Re-evaluating the Evidence for Chlorhexidine Dressings for Catheter Exit Sites

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2011 Guideline Recommendations

- Use a chlorhexidine-impregnated sponge dressing for temporary short-term catheters in patients older than 2 months of age if the CLABSI rate is not decreasing despite adherence to basic prevention measures, including education and training, appropriate use of chlorhexidine for skin antisepsis, and MSB. Category IB

- No recommendation is made for other types of chlorhexidine dressings. Unresolved issue
2011 Guideline Recommendations

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Changes to Categorization Schemes Category IB

BSI Guideline

- Strongly recommended for implementation and SUPPORTED BY SOME EXPERIMENTAL, CLINICAL, OR EPIDEMIOLOGIC STUDIES AND A STRONG THEORETICAL RATIONALE; or an accepted practice (e.g., aseptic technique) supported by limited evidence.

Current

- A strong recommendation supported BY LOW-QUALITY EVIDENCE SUGGESTING NET CLINICAL BENEFITS OR HARM, or an accepted practice (e.g., aseptic technique) supported by low to very low-quality evidence.
## CDC and HICPAC Recommendation Scheme

<table>
<thead>
<tr>
<th>Quality of Evidence</th>
<th>Net Benefit or Harm</th>
<th>Balance of Benefit and Harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>High or Moderate</td>
<td>Category IA</td>
<td>Category II</td>
</tr>
<tr>
<td>Low</td>
<td>Category IB</td>
<td>Category II or No Recommendation</td>
</tr>
<tr>
<td>Very Low</td>
<td>Category II</td>
<td>No Recommendation</td>
</tr>
</tbody>
</table>
Key Question

- For patients outside of neonatal intensive care units*, do CHG dressings compared to standard dressings for temporary non-tunneled catheters affect the risk of catheter-related infections?

* Question being addressed in Draft NICU guideline
Key Question

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- Outcomes: infection (e.g., catheter-related infection (CRI), catheter-related bloodstream infections (CRBSI), catheter-associated bloodstream infections CABS), and adverse events (AE)
Initial Search Strategy

• Included all references from 2011 Guideline search
• Expanded search through June 2013
• Abstract and full-text reviews conducted by CDC
• Inclusion and Exclusion:
  – relevant to the key question; clinical practice guidelines, systematic review (SRs), RCTs; written in English
  – following full-text review additional studies were excluded if: no infection outcomes reported; did not include comparison of CHG dressing; not a primary study; NICU studies
• Studies identified: 6 RCTs
## Summary of RCTs

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Adult ICU</td>
<td>Adult ICU</td>
<td>Adult ICU</td>
<td>Adult hematology/ oncolgy patients</td>
<td>Cardiac PICU</td>
<td>Adult ICU</td>
</tr>
<tr>
<td>Intervention</td>
<td>CHG gel</td>
<td>CHG sponge</td>
<td>CHG sponge</td>
<td>CHG sponge</td>
<td>CHG sponge</td>
<td>CHG sponge</td>
</tr>
<tr>
<td>Comparison</td>
<td>Standard/highly adhesive dressing</td>
<td>Standard dressing</td>
<td>Standard dressing</td>
<td>Standard dressing</td>
<td>Standard dressing</td>
<td>Standard dressing</td>
</tr>
<tr>
<td>N (patients)</td>
<td>1879</td>
<td>306</td>
<td>1525</td>
<td>601</td>
<td>145</td>
<td>32</td>
</tr>
<tr>
<td>N Test/Cntrl Catheters</td>
<td>2108/2055</td>
<td>150/156</td>
<td>1847/1685</td>
<td>300/301</td>
<td>74/71</td>
<td>17/16</td>
</tr>
<tr>
<td>Infections</td>
<td>Decreased CRI and CRBSI</td>
<td>NS: CRI and CRBSI</td>
<td>Decreased CRI and CRBSI</td>
<td>Decreased CRI</td>
<td>NS: CA-BSI</td>
<td>NS: CRI</td>
</tr>
<tr>
<td>Adverse Events</td>
<td>Severe Contact Dermatitis</td>
<td>None detected</td>
<td>Severe Contact Dermatitis</td>
<td>-</td>
<td>NS</td>
<td>-</td>
</tr>
</tbody>
</table>
Next Steps

• Perform targeted search for adverse events
• Complete draft the evidence review tables
  – GRADE the evidence
  – Review at next HICPAC meeting
Acknowledgements

- Alex Kallen
- Amanda Overholt
- Erin Stone
References