

Assessment and Management of Pressure Injuries for the Interprofessional Team, Third Edition
Systematic Review Search Strategy

Concurrent with the review of existing guidelines, a systematic review for recent literature relevant to the scope of the guideline was conducted by a health sciences librarian.

Databases Searched: Cumulative Index to Nursing and Allied Health (CINAHL), Cochrane Controlled Trials (CT), Cochrane Systematic Reviews (SR), Education Resource Information Centre (ERIC), Embase, MEDLINE, MEDLINE in Process and PsycINFO

*Additional database for research question 4

Inclusion Criteria:

- Published March 2006 (year of last search strategy) to 2014
- Target user – all front-line health care professionals (the article must at least include/apply to the RN)
- Client population – birth to death (e.g. pediatric, adult, elderly)
- Client population – pressure ulcers/injuries in clients with all types of co-morbidities, vulnerable populations
- All types of quantitative studies (**for Q1 and Q2 only**)
- All types of research designs (**Q3 and Q4 only**)
- Published in English
- Primary focus of the article is on topic area i.e. existing pressure ulcers/injuries
- Across health settings/sectors

Exclusion Criteria:

- Non-English studies
- Unpublished i.e. grey literature
- Outside of time frame
- Articles with minimal focus on pressure ulcers/injuries
- Qualitative studies and reviews of qualitative studies (**for Q1 and Q2 only**)
- Expert reports, white papers, consensus documents, discussion papers, case studies, case series, guidelines (separate guideline search conducted)
- Papers without any methodology
- Studies involving animals
- Dermatitis, moisture lesions, tears, mucous membrane pressure ulcers/injuries, medical device related pressure ulcers/injuries

Search Terms: Below are condensed search strategies used for each research question in MEDLINE. Comparable terms were used in all other databases searched.

1. *What are the most effective methods for the assessment of existing pressure ulcers/injuries in clients?*

Population	Pressure Ulcer/Injury	Assessment components	Outcome
<ul style="list-style-type: none"> • Regulated health care professionals (should at minimum include the nurse as part of the interprofessional team) 	<ul style="list-style-type: none"> • pressure ulcer • pressure sore • decubitus ulcer • bedsore • pressure injury • stage 1 • stage 2 • stage 3 • stage 4 • Unstagable • DTI 	<ul style="list-style-type: none"> • assessment • screening • risk assessment • risk factor(s) • risk assessment tool • predictors • outcomes • prognosis • assessment scale • validated assessment tools • needs assessment • nursing assessment • outcome assessment 	<ul style="list-style-type: none"> • grading/classification of pressure ulcers/injuries • Identification of pressure ulcer/injury complications (e.g. infection, colonization etc.) • identification of clinical improvement of the pressure ulcer/injury • identification of signs of clinical deterioration of the pressure ulcer/injury

		<ul style="list-style-type: none"> • symptom assessment • intrinsic risk factors • extrinsic risk factors • etiology • monitoring • re-assessment • measurement • evaluation • objective and subjective assessments (e.g. physical, psychological) • factors influencing wound healing • classification systems • documentation 	
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2. What are the most effective interventions to manage existing pressure ulcers/injuries in clients?

Population	Pressure Ulcer/Injury	Management components	Outcome
<ul style="list-style-type: none"> • Regulated health care professionals (should at minimum include the nurse as part of the interprofessional team) 	<ul style="list-style-type: none"> • pressure ulcer • pressure sore • decubitus ulcer • bedsore • pressure injury • stage 1 • stage 2 • stage 3 • stage 4 • Unstagable • DTI 	<ul style="list-style-type: none"> • management • manage • re-ulceration • nursing care • risk management (managing risk factors that can impact interventions) • intervention • therapeutic interventions • treatment • wound management • secondary prevention • tertiary prevention • debridement • therapy • alternative therapy • complementary therapy • pain management • repositioning • pressure redistribution • pressure off-loading • nutritional interventions • topical agents • dressings/bandages • systemic agents • anti-septic agents • adjunctive therapy • infection control • devices • interprofessional care 	<ul style="list-style-type: none"> • improved skin integrity • Management and prevention of complications (e.g. infection, sepsis, and osteomyelitis) • optimize wound healing • prevent re-ulceration • minimize shear and friction related injury • redistribute pressure • nutritional management • pain management (wound related pain) • patient education • caregiver/family education • prevent deterioration • quality of life • patient satisfaction • patient acceptability (e.g. compliance, tolerance, side effects)time to complete healing • rate of complete healing • rate of change in size and volume of ulcer • proportion of patients completely healed within trial period

3. *What education and training is required to ensure the provision of effective pressure ulcer/injury assessment and management among practicing health care professionals?*

Population	Pressure Ulcer/Injury	Education components	Outcome
<ul style="list-style-type: none"> Regulated health care professionals (should at minimum include the nurse as part of the interprofessional team) Undergraduate students 	<ul style="list-style-type: none"> pressure ulcer pressure sore decubitus ulcer bedsore pressure injury stage 1 stage 2 stage 3 stage 4 Unstagnable DTI 	<ul style="list-style-type: none"> education educate training learn teaching information instruction in-service professional education continuing education curriculum education department hospital in-service preceptorship workshop knowledge professional development curriculum support curriculum resources 	<ul style="list-style-type: none"> increase/improved knowledge and awareness amongst health-care providers and students effective pressure ulcer/injury assessment and management

4. *How do health-care organizations and the broader healthcare system support and promote the optimal assessment and management of existing pressure ulcers/injuries in clients?*

Population	Pressure Ulcer/Injury	Health care organization and health systems supports in relation to assessment/management/education	Outcome
<ul style="list-style-type: none"> Regulated health care professionals (should at minimum include the nurse as part of the interprofessional team) 	<ul style="list-style-type: none"> pressure ulcer pressure sore decubitus ulcer bedsore pressure injury stage 1 stage 2 stage 3 stage 4 Unstagnable DTI 	<ul style="list-style-type: none"> Communication strategies Communication systems Policy Procedures Culture Values Beliefs Mission Vision Strategy Priority Recipient of Care Health-care provider delivery of care Model of Care delivery Supports for ongoing training and education Supports for client-family education 	<ul style="list-style-type: none"> Organizational support Optimal assessment and management of pressure ulcers/injuries Resources to support health-care providers in the assessment and management of existing pressure ulcers/injuries Policy development/implementation

		<ul style="list-style-type: none"> • Quality improvement indicators or metrics • Monitoring and evaluation parameters: client, team, organization or system level • resources, organizations, financial arrangements, primary care models, economic climate, politics, societal norms, availability of services • Funding • Health economics • Cost-effectiveness • Government programs/initiatives • Decision support techniques • Decision trees • Health care costs • Economics • Standards 	
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Hand Search

RNAO expert panel members were asked to review personal libraries to identify key articles not found through the above search strategies. Articles identified by RNAO expert panel members were included in search results if two nursing research associates independently determined that the articles had not been identified by the systematic review search and met the inclusion criteria.

Updated Systematic Review Search

- Search time frame: October 2014 – December 31, 2015
- Databases: Medline, CINAHL, Cochrane SR and Cochrane CT
- Research questions: assessment (Q1) and intervention (Q2)
- Inclusion/exclusion criteria: Practice recommendations used to guide screening of studies
- Title and abstract review, full-text review and synthesis
- One nursing research associate (NRA)