Prevention and Treatment of Pressure Ulcers/Injuries:

Quick Reference Guide Prevention Recommendations

The International Guideline

Fourth edition







Abridged early version



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RECOMMENDATIONS AND GOOD PRACTICE STATEMENTS FOR PREVENTION



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Introduction

The following recommendations and good practice statements are extracted from the full Clinical Practice Guideline (CPG) for convenience of use in clinical practice. The recommendations and good practice statements are not intended for use without reviewing and considering the evidence summaries, implementation considerations and evidence discussion that are included in the full CPG chapters. Full CPG chapters and the guideline methodology are available from https://internationalguideline.com

Supporting Evidence:

- **Recommendations** are based on analysis of evidence from Tiers 1 (systematic review with meta-analysis), 2 (systematic review without meta-analysis) and 3A (randomized controlled trials).
- Good Practice Statements are designed to fill gaps in areas of practice not addressed by Tiers
 1, 2, and 3A research. They are often supported by evidence from other study designs (3B and
 3C) and the clinical expertise of Panel Group members and stakeholders. When supported by
 Tier 3 evidence, Good Practice Statements are comparable to the evidence-based
 recommendations in the 2019 Guideline that were rated with B1, B2 or C Strength of
 Evidence.

Recommendations and Good Practice Statements (GPS): Together, Recommendations and Good Practice Statements provide a comprehensive approach to "what to do" for individuals at risk for pressure injuries.

Implementation Considerations (in the full CPG and on the interactive guideline website) provide additional guidance on "how, when and under what conditions to" implement/or not implement a recommendation or GPS. Implementation Considerations also include practical guidance to address

Living Guideline: As new evidence becomes available and is analyzed, updates will be posted.

Nutrition in Pressure Injury Prevention

NUTRITI	NUTRITION IN PRESSURE INJURY PREVENTION - FINAL				
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation	
N1	It is good practice to conduct nutrition screening for individuals at risk of a pressure injury.	GPS	Supported by Tier 3 evidence		
N2	It is good practice to conduct a comprehensive nutrition assessment for individuals at risk of a pressure injury who are screened to be at risk of malnutrition. Use the findings to develop an individualized nutrition care plan.	GPS	Supported by Tier 3 evidence		
N3	It is good practice to encourage individuals at risk of a pressure injury to consume a balanced diet that includes nutrient dense food and adequate hydration.	GPS	Clinical expertise		
N4	We suggest that nutritional supplementation be implemented for individuals at risk of pressure injuries who have been identified as malnourished or at risk of malnutrition when nutritional needs are not met by usual dietary intake.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	Ť	
N5	We suggest implementing protein supplementation for individuals at risk of pressure injuries who have been identified as malnourished or at risk of malnutrition.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	Ŷ	
N6	We suggest that carbohydrate- based energy and micronutrient supplementation should be reserved for individuals with known malnutrition or micronutrient deficiencies, in addition to supplementation that meets their protein needs.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	Ť	
N7	We recommend against tube feeding <u>for the specific purpose</u> of preventing pressure injuries in individuals with or at risk of malnutrition and at pressure injury risk.	Strong recommendation	Very low Based on Tiers 1, 2, 3A evidence	† †	
N7.1	This recommendation is not intended for individuals who	Clarifier			

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NUTRITION IN PRESSURE INJURY PREVENTION - FINAL				
No.	Recommendation or Good	Category	Certainty of	Strength of
	Practice Statement		Evidence	Recommendation
N8	are receiving tube feeding as a part of their usual clinical care, critically ill individuals, or for pediatric and neonatal populations for whom tube feeding is a requirement. It is good practice to make every	GPS	Supported by Tier	
	reasonable effort to maintain and promote oral nutrition. When oral intake is inadequate, providers should not presume that there is an imperative to implement tube feeding; any decision should be preceded by a comprehensive, multidisciplinary assessment of goals of care, benefits, risks and preferences related to the individual.		3 evidence and clinical expertise,	

Repositioning for Preventing Pressure Injuries

REPOSITIONING FOR PREVENTING PRESSURE INJURIES – FINAL					
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation	
R1	It is good practice to reposition individuals at risk of pressure injuries regardless of the type of pressure redistribution full body support surface being used. The interval between repositioning might be adjusted depending on the pressure redistribution capabilities of the support surface and the individual's response. However, no support surface can entirely replace repositioning.	GPS	Supported by Tier 3 evidence		
R2	It is good practice to reposition the individual in such a way that optimal offloading of pressure points and maximum redistribution of pressure are achieved.	GPS	Supported by Tier 3 evidence		
R3	It is good practice to use specialized equipment	GPS	Supported by Tier 3 evidence		

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REPOSITI	REPOSITIONING FOR PREVENTING PRESSURE INJURIES – FINAL				
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation	
	designed to reduce friction and shear when repositioning individuals. If manual handling is necessary, techniques that minimize friction and shear should be applied.				
R4	It is good practice to reposition all individuals with or at risk of pressure injuries using an individualized regimen.	GPS	Supported by Tier 3 evidence		
R5	It is good practice to determine appropriate and individualized repositioning intervals based on comprehensive assessments of the individual's: • level of activity and mobility, • ability to independently reposition, • skin and tissue tolerance, • clinical condition, • comfort, • sleep patterns, • goals of care, and • the support surface in use.	GPS	Supported by Tier 3 evidence		
R6	It is good practice to assess for signs of early skin and tissue injury that may mean the individual requires more frequent repositioning or preferential positioning off damaged areas.	GPS	Supported by Tier 3 evidence		
R7	We suggest that either repositioning at two hourly or three hourly intervals could be implemented for most individuals at risk of pressure injuries, if they are also on an appropriate pressure redistribution full body support surface.	Conditional Recommendation	Very low Based on Tiers 1, 2, 3A evidence	Ŷ	
R7.1	 Individualize frequency of repositioning based on a clinical assessment, as specified in the good practice statements. 	Clarifier			

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REPOSITI	REPOSITIONING FOR PREVENTING PRESSURE INJURIES – FINAL				
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation	
R7.2	 Critically ill individuals or others with systemic hypoperfusion or shock states may require more frequent, incremental repositioning and supplementation of full body repositioning with assisted small shifts in body position. 	Clarifier			
R7.3	 Individuals receiving palliative or end of life care should be given the option of repositioning frequency intervals that are best suited to their goals of care and comfort needs, and with full knowledge of pressure injury risk incurred with less frequent repositioning. 	Clarifier			
R8	We suggest <u>not routinely</u> extending repositioning intervals to four, five or six hourly for individuals at risk of pressure injuries.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	Ť	
R.8.1	 Progressive extension of repositioning intervals may be appropriate for some individuals based on decreasing pressure injury risk, increased capacity for effective self-repositioning and maintenance of normal skin and tissue status. 	Clarifier	Supported by Tier 3 evidence		
R9	It is good practice to initiate frequent, small and incremental shifts (micromovements) in body position for critically ill individuals who are too unstable to maintain a regular repositioning regimen, and to supplement regular repositioning.	GPS	Supported by indirect evidence and clinical expertise.		
R10	We suggest using 30-degree lateral positioning to prevent pressure injury occurrence in individuals at risk for pressure injuries.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	^	

REPOSITIONING FOR PREVENTING PRESSURE INJURIES – FINAL				
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation
R10.1	 Individualize turning angles to ensure maximum offloading of both the sacrum and the trochanter. 30-degree lateral positioning may not be maintainable or adequately offload the sacrum in individuals with higher body mass index. Modifying to a 40-degree lateral position might be necessary. 	Clarifier		
R10.2	 In pre-adolescent children, a 30-degree turn is equivalent to a full body turn due to their smaller body width. 	Clarifier		
R11	We suggest that the head-of- bed elevation be maintained at 30-degrees or lower to prevent pressure injury occurrence; however, higher head-of-bed elevation may be required in some clinical situations (e.g. individuals at higher risk for aspiration).	Conditional recommendation	Low Based on Tiers 1, 2, 3A evidence	↑
R12	It is good practice to select a prone position when required by the individual's medical condition, and to cease prone positioning as soon as clinically appropriate.	GPS	Supported by Tier 3 evidence	
R13	 It is good practice to provide education to the individual and their informal carers on: the rationale for repositioning, its significance in preventing pressure injuries, and strategies to safely and regularly implement repositioning. 	GPS	Supported by Tier 3 evidence	
R14	It is good practice to implement repositioning reminder strategies to promote adherence to repositioning regimens.	GPS	Supported by Tier 3 evidence	

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REPOSITIONING FOR PREVENTING PRESSURE INJURIES – FINAL				
No.	Recommendation or Good	Category	Certainty of	Strength of
	Practice Statement		Evidence	Recommendation
R15	We suggest that a sensor	Conditional	Very low	1
	system that monitors the	recommendation		
	individual's movement could		Based on Tiers 1,	
	be used to assist in evaluating		2, 3A evidence	
	repositioning needs for			
	individuals at risk of pressure			
	injuries when resources			
	permit.			
R16	We suggest that an early	Conditional	Very low	^
	mobilization program be	recommendation		-
	implemented in individuals at		Based on Tiers 1,	
	risk for pressure injuries		2, 3A evidence	
	based on the individual's			
	activity tolerance.			

Full Body Support Surfaces for Prevention of Pressure Injuries

FULL BODY SUPPORT SURFACES FOR PREVENTION OF PRESSURE INJURIES - FINAL					
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation	
SS1	It is good practice for organizations to maintain an inventory of, or access to, a range of full body support surfaces appropriate to the clinical context. The inventory should be maintained, stored and used in accordance with manufacturer recommendations.	GPS	Clinical Expertise		
552	It is good practice to use a full body support surface or integrated bed system that appropriately accommodates the weight, height, size and body mass distribution of the individual.	GPS	Clinical Expertise		
SS3	We recommend using a pressure redistribution foam (reactive) full body support surface for individuals at risk of pressure injuries.	Strong recommendation	Low Based on Tiers 1, 2, 3A evidence	ተተ	
SS4	It is good practice to consider the following factors when	GPS	Clinical expertise		

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FULL BOD	FULL BODY SUPPORT SURFACES FOR PREVENTION OF PRESSURE INJURIES - FINAL				
No.	Recommendation or Good	Category	Certainty of	Strength of	
	Practice Statement		Evidence	Recommendation	
	selecting or changing the				
	mattress, overlay or integrated				
	individual'et				
	• overall risk of pressure				
	iniuries				
	 response of the skin and 				
	tissues,				
	• independence, mobility and				
	activity needs,				
	 posture and sleeping 				
	position and their effects on				
	pressure redistribution,				
	need for microclimate				
	management and shear				
	reduction features, and				
SS5	• preferences and care goals.	Conditional	Very low		
000	(reactive) full body support	recommendation	Verytow	Т	
	surfaces or pressure		Based on Tiers 1,		
	redistribution foam (reactive)		2, 3A evidence		
	full body support surfaces for				
	individuals at risk of pressure				
	injuries.				
SS6	We suggest using either	Conditional	Low	1	
	full body support surfaces or	recommendation	Based on Tiers 1.		
	pressure redistribution foam		2, 3A evidence		
	(reactive) full body support				
	surfaces for individuals at risk				
	of pressure injuries.				
SS7	We suggest using either	Conditional	Very low	↑	
	alternating pressure (active) air	recommendation	Deceder Tiers 1		
	or air (reactive) full body		2. 3A evidence		
	individuals at risk of pressure				
	iniuries.				
SS8	We suggest a medical grade	Conditional	Very low	•	
	sheepskin could be used for	recommendation	_	•	
	individuals at risk of pressure		Based on Tiers 1,		
	injuries where geographically		2, 3A evidence		
	available. If used, consider the				
	potential impact on the full				
SC0 1	body support surrace.	Clarificr			
330.1	A medical grade sneepskin is not recommended when	Glannel			
	there is a full body support				
	surface with pressure				

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FULL BODY SUPPORT SURFACES FOR PREVENTION OF PRESSURE INJURIES - FINAL				
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation
	redistribution properties available.			
SS8.2	 Only medical grade sheepskins should be used. Non-medical grade sheepskins do not have the same microclimate management properties and may increase the risk of PIs. 	Clarifier		
SS8.3	 Ensure that medical grade sheepskin overlays do not interfere with the pressure redistribution properties of the full body support surface. 	Clarifier		
SS9	We suggest a fiber support surface <u>is not used</u> to prevent pressure injuries in individuals at risk in settings where a pressure redistribution foam (reactive) full body support surface is available.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	Ŷ
SS10	We suggest an air fluidized full body support surface <u>is not</u> <u>routinely used</u> to prevent pressure injuries in individuals at risk.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	ŕ
SS10.1	An air fluidized full body support surface might be considered for individuals at very high pressure injury risk (e.g., those who are immobilized with extensive burns) or who have previously experienced a full thickness pressure injury on a different full body support surface.	Clarifier		
SS10.2	 Air fluidized full body support surfaces might be used for individuals with existing full thickness pressure injuries or following surgical reconstruction with flaps/grafts. 	Clarifier		
SS11	We suggest a low air loss (reactive) full body support surface could be used for	Conditional recommendation	Very low	^

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FULL BODY SUPPORT SURFACES FOR PREVENTION OF PRESSURE INJURIES - FINAL				
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation
	individuals at risk of pressure injuries, especially when moisture and heat at the skin- surface interface are contributing factors.		Based on Tiers 1, 2, 3A evidence	
SS12	It is good practice to use a full body support surface with pressure redistribution features for medical procedures and for an individual at risk of pressure injuries in transit.	GPS	Supported by Tier 3 evidence	
SS13	It is good practice to transfer the individual off a spinal hard board/backboard as soon as medically feasible after admission, in consultation with a qualified health professional.	GPS	Supported by Tier 3 evidence	

Preventing Pressure Injuries in Seated Individuals

PREVENTING PRESSURE INJURIES IN SEATED INDIVIDUALS – FINAL					
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation	
S1	 It is good practice to consider the following factors when selecting a seat or wheelchair that meets the individual's needs for pressure redistribution and shear reduction: the individual's overall risk of pressure injuries, independence, mobility and activity needs, body size, shape and weight distribution, , posture, deformity and asymmetry and its effect on pressure distribution, need for enhanced features (e.g. dynamic weight shifting), and the individual's preferences and care goals. 	GPS	Supported by Tier 3 evidence		

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PREVENTING PRESSURE INJURIES IN SEATED INDIVIDUALS – FINAL						
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation		
S2	We recommend using a seating support surface with pressure redistribution properties for individuals at risk of pressure injuries when in a seated position.	Strong recommendation	Moderate Based on Tiers 1, 2, 3A evidence	ተተ		
S3	We suggest that duration of sitting out of bed should be limited at much as possible for individuals at risk of pressure injuries who cannot reposition themselves while seated.	Conditional Recommendation	Very Low Based on Tiers 1, 2, 3A evidence	Ŷ		
S4	It is good practice to frequently reposition individuals at risk of pressure injuries who are seated out of bed. Teach and encourage independent chair/wheelchair users to reposition as often as possible by performing pressure redistribution maneuvers and weight shifts that redistribute pressure as much as possible.	GPS	Supported by indirect evidence & clinical expertise			
S5	 It is good practice to position seated individuals in such a way that reduces pressure, shear and friction. This includes: selecting a chair or wheelchair that provides support and maintains stability, selecting a reclined seated position in which the individual's legs are elevated and supported so the heels are free from the support surface or, if reclining is not appropriate or possible, ensuring that the individual's feet are well-supported, and/or using dynamic weight shifting (tilt and recline). 	GPS	Supported by indirect evidence & clinical expertise			

Preventing Heel Pressure Injuries

PREVENTING HEEL PRESSURE INJURIES - Will be posted for stakeholder review in early March						
No.	Recommendation or Good Practice Statement	Category	Certainty of Evidence	Strength of Recommendation		
H1	It is good practice to elevate the heels of individuals at risk of pressure injuries, so the heels are not in contact with the support surface.	GPS	Supported by Tier 3 evidence			
H2	We suggest using a heel offloading device that is appropriate to the individual's mobility and activity level.	Conditional recommendation	Very low Based on Tiers 1, 2, 3A evidence	^		
H3	It is good practice to elevate the heels of individuals at risk of pressure injuries using standard pillows or cushions with sufficient height to ensure the heels are not in contact with the support surface, if a heel offloading device is not available or is inappropriate for the individual's activity and mobility level.	GPS	Supported by indirect evidence & clinical expertise			
H4	We make no recommendation on whether a leave-on topical product should be used to prevent heel pressure injuries.	NR	Extremely low confidence in effect estimates. Unclear mechanism of action.			
H5	We suggest that a preventive dressing could be used as an adjunct to heel elevation and regular repositioning for preventing heel pressure injuries, where resources permit.	Conditional recommendation	Low Based on Tiers 1, 2, 3A evidence	^		
H6	We suggest that if a preventive dressing is used for the heels, a soft silicone adhesive multilayered foam dressing should be selected.	Conditional recommendation	Very Low Based on Tiers 1, 2, 3A evidence	^		

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TOPICS AND CLINICAL QUESTIONS UNDER DEVELOPMENT

Risk Assessment, Risk-Based Prevention Planning and Implementation: What are the **Good Practice Statement** principles needed to guide risk assessment; to assess the level of risk; and identify modifiable risk factors for prevention planning? What **Implementation Strategies** are being successfully used to implement risk-based prevention plans?

Skin and Tissue Assessment: What are Good Practice Statements for conducting visual and tactile assessment of skin and tissue across the continuum of skin tones? Clinical Questions: What is the impact of technology-assisted skin and tissue assessment on detection of pressure injuries (e.g., Deep Tissue Pressure Injury not detectable with visual and tactile assessment)? What is the impact of technology-assisted skin and tissue assessment on detection of pressure injuries of technology-assisted skin and tissue assessment on detection of pressure injuries in dark skin tones? What is the impact of technology-assisted skin and tissue assessment on identification of early tissue injury? What is the impact of prevention strategies designed to address areas of early injury on PI occurrence in individuals at risk?

Classifying Pressure Injuries: The pressure ulcer/injury classification systems commonly used throughout the world are very similar. The various system definitions will be updated as needed. Illustrations and photos will be updated. **Good Practice Statements** will address differential diagnosis and health professional education to ensure reliability and validity of pressure injury classification across the continuum of skin tones.

General Preventive Skin Care: PICO Question: What is the impact of skin care interventions (I) on number of individuals who develop a new pressure injury (O) compared to usual care/comparator intervention (C) in individuals at risk of pressure injuries (P)? **Good Practice Statements** and **Recommendations** will address the impact of skin care cleansing strategies, incontinence interventions and leave-on topical products.

Prophylactic Dressings: Clinical Questions: What is the impact of any prophylactic dressing on number of individuals who develop a new pressure injury compared to **no product** in individuals at risk of pressure injuries? What is the impact of **any prophylactic dressing** on number of individuals who develop a new pressure injury compared to **any other prophylactic dressing** in individuals at risk of pressure injuries? What is the impact of **any prophylactic dressing** on number of individuals who develop a new pressure injury compared to **any other prophylactic dressing** in individuals at risk of pressure injuries? What is the impact of **any prophylactic dressing** on number of individuals at risk of pressure injury compared to **a leave-on topical product** in individuals at risk of pressure injuries?

Device Related Pressure Injuries: Clinical Questions: What is the impact of **alternating the type of device** used on number of individuals who develop a device-related pressure injury compared to not alternating the type of device in individuals at risk of pressure injury compared to not repositioning the device on number of individuals who develop a device related pressure injury compared to not repositioning device in individuals at risk of pressure injury compared to not repositioning device on number of individuals who develop a device-related pressure injury compared to a standard respiratory device on number of individuals who develop a device-related pressure injury compared to a standard respiratory device in individuals at risk of pressure injuries? What is the impact of using a **prophylactic dressing under a device** on number of individuals who develop a device-related pressure injury compared to no prophylactic dressing in individuals at risk of pressure injuries? What is the impact of using a **prophylactic dressing under a device** on number of individuals who develop a device-related pressure injury compared to no prophylactic dressing in individuals at risk of pressure injuries? What is the impact of using a **leave-on topical product** under a device on number of individuals who develop a device-related pressure injury compared to any no topical leave-on product in individuals at risk of pressure injuries?

Prevention Bundles: Clinical Question: What is the impact of a pressure injury prevention care bundle with at least three components on number of individuals who develop a new pressure injury compared to usual care for individuals at risk of pressure injuries?

Note: Clinical questions may be further refined based on available research literature.



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