

Pressure Injuries



This guidelines summary has been developed for health professionals caring for clients with or at risk of pressure injuries. Assessment, management and prevention of pressure injury should be undertaken by health professionals with expertise in the area.

For this summary, all recommendations have had their levels of evidence classified as follows:

Level I	Evidence from a systematic review or meta-analysis of at least two level II studies
Level II	Evidence from a well designed randomised controlled trial (for interventions), or a prospective cohort study (for prognostic studies)
Level III	Evidence from non-randomised studies with some control or comparison group (pseudo-randomised controlled trial; non-randomised experimental trial, cohort study, case-control study, time series studies with a control group; historical control study, retrospective cohort study)
Level IV	Evidence from studies with no control or comparison group
EO	Consensus statements provided by a National or International Panel of experts in the area.

This is a summary of recommendations from the following sources, which should be accessed for further details as required:

1. EPUAP, NPIAP and PPIIA, Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. Haesler E (Ed) 2019, EPUAP, NPIAP, PPIIA. <https://pppia.org/guideline/>
2. Wounds Canada. Best Practice Recommendations for the Prevention and Management of Pressure Injuries, in Foundations of Best Practice for Skin and Wound Management, 2018, Wounds Canada. <https://www.woundscanada.ca/>
3. Registered Nurses' Association of Ontario, Assessment and Management of Pressure Injuries for the Interprofessional Team, 3rd ed. 2016, RNAO: Toronto. <https://mao.ca/bpg/guidelines/pressure-injuries>
4. Bolton LL et al. Association for the Advancement of Wound Care Venous and Pressure Ulcer Guidelines. Ostomy Wound Management 2014; 60: 24-66.
5. Coleman S, et al. Patient risk factors for pressure ulcer development: Systematic review. International Journal of Nursing Studies 2013; 50: 974-1003.
6. Alderden J, et al. Risk factors for pressure injuries among critical care patients: A systematic review. International Journal of Nursing Studies 2017; 71: 97-114.
7. Gould L, et al. Wound Healing Society 2015 update on guidelines for pressure ulcers. Wound Repair Regen 2016; 24: 145-62.
8. McInnes E, et al. Support surfaces for pressure ulcer prevention. Cochrane Database Syst Rev 2015; 9: CD001735
9. Wound Ostomy and Continence Nurses Society. WOCN 2016 Guideline for Prevention and Management of Pressure Injuries (Ulcers). J Wound Ostomy Continence Nurs 2017; 44: 241-246.



Assessment

1. All clients should be assessed for their risk of developing pressure injuries as soon as possible from admission, repeated as appropriate for the individual, and following any change in health status¹ (EO)

Include a comprehensive structured assessment of the person² (EO), skin and tissue^{1,2} (IV), the wound if applicable,³ potential sources of pressure and shear injury² (EO), and nutritional status^{1,3} (III)

There is little evidence to support the effectiveness of any one risk assessment tool over another¹ (II)
2. Assessment should be carried out by staff with training and expertise in the assessment of risk factors and pressure injuries⁴ (III)
3. Risk factors include:
 - advanced age⁵ (II)
 - immobility or reduced physical mobility^{1,5} (I)
 - skin status (erythema, dryness, previous or current pressure injury)^{1,5} (II)
 - poor or altered perfusion (e.g. diabetes, cardiovascular disease)^{5,6} (II)
 - increased body temperature^{1,5} (III)
 - sensory perception¹ (IV)
 - increased skin moisture¹ (IV)
 - poor nutritional status¹ (IV)
 - general health status¹ (IV)
4. Individuals identified as at risk of developing pressure injuries should have their skin assessed regularly according to individual need, including erythema, skin temperature, oedema, sub-epidermal moisture and tissue consistency¹ (IV)
5. Assess pressure injuries on admission and at least weekly thereafter^{1,2} (EO)

- Undertake a comprehensive health and psychosocial assessment¹ (EO)
- Assess and document the pressure injury location, dimensions, stage, exudate characteristics, signs of infection, wound bed tissue, surrounding skin, undermining or tracking, odour, and progress in healing, using the same valid and reliable assessment method or scale (IV)
- Re-evaluate treatment if there is no progress in healing after two weeks¹ (III)
6. All clients with pressure injuries should have a comprehensive pain assessment^{1,3} (III)

Management

7. The pressure injury stage should be documented using an accepted classification system, e.g. the NPIAP system¹ (EO)
8. Position all persons with a pressure injury on a pressure redistribution support surface that meets their individual needs (consider mobility, microclimate, risk factors)^{1,3,7} (II)

Consider a speciality support surface with enhanced pressure redistribution for those with a pressure injury, or air fluidised bed for Stage III, IV or unstageable injuries¹ (II)
9. A static support surface may be appropriate for clients who can move freely and where there is no 'bottoming out'⁷; (III)

for clients who cannot move freely, or who 'bottom out', a dynamic support surface may be appropriate⁷ (III)
10. Avoid positioning individuals directly on pressure injuries or bony prominences¹ (III)

Management (continued)

11. For heel pressure injuries, elevate heels off the bed with pillows or heel suspension devices distributing weight along the calf ¹ (II)
12. Reposition at regular intervals based on the person's needs and support surface. Utilise reminder strategies for repositioning ^{1,3} (II)
13. Maintain the head of bed at the lowest degree of elevation consistent with the person's condition and needs ⁷
Limit the amount of time with the head of bed elevated ^{3,4,7} (III)
14. The injury should be gently cleaned using non-irritating, non-toxic solutions ^{1,7} (III)
15. Remove necrotic and devitalised tissue through mechanical, sharp, autolytic or biological debridement ⁷ (II)
However, if dry eschar is present, do not debride until arterial flow is established ⁷(IV)
16. Dressings should:
 - Maintain a moist wound-healing environment ^{1,7} (II)
 - Manage wound exudate and protect peri-ulcer skin ^{1,2,7} (II)
 - Remain in place and minimise shear, friction, skin irritation and pressure ^{4,7} (III)
17. If there are signs of infection or delayed healing:
 - investigate via tissue biopsy or validated swab technique ^{1,7} (III)
 - topical antiseptics and/or debridement may decrease bacterial load ^{1,7} (III)
18. Use pharmacological and non-pharmacological interventions for pain management (e.g. consider timing of care, positioning, dressing choice) ^{1,3} (EO)
Consider a topical opioid if needed (II)
19. For pressure injuries non-responsive to standard care, consider the following adjunct treatments:
 - electrotherapy, in stage two to four injuries ^{1,3,7} (I)
 - high frequency ultrasound therapy in Stage III-IV ³ (II)
 - collagen dressings ¹ (II)
20. To facilitate healing, ensure optimal hydration and nutritional intake ¹ (EO)
Supplement protein, calories and micronutrients for those at risk of malnourishment or if deficiencies exist ^{1,7} (II)

Prevention

21. Formal documented quality improvement programs and evidence-based policies and procedures should be in place ¹, (I)
including optimising workforce profile to prevent injuries ¹ (EO)
and assessing staff knowledge to guide quality improvement ¹ (II)
22. Develop and implement a plan with multidisciplinary input to address individual risks to skin integrity ² (EO)
23. Use high specification reactive foam mattresses/overlays rather than standard foam mattresses for individuals at risk of developing a pressure injury ^{1,8} (I)
Consider active support surfaces for individuals where frequent repositioning is not possible ¹ (II)
24. Ensure that heels are completely offloaded, the use of heel suspension devices are recommended for those at risk ^{1,9} (III)
25. Avoid foam rings, donut-shape devices or fluid filled bags ^{1,7,9} (IV)
26. Avoid ordinary sheepskin, medical grade sheepskin is recommended ^{1,8} (III)



Prevention (continued)

- 27. Avoid prolonged sitting in a chair or wheelchair and ensure feet are supported. ^{1,4,7} Use a pressure redistributing surface for at-risk individuals when sitting in a chair. ^{1,7} (IV)
- 28. Reposition the client as frequently as required. Consider their risk, skin response, mobility, medical condition, and the support surface used. ^{1,4} (II)
 Consider a 30° side lying position rather than a 90° side lying position (IV)
- 29. Clients who use a wheelchair as their primary means of mobility should be provided with a mobility seating assessment and properly fitted wheelchair and seat cushion ⁷ (III)
- 30. Limit time of head-of-bed elevation, keep as flat as possible, or as appropriate for the person's condition ^{1,4,9} (IV)
- 31. Employ correct lifting and manual handling techniques, including use of lift sheets or devices to transfer patients ^{1,4} (IV)
- 32. Reduce pressure around and under medical devices e.g. regularly reposition devices, provide physical support for devices, use a prophylactic dressing ¹ (EO) (II)
- 33. Protect skin exposed to friction ¹ (EO)
 Consider using a soft silicone foam dressing on bony prominences to prevent pressure injuries ¹ (II)
 Consider using silk-like fabrics to reduce friction ¹ (III)
- 34. Use a pH balanced skin cleanser ¹ (EO)
 Use barrier creams if needed to protect skin ⁴ (IV)
 Consider moisture and temperature control when choosing a support surface ¹ (EO)
- 35. Avoid:
 - heating devices directly on skin surfaces or pressure injuries ¹ (EO)
 - vigorous massage or rubbing skin that is at risk of pressure injuries ^{1,4} (III)
- 36. Maintain optimal energy intake and nutritional status ^{1,4} (IV)
 Provide nutritional support to those at risk of pressure injuries with an identified nutritional deficiency or at risk of malnourishment ⁷ (IV)
- 37. Educate client/caregiver about the causes and risk factors for pressure injuries development and ways to minimise risk ^{4,9} (III)