clamping were explored for preterm infants and mothers (Rabe et al., 2012). This Cochrane review examined 15 randomized controlled trials for births between 24 and 36 weeks gestation (738 infants). Delayed cord clamping was

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Box 1.

Levels of Evidence

The quality of evidence for a study is based on a grading system that evaluates the scientific rigor of a design, as developed by the U.S. Preventive Services Task Force. The levels are as follows:

- I: Evidence obtained from at least one properly randomized controlled trial.
- II-1: Evidence obtained from well-designed controlled trials without randomization.
- II-2: Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.
- II-3: Evidence obtained from multiple time series with or without intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.
- III: Opinions of respected authorities, based on clinical experience; descriptive studies and case reports; or reports of expert committees.

Source: United States Preventive Services Task Force (1996).

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