Newborn Abdominal Massage to Prevent Hyperbilirubinemia – a Feasible Trial at UCDMC?

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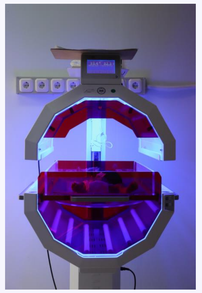
The Problem

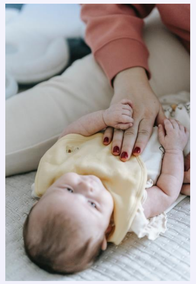
- Hyperbilirubinemia in newborns can lead to significant neurological complications including hearing loss, cerebral palsy, and gaze abnormalities
- 5-10% of infants born ≥35 weeks have hyperbilirubinemia requiring phototherapy
- Phototherapy often requires longer inpatient stays or rehospitalization



- Phototherapy also associated with decreased early breastfeeding and increased risk of childhood cancer and seizures

An Alternative Approach

- Newborn massage is a cultural practice in several parts of the world
- Studies in the Middle East and Asia have shown significant findings of newborn belly massage in decreasing bilirubin
- Most trials showed this is through increased stool output
- Current evidence insufficient to recommend routine practice



Objectives

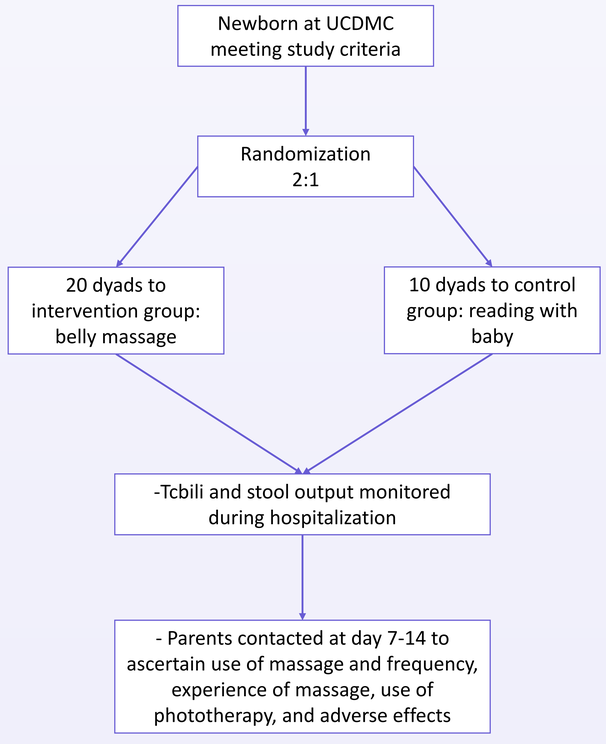
1. **Primary: Feasibility and acceptability of studying a newborn massage intervention taught during the birth hospitalization**
2. **Secondary: Estimating the effect of structured newborn abdominal massage educational intervention on bilirubin levels, number of stools, timing of first non-transitional stool passage, hospital readmission and adverse outcomes**

Methods

- Design: prospective, pilot randomized control trial of 30 parent-infant dyads at UC Davis Medical Center
- Inclusion Criteria: newborns admitted to UCDMC newborn nursery and less than 24 hours of age*
- Exclusion Criteria: infant already received phototherapy, infant unable to d/c to parent's care, inability to speak or read English

*criteria expanded to 36 hours

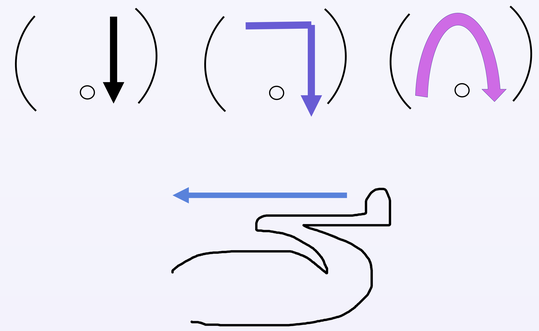
**methods updated to include gift card compensation of $5 to enrolled participants



Methods Continued

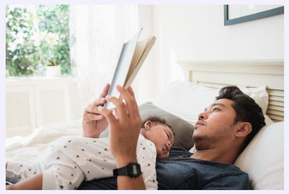
Intervention group:

- Massage 3x/day for 5 days starting within first 24 hours
- 5 minutes per massage
- "ILU" technique
- Stroke belly downward on L side
- Then right to left and downward on L side
- Then right to left in a semicircle/ inverse U-shape
- Finally, bend knees and lift toward chest
- Repeat until 5 mins



Control Group:

- Discuss importance of reading to baby
- Provided with public library resources



Results in Progress

Screened Families	Approached	Enrolled	Completed Survey
207	109	11	5

Results are still pending as 30 dyads have not yet been enrolled

Analysis

- If </= 50% of dyads perform massage at least once, 86.8% power to determine unacceptability
- If </=40% of dyads perform massage as directed, 87.2% power to determine unacceptability
- Between-arms comparison: margin of error less than 0.8 standard deviations

Initial Impressions

- Many activities take place during the first 24 hours of life, and this can make it difficult to speak to families about research
  - This prompted increase in window to 36 hours and addition of gift card compensation, both of which were resubmitted to IRB
- Amount enrolled vs amount approached may indicate preliminary acceptability
- Challenges with loss to follow-up for day 7-14 survey
- Parents on survey have cited positives in gas relief for baby and bonding with baby

Acknowledgements

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