

CLINICAL SHORTS

A "brief" look at the literature



FIRST BLOOD

Umbilical cord clamping is often done within the first 10 to 15 seconds after birth, but this practice may be doing newborns a disservice. The newborn receives a transfusion from the placenta of approximately 80 mL of blood at one minute and 100 mL at three minutes after birth. This size of transfusion can add 40–50 mg/kg of extra iron to the iron stores of around 75 mg/kg that term newborns have at birth, which may prevent iron deficiency in the first year of life. There have been concerns based on observational studies, however, that delayed cord clamping may put newborns at higher risk of polycythemia, respiratory symptoms and hyperbilirubinemia.

A recent study from Argentina looked at the effect of timing of cord clamping on venous hematocrit (HCT) and clinical outcomes in term newborns and maternal postpartum hemorrhage. Two hundred and seventy-six newborns were randomized into three groups: cord clamping within the first 15 seconds, at one minute, or at three minutes after birth. Babies assigned to delayed clamping were held by their mothers while waiting.

At six hours after birth, the mean venous HCT was within the physiologic range in all groups. The prevalence of neonates with HCT <45% was significantly lower in groups 2 and 3 at six hours (8.9% in group 1, and 1% or less in groups 2 and 3). At 24 to 48 hours of age, the prevalence of neonates with HCT <45% was 16.8% in group 1 and less than 3.3% in groups 2 and 3. There was a small increase in the number of infants with polycythemia (HCT >65%) at six hours in group 3, but none of the babies were symptomatic or required treatment. At 24–48 hours, there were no differences in prevalence of elevated HCT between the groups.

There were no differences between the three groups in the other infant outcomes measured, which included plasma bilirubin level at 24 to 48 hours of age, neonatal morbidity and mortality between birth and one month of age, admission to the NICU, newborn length of stay, and weight and type of feeding at one month of age. There were no differences between groups in maternal outcomes (postpartum blood loss volume and HCT 24 hours post-delivery). ■

THE BOTTOM LINE:

Delayed cord clamping at birth increases the neonatal HCT within the physiologic range. It reduces the rate of neonatal anemia and is not associated with harmful effects in either the infant or the mother. Delayed cord clamping should be implemented to increase iron stores in the newborn. ■

Source: Cernadas JM et al. The effect of timing of cord clamping on neonatal venous hematocrit values and clinical outcome at term: a randomized, controlled trial. *Pediatrics* 2006;117:e779–86.

QUICK FIX

In 2005, the American Heart Association and the American Red Cross developed a series of first aid recommendations, based on an extensive review of the literature. These recommendations apply only to emergency situations in which rescuers have appropriate training in first aid.

Severe bleeding

- ✓ Apply direct pressure.
- ? Compress pressure points (e.g. artery).
- ? Elevate extremity.
- ? Use tourniquets.

Superficial wounds and abrasions

- ✓ Irrigate with tap water.
- ✓ Apply antibiotic cream/ointment (preferably triple antibiotic ointment).

Thermal burns

- ✓ Cool burns with cold water.
- ✓ Briefly (<10 minutes) apply ice or ice water to smaller burns (<20% of body surface area).
- ✓ Leave burn blisters intact and cover them loosely.

Musculoskeletal injuries (contusions, sprains, fractures)

- ✓ Manual stabilization of injured extremity.
- ✓ Apply cold to injury (e.g. ice bags, cold gel, frozen pea bags, preferably with damp cloth or plastic bag protective barrier. Refreezable gel packs and applying cold over padded elastic bandages may be inefficient.)
- X Attempt to straighten injured extremity or realign fractured bone.
- ? Length, duration and frequency of cold treatment. (Experts recommend limiting to <20 minutes.)
- ? Use of a circumferential bandage to reduce formation of edema.

Tooth avulsion

- ✓ Store avulsed tooth in milk.
- ✓ Rapid transfer to dentist for reimplantation.
- X Reimplant by first aid rescuer.

Hypothermia

- ✓ Initiate passive rewarming (e.g. blankets, reflective foil).
- ✓ Rapid transport to treatment facility for active rewarming.
- ✓ If location remote, first aid rescuer may initiate active rewarming (e.g. heated blankets).

Frostbite

- ✓ Rewarm frozen part, unless there is a possibility that it may refreeze.
- X Rub or massage frozen part (can cause tissue damage).

Toxic exposure/chemical burns

- ✓ Irrigate eye/skin with copious amounts of tap water.

Ingested poisons

- X Administer milk or water orally.
- X Syrup of ipecac.
- ? Use of activated charcoal.

Adapted from: *Circulation* 2005;112:III-115–25. *These recommendations apply to rescuers with appropriate training in first aid. ✓=reasonable evidence for action. X=reasonable evidence against action. ?=insufficient evidence.

Source: First Aid Science Advisory Board Evidence Evaluation Conference (American Heart Association and American Red Cross). Part 10: first aid. *Circulation* 2005;112 (22 Suppl):III-115–25. See http://circ.ahajournals.org/cgi/reprint/112/22_suppl/III-115 for additional recommendations on snake bites, the recovery position, and use of oxygen, inhalers and epinephrine.