

Randomized Controlled Trial Supports Delayed Cord Clamping for Term Infants

Ceriani Cernadas, J. M., Carroli, G., Pellegrini, L., Otaño, L., Ferreira, M., Ricci, C., Casas, O., Giordano, D., Lardizábal, J. (2006). The effect of timing of cord clamping on neonatal venous hematocrit values and clinical outcome at term: a randomized, controlled trial. *Pediatrics*, 117(4), e779-87. [Abstract]

Summary: In this prospective, multi-center trial researchers examined the effect of delayed cord clamping on iron-deficiency anemia and clinical outcomes in term newborns. Two hundred seventy-six healthy women with uncomplicated pregnancies were randomized to three groups: cord clamping immediately after birth, at 1 minute and at 3 minutes. Venous hematocrit (to measure anemia) and bilirubin (to measure pathologic jaundice) were drawn at 6 hours and 24-48 hours after birth. Newborn physical exams were performed by clinicians who did not know to which group the infant was assigned.

Anemia at 6 hours of age was significantly more common in newborns who were randomized to the immediate cord clamping group. There was also a significant difference at 24-48 hours of age (16.8% of newborns in the immediate clamping group versus 2.2% at 1 minute and 3.3% at 3 minutes). Significantly more infants in the 3-minute group had elevated hematocrit levels (polycythemia) at 6 hours of age. However, none of the polycythemic babies exhibited symptoms or required treatment, and this difference did not persist to 24-48 hours of age. There were no significant differences in bilirubin values, rates of neonatal adverse events, or the infants' weight gain and rate of exclusive breastfeeding in the first month of life. There were no significant differences in maternal outcomes such as blood loss or maternal hematocrit levels.

Significance for Normal Birth: Immediate cord clamping is a practice that has been performed routinely for decades without evidence of benefit. Placental transfer of oxygenated blood, nutrients and stem cells continues for several minutes after birth. Physiologic principles suggest that the optimal transition to life outside the womb depends on this transfer. The study authors note that higher newborn iron levels at birth correlate with less likelihood of childhood anemia, a condition with long-term neurologic consequences. Some pediatricians recommend iron supplementation for breastfed infants, but it may be that by providing the full complement of iron, delayed cord clamping is the only iron supplement healthy babies need. As an added bonus, delayed cord clamping keeps babies in their mother's arms, the ideal place to regulate their temperature and initiate bonding and breastfeeding. This may be an important first step in promoting non-separation of mother and baby after birth.