Pressure Injury Guidelines
Advancing International Consensus for Prevention and Management

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Healthcare Rehabilitation
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Overview

• Physiology update
• Overview of Pressure Ulcers
• Forces and causes
• New Grading system
• New guidelines – what do they contain
• Key changes to client groups
• Campaigns – get involved
Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline

Launched August, 2014
A localised injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, shear and/or friction, or a combination of these factors

(Pan Pacific Guideline 2011)
Where do pressure injuries occur?
Anatomy – know what you're looking at
Healthy Skin

The subcutaneous layer contains blood vessels and cushioning fat.

The dermis is where new cells are made.

Body-weight pressure

Sweat glands lubricate the skin.

Bones support the body.

The epidermis is the outer protective covering.

Fragile Skin

The subcutaneous layer has fewer and flatter fat cells.

The dermis produces cells more slowly.

Body-weight pressure

Fewer sweat glands make less lubrication.

Bones protrude.

The epidermis is dry and loses cell layers.

Surface pressure
Shear and Friction

\[ \theta = \text{FRICTION ANGLE} \]

Friction = \( \mu N = F_\parallel \)

\[ F_{\perp} = m \times g \times \cos \theta \]

\[ F_{\parallel} = \text{Friction} = m \times g \times \sin \theta \]
Persistent erythema – 30 minutes after off-loading

Non-blanching erythema/ discoloration

Purplish/ bluish areas on dark skin

Blisters

Localised heat/ induration

Patient reports of pain/ discomfort
What’s new in the International Guideline?
**Mechanical boundary conditions**
- Magnitude of mechanical load
- Time duration of mechanical load
- Type of loading (shear, pressure, friction)

**Susceptibility and tolerability of the individual**
- Individual mechanical properties of tissue
- Individual geometry of the tissues and bones
- Individual physiology and repair
- Individual transport and thermal properties

**Risk factors**

**Internal strains & stresses**

**Pressure injury**

**Damage threshold**
**Mechanical boundary conditions**
- Magnitude of mechanical load
- Time duration of mechanical load
- Type of loading (shear, pressure, friction)

**Risk factors**

- **Internal strains & stresses**
- **Pressure injury**
- **Damage threshold**

**Susceptibility and tolerability of the individual**
- Individual mechanical properties of tissue
- Individual geometry of the tissues and bones
- Individual physiology and repair
- Individual transport and thermal properties

**Moisture**
**Mechanical boundary conditions**
- Magnitude of mechanical load
- Time duration of mechanical load
- Type of loading (shear, pressure, friction)

**Risk factors**

**Temperature**

**Susceptibility and tolerability of the individual**
- Individual mechanical properties of tissue
- Individual geometry of the tissues and bones
- Individual physiology and repair
- Individual transport and thermal properties

**Internal strains & stresses**

**Pressure injury**

**Damage threshold**
Stage 1

- Intact skin with non-blanchable redness of a localized area usually over a bony prominence

- Darkly pigmented skin may not have visible blanching; its colour may differ from the surrounding area

- The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue

- May be difficult to detect in individuals with dark skin tones

- May indicate "at risk" persons (a heralding sign of risk)
Stage 2

- Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough

- May also present as an intact or open/ruptured serum-filled blister

  Presents as a shiny or dry shallow ulcer without slough or bruising

- Stage 2 should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation
Stage 3

- Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.

- The depth of a Stage 3 pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and Stage 3 ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep stage 3 pressure ulcers. Bone/tendon is not visible or directly palpable.
Stage 4

- Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed.

- The depth of a Stage 4 pressure injury varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Stage 4 injuries can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.
Unstageable

- Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the PI bed.

- Until enough slough and/or eschar is removed to expose the base of the wound, the stage cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as "the body's natural (biological) cover" and should not be removed.
Suspected Deep Tissue Injury

- Purple or maroon localized area of discoloured intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.

- Deep tissue injury may be difficult to detect in individuals with dark skin tones.

- Evolution may include a thin blister over a dark wound bed. The PI may further evolve and become covered by thin eschar. Evolution may be rapid exposing additional layers of tissue even with optimal treatment.
<table>
<thead>
<tr>
<th>Synthesised evidence</th>
<th>Primary evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>44 systematic reviews</td>
<td>Direct evidence from &gt; 350 clinical trials</td>
</tr>
<tr>
<td>4 evidence-based guidelines</td>
<td>Additional indirect evidence</td>
</tr>
<tr>
<td>Appraised</td>
<td>Appraised</td>
</tr>
<tr>
<td>Rated according to quality</td>
<td>Assigned a level (1 to 5)</td>
</tr>
<tr>
<td></td>
<td>Rated according to quality</td>
</tr>
</tbody>
</table>
Recommendations

- PPPI Guideline
  - 54 Recommendations
  - Many consensus based practice tips

- International Guideline
  - 575 Recommendations
  - Many cover the PPPIA practice tips
## Strength of Recommendations

<table>
<thead>
<tr>
<th>Strength of Recommendation</th>
<th>Description (brief)</th>
<th>Number of recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>🌟🌟</td>
<td>Strong positive recommendation: <strong>Definitely do it</strong></td>
<td>247</td>
</tr>
<tr>
<td>🌟</td>
<td>Weak positive recommendation: <strong>Probably do it</strong></td>
<td>294</td>
</tr>
<tr>
<td>🧠</td>
<td>No specific recommendation</td>
<td>34</td>
</tr>
<tr>
<td>🙅‍♀️</td>
<td>Weak negative recommendation: <strong>Probably don’t do it</strong></td>
<td>-</td>
</tr>
<tr>
<td>🙅‍♂️</td>
<td>Strong negative recommendation: <strong>Definitely don’t do it</strong></td>
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Fields of interest

- Prevalence and incidence of pressure ulcers
- Preventive skin care
- Prophylactic dressings
- Microclimate control
- Treating biofilms
- Preventing and treating heel pressure ulcers
- Medical device related pressure ulcers
Specialist populations

- bariatric individuals
- critically ill individuals
- older adults, pediatric individuals
- individuals in the operating room
- individuals with spinal cord injury
- individuals in palliative care
Implementation

- Strategies for implementing the guideline
- Health Professional Education
- Patient Consumers and Their Caregivers
- Quality Indicators
Clinical Practice Guideline

- Recommendations, supporting evidence, commentary & background
- 36 chapters
- 280 pages

Quick Reference Guide

- Recommendations only
- 60 pages
Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline

Purchase the CPG and QRG
http://www.awma.com.au

Use the region code: PPPIA

Prevention and Treatment of Pressure Ulcers: Quick Reference Guide

Download free
www.nzwcs.org
Ann Marie Dunk
Anne Gardner
Bernadette McNally
Cathy Young
Clarissa Young
David Huber
Edel Murray
Jan Rice
Jan Wright
Jill Campbell
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Carmel Boylan
Chang Yee Yee
Kok Yee Onn
Michelle Lee
Ong Choo Eng Elizabeth
Pang Chak Hau
Quek Yan Ting
Wan Yin Ping
Wong Ka Wai


Join the NZ Wound Care Society

The New Zealand Wound Care Society Inc

About Us

What is the New Zealand Wound Care Society?

The New Zealand Wound Care Society Inc (NZWCS) is a voluntary organisation made up of health care professionals from a variety of disciplines who share a common interest in wound management. As an organisation it gives its members an opportunity to share experience, expertise and knowledge providing a forum to network with other members throughout the country.

Currently there are fourteen branches: Northland, Auckland, Waikato, Rotorua/Taupo, Bay of Plenty, Manawatu/Palmerston North/Wanganui, New Plymouth/Taranaki, Hawkes Bay, Wellington, Marlborough/Nelson, Christchurch, West Coast, Dunedin, and Southland. Most areas have an Area Coordinator and National Committee member. The Area Coordinator is responsible for coordinating meetings and seminars for the local branch members, while the National Committee member represents each branch at a national level. In some areas these duties are undertaken by the same volunteer.

Membership Forms

Membership Form
NZWCS Rules
Click the links above to download forms
What are the advantages of joining the NZWCS?

The NZWCS provides a supportive network throughout the country for health professionals to share experience, expertise and knowledge in the area of wound care. Membership includes:

As a member of the NZWCS you will receive the following benefits:

- Wound Practice & Research - the official journal of the Australian Wound Management Association (quarterly).
- EWMA Journal - the official journal of the European Wound Management Association (3 x year).
- Tissue Tissue - NZWCS quarterly Newsletter.
- ‘Members Only’ access to NZWCS website.
- Reduced registration fees at NZWCS Events.
- Voting Rights (full memberships only).

From time to time members also receive additional publications, leaflets and flyers, some of which may be from commercial sponsors.

The NZWCS membership year runs from 1st July to the 30th June inclusive. New individual members are eligible for a 6-month membership (1 January - 30 June) at a reduced cost.

Note: Student memberships require proof of full time undergraduate student status.

To join the NZWCS just fill in a Membership Form and send it, with your appropriate membership fee, to our Treasurer at the address on the form.

The NZWCS has a set of Rules that govern the Society’s operation, these were last amended at the Annual General Meeting of the Society in May 2012. A copy of the Rules can be downloaded here.
Preventing Pressure Injuries

Skin Care Matters

SURFACE: Make sure you are on a supportive surface
KEEP MOVING: Change your position often
INCONTINENCE: Keep dry and clean
NUTRITION: Eat healthily and drink frequently
SKIN INSPECTION: Check for discolouration and soreness including under or around medical devices

Help us to work together to prevent pressure injuries

Help us to work together to prevent pressure injuries

Sponsored by

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International Stop Pressure Injury Day
Thursday 19th November 2015

Thank you...