

# Braden Scale

## Assessment Overview

### Assessment Area

**ICF Domain:**

Body Function

**Subcategory:**

Functions of the Skin

**Subscales (domains):**

- 1) Sensory Perception, 2) Moisture, 3) Activity, 4) Mobility, 5) Nutrition, 6) Friction and Shear

### You Will Need

**Length:**

5-10 minutes, 6 items

**Scoring:**

Each domain scored 1-4 (except for Friction and Shear, which is scored 1-3), total score (6-23) as sum of domains.

Higher scores reflect better prognosis.

### Summary

The Braden Scale is a clinician-administered assessment tool for determining a patient's risk level for incurring skin breakdown and is useful for detecting pressure ulcer risk in people with SCI (though it includes two factors less related to risk for people with SCI - sensory perception and mobility). Moisture was found to be the most predictive variable for people with SCI. It has been tested in both acute care and long-term-care settings.

The scale items were developed based on expert consensus, and includes three factors (sensory perception, mobility and nutritional variables) that were not significantly related to pressure ulcer development for individuals with SCI.

### Availability

**Worksheet:** Can be found [here](#); and the scale, scoring information (free) and a videotape manual (\$150 US) can be purchased [here](#).

**Languages:** English, French, Portuguese / Brazilian Portuguese, Spanish. Also available in other languages, but are not formally validated.

**Video:** <https://www.youtube.com/watch?v=zP6p0M5zrLk&t=10s>

## Assessment Interpretability

### Minimal Clinically Important Difference

Not established in SCI

### Statistical Error

Not established in SCI

### Typical Values

**Mean (95%CI) Scores:**

All patients: 11.1 (10.7-11.5)

Patients with ulcers (n=80): 9.9 (9.6-10.3)

Patients without ulcers (n=64): 12.6 (12-13.2)

(Ash 2002; n=144; mean time since injury: 14 days)

**Mean (SD) Scores:**

13.8 (1.75) (range 10-18)

(Wellard & Lo 2002; n=60; non-acute SCI patients)

**Threshold Values:**

16 or less indicates risk of pressure ulcer

(Flett et al. 2019; n=754; 510 males, 244 females, mean (SD) age: 53.9 (18.5) years; 43% tetraplegia, 7% paraplegia; 15% complete injury, 77% incomplete injury; mean (SD) injury duration: 84.6 (378.4) days)

## Measurement Properties

### Validity – **Moderate**

**Moderate** correlation with the stage of the first pressure ulcer:

$r = -0.353$

**Moderate** correlation with the number of ulcers developed:

$r = -0.431$

(Salzberg et al. 1999; n=226; 188 males, 38 females; traumatic SCI; injury level: C4-S1; acute)

**Moderate** predictive validity for pressure ulcer development:

Area Under Curve (AUC) = 0.73-0.81

CI (95%) = 0.74-0.88

(Ash 2002; n=144; mean time since injury: 14 days)

Study findings suggest that a simple measure of mobility, admission FIM bed/chair transfer score of 1 (total assist), can identify at-risk individuals with greater accuracy than both an SCI specific instrument (SCIPUS) and a PI specific instrument (Braden)

(Flett et al. 2019; n=754; 510 males, 244 females, mean (SD) age: 53.9 (18.5) years; 43% tetraplegia, 7% paraplegia; 15% complete injury, 77% incomplete injury; mean (SD) injury duration: 84.6 (378.4) days)

It was found that sensory perception, mobility and nutritional variables were not significantly related to pressure ulcer development. Moisture was the most important predictive variable

(Salzberg et al. 1999; n=226; 188 males, 38 females; traumatic SCI; injury level: C4-S1; acute)

**Number of studies reporting validity data: 4**

### Reliability – **Not established**

Not established in SCI

## Responsiveness

### Floor/Ceiling Effect:

A ceiling effect was reported in mixed populations (21% of patients attained a 'high risk' score)

(Wellard & Lo 2002; n=60; non-acute SCI patients)

### Effect Size:

Not established in SCI

**Number of studies reporting responsiveness data: 2**