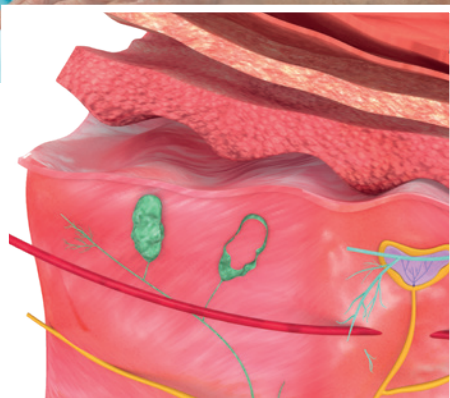




QUICK GUIDE

# PRESSURE ULCERS

PREVENTION  
FOR HEALTHCARE  
PROFESSIONALS



Yes, you can.®

# This booklet has been produced by Invacare for healthcare professionals working with individuals at risk of developing pressure ulcers.

It details, what a pressure ulcer is (also known as a bed sore or pressure sore), what causes them and offers guidance on how to prevent them. It is not only the elderly who are at risk, pressure ulcers can affect anyone at any age.

Please note, this booklet contains real life medical photos which some people may find upsetting. This booklet is only a guide and is not intended to replace independent clinical judgement, professional educational programmes, national or local guidelines, procedures or protocols.

## Aetiology of the skin

The skin is the largest organ in the body which, when laid flat, would measure around 2 square meters and accounts for up to 15% of your body weight. The skin protects against injury and infection and is also responsible for the conversion of UV light into vitamin D. It is made up of three layers:

## Epidermis

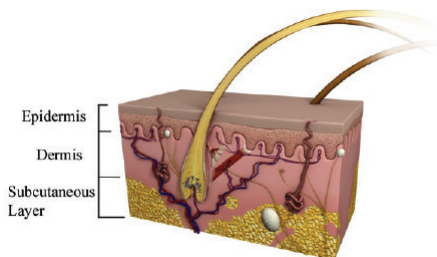
- Thin outer layer
- Only about 0.04mm thick
- Every 4 weeks the epidermis completely renews itself as the outer cells are worn away and replaced with new ones from underneath

## Dermis

- Provides structure and elasticity
- Sturdy mesh of collagen and elastin
- Contains: capillaries, lymph nodes, sebaceous and sweat glands and hair follicles

## Subcutaneous Layer

- Fat cells – shock absorber and insulator
- Provides a protective layer over the underlying organs and structures
- Acts as an energy source for the body
- There is no subcutaneous layer on heels and elbows



# Did you know...?

- It has been estimated that up to 400,000 new ulcers may develop in any given year in the UK (Posnett and Franks, 2007)
- In acute hospitals, the point prevalence of pressure ulceration is approximately 18–20% (Vanderwee et al, 2007)
- The impact on quality of life for the individual living with a pressure ulcer can be great, with changes in mobility, general functioning, control of pain and odour being important considerations. (Bradbury et al, 2008).
- Pressure ulcers affect 20% of patients in care homes (Clarke 2004)
- It is estimated that the total cost of treating pressure ulcers in the NHS was between £2bn and £3bn each year. (Drew et al, 2007)
- The cost of treating a pressure ulcer per patient varies by category of ulcer from a mean of £1214 for a category 1 pressure ulcer to a £14108 for a category 4 ulcer (Dealey et al, 2012).

## How pressure ulcers develop

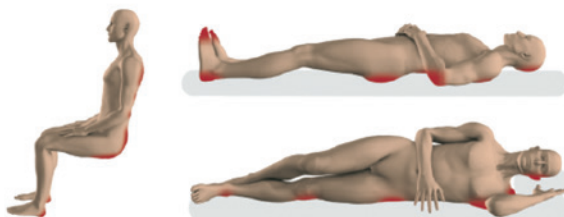
A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear. A number of contributing or confounding factors are also associated with pressure ulcers; the significance of these factors is yet to be elucidated. (NPUAP/EPUAP, 2014)

Pressure ulcers range in severity from skin discoloration, to severe open wounds where the muscle and bone are visible.

Extrinsic causes of pressure ulcers	Intrinsic risk factors to consider
<ul style="list-style-type: none"><li>• Temperature</li><li>• Moisture</li><li>• Localised direct pressure</li><li>• Shear</li><li>• Poor posture</li><li>• Friction</li><li>• Time</li></ul>	<ul style="list-style-type: none"><li>• Restricted Movement</li><li>• Heart Problems</li><li>• Vascular Disease</li><li>• Heavy Smoker</li><li>• Dehydration</li><li>• Malnourishment</li><li>• History of Pressure Ulcers</li><li>• Medication</li><li>• Obese or Under Weight</li><li>• Serious Illness</li><li>• Old age</li><li>• Incontinence</li><li>• Poor Sensation</li><li>• Diabetes</li><li>• Neurological Condition</li></ul>

## Where do pressure ulcers usually appear?

Pressure ulcers are more common over the bony parts of the body like the bottom, heel, elbow and shoulder. It is not uncommon for pressure ulcers to develop on the back of the ear or on other areas of the head. The three images below show where pressure ulcers are likely to appear when sitting, lying on your back or lying on your side.



If the skin is red and you are unsure if it is a pressure ulcer, press the finger lightly over the reddened area for 15 seconds then lift off. If the area goes white, it is most likely not a pressure ulcer. If it stays red, it is likely to be a pressure ulcer.

## How can you spot a pressure ulcer?

On lighter skin, look for persistent red patches forming which do not fade after the pressure is removed from that area. Look for bluish/ purple patches on darker skin.

You should also look for:

- Swellings
- Dry areas
- Blisters or areas of torn skin which may be broken blisters
- Hard or soft patches of skin that feel unusually tough or spongy to the touch
- Change in skin colour
- Hot or cool areas over bony areas of the body

## Pressure ulcer moisture lesion

There is often an overlap with ulcers caused mainly by moisture (moisture lesions) and those caused by shear forces or friction rather than pressure alone, which can cause some confusion in classification. In many cases, pressure, shear, friction and moisture may all have contributed to varying degrees to the development of the ulcer.

Here is a quick guide to assist you with differentiating between a pressure ulcer and a moisture lesion:

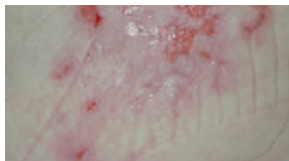
### Pressure Ulcers

Regular, defined, localised and usually over a bony prominence



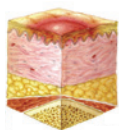
### Moisture Lesions

Irregular, scattered, diffused with moisture present.



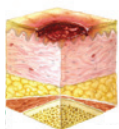
## Pressure ulcer grading

**EPUAP recommends the following category grading system (EPUAP/NPUAP, 2014) for skin damage in pressure ulcers.**



### **Category/Stage I: Nonblanchable Erythema**

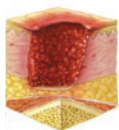
Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its colour may differ from the surrounding area. The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. Category/Stage I may be difficult to detect in individuals with dark skin tones. May indicate "at risk" individuals (a heralding sign of risk).



### **Category/Stage II: Partial Thickness Skin Loss**

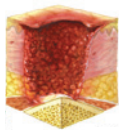
Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister. Presents as a shiny or dry shallow ulcer without slough or bruising.\* This Category/Stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.

\*Bruising indicates suspected deep tissue injury.



### **Category/Stage III: Full Thickness Skin Loss**

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



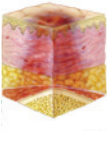
### **Category/Stage IV: Full Thickness Tissue Loss**

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunnelling. The depth of a Category/Stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Category/Stage IV ulcers 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: Depth Unknown**

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 wound bed. Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore Category/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: Depth Unknown**

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 wound may further evolve and become covered by thin eschar. Evolution may be rapid exposing additional layers of tissue even with optimal treatment.

## **Risk Assessment**

Individuals who are confined to a bed or wheelchair, or who spend long periods of time sitting each day are particularly prone to developing pressure ulcers. However, some individuals are more at risk of developing pressure ulcers than others when taking into account the intrinsic and extrinsic risk factors mentioned above. There are several risk assessment tools available to help you identify who is most at risk of developing a pressure ulcer including Norton, Waterlow and Braden.

Risk assessment should be used as an adjunct to clinical judgement and not as a tool in isolation from other clinical features" EPUAP, 2014.

Risk assessment scales are designed as an aide memoire. They are best used as part of an overall risk assessment which includes clinical judgment. This type of risk assessment works best as a communication tool and a method of establishing a base line for an individual against which change in condition can be assessed over time. The risk assessment score alone SHOULD NOT be used to decide upon a particular product or pressure care regime.

A risk assessment should be performed as soon as possible (but within a maximum of eight hours after admission) to identify individuals at risk of developing pressure ulcers. EPUAP, 2014

# The prevention and management of pressure ulcers

## How can the risk of getting a pressure ulcer be reduced?

- 1. Check the skin** for signs of damage at least once a day if the patient is lying or sitting for long periods. The individual could inspect their own skin regularly for any changes if they are able to do so. If possible, get your patient to stand and move around for five minutes every hour to encourage circulation.
- 2. Movement:** make sure your patient turns and changes position regularly to transfer the weight off bony areas of the body. For example, getting the patient to roll from side to side every half an hour when in bed. This removes pressure and helps the blood flow.
- 3. Repositioning:** If possible, the individual should be encouraged to reposition themselves. In the past, repositioning the individual every 2 hours used to be recommended but there is no evidence to support this practice. EPUAP, 2014, suggest it is better to be guided by the following:
  - appearance of the skin
  - the pressure redistributing support surface the individual is on
  - tissue tolerance
  - level of activity and mobility
  - general medical condition
  - overall treatment objectives
  - skin condition
  - comfort

One of the most popular repositioning procedures when on a bed is the 30° tilt. The body is positioned using pillows to reduce pressure from the bony prominences.

- 4. Support Surface:** If your patient has to sit or lie for long periods of time, make sure they have a suitable cushion and mattress to help reduce the risk of damage (i.e. pressure redistributing surface).

### Mattresses

NICE, 2014, suggests the use of a high specification foam mattress for adults who are:

- admitted to secondary care
- assessed as being at high risk of developing a pressure ulcer in primary and community care settings








## Heelcare

The heels are at high risk of developing pressure ulcers due to having very little soft tissue protecting the bone. The risks are even greater if the individual suffers with oedema of the lower leg due to circulatory problems. Discuss with adults at high risk of developing a heel pressure ulcer and, where appropriate, their family or carers, a strategy to offload heel pressure, as part of their individualised care plan. (NICE, 2014)

Use heel suspension devices that elevate and offload the heel completely in such a way as to distribute the weight of the leg along the calf without placing pressure on the Achilles tendon. (EPUAP, 2014)

## Seating

Selecting the right type of seating is very important as inappropriate seating may increase the risk of pressure ulcer development.

Seat too high or too low		Seat too wide or too narrow		
				
Seat too low	Armrest too high	Seat too narrow	Seat too wide	Correct armrest height & seat width
Difficult to Get Out  Body weight is supported on a small area. This leads to high pressure under the buttocks.	Uncomfortable - Poor Posture  High pressure under the elbows. May be difficult to eat and drink.	Difficult to Get In and Out  Allows no movement in the seat.	No Support - Poor Posture  No stability may lead to fixed spinal dolormities with time.	Good Posture and Support  A correctly-sized seat provides good pressure care, good sitting posture and allows the individual to move in the seat
* Remember, addressing the length of time patients sit out is fundamental to pressure ulcer prevention				
* <b>RCN: Royal College of Nursing</b>				

**5. Nutrition:** Encourage your patients to eat a well-balanced diet and drink plenty of fluids. Screen the nutritional status for each individual at risk of or with a pressure ulcer:

- at admission to a health care setting;
- with each significant change of clinical condition; and/or
- when progress toward pressure ulcer closure is not observed.

(EPUAP, 2014)

**6. Protect the skin:** encourage patients to keep their skin clean and dry, and use mild soaps that do not dry out the skin. Ensure they dry carefully without rubbing. If they suffer with incontinence, wash the skin with a gentle soap immediately and pat dry.

# Documentation and reporting

Make sure you document everything and refer to your trust/ organisations guidelines and protocols on documentation and reporting. Generally, it is viewed that if it isn't documented, it didn't happen.

The SKIN Bundle is an example of a good documentation and reporting tool, which offers a simple, holistic approach to pressure ulcer prevention. It ensures all patients receive the appropriate care to prevent pressure damage from occurring and it is a reusable model. The SKIN Bundle was first developed in Florida in 2004 and was implemented successfully in Wales in 2009. It is now being used and adapted throughout the UK, as it defines and ties best practices together making the process visible to all.

Ensure you regularly inspect the skin, looking for the early signs of a pressure ulcer (please refer to the How to spot a pressure ulcer section) and then implement appropriate measure if changes occur.

To find out more about how the SKIN Bundle tool is used in NHS Wales go to [www.wales.nhs.uk/sitesplus/863/page/65480](http://www.wales.nhs.uk/sitesplus/863/page/65480)

## How to encourage individuals to be involved in their own pressure area care

Some individuals may only be at risk of developing pressure damage for a short while e.g. whilst they recuperate from an acute illness or surgery. For others, there may be a constant risk of pressure damage due to loss of mobility or a chronic illness.

- It is impossible for any carer to monitor an individual for pressure damage 24 hours a day, which is why it is important that you encourage individuals to be involved in their own pressure area care. You can do this by:
- Explaining the importance of pressure area care
- If possible, reminding them to frequently reposition themselves
- Highlighting the need to maintain a high standard of hygiene to keep the skin clean and dry
- Explaining the importance of eating a healthy diet and drinking enough water
- Helping them to mobilise again as soon as possible

Non concordance can be avoided in many cases by involving patients in their treatment and care plans. Our **Quick Guide to Preventing Pressure Ulcers for Patients and Carers** is a useful free tool which helps individuals become more aware of pressure ulcers and details what causes them along with guidance on how to prevent them.

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