Does Skin-to-skin Reduce Pain in Newborns?

Crystal Loomis BSN, RN
Lehigh Valley Health Network, Crystal.Loomis@lvhn.org

Maria Piger BSN, RN
Lehigh Valley Health Network, Maria_J.Piger@lvhn.org

Follow this and additional works at: https://scholarlyworks.lvhn.org/patient-care-services-nursing

Published In/Presented At
Does Skin-to-skin Reduce Pain in Newborns?
Crystal Loomis BSN, RN Maria Piger BSN, RN
Lehigh Valley Health Network, Allentown, Pennsylvania

Introduction

- LVHN Hypoglycemic Protocol for Newborns
  - Newborns at risk for hypoglycemia receive heel sticks and feed every 2 hours for 12-24 hours
  - Infants at risk include those that are less than 37 weeks gestation, SGA (small for gestational age), LGA (large for gestational age), and infant's of diabetic mothers

- Newborn/Maternal response
  - Newborns often cry during heel stick
  - Mother’s express concern that newborn is in pain

- Benefits of skin-to-skin
  - Infants cry less, stay warmer, fed better, have more stable blood sugars. It also promotes bonding between newborns and parents.

PICO

- In newborns receiving heel sticks for blood sugar testing, will skin-to-skin contact compared to no skin-to-skin contact result in a decreased pain score?
- Population – Newborns receiving heel sticks for blood sugar testing
- Implementation – Skin-to-skin contact
- Comparison – No skin-to-skin contact
- Outcomes – Decreased in pain score

Evidence

- Crying, grimace and heart rate are reduced by skin-to-skin contact with mothers during heel sticks (Gray et al., 2017).
- Skin-to-skin showed a lower NFCS (Neonatal Facial Coding System) score throughout heel lance procedures (Castral et al., 2007).
- Decreased crying during puncture heel squeeze while skin-to-skin (Disher et al., 2016).
- Decreased heart rate, improved oxygen saturation, decreased pain facial expression time, and decreased crying time were seen before, during, and after heel sticks during skin-to-skin (Liu et al., 2013).
- Infants slept more while skin-to-skin during heel sticks (Ludington-Hoe & Hosseini, 2005).

Implementation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>No particular expression or smile</td>
<td>Occasional grimace or frown, withdrawn, disinterested</td>
<td>Frequent to constant quivering chin, clenching jaw</td>
</tr>
<tr>
<td>Legs</td>
<td>Normal position or relaxed lying quietly, normal position, moves easily</td>
<td>Uneasy, restless, tense</td>
<td>Kicking or legs drawn up</td>
</tr>
<tr>
<td>Activity</td>
<td>No cry (awake or asleep)</td>
<td>Squirming, shifting back and forth, tense</td>
<td>Arched, rigid or jerking</td>
</tr>
<tr>
<td>Cry</td>
<td>Content, relaxed</td>
<td>Occasional complaint</td>
<td>Crying steadily, screams or sobs, frequent complaints</td>
</tr>
<tr>
<td>Constability</td>
<td>Reassured by occasional touching, hugging, or being talked to, distractible</td>
<td>Difficulty to console or comfort</td>
<td></td>
</tr>
</tbody>
</table>

Results

- Data collected on 21 newborns
- 62% of newborns showed a lower pain score while skin-to-skin
- 38% of newborns had the same pain score during skin-to-skin contact and no skin-to-skin contact
- 0% of newborns showed an increase in pain score

Conclusion

- In conclusion, newborns showed a positive response while skin-to-skin during a heel stick compared to being in the crib. Putting infants skin-to-skin with their mother not only benefits the newborn, but also comforts the parents.

REFERENCES