INTRODUCTION
It is a challenge to assess pain experienced by the adult patient who requires mechanical ventilation unable to provide a numerical pain score. There currently is no pain assessment tool available for Advocate critical care nurses to utilize for documentation of pain assessment for the patient unable to provide a self-report.

PURPOSE
The purpose of this study was: (1) to describe the agreement between nurse users on two pain assessment tools, (2) to describe the relationship between two pain assessment tools when scoring pain for mechanically ventilated adult patients, (3) to compare pain scores for patients at rest and after turning, and (4) to describe user preference for each tool.

METHODS
➢ Patients who met inclusion criteria were assessed from 13 critical care units, 1 Long Term Acute Care unit and 1 eICU.
➢ All nurse data collectors attended a standardized education session.
➢ Patients were assessed for pain simultaneously by two nurses while at rest and after turning using the Behavioral Pain Scale (BPS) and the Nonverbal Pain Scale (NVPS).
➢ Data was collected until each of the units assessed over an 8 week period.
➢ For nurses who had previously used the tools, the BPS at rest (r = 0.557) was significantly preferred over the NVPS (58% of the time).

RESULTS
➢ 249 adult mechanically ventilated patients were assessed over an 8 week period.
➢ Scores assessed by the nurse investigator and the staff nurse were significantly correlated
  ➢ NVPS at rest (r = 0.567); after turning (r = 0.670)
  ➢ BPS at rest (r = 0.567); after turning (r = 0.669)
➢ BPS and NVPS scores were significantly correlated when the subject was at rest (r = 0.686) and after turning (r = 0.774)
➢ Pain scores significantly increased from rest to after turning
  ➢ BPS completed by the staff nurse (Z = -10.40, p = 0.000) or nurse investigator (Z = -11.50, p = 0.000)
  ➢ NVPS completed by the staff nurse (Z = -10.43, p = 0.000) or nurse investigator (Z = -11.77, p = 0.000).
➢ For nurses who had previously used the tools, the BPS (73% of the time) was significantly preferred over the NVPS (58% of the time).

Subject Characteristics

<table>
<thead>
<tr>
<th>Main Subject Characteristics</th>
<th>Age (Mean ± SD)</th>
<th>Sex</th>
<th>Type of Critical Care Unit</th>
<th>MAAS Score</th>
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<tbody>
<tr>
<td></td>
<td>62.9 ± 20.2</td>
<td>Male</td>
<td>Medical</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>Infection/Injuries</td>
<td>11% (n=32)</td>
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<td></td>
<td></td>
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<td>Respiratory Failure</td>
<td>32% (n=80)</td>
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<td>Surgical</td>
<td>43% (n=117)</td>
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<td></td>
<td>Trauma</td>
<td>32% (n=80)</td>
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<td>Cardiovascular Surgery</td>
<td>27% (n=33)</td>
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CONCLUSIONS
➢ The findings suggest that both tools have adequate reliability and validity.
➢ Nurses who had previously used the tools preferred the BPS over the NVPS.

NURSING IMPLICATIONS
Use of a pain behavior tool may be one strategy to improve assessment of pain for the ventilated adult patient unable to provide a self-assessment. The BPS will be integrated into our system-wide electronic patient record. Additional study is needed to test the BPS as part of a protocol for assessment, treatment and reassessment of pain for this patient population.

Participating Hospitals
1 Advocate Health Care, 2 Advocate Christ Medical Center, 3 Advocate South Suburban Hospital, 4 Advocate Good Samaritan Hospital, 5 Advocate Trinity Hospital, 6 Advocate Lutheran General Hospital, 7 Advocate Illinois Masonic Medical Center, 8 Advocate Good Shepherd Hospital, 9 Advocate Bethany Hospital, 10 Advocate eICU

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