

Umbilical Cord Clamping Guideline

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This is the most current version and should be used until a revised document is in place		

Key Amendments

June 2018	Delayed cord clamping times adjusted to correspond with NLS guidance	A Gallagher
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Introduction

There is a body of evidence which indicates that a delay in umbilical cord clamping of 30 seconds or more, depending on the level at which the baby is held relative to the placenta, leads to significant benefits for the newborn baby. These benefits are greatest for premature babies.

Guideline

Term Babies (equal to or more than 37 weeks gestation)

Parents need to be told that the cord will not be clamped immediately (unless the health professional leading neonatal resuscitation deems it appropriate).

When the baby is born he is assessed by the midwife or obstetrician (and paediatric staff if they are present) and triaged into one of two categories:

Appears well

- ▶ The baby is dried and placed on the maternal abdomen or on or between the mothers legs, and kept warm. The baby can be put to the breast straight away if wished, the mother can be lying down, semi-recumbent or sitting upright at this time. The cord is not clamped and cut for at least one minute. There is no evidence of benefit or harm for delaying cord clamping beyond two minutes.

Appears to be in need of resuscitation

- ▶ The professional leading resuscitation makes a rapid assessment of the baby and if he appears in need of resuscitation he is handed to a midwife or doctor holding a towel (sterile drape at C/S) who lowers the baby as far as possible below the level of the placenta as the cord will allow. This may be no lower than the bed/operating table that the mother is lying on.
- ▶ He should be stimulated by gentle rubbing/drying with the towel if he is not breathing, it is best if the baby takes his first breath and expands his lungs (drawing blood from the placenta) before the cord is cut.
- ▶ The 60 second period of placental transfusion starts when the buttocks are delivered for a cephalic presentation or the head for a breech presentation.

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- ▶ The 60 second interval should be counted out by paediatric staff, “ten seconds, twenty seconds” etc.
- ▶ The cord is clamped and cut after 60 seconds.
- ▶ The first minute after birth is mainly occupied by assessment and stimulation of the baby and hence he will not be compromised by a slightly delayed transfer to the resuscitaire.
- ▶ Whilst the cord is left unclamped oxygenated blood will flow from placenta to baby and this should aid rather than compromise the baby’s recovery.

If at any time the professional leading resuscitation considers that it is in the best interests of the baby to cut the cord before the above times have elapsed then the cord must be clamped and cut immediately.

Preterm Babies (less than 37 weeks gestation)

The baby should be held at or below the level of the placenta for at least 60 seconds. The cord is then clamped, cut and the baby moved to the resuscitaire.

- ▶ All staff and parents should be aware that a 60 second period of placental transfusion, following delivery, is planned.
- ▶ The baby should be held in a towel (sterile drape at C/S) and kept warm.
- ▶ The 60 second period starts when the buttocks are delivered for a cephalic presentation or the head for a breech presentation.
- ▶ He should be stimulated by gentle rubbing/drying with the towel if he is not breathing. It is best if the baby takes his first breath and expands his lungs (drawing blood from the placenta) before the cord is cut.
- ▶ The 60 second interval should be counted out by paediatric staff, “ten seconds, twenty seconds” etc.
- ▶ This 60 second period should be viewed as *part of* the baby’s resuscitation not a hindrance to it.

If at any time the professional leading resuscitation considers that it is in the best interests of the baby to cut the cord before the above times have elapsed then the cord must be clamped and cut immediately.

Alternative approach – cord stripping

There is less evidence to support cord stripping/milking the cord but it is still superior to immediate clamping.

Delayed cord clamping as described above is to be preferred in most situations but there will be occasions on which the paediatric and obstetric staff do not feel able to wait the full 60 seconds, for example if the baby is very pale, appears lifeless and does not respond to tactile stimulation. The cord can be quickly stripped and then cut.

The baby is held 10 -15 inches (25 to 40 cm) below the level of the introitus or incision. A 20cm section of the cord is milked (stripped) by the midwife/obstetrician using a gloved hand in the direction of the baby. The milking speed should be approximately 10cm per second. The cord should be milked 2 or 3 times and then clamped and cut.

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Preterm & Term and well – ONE minute minimum on maternal abdomen or legs and then cut cord.

Unwell – at level of or below placenta for as long as possible, up to ONE minute and then cut cord. Consider asking for cord stripping if feasible.

All cases – Document time of cord clamping.

Note on cord blood gas analysis

For medico legal purposes it is important to document the time at which the cord was clamped as delayed clamping reduces pH and increases base deficit values in umbilical artery blood samples. The changes at thirty to sixty seconds after birth are small – see below. There is no data for changes in umbilical cord gas values, in unclamped cords, beyond sixty seconds of age.

Note on the administration of uterotonics

The timing of administration of uterotonics has varied from study to study. Some investigators gave them with delivery of the anterior shoulder others only after the cord was clamped, even in the delayed clamping group. Current WAHT practice is to give a uterotonic to the mother, by IM injection, with delivery of the baby – if cephalic it is given with delivery of the anterior shoulder.

Evidence to support the practice of delayed cord clamping**Cochrane review of delayed cord clamping in term babies**

“A more liberal approach to delayed cord clamping in healthy term babies appears to be warranted, particularly in light of growing evidence that delayed cord clamping may be of benefit in the longer term in promoting better iron stores in babies”

Studies showed an increased risk of jaundice requiring phototherapy (indications for phototherapy not given) of 2%. With immediate clamping 3% of term babies required phototherapy.

Babies had significantly higher ferritin levels at 3 & 6 months of age in the delayed clamping group.

Cochrane review of early versus delayed umbilical cord clamping in preterm babies

“Delayed cord clamping by 30 to 120 seconds rather than early clamping seems to be associated with less need for transfusion and less intraventricular haemorrhage.” Clearly these are worthwhile benefits.

NICE Intrapartum care for healthy women and babies guidance

“Women at low risk of intrapartum haemorrhage who request physiological management of the third stage of labour should be supported in their choice”

“There is limited medium level evidence from trials in high income countries that showed delayed cord clamping reduced the incidence of anaemia and increases hyperbilirubinaemia in the baby”

NICE have failed to separate cord clamping time from other procedures that constitute the active management of the third stage of labour, namely use of uterotonics and controlled cord traction. For this reason they have concluded that active management of the third stage is to be recommended to reduce the incidence of post partum haemorrhage. There is no

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evidence that delayed clamping would increase the risk of PPH. – see BMJ Letters 2007; 334:p651 “NICE is encouraging artificial intervention”

Umbilical cord clamping after birth – better not to rush

BMJ editorial 2007; 335:312-3

“So long as the cord is unclamped the average transfusion to the newborn is 19ml/kg birth weight, equivalent to 21% of the neonate’s final blood volume. The final amount is unaffected by the use of oxytocics or the position of the baby relative to the placenta. Three quarters of the transfusion occurs in the first minute after birth. The rate of transfer can be increased by the use of intravenous uterotonics or by holding the newborn 40cm below the level of the placenta”

Acid base equilibrium in umbilical cord blood and time of cord clamping.

Obstet & Gynae 1984; 63(1) p 44 - 47

At thirty seconds after birth arterial blood from the unclamped cord showed a distinct decrease in pH and an increase in Pco₂ and base deficit. These changes were not observed in the venous cord blood.

pH change in one minute in arterial blood ranged from 0.008 to 0.076U, median of 0.038U. Base deficit increase at one minute after birth was between 0.2 and 3.0 mMol, median 1.0mMol.

Delayed cord clamping with full neonatal resuscitation at caesarean section

British international congress of obstetrics and gynaecology 2007; Oral abstract FC4.15

The authors describe practice in their hospital (Darlington Memorial) where delayed clamping is practised by bringing the resuscitaire to the side of the operating table.

Umbilical cord milking reduces the need for red cell transfusions and improves neonatal adaptation in babies born at less than 29 weeks gestation: a randomised controlled trial.

Arch Dis Child Fetal Neonatal Ed 2008; 93:F14 -19

The milked group was more likely not to have needed red cell transfusion and had a decreased number of RBC transfusions (milked group 1.7 vs controls 4.0). Mean blood pressure at admission was significantly higher in the milked group (34 vs 28mmHg). There was a significant decrease in major IVH in the milked group and a significant decrease in the incidence of CLD at 36 weeks.

Delayed cord clamping in very preterm babies reduces the incidence of intraventricular haemorrhage and late onset sepsis: a randomised, controlled trial

Pediatrics 2006; 117(4) p 1235 – 1242

Delayed cord clamping (< 32 weeks by 30- 45 seconds, baby held 10-15 inches below placenta) showed a significant benefit on rates of IVH and late onset sepsis.

Umbilical cord clamping and preterm babies : a randomised trial

BMJ 1993; 306:172 - 175

Babies 27 -33 weeks were held 20cm below placenta for 30 seconds. Significant reduction in RBC transfusions and duration of supplemental oxygen. “This intervention produces clinical and economic benefits”

Monitoring Tool

STANDARDS	%	CLINICAL EXCEPTIONS
Time of cord clamping recorded in notes	100 %	None
Guideline followed	> 95%	Clinical circumstances resulting in decision to cut the cord early
Reasons for any deviation from guideline recorded in maternal notes	100%	None

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