

Are we cutting umbilical cords too soon after birth?

July 30 2013, by Hannah Dahlen



Credit: AI-generated image ([disclaimer](#))

The most common surgical procedure in the world today – one that every human alive today has undergone – is the clamping and cutting of the umbilical cord at birth. The need for clamping and cutting the cord is not in dispute but how soon after birth this should occur is now being questioned.

We've long known that immediate [umbilical cord](#) clamping and cutting could be harmful. Charles Darwin's grandfather Erasmus Darwin – a well-known doctor – summarised the risks back in 1801:

Very injurious to the child is the tying of the navel string too soon. It should be left till all pulsation in the cord ceases. Otherwise the child is much weaker than it ought to be, a portion of the blood being left in the placenta, which ought to have been in the child.

When the first commercial cord clamp device was released in the 1890s, instructions published in *The Lancet* medical journal said it should not be used until the cord stops pulsating, meaning [blood flow](#) has ceased.

However, as intervention in birth climbed in the 1950s and 60s, concerns about the amount of pain-relieving drugs and [anaesthetic](#) reaching the baby from the mother's blood increasingly led to immediate clamping and cutting of the cord.

After 50 years of ignoring earlier advice, we are seriously examining the implications of what may have been one of humanity's largest uncontrolled experiments.

Expelling the placenta

After birth, the mother must expel the [placenta](#), which has carried oxygen and [nutrients](#) to the [fetus](#) during pregnancy. This process is known as the third stage of labour.

In the 1960s, [midwives](#) and obstetricians began actively managing the third stage. This involves giving women an injection of Syntocinon (synthetic oxytocin) with the birth of the baby, clamping and cutting the cord and pulling the placenta out using controlled cord traction.

The alternative – known as physiological third stage – involves doing none of the steps above: no oxytocin is given, the cord is not clamped and cut until pulsation has ceased, and the mother pushes the placenta out herself.

Physiological third stage therefore means the baby remains skin-to-skin with the mother and can't be removed; something that is easier to do once the cord is cut. As the mother and baby come into close contact and the baby starts to seek out the breast, the mother releases her own endogenous [oxytocin](#), contracting her uterus and separating the placenta and membranes and pushes them out.

Major blood loss is one of the leading reasons women around the world die following childbirth. And there is [good evidence](#) that active management of the third stage lowers the rate of hemorrhage for the mother.

But researchers have acknowledged [we still don't know](#) which component of this complex package of active management actually has the most significant impact.

To complicate the picture further, research shows post-birth hemorrhage rates among women who opt for a physiological third stage seem to be lower when in certain birth environments (homebirth and birth centres), and under midwife-led care. This could be because there is much less intervention in these settings that can increase the risk of haemorrhage.

Benefits for the baby

In most maternity units today, normal practice is to clamp and cut the umbilical cord immediately following the birth. This means babies miss out on between 80 to 100 millilitres of blood that they would naturally get if we waited two to three minutes.

If a baby is held below the mother's navel during the first few minutes after birth they can receive an average increase of [32% more blood](#). The volume decreases with the height the baby is held at and the length of time before the cord is clamped. However, most of the blood volume passes to the baby in the first two to three minutes.

In 2011, a Swedish randomised trial [published](#) in the *British Medical Journal* found that, two days after birth, babies who had delayed cord clamping had lower rates of anaemia (meaning there aren't enough red blood cells to oxygenate the blood) – 1.2% compared with 6.3%.

At four months the infants who had delayed cord clamping had lower rates of iron deficiency (0.6% vs 5.7%) which is important for brain development. Iron deficiency and anaemia in young children are considered to be a major public health issue around the world and can lead to lasting [cognitive](#) and [behavioural](#) delays.

A [review](#) of 15 studies showed late cord clamping (at least two minutes) reduced the risk of anaemia by nearly half. Bleeding in babies' brains and severe infections of the bowel also seem less common with delayed clamping and cutting of the umbilical cord.

Jaundice (a build-up of bilirubin, which gives the skin and eyes a yellowish tinge) seems to be slightly increased with delayed cord clamping. But it's unlikely to cause long-term damage and doesn't require further treatment.

The recently [released](#) Cochrane systematic review therefore concludes:

A more liberal approach to delaying clamping of the umbilical cord in healthy term infants appears to be warranted, particularly in light of growing evidence that delayed cord clamping increases early haemoglobin concentrations and iron stores in infants.

Time for change

Current recommendations from the World Health Organization (2006) are to delay cord clamping. And the leading midwifery (Royal College of Midwives) and obstetric (Royal College of Obstetricians and Gynaecologists) bodies in the UK changed their guidelines in 2012 recommending delaying clamping and cutting the cord for around three minutes after birth.

But the highly respected National Institute for Health and Clinical Excellence (NICE) in the United Kingdom still supports early cord clamping and cutting, as do Australia's clinical practice guidelines.

The evidence is in, so it's time for NICE and Australia's National Health and Medical Research Council (NHMRC) to heed it. It may have taken us more than 50 years to begin to listen to 200-year-old advice but let's hope we change this practice more quickly and avoid potential harm to newborn babies.

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