

Delayed cord clamping saves preterm infants' lives

A systematic review published in the *American Journal of Obstetrics and Gynecology* compared the effects of delayed versus immediate cord clamping on hospital mortality and morbidity in preterm infants.

The Australian researchers assessed outcomes from 18 randomised clinical trials in 2,834 infants born before 37 weeks' gestation. Their results confirm that delaying cord clamping by 60 seconds reduces mortality before hospital discharge. Subgroup analyses showed no differences between randomised groups in Apgar scores, intubation for resuscitation, admission temperature, mechanical ventilation, intraventricular haemorrhage, brain injury, chronic lung disease, patent ductus arteriosus, necrotising enterocolitis,



late-onset sepsis or retinopathy of prematurity. Delayed clamping also reduced the proportion of infants having blood transfusion by 10%.

Early clamping was once standard practice for preterm infants but nowadays deferred cord clamping is becoming

embedded in practice. This study supports current guidelines recommending delayed clamping in preterm infants.

Reference

Fogarty M. et al. Delayed vs early umbilical cord clamping for preterm infants: a meta-analysis. *Am J Obstet Gynecol* 2018;218:1-18.

Maternal age over 40 is associated with an increased risk of preterm birth

Pregnant mothers aged 40 and over may have an increased risk for preterm birth, according to a study published in the open-access journal *PLoS ONE*.

Maternal age at pregnancy has been increasing worldwide and so has the risk for preterm birth, however the association between maternal age and preterm birth remains a topic of ongoing research.

Researcher Florent Fuchs and colleagues from Canada sought to investigate the impact of maternal age on preterm birth in a large cohort. The researchers analysed the previously-collected data from the Quarisma randomised controlled trial, which had taken place in 32 hospitals in Quebec, Canada, from 2008 to 2011.

The researchers identified five different age groups among the 165,282 pregnancies included in the study and compared them based on maternal characteristics, gestational and obstetric complications, and risk factors for prematurity. Some of the known risk factors identified more commonly in older mothers (40 and over) included placental praevia, gestational



diabetes, medical history, use of assisted reproduction technologies and occurrence of an invasive procedure. On the other hand, nulliparity, past drug use and smoking were more prevalent in younger mothers (30 and under).

Even after adjusting for confounding factors, the researchers found that advanced maternal age (40 or over)

was associated with preterm birth. Meanwhile, a maternal age of 30-34 years was associated with the lowest risk of prematurity.

Reference

Fuchs F. et al. Effect of maternal age on the risk of preterm birth: a large cohort study. *PLoS ONE* 2018;13:e0191002 doi: <https://doi.org/10.1371/journal.pone.0191002>.

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Preterm infants and their parents do better with FICare

The family-integrated care (FICare) model, which actively involves parents in the care of their newborn infants including giving oral medicine, feeding and taking part in ward rounds, has been shown to improve the wellbeing of babies and parents.

A study published in *The Lancet Child and Adolescent Health* by Dr Karel O'Brien and principal investigator Dr Shoo Lee shows that FICare improves infant weight gain, decreases parent stress and increases high-frequency exclusive breast milk feeding at discharge.

The study involved 26 neonatal intensive care units in Canada, Australia and New Zealand and 1,786 infants ≤ 33 weeks' gestation. To be eligible, parents in the FICare group had to commit to being present for at least six hours a day, attend educational sessions, and actively care for their infant. The primary outcome was infant weight gain at day 21 after enrolment. Secondary outcomes were weight gain velocity, high-frequency exclusive breastfeeding (\geq six times a day) at hospital discharge, parental stress and anxiety at enrolment and day 21,

mortality and major neonatal morbidities, and resource use (eg duration of oxygen therapy, hospital stay).

At 21 days, infants in the FICare group had put on more weight and had higher average daily weight gain (26.7g vs 24.8g) compared to the standard care group. Additionally, parents in the FICare group had lower levels of stress and anxiety, compared to the standard care group. Once discharged, mothers were more likely to breastfeed frequently (70% vs 63%). There were no significant differences in the rates of mortality, major morbidity, duration of oxygen therapy and duration of hospital stay.

"Weight gain, breastfeeding and reduced parental stress and anxiety are all associated with positive neurodevelopmental outcomes, suggesting that integrating parents into the care of infants at this early stage could potentially have longer-term benefits," says Dr O'Brien, who leads the FICare programme at Mount Sinai.

Reference

O'Brien K. et al. Effectiveness of family integrated care in neonatal intensive care units on infant and parent outcomes: a multicentre, multinational, cluster-randomised controlled trial. *Lancet Child Adolescent Health* 2018; doi: [https://doi.org/10.1016/S2352-4642\(18\)30039-7](https://doi.org/10.1016/S2352-4642(18)30039-7).



Dr Karel O'Brien (left) with mother Amy in the NICU at Mount Sinai Hospital, Canada.

Tamba report addresses inequalities in outcomes for multiple birth babies

A report by the Twins and Multiple Births Association (Tamba) suggests admissions of twins to neonatal units could be reduced by a third each year. The report *Twin Pregnancy and Neonatal Care in England* highlights that an improvement in care is needed to significantly reduce the number of multiple birth babies that require neonatal care.

In the report, Tamba lists the 'best' and 'worst' performing neonatal networks in terms of the percentage of multiple birth babies requiring neonatal care. Thames Valley and Wessex Neonatal Network had the lowest admissions – just 25% of multiple birth babies required neonatal care. In the sample year used in the report, there were 9,297 twin babies admitted to neonatal care – this could potentially be reduced by 3,067 if all neonatal networks operated at an admission rate of 25%.

Sadly, the report found twins are about 2.5 times more likely to result in a stillbirth and more than five times more likely to result in a neonatal death, in comparison to singleton pregnancies. While multiple births account for an average of 3.12% of total births, they make up approximately 9.79% of perinatal mortalities.

Tamba CEO Keith Reed says: "One pattern emerging from the report is that neonatal networks that see a larger number of twin births have lower deaths rates, leading us to believe that the more experience they have in caring for multiple births, the better the level of care received."

Tamba is calling for the national reviews of neonatal services to include multiple pregnancies as part of their work streams and address the inequalities highlighted in the report. The report can be read in full at www.tamba.org.uk



Improvements in care would improve outcomes for multiple birth babies.