Plagiocephaly and Associated Head Deformities in the NICU: The PLAY Bundle

Ashley Kubik  
*University of Nebraska Medical Center*, ashleyrk32@gmail.com

Jenna Welton  
*University of Nebraska Medical Center*

Kelly Gonzales  
*University of Nebraska Medical Center*, kelly.gonzales@unmc.edu

LeAnn Holmes  
*University of Nebraska Medical Center*, leann.holmes@unmc.edu

Leeza Struwe  
*University of Nebraska Medical Center*, lstruwe@unmc.edu

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INTRODUCTION: Approximately 10% of infants are premature, often needing NICU care where head deformities from lying supine for prolonged periods may develop. Lack of nursing knowledge, limited family involvement, inadequate PT/OT, & poor positioning can increase risk of deformities.

AIMS: Improve current standard of care by implementing interprofessional nursing bundle for earlier detection & intervention of positional plagiocephaly in a level IV NICU

#1: Increase nursing knowledge & identification of asymmetrical head shape
#2: Increase family comfort & confidence with repositioning
#3: Increase nursing practice & documentation of repositioning, assistive devices, & family education
#4: Increase PT/OT consults & involvement with bundle initiation
#5: Compare head measurements pre- & post-bundle implementation

METHODS
• 37 infants inpatient Level IV NICU
• Hybrid II Research Design for Quality Improvement
• Embed PLAY Bundle in EHR

INSTRUMENTS:
• Pre/post nursing survey
• Cranial calipers
• Children’s Healthcare of Atlanta Severity Scale
• Caregiver education
• Pre/post Caregiver Confidence & Comfortability Survey’s
• EHR release for PT consult
• Bedside Standardization Sheet for current head shape
• Staff Educational PowerPoints

CONCLUSIONS

Pre-Post Bundle Referrals

<table>
<thead>
<tr>
<th></th>
<th>Pre-Bundle PT Referrals</th>
<th>Post-Bundle PT Referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babies</td>
<td>119</td>
<td>146</td>
</tr>
<tr>
<td>Referrals</td>
<td>15 referrals</td>
<td>42 referrals</td>
</tr>
</tbody>
</table>

RN Knowledge Assessments

<table>
<thead>
<tr>
<th></th>
<th>Pre-Bundle</th>
<th>Post-Bundle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 32 RNs</td>
<td>Mean knowledge score increased from 5.86 (1.77) to 7.00 (1.53) increase of 1.14 (p=.103)</td>
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<tr>
<td>Total: 7 of same RNs</td>
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CLINICAL IMPLICATIONS

Bedside RNs can increase early diagnosis & intervention through embedded EHR orders
Repositioning is multifactorial and nursing-driven based on clinical judgement
RN & family positioning education can decrease head deformities
Early interventions may reduce family cost burden (helmet therapy) and stress

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