What’s New in Risk Assessment?

• Timing
• Skin assessment
• Method
  – Risk factors?
  – Risk tools?
  – Some of both?
• Risk-based prevention strategies
Pressure Ulcer Risk Assessment

Conduct a structured risk assessment as soon as possible (but within a maximum of eight hours after admission) to identify individuals at risk of developing pressure ulcers. (C; ighest)
- Repeat based on acuity
- Reassess with significant change in condition
- Comprehensive skin assessment with every risk assessment
- Document

Risk-Based Prevention Plan

Develop and implement a risk-based prevention plan for individuals identified as being at risk of developing pressure ulcers. (C; ighest)

Caution: Do not rely on a total risk assessment tool score alone as a basis for risk based prevention. Risk assessment tool subscale scores and other risk factors should also be examined to guide risk-based planning.
Option 1: Risk Factor Assessment


Option 2: Risk Assessment Tools

Table 13: Psychometric qualities of major risk assessment scales for adults
Based on data from Agency for Healthcare Research and Quality, 2013

<table>
<thead>
<tr>
<th>Scales (cut-off)</th>
<th>Sensitivity Median (range)</th>
<th>Specificity Median (range)</th>
<th>PLR</th>
<th>NLR</th>
<th>AUROC Median (range)</th>
<th>Relative Risk (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braden (≤ 18)</td>
<td>0.74^a (0.33 to 1)</td>
<td>0.68^a (0.34 to 0.86)</td>
<td>2.31^a</td>
<td>0.38^a</td>
<td>0.77^b (0.55 to 0.88)</td>
<td>4.26^f (3.27 to 5.55)</td>
</tr>
<tr>
<td>Norton (≤ 14)</td>
<td>0.75^c (0 to 0.89)</td>
<td>0.68^c (0.59 to 0.95)</td>
<td>2.34^c</td>
<td>0.37^c</td>
<td>0.74^c (0.56 to 0.75)</td>
<td>3.69^g (2.64 to 5.16)</td>
</tr>
<tr>
<td>Waterlow (≥ 10)</td>
<td>1.00, 0.88^d</td>
<td>0.13, 0.29^d</td>
<td>1.15, 1.24^d</td>
<td>0.0, 0.41^d</td>
<td>0.61^e (0.54 to 0.66)</td>
<td>2.66^h (1.76 to 4.01)</td>
</tr>
</tbody>
</table>

*16 studies, n=5,462  
*2 studies, n=419  
*15 studies, n=4,935  
*7 studies, n=4,811  
*4 studies, n=2,559  
*12 studies, n=2,408  
*5 studies, n=2,809  
*31 studies, n=7,137

### Blending Risk Factor & Risk Tool Approaches???

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Braden</th>
<th>Norton</th>
<th>Waterlow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity/ Mobility</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Skin Status</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Perfusion &amp; O$_2$</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Nutrition</td>
<td></td>
<td></td>
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<tr>
<td>Moisture</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Body Temperature</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Age</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Sensory Perception</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Status</td>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hematologic</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

### Best Model for Risk Assessment

Use a structured approach to risk assessment that is refined through the use of clinical judgment and informed by knowledge of relevant risk factors. (C; ⚫)

[Diagram showing the intersection of Risk Tool, Clinical Judgment, and Risk Factors]
Bringing It to the Bedside

• Policy Changes
  1. Risk assessment within 8 hours of admission
  2. Skin assessment with every risk assessment
  3. Risk-based prevention plan based on RAS subscales
     – PLUS Additional Risk Factors
     – How do we measure “perfusion”? 
     – How do we measure “skin status”? 
     – How do develop clinical judgment?

Bringing it to the Bedside

Implementation Challenges
  1. Are risk assessment scales scored accurately?
  2. Are additional risk factors recognized?
  3. Are risk factors assessed (and re-assessed) in a timely manner?
  4. Is there a “link” between risk factors and preventive measures?
  5. Are planned interventions actually implemented?
  6. What systems changes will facilitate the above?