Reviewer ID: Carlos L. Cano, Elsa Sun

Last updated: May 6th, 2024

Research Summary – The Spinal Cord Injury Pressure Ulcer Scale (SCIPUS) – Skin

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
Higgins et al. (2019*) Secondary analysis of retrospective data Two rehabilitation centers in Canada (Toronto, Montreal)	N=886 (59% male) Median age (interquartile range): 56 (28) Etiology: 56% non-traumatic, 44% traumatic ASIA level: 14% A, 8% B, 14% C, 37%D (26% missing)		**Internal Consistency:** The person separation index (PSI) for the remaining 14 items (out of 15) of the SCIPUS was 0.44, which is considered low. Item 13 (individual in a Nursing Home or Hospital) was automatically excluded from the analysis since all study participants obtained the same score; as they were admitted to a rehabilitation center. PSI=0.44 (PSI is interpreted as an alpha) Modified the SCIPUS further by deleting item 7 (smoking) and 6 (age); the remaining	

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
			12 items of the SCIPUS was PSI=0.48.	
Delparte et al. (2015) Prospective Cohort Tertiary rehabilitation centres in Ontario	N= 759 (250F, 509M) Age: 53.9 ±18.5 Time since SCI (days): 84.9 ± 379.7 Complete: 16% Incomplete: 84% 53% paraplegia, 47% quadriplegia	Poor accuracy (AUC < 0.7) for cutoff scores of ≥6, ≥7, ≥8 for "high risk" categorization	**Inter-rater ICC:** 0.91	
Salzberg et al. (1999) Retrospective medical record review Five trauma centres in the New York area.	N=226 (188M, 38F) Mean age 33.2±15.2yrs (range 1-83yrs) Acute, traumatic SCI patients admitted between June 1986 and October 1994 to one of five trauma centres in the New York area. Levels C4-S1.	Items for measure identified by ensuring they met 4 criteria: 1) statistical association with pressure ulcer, 2) biologically plausible, 3) literature supported & 4) improved prediction. Statistical association determined based on their sample. Weights (Coded values) used in the scale were based on the relative value		

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		coefficients in the logistic regression model." 8 Items were identified: Extent of paralysis, moisture, serum creatinine, incontinence, albumin, mobility, pulmonary disease and level of activity. The stage of the first pressure ulcer and SCIPUS ($\rho = 0.343$) ($P \le .001$) The number of ulcers developed and SCIPUS ($\rho = 0.339$) ($P \le .001$) **This study focused on pressure ulcers that developed within the first 30 days post-		

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		admission. Pressure ulcers developing after this timeframe were not included. Total Score within 24 hours of admission: <u>SCIPUS:</u> Sensitivity: 36.8% Specificity: 84.2% Accuracy: 65.9% (p<0.00005) R = 0.246		
[Salzberg et al. (1996)](#) Retrospective, development of a new scale Department of Veterans Affairs Medical Centre (Castle Point) database.	N=219 (217 M, 2F) Patients recruited between Aug. 4, 1987 and Dec. 14, 1993. Traumatic SCI Age at onset of injury: range= 18-88yrs (mean 35.6±15yrs). Interval from onset to last follow-up: range =	Items for measure identified by ensuring they met 4 criteria: 1) statistical association with pressure ulcer, 2) biologically plausible, 3) literature supported & 4) improved prediction. Statistical association determined based on their sample.		CAGE score – mean (SD): Total sample: 0.75 (1.20) Drinkers: 1.00 (1.29) Number of drinks per week: <table><tr><td>**Number of drinks:**</td><td>**Number of patients:**</td></tr></table>

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability	
	0.2-51.3yrs (mean 17.2±12.1yrs). 176 patients developed ulcers at some point and 43 did not.	15 items were identified including level of activity, mobility, complete SCI, urine incontinence or constantly moist, autonomic dysreflexia, age, tobacco use, pulmonary disease, cardiac disease, diabetes, renal disease, impaired cognition, in a nursing home or hospital, serum albumin and hematocrit levels. Weighting values not explained. The optimal balance of sensitivity (75.6%) to specificity (74.4%) was found at a cut-off point of ≥6. The positive predictive value was 92.4% and the negative		<10	61 (51.14%)
				10-29	28 (23.93%)
				30-49	7 (5.99%)
				50-69	2 (1.71%)
				70-89	0
				90-100	19 (16.23%)

Reviewer ID: Carlos L. Cano, Elsa Sun

Last updated: May 6th, 2024

Author Year Country Research Design Setting	Demographics and Injury Characteristics of Sample	Validity	Reliability	Responsiveness Interpretability
		predictive value was 42.7%.		

* note: The paper by Higgins et al, 2019 uses Rasch, which is a modern measurement methods. There are many comments on the scale, such as suggestions to remove items, based on Rasch analysis.