

# Pressure Injuries



**These guidelines have 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 using the National Health and Medical Research Council levels of evidence, 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

An additional rating of Expert Opinion (EO) has been added, for guideline recommendations which are consensus statements provided by a National or International Panel of experts in the area.

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

1. Australian Wound Management Association. *Pan Pacific Clinical Practice Guideline for the Prevention and Management of Pressure Injury*. Osborne Park, WA: Cambridge Media 2012. [http://www.awma.com.au/publications/2012\\_AWMA\\_Pan\\_Pacific\\_Guidelines.pdf](http://www.awma.com.au/publications/2012_AWMA_Pan_Pacific_Guidelines.pdf)
2. Association for the Advancement of Wound Care. *Association for the Advancement of Wound Care guideline of pressure ulcer guidelines*. Malvern, PA: AAWC 2010. <http://www.guidelines.gov/content.aspx?id=24361>
3. Stechmiller J et al. Guidelines for the prevention of pressure ulcers. *Wound Repair and Regeneration* 2008. 16: 151-168. <http://onlinelibrary.wiley.com/doi/10.1111/j.1524-475X.2008.00356.x/pdf>
4. Wound Ostomy and Continence Nurses Society. *Guideline for prevention and management of pressure ulcers*. Mount Laurel, NJ: WOCN 2010. <http://guideline.gov/content.aspx?id=23868>
5. Registered Nurses' Association of Ontario. *Risk assessment and prevention of pressure ulcers. (Revised)*. Toronto, ON: RNAO 2011. [http://rmao.ca/sites/rmao-ca/files/Risk\\_Assessment\\_and\\_Prevention\\_of\\_Pressure\\_Ulcers.pdf](http://rmao.ca/sites/rmao-ca/files/Risk_Assessment_and_Prevention_of_Pressure_Ulcers.pdf)
6. National Institute for Clinical Excellence. *The use of pressure-relieving devices (beds, mattresses and overlays) for the prevention of pressure ulcers in primary and secondary care*. London: Royal College of Nursing 2004. <http://www.ncbi.nlm.nih.gov/books/NBK48950/pdf/TOC.pdf>
7. Royal College of Nursing. *The management of pressure ulcers in primary and secondary care: A clinical practice guideline*. London: RCN & NICE 2005. [http://www.rcn.org.uk/\\_data/assets/pdf\\_file/0017/65015/management\\_pressure\\_ulcers.pdf](http://www.rcn.org.uk/_data/assets/pdf_file/0017/65015/management_pressure_ulcers.pdf)
8. Hadwen G. Pressure area care: Prevention. *(JBI) Best Practice*: 2011. <http://connect.jbiconnectplus.org>
9. Whitney J et al. Guidelines for the treatment of pressure ulcers. *Wound Repair and Regeneration* 2006. 14: 663-679. <http://onlinelibrary.wiley.com/doi/10.1111/j.1524-475X.2006.00175.x/pdf>



## Assessment

1. All clients should be assessed for their risk of developing pressure injuries on admission and following any change in health status.<sup>1,2</sup> The resulting risk status and risk factors should be documented regularly.<sup>3</sup>  
 Include a skin assessment<sup>1</sup>; (III)  
 medical/surgical history<sup>1</sup>; (EO)  
 and a pressure injury risk assessment tool.<sup>1,2,4,5</sup> (III)  
 There is little evidence supporting the effectiveness of any one risk assessment tool over another<sup>1</sup> (II)
2. Assessment should be carried out by staff with training and expertise in the assessment of risk factors and pressure injuries<sup>3,6</sup> (III)
3. Risk factors include:
  - Immobility or reduced physical mobility<sup>3,6,7</sup> (III)
  - Loss of sensation<sup>3,6</sup> (III)
  - Impaired cognitive state or level of consciousness<sup>6</sup> (III)
  - Urinary or faecal incontinence<sup>3</sup> (III)
  - Poor nutrition or recent weight loss<sup>3,6,7</sup> (III)
  - Dry skin<sup>7</sup> (III)
  - Acute or severe illness<sup>3,6</sup> (III)
4. Individuals found to be at risk of developing pressure injuries should have their skin assessed daily for signs of impaired skin integrity<sup>1,8</sup> (III)
5. Regularly assess and monitor wound characteristics (i.e. location, dimensions, stage, exudate characteristics, signs of infection, wound bed characteristics, surrounding skin, undermining or tracking, odour), and progress in healing, including use of a validated pressure injury healing assessment scale<sup>1</sup> (III)

6. All clients with pressure injuries should be regularly assessed for presence of pain<sup>1,5</sup> (IV)  
 using a validated pain assessment tool<sup>1,5</sup> (III)  
 and a pain management plan developed<sup>1</sup> (EO)

## Management

7. The pressure injury stage should be documented using an accepted classification system, e.g. the NPUAP/EPUAP 2009 pressure injury classification system<sup>1</sup> (EO)
8. Pressure-relieving surfaces and strategies (e.g. mobilising, regular repositioning) should be in place 24 hours/day for all individuals with pressure injuries<sup>6,7,9</sup> (IV)
9. A high specification reactive (constant low pressure) or active (alternating pressure) support surface should be used in clients with pressure injuries<sup>1</sup> (I)
10. If there is no progress in healing, or a stage 3 – 4 injury is present (or unstageable or deep tissue injuries), an alternating pressure, low-air-loss, continuous low pressure system or air-fluidised bed should be used<sup>7,9</sup> (I)
11. A static support surface may be appropriate for clients who can move freely and where there is no 'bottoming out'<sup>2,9</sup>; (I)  
 for clients who cannot move freely, or who 'bottom out', a dynamic support surface may be appropriate<sup>9</sup> (I)
12. Avoid positioning individuals directly on pressure injuries or bony prominences<sup>1</sup> (III)

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13. Limit the amount of time with the head of bed elevated<sup>3,9</sup> (III)
14. The injury should be irrigated with a neutral, non-irritating, non-toxic solution, and cleansing undertaken with minimal chemical or mechanical trauma<sup>9</sup> (IV)
15. Removal of necrotic and devitalised tissue should be undertaken through mechanical, sharp, autolytic or biological debridement<sup>9</sup> (II)
16. Dressings should:
- Maintain a moist wound-healing environment<sup>1,9</sup> (I)
  - Manage wound exudate and protect peri-ulcer skin<sup>1,9</sup> (I)
  - Remain in place and minimise shear, friction, skin irritation and pressure<sup>9</sup> (II)
17. There is insufficient evidence to indicate:
- Whether any specific dressing is more effective in healing pressure injuries<sup>1</sup> (I)
  - Whether antimicrobials are effective in treating pressure injuries<sup>7</sup> (I)
- However, hydrocolloid dressings are generally more cost-effective than moist gauze<sup>1</sup> (III)
18. The following interventions may promote healing in pressure injuries when used in combination with regular care:
- Topical negative pressure therapy, in stage 3-4 pressure injuries<sup>1</sup> (III)
  - Electrotherapy, in stage 2-4 injuries<sup>1</sup> (II)
  - Pulsed electromagnetic therapy, in stage 2-4 injuries<sup>1</sup> (III)
  - Ultraviolet light C therapy, in stage 2-4 injuries<sup>1</sup> (IV)
19. There is currently insufficient evidence to recommend:
- Hyperbaric oxygen therapy<sup>1</sup> (I)
  - Infrared therapy<sup>1</sup> (EO)
  - Laser therapy<sup>1</sup> (EO)
  - Therapeutic ultrasound therapy<sup>1</sup> (I)
20. Provide high protein oral nutritional supplements in addition to a regular diet for clients with a pressure injury, including arginine supplements in people with a stage 2 or greater pressure injury<sup>1</sup> (II)
- Prevention**
21. Formal documented policies and procedures should be in place to guide prevention plans for pressure injuries, including identification of areas and groups at risk<sup>3</sup> (III)
22. Individuals found to be at risk of developing pressure injuries should have a preventative management plan in place<sup>1</sup> (II)
23. A multidisciplinary team of health care professionals should evaluate preventative pressure injury care strategies at least quarterly<sup>3</sup> (III)
24. High specification reactive support foam mattresses should be used rather than standard mattresses in individuals found as being at risk of developing a pressure injury.<sup>1</sup> Active support mattresses could be used as an alternative in these clients<sup>1</sup> (I)
25. Heels should be completely off loaded in all positions for at-risk individuals<sup>5</sup> (IV)
26. Avoid positioning individuals directly on bony prominences<sup>1</sup> (EO)



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| <p>27. Pillows and foam wedges can be used to reduce pressure on bony prominences<sup>3</sup> (II)</p> <p>28. Avoid foam rings, donuts, or fluid filled bags for pressure reduction<sup>1,3,9</sup> (II)</p> <p>29. Avoid ordinary sheepskin - medical grade sheepskin is recommended<sup>1</sup> (I)</p> <p>30. Avoid prolonged sitting in a chair or wheelchair;<sup>1,2</sup> and positioning hips at an angle greater than 90° when seated<sup>1</sup> (EO)</p> <p>31. Reposition the client as frequently as required. Frequency of repositioning should consider their risk, skin response, mobility, medical condition, and the support surface used<sup>1</sup> (II)</p> <p>32. Limit the amount of time with the head of bed elevated<sup>3</sup> and maintain head of bed at/or below 30° or at the lowest degree of elevation<sup>2,4</sup> (IV)</p> <p>33. Employ correct lifting and manual handling techniques, including use of lift sheets or devices to transfer clients<sup>1,3</sup> (IV)</p> <p>34. Protect skin exposed to friction<sup>1</sup> (EO)</p> | <p>35. Avoid:</p> <ul style="list-style-type: none"> <li>- Potentially irritating substances on skin or substances that alter skin pH<sup>1,3</sup> (III)</li> <li>- Dryness or maceration of skin (i.e. moisturise dry skin, avoid sustained contact with body fluids, encourage continence)<sup>1,5</sup> (IV)</li> <li>- Vigorous massage over bony prominences<sup>2</sup> (III)</li> </ul> <p>36. Maintain optimal nutritional status;<sup>1,2</sup> nutritional support should be given to those who are undernourished or with an identified nutritional deficiency<sup>7,9</sup> (IV)</p> <p>37. Educate client/caregiver about the causes and risk factors for pressure injuries development and ways to minimise risk<sup>2,4</sup> (III)</p> |
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