



## Delayed Umbilical Cord Clamping in Term and Preterm Infants

### What is delayed umbilical cord clamping?

Delayed umbilical cord clamping is prolongation of the time between delivery of an infant and clamping the umbilical cord. Immediate umbilical cord clamping is typically performed within 15 seconds of delivery, whereas delayed umbilical cord clamping is performed 25 seconds to 5 minutes after delivery. Delaying the umbilical cord clamping allows blood to continue to flow to the infant, thereby increasing the infant's total blood volume.

### What are the risks and benefits of delayed umbilical cord clamping in the preterm infant?

Compared to term infants, preterm infant (those born between 24-37 weeks gestation) are more likely to have difficulty staying warm, require immediate care by a pediatrician, have low blood pressure, and require a blood transfusion. Based on recent studies, delayed umbilical cord clamping may reduce the number of blood transfusions, improve blood pressure, decrease the risk for bleeding in the brain, and lower the risk for a serious bowel complication called necrotizing enterocolitis. However, delayed umbilical cord clamping is also associated with increased bilirubin concentrations, which is formed when red blood cells break down in the body. Information on the long-term neonatal effects of delayed umbilical cord clamping is limited. Therefore, although the immediate benefits of delayed umbilical cord clamping in preterm infants are evident, the long-term effects are largely unknown.

### What are the risks and benefits of delayed umbilical cord clamping in the term infant?

Compared with preterm infants, term infants (those born > 37 weeks gestation) have lower risks of complications. In term infants, delayed umbilical cord clamping is associated with higher red blood cell levels 1-2 days after birth and less risk of iron deficiency at 3-6 months of age. However, delayed umbilical cord clamping in term infants may increase the risk of elevated bilirubin levels. When bilirubin levels become high in the blood, infants can develop jaundice (yellow skin coloring)

and require phototherapy (light treatment). If untreated, severe jaundice can result in complications. Also, similar to preterm infants, there is limited information regarding long-term neonatal effects of delayed umbilical cord clamping in term infants.

### Are there any risks to the mother with delayed umbilical cord clamping?

Although the risks to the mother are not well studied, there is a theoretical risk of increased maternal blood loss at delivery due to delayed delivery of the placenta, especially at cesarean delivery.

### What about "milking" or "stripping" the umbilical cord?

Milking and stripping of the umbilical cord are terms that apply to the active practice of squeezing blood down the cord of the baby. Typically, the delivering provider will "strip" a segment of the umbilical cord towards the baby's abdomen 3-4 times prior to clamping the umbilical cord. Milking the umbilical cord is not physiologic, and may provide a rapid bolus of blood to the infant. The aim of doing this procedure is to shorten the time from delivery to clamping the umbilical cord. Overall, it is not yet clear whether there are benefits to milking or stripping the umbilical cord and further study is necessary.

### What are the current recommendations from professional societies?

Both the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Pediatrics (AAP) support delaying umbilical cord clamping in preterm infants for 30-60 seconds after delivery with the infant held below the level of the placenta. For term infants, ACOG states that there is currently insufficient evidence to routinely recommend delayed umbilical cord clamping.



## Under what circumstances should delayed umbilical cord clamping be avoided?

Caution regarding delayed umbilical cord clamping is warranted in some situations. Pregnancies with multiple gestations, such as twins and triplets, have not been studied. Delayed umbilical cord clamping should not be performed in infants that require immediate evaluation and resuscitation by a pediatric team, such as those with respiratory depression or low heart rates. Placental abnormalities, such as placenta previa (placenta over the cervix), vasa previa (umbilical cord vessels over the cervix) or suspected placental abruption (tear in the placenta), are also contraindications because of the increased risk of bleeding for the mother and possible need for immediate care of the infant.

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