### Tool:
The Pain Assessment Scale for Seniors with Severe Dementia (PACSLAC)

### Tool developer:
Fuchs-Lacelle, S.K. & Hadjistavropoulos, T.

### Country of origin:
Canada

#### Conceptualization

<table>
<thead>
<tr>
<th>Panel rating</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>2</td>
<td>The PACSLAC is a caregiver-administered pain assessment checklist for assessment of pain in elders with limited ability to communicate.</td>
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</tbody>
</table>

| Conceptual basis | A unified conceptual basis for the tool is not evident; However, the tool does tap pain behaviors from all 6 domains of the AGS Persistent Pain Guidelines. The authors acknowledge the limitations of rating behaviors as to pain intensity in a population with diverse presentations and thus pain indicators are measured on a dichotomous present/absent scale. |

#### Item Generation

<table>
<thead>
<tr>
<th>Tool items</th>
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<tbody>
<tr>
<td>There are four subscales with a total of 60 items:</td>
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<td>- Facial expressions (13 items)</td>
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<tr>
<td>- Activity/body movements (20 items)</td>
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<tr>
<td>- Social/personality/mood (12 items)</td>
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<tr>
<td>- Physiological indicators/Eating and sleeping changes/Vocal behaviors (15 items).</td>
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Each item is scored on a dichotomous scale by checking off those pain behaviors that are observed. The number of checks on each subscale are added together and recorded and then these sums are added together for a total score.

**Phase I: Item generation**

Items were generated through serial interviews with experienced professional caregivers of seniors with severe dementia (see sample characteristics below). Interviews were recorded, transcribed. Transcribed material was then reviewed by two researchers who each independently developed an initial set of non-overlapping behaviors. The original total of 71 behaviors was collapsed to 65, which was used to develop the PACSLAC. A second coder independently used the list of 71 pain behaviors to review a random sample of 15 transcribed interviews. Agreement between the two coders on total number of instances each coder endorsed each behavior on the list resulted in correlation of .94 (p<.01). The behaviors were then grouped conceptually by the authors.

**Phase II: Item analysis and assessment of internal consistency**

A preliminary tool with 7 subscales with a total of 65 pain behaviors was used by a separate sample of 40 professional caregivers (see sample characteristics below) who reported on pain experiences of remembered patients with severe dementia. The number of subscale was reduced to four in order to improve internal consistency: Facial expressions, Activity/body movements, Social/personality/mood and Physiological indicators/Eating and sleeping changes/Vocal behaviors. Moreover, two items of the 65 items were deleted.

**Phase III: Preliminary validation of the PACSLAC**

An additional three items were deleted following phase III. The final tool has 60 items on 4 subscales (see sample characteristics and results of validation study below).

#### Content Validity

<table>
<thead>
<tr>
<th>Phase II – Assessment of Usefulness</th>
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<tbody>
<tr>
<td>The professional caregivers also rated PACSLAC items for usefulness on a</td>
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numeric rating scale (Usefulness Scale) anchored by 0 (not useful) and 10 (very useful) to indicate how useful that specific behavior was for deciding whether pain was present. All items except one were rated as being useful in identifying pain as indicated by a score of at least “5”.

-Panel Commentary

The tool covers all 6 pain behavior categories in the AGS Persistent Pain Guidelines. However, the subscales appear to be conceptually based (derived by the authors), rather than based on factor analysis. A strength of the PACSLAC is the broad nature of indicators that allows for recognition of pain in those with idiosyncratic or less obvious pain behaviors. The subscale “Physiological indicators/Eating and sleeping changes/Vocal behaviors” includes seven indicators that conceptually represent vocalization/verbalization; two represent change in activity pattern and three may represent change in mental status. Because of the large number of diverse indicators on this subscale, refinement may be needed.

Because the PACSLAC is a broad list with potential pain indicators for acute and/or persistent pain and is not scored to represent severity of persistent pain, inclusion of physiological indicators appears appropriate.

The items are dichotomous and scored as present/absent. The tool does not attempt to measure pain severity, which is appropriate for older adults with dementia who are not able to communicate their pain verbally.

The PACSLAC was assessed for content validity by an independent review process involving professional caregivers as experts and was assessed as being clinically useful for assessing pain in elders with severe dementia.

Subjects

Panel rating: 1

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Phase I</th>
<th>28 primary caregivers of elders 65 years of age or older living in long term care due to serious limitations in their ability to communicate. The primary caregivers were registered nurses, licensed practical nurses and special care aides</th>
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<tbody>
<tr>
<td>Phase II</td>
<td>40 RN/Resident Dyads</td>
<td>40 Registered nurses and registered psychiatric nurses who worked in long term care facilities with older adults with cognitive impairments that limited their ability to communicate. None of these caregivers had participated in phase I. Nurse characteristics: Average age: 49 years (±10.2) Experience as a nurse: 21.4 years (±13.0) Experience with patients reported on: 3.6 years (±2.8) 40 patients Average age: 83.2 years (±7.8) Gender: 11 males, 29 females Dementia severity: Present Functioning Questionnaire (PFQ): Average score: 44.6, (±5.3), indicating severe dementia. The subjects were “remembered patients” under the care of the nurse.</td>
</tr>
<tr>
<td>Phase III</td>
<td>40 RN/Resident Dyads</td>
<td>40 nurses: Average age: 44 years Average years experience as a nurse: 19 years</td>
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</table>
40 patients:
  Average age: 85 years
  Gender: 10 males, 30 females
  33 patients with a diagnosis of dementia.
  34 patients had a diagnosis associated with pain.
  Present Functioning Questionnaire (PFQ): Average score: 41, (±3.3).
  The subjects were “remembered patients” under the care of the nurse for
  at least six months and who experienced pain.

-Panel Commentary
The use of remembered patients may be appropriate for preliminary
instrument testing. However, recall bias on the part of the nurses represents a
threat to the validity of this study.

The long-term care setting of the study is identified.
The PFQ is an appropriate tool for assessment of functional ability as an
indication of dementia severity. Scores were above the normative mean
indicating severe dementia.
Age of subjects is appropriate.
There is balance between number of male and female subjects.
Information regarding racial/ethnic diversity is not available.

Using 5 subjects per tool item as a rule of thumb, a minimum sample size of
300 subjects (60 items x 5 subjects) would be needed. Thus, this sample of 40
subjects is insufficient for tool evaluation.

Administration, Scoring, Feasibility
Panel rating: 2

Administration, Scoring, Feasibility
There are four subscales with a total of 60 items.
Each item is scored on a dichotomous scale with one check for each item
identified. Subscale scores are summed to arrive at a total score.
It took most nurses less than five minutes to complete the PACSLAC.

No advice is provided as to how to interpret total score. The authors indicate
that norms need to be established in clinical practice to interpret tool score.

-Panel Commentary
Method of administration: Simple instructions on how to administer and score
the tool are provided on the tool form.
Scoring procedures are clearly described.

Clinical utility
  • Time: Although the tool has a total of 60 items, it requires a limited
  amount of time to administer, indicating that the tool is potentially useful
  in everyday clinical practice.
  • Skill needed: The tool developers refer to professional caregivers. It is
  unclear who this encompasses and what level of skill is needed to use the
  tool. However, the tool appears easy to use.

Reliability
Panel rating: 1

Internal consistency
Phase II
In phase II of tool development the PACSLAC observations were made by
professional caregivers (see sample characteristics above). Following deletion
of two items phase II and subscale revisions the following subscale internal
consistency reliabilities were reported:
  Total tool (63 items): \( \alpha = .92 \)
  Subscales:
  • Facial Reactions: \( \alpha = .80 \)
Phase III
Internal consistency was conducted in a sample of 40 RN/Resident dyads (see sample specifications above). The 40 RNs rated 40 residents on the PACSLAC retrospectively based on four remembered events: two painful events, one distressing (but not pain-related) and one calm event. Internal consistency based on average for the two pain events was $\alpha = .85$.

Internal consistency for subscales:
- Facial Reactions: $\alpha = .56$
- Social/Personality/Mood: $\alpha = .85$
- Activity/Body Movement: $\alpha = .55$
- Physiological indicators/Eating and sleeping changes/Vocal behaviors: $\alpha = .59$

**Interrater reliability**
Interrater reliability has not been reported.

**Test-retest reliability**
No test retest or intrarater reliability is reported.

**Panel commentary**
Raters are qualified. However, internal consistency scores are based on a large number of raters. Raters relied on remembered painful event, which may be subject to recall bias.

Based on preliminary testing, the scale as a whole has good internal consistency for a new tool. However, low alpha scores for subscales are below the acceptable range for a new tool. This indicates that revision at subscale level may be necessary.

**Interrater reliability**
Data on interrater reliability are needed.

**Test-retest reliability**
Data on test-retest stability of the tool are needed.

**Validity: Criterion or construct**
Panel rating: 2

**Construct validity/Criterion related validity**

<table>
<thead>
<tr>
<th>Discriminant validity</th>
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<tr>
<td>Discriminant validity was based on retrospective recall of painful events by the nurse, two pain events with very clear cause, one distressing (but not pain-related) event, one calm event (no signs of distress).</td>
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<tr>
<td>Results:</td>
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<tr>
<td>Pain Event I &gt; Distress Event ($p &lt; .001$)</td>
</tr>
<tr>
<td>Pain Event I &gt; Calm Event ($p &lt; .001$)</td>
</tr>
<tr>
<td>Pain Event II &gt; Distress Event ($p &lt; .001$)</td>
</tr>
<tr>
<td>Pain Event II &gt; Calm Event ($p &lt; .001$)</td>
</tr>
<tr>
<td>Distress Event &gt; Calm Event ($p &lt; .001$).</td>
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</table>

Concusion: The total PACSLAC score is able to discriminate among painful, calm, and non-pain related distress events $F (3, 117) = 108.1$ ($p < .001$).

Subscales: Facial Expressions, Activity/Rocking Movement and Physiological indicators/Eating and sleeping changes/Vocal behaviors
discriminated as follows: Pain > Distress > Calm (p<.001). Subscale Social/Personality/Mood discriminated between pain and calm events but not between pain and the distress events.

Three additional items were deleted during this phase because they occurred with greater frequency during calm events.

Criterion related validity
Global Pain Intensity Ratings of the nurses’ perception of the patients’ pain and PACSLAC total scores were moderately correlated:
PE1: r=.39 (p<.05)
PE2: r=.54 (p<.001).

Panel commentary
- The use of retrospective recall of patients and their pain-related conditions has potential for bias. Although the tool was able to differentiate between events especially distress/calm, prospective evaluation is necessary.
- Validity of staff assessment of severity in this population is not established which may be related to low correlations between PACSLAC and nurses’ global intensity ratings.

Summary of panel evaluation of pain assessment tool
The PACSLAC is a potentially clinically useful behavior checklist that appears simple to use for assessing and monitoring changes in persons with dementia and diverse presentations of pain-related behavior. The tool is comprehensive and addresses pertinent indicators noted in the literature and AGS Guideline. Additionally, the tool needs prospective evaluation, including factor analysis, with a larger sample size to establish tool reliability and validity, particularly tool ability to detect change in behaviors.

Source of evidence

Key to panel rating
3= Available evidence is strong
2= Available evidence supports need for further testing
1= Available evidence is insufficient and/or tool revisions are needed
0= Evidence is absent

Evaluation completed by:
K. Herr, S. Decker, K. Bjoro, University of Iowa.
Contact information: keela-herr@uiowa.edu