

Delayed Cord Clamping in Infants of Diabetic Mothers

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Disclosures

I have no relevant financial relationships to disclose.



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Objectives

- Learners will be able to discuss the benefits of DCC.
- Learners will be able to identify risks of DCC.
- Learners will identify why infants of diabetic mothers may be at a higher risk of complications of DCC.
- By the end of the presentation, learners will have an understanding of available literature on DCC in this population.



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Why Delayed Cord Clamping (DCC)?

Term Infants:

- Increased hemoglobin
- Improved iron stores

Preterm Infants:

- Better circulation during transition
- Establishes RBC volume
- Lower NEC/IVH



(The American College of Obstetricians and Gynecologists, 2013)



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Contraindications to DCC



(Illustration Nursing and Midwifery Journal, 2012)

- Significant maternal bleeding
- Placental abruption
- Placenta previa
- Need for resuscitation
- Known fetal anomaly
- Fetal hydrops
- Twin-to-twin transfusion
- Twin anemia polycythemia sequence



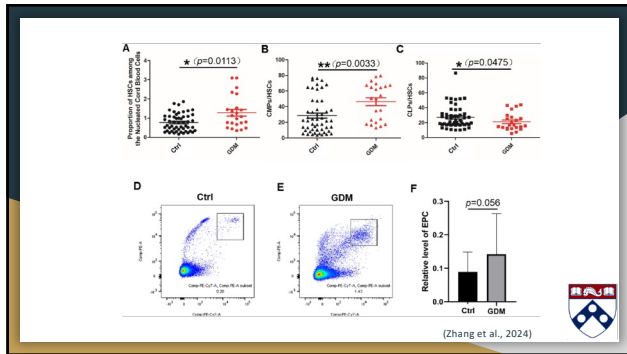
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Cord Blood and Hyperbilirubinemia

- Higher red blood cell transfer from the birthing person to the baby can increase jaundice
- More red blood cells -> more breakdown
- Polycythemia risk thought to increase in infants of diabetic mothers
 - Stem cells in cord blood



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Research Question:

- Compared to infants born to non-diabetic mothers (preterm or term), in infants of diabetic mothers, does DCC greater than thirty seconds affect the incidence of hyperbilirubinemia?

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Methods

- Literature review of PubMed, CINAHL, and Scopus
- Inclusion criteria:
 - Studies from the past 10 years
 - Term or preterm infants
 - Infants born to a mother with type 1, 2, or gestational diabetes
 - Outcomes after DCC >30 seconds
- Six studies met criteria:
 - Three randomized control trials
 - Two retrospective studies
 - One mixed-methods study

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Results

Hyperbilirubinemia:

- 3 of the 6 studies (50%) showed that DCC increased hyperbilirubinemia
- 1 of the 6 showed increase in phototherapy need
- 2 of the 6 (both U.S. studies) did not show a statistically significant increase

Secondary Results:

- Hypoglycemia decreased with DCC
- Decreased NICU admission with DCC
- Decrease in respiratory distress after DCC

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Limitations



- Number of studies
- U.S. studies
- Sample size of cohorts
- Cohort design
- Control of other variables

(getdata.com, 2020)

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Conclusions

Benefits of DCC outweigh the risks

- Especially true in preterm!
- More research would be helpful in this population
- Management can be done in the well-baby nursery
- More frequent bilirubin checks



(Miami Pediatrics, 2023)

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Thank you!

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