Learning Guide
Pressure care

28737 Demonstrate knowledge of pressure injuries and pressure care

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<thead>
<tr>
<th>Name:</th>
<th>Workplace:</th>
</tr>
</thead>
</table>

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Contents

Introduction ............................................................................................................................... 2
What is a pressure injury? ........................................................................................................ 3
Anatomy of the skin ................................................................................................................ 4
How do pressure injuries occur? ............................................................................................. 5
Who is at risk of developing a pressure injury? .................................................................... 7
How can pressure injuries be prevented? ................................................................................ 8
  Pressure relieving aids .......................................................................................................... 8
  Practical support .................................................................................................................. 9
Repositioning .......................................................................................................................... 11
Supporting a person with a pressure injury .......................................................................... 12
Pressure injury stages ............................................................................................................ 13
Reporting and monitoring ...................................................................................................... 16
Glossary .................................................................................................................................. 18
Introduction

This learning guide is about pressure injuries and pressure care.

How to use your learning guide

This guide supports your learning and prepares you for the unit standard assessment. The activities and scenarios should be used as a general guide for learning.

This guide relates to the following unit standard:

- Demonstrate knowledge of pressure injuries and pressure care (level 3, 3 credits).

This guide is yours to keep. Make it your own by writing notes that help you remember things, or where you need to find more information.

Follow the tips in the notes column.

You may use highlight pens to show important information and ideas, and think about how this information applies to your work.

You might find it helpful to talk to colleagues or your supervisor.

Finish this learning guide before you start on the assessment.

What you will learn

This topic will help you to:

- understand what a pressure injury is and how they can occur.
- understand how to prevent pressure injuries.
- provide care for a person who is prone to pressure injuries or who has a pressure injury.
- know what changes and observations you must report.

More info

If you have a trainer, they should give you all the forms that you need for this topic.
What is a pressure injury?

The New Zealand Wound Care Society describes a pressure injury as a ‘localised injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, shear, or a combination of these factors.’

It is an area of the skin that has been damaged due to unrelieved pressure, poor blood flow or chafing and rubbing of the skin. It may appear as a red area; however, it could also look blue or purple in darker skin. The skin in the pressure injury area doesn’t blanch, which means go white when pressed with a finger. It may be a break in the skin such as a blister, which may contain blood, or bruise, crack, graze or scrape.

There may be more serious damage under the skin which is difficult to see. A pressure injury is serious and may take a long time to heal. Many pressure injuries are preventable.

Pressure injuries are also sometimes known as bed sores, pressure sores, pressure areas or pressure ulcers.

They can develop in a matter of hours and usually begin with the skin changing colour. Pain or discomfort may occur. If the pressure is not relieved regularly, skin can be damaged. The severity of the damage can range from a blister to a deep open wound.

Pressure injuries are graded according to their severity from Stage I through to Stage IV, as shown later in this learning guide.
Anatomy of the skin

The largest organ of your body is your skin. It is the outer covering that protects your inside parts from the elements and from viruses and bacteria. The skin is also necessary for heat regulation, sensation and making vitamin D.

The skin has two layers, called the epidermis and the dermis:

**Epidermis:** This tough layer of cells is the outermost layer of skin. It gets its toughness from a protein called keratin. The epidermis has five layers. The top layer is made of dead, flat skin cells that shed about every two weeks. The epidermis varies in thickness depending on the type of skin and where on the body it is found. For example, the epidermis on our eyelids is very thin while the epidermis on our palms and the soles of our feet is much thicker.

**Dermis:** This lower layer of the skin contains collagen and elastic fibres that give strength to the skin. This layer is also where the blood vessels and nerves live, giving us sensations of pain, itch and temperature. The dermis is more than 10 times thicker than the epidermis and also varies in thickness from one part of the body to another.

Together the epidermis and dermis form the cutaneous layer. Below this is the subcutaneous layer is the area below the skin. It holds most of the body’s fat, so it varies in thickness from one person to another. It also holds larger blood vessels.

Creases form over joints because the skin always folds the same way as the joints bend. The skin is thinner in those areas and is firmly attached to the underlying structures (muscles and bones) by connective tissue.

More info

The term *subcut* is short for *subcutaneous* and means beneath the skin.
How do pressure injuries occur?

The causes of pressure injuries can be grouped into three main themes.

**Prolonged unrelieved pressure** can occur where the weight of the body can squash the skin and tissues causing damage.

**Shearing** can occur when the skin moves one way and the bone underneath it moves another way. An example of this is when you sit, then slouch. The skin on your back may remain still against the back of the chair, while your spine moves downwards. This may also damage/distort the blood vessels in this layer.

**Friction** occurs when two surfaces rub together, for example, skin rubbing against a chair or bed.

A pressure injury is most often caused by too much pressure on the skin when a person sits or lies in one position for too long. The pressure prevents blood from flowing through the vessels in the dermis and subcutaneous areas.

Common places for pressure injuries include buttocks, heels, inner side of knees, and elbows. However, it is important to remember that there are all sorts of places you can get these types of injuries.

A pressure injury can develop on any soft tissue under prolonged pressure in **as little as one to two hours**.

Pressure injuries usually occur:

- over bony areas, especially heels, buttocks and toes.
- under plaster casts and splints or braces.
- around medical equipment such as IV lines, tubes, monitoring equipment, catheters, masks, and drains, etc.
Common locations for pressure ulcers are shown below.

Although moisture on the skin does not directly cause pressure ulcers, it softens or macerates the skin, making it more susceptible to damage from friction or shearing.

Equally, when skin loses its moisture it becomes dry, flaky and less flexible. This can also make pressure injuries more likely.

Write

For the diagrams below review the pressure injury areas above and document the specific points for practice and preparation.

To macerate is to become soft and separated or to waste away.
Who is at risk of developing a pressure injury?

Pressure injuries tend to occur most frequently in the elderly, the frail and those with limited mobility, for example spinal cord injuries or injuries that require a significant amount of laying, sitting or resting against an object.

A registered nurse (RN) will use an assessment tool to find out if a person is at risk of a pressure injury. There are a variety of tools but the most common are the Braden Scale, Norton Scale or Waterlow Score. For children the Glamorgan scale is often used.

The assessment will include things such as:

- clinical history.
- skin assessment.
- mobility and activity assessment.
- nutritional assessment.
- continence assessment.
- cognitive assessment.
- other external factors.

The following factors make a person more likely to develop a pressure injury:

- having to stay, or spend long periods of time, in bed.
- being in a wheelchair.
- having difficulty moving around.
- spending long periods of time in an armchair.
- having a serious illness that reduces mobility such as COPD.
- being elderly or frail.
- having reduced skin sensation, which could be a result of a stroke, spinal injury or diabetes.
- having poor blood flow.
- if you have had a pressure injury in the past, this area of skin is at risk of further injury.
- having moist or damp skin. These conditions can happen frequently and are usually caused by not drying well after washing, sweating or through incontinence.
- being under or over weight.
- not eating a balanced diet.
- not having enough to drink.
- having medical equipment attached.
How can pressure injuries be prevented?

When planning care and support for a person at risk of pressure injuries, the registered nurse will develop a plan. The care plan may include equipment, aids, timeframes for moving a person and a schedule for completing skin checks.

This should be clearly documented and it is important that you follow the instructions exactly. It is also important that skin checks are completed regularly, as per the plan, and any areas that are red or changed in appearance are reported promptly.

Pressure relieving aids

The registered nurse may recommend any number of aids or pieces of equipment to be used. You must ensure that you receive instruction on how these are used.

For example, heel protection devices should lift the heel completely and distribute the weight of the leg along the calf. The same rule applies when using a foot stool.

The equipment provided may include:

- special mattresses; these mattresses are known as Reactive (constant low pressure) or Active (alternating pressure).
- sheepskins.
- seating support cushions.
- foam, fibre-filled, sheepskin or air filled boots.
- heel protection devices.
Practical support

In addition to these aids and devices, there are practical things that you will need to do to reduce the risk of a person developing a pressure injury. These can be remembered as SKINS.

S – Surface: making sure the person is on a supportive surface.
K – Keep moving: changing the person’s position often.
I – Incontinence: keeping the person dry and clean.
N – Nutrition: encouraging the person to eat healthily and drink frequently.
S – Skin Inspection: checking for discolouration and soreness.

S – Surface

The following are things you can do on a regular basis to ensure the surface is less likely to cause a pressure injury.

• If not using a pressure relieving mattress (alternating), provide pillows between the knees and ankles if the person is in bed for long periods of time.
• Avoid excess bed linen and ensure there are no creases.
• Ensure there are no crumbs in the bed.
• Use clean bed linen.

Consider also pressure that may be applied to toes and lower limbs from bedding, medical devices and surgical stockings. Plastic or synthetic products should be avoided.

K – Keep moving

Encourage the person to keep moving. This means:

• changing position every two to three hours. The care plan may require you to ‘turn’ the person regularly. However, please ensure that you carefully review the personal care plan and follow the instructions. If you do happen to notice something out of the ordinary, report it immediately.
• moving between their back and their side.
• when in a chair, relieving the pressure by leaning forward, or leaning side to side for a few minutes every half hour.
• where possible, going for a short walk. Moving around, walking and stretching can assist with blood flow and muscle tone.

You may need to assist or observe the person moving, to ensure their buttocks or heels do not drag on surfaces that could cause shearing.

When assisting a person to move, use only the moving techniques you have been taught by a health professional.
These techniques are designed to reduce the risk of shearing. Remember to always follow the personal care plan. Before leaving the person, check the positioning of pressure risk areas.

I – Incontinence and dampness

If the person you support has difficulty with continence you will need to:

- keep the person’s skin dry and clean.
- apply incontinence products/pads and change these regularly.
- use protective skin barrier creams; however, again, only as instructed by the RN/care plan.
- be aware of excessive sweating.

Do not leave a person on a bedpan, commode or transferring device longer than required.

N – Nutrition

Ensure the person follows their nutritional plan which will include:

- eating a healthy diet.
- drinking plenty of fluids.

S – Skin inspection

Skin inspections can be naturally carried out when supporting a person with personal care, for example, when assisting them to shower. However, skin inspections must be carried out strictly according to the care plan. This includes:

- checking for any redness over bony areas such as heels, buttocks, elbows, ears and hips.
- taking note of any pain over bony prominences.
- checking areas around medical equipment that lies on or touches the skin.

When supporting personal care, use only skin products that have been specified by the RN or the personal care plan. Important note: Do not vigorously rub the person’s skin.

Any concerns must be immediately reported to the RN. This includes skin that is reddened, cracked, blistered or raw.
Repositioning

When assisting a person to reposition, the following are important points to remember.

- Repositioning should be performed regardless of the support surface the person uses.
- Whenever the person is repositioned assess the person’s skin condition and general comfort. Consult your RN if the person is not responding as expected.
- Reduce friction and shear forces through use of recommended transfer aids.
- Where possible, avoid positioning the person on bony prominences, including heels, where there are existing concerns, including redness, pain and existing sores.
- Ensure heels are free of the bed surface (except when on pressure relieving mattresses) and inspect the skin of heels frequently.

If the person is sitting in an elevated bed, use aids such as pillows that support the upper body. This will reduce additional pressure on the tailbone (coccyx), lower part of the spine (sacrum). Be alert for the person sliding down the bed, which may cause pressure injury to the bottom and heels. If possible, don’t raise the bed head more than 30 degrees for any length of time. Even making a minor adjustment could help relieve the pressure on the sacrum.

- Before raising the head-of-bed, move the person up the bed and raise the knees. This assists in avoiding shear from the person slipping down the bed.
- Consider more frequent, smaller shifts in position for persons who cannot tolerate frequent and/or major changes in body position. If you think that the care plan should be changed, you must consult with the RN. Only an RN can change the plan.
- When seated in non-reclining chairs ensure the person’s lower limbs are supported at right angles, for example, 90 degrees at the hip, knee and foot, where possible.
- When seated, avoid positioning hips at greater than 90 degrees.

If you have any difficulty in assisting a person to reposition, let your RN know. Remember that a pressure injury can occur in as little as one to two hours.
Supporting a person with a pressure injury

Pressure injuries can cause intense pain and increased risk of infection. When providing support for a person with a pressure injury, you will need to follow all of the steps for preventing injury as described earlier. This will assist the RN in ensuring the current injury does not get any worse.

While a person is protecting a certain area of skin due to a pressure injury, this may place more weight on other areas of the body. Skin checks will be extremely important.

An RN is the only person who can provide dressings/wound treatment for a person with a pressure injury; never a support worker. This also means that an RN will be regularly checking the wound and assessing whether it is improving or not. Your job will be to follow the instructions of the RN.

If you notice that the dressing has been disrupted or that the wound has become particularly smelly, you should report this to the RN. You should also report if there is an unusual amount of discharge on or around the dressing. Non-reporting could lead to other serious injuries and infections.
Pressure injury stages

Stage 1 pressure injury

- Skin redness usually over a bony prominence.
- The skin does not go white when pressed (blanching erythema).
- The area may be painful, firm, soft, warmer or cooler compared to adjacent tissue.
- Can be difficult to detect in individuals with dark skin tones.
- Even if a person is not assessed as being at risk of pressure injuries.

A Stage 1 injury may indicate increased risk and so must still be reported immediately.

Stage 2 pressure injury: partial thickness skin loss

This is where a part of the dermis (second layer of skin) is lost. It will present as either:

- a shallow, open wound with a red-pink wound bed or
- an intact or open serum-filled blister
- a shiny or dry, shallow ulcer.
- no bruising or slough is present.

A Stage II pressure injury does not include skin tears, tape burns or grazes.
Stage 3 pressure injury: full thickness skin loss

Full thickness tissue loss.
- Subcutaneous fat may be visible but bone, tendon or muscle is not exposed.
- Slough may be present but does not prevent you from seeing the depth of tissue loss.

A stage III pressure injury can vary greatly from one area to another, particularly those areas with very little skin cover.

Stage 4 pressure injury: 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.
- As with Stage III, the depth can vary greatly, depending on the part of the body.

Stage IV pressure injuries can extend into muscle and/or supporting structures (e.g. fascia, tendon or joint capsule)
Unstageable pressure injury: depth unknown

- Full thickness tissue loss in which the base of the injury is covered by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the pressure injury bed.
- Until enough slough/eschar is removed to expose the base of the wound, the true depth, and therefore the stage, cannot be determined.

Suspected deep tissue injury: depth unknown

- Purple or maroon area of discoloured, intact skin or blood-filled blister due to damage of soft tissue from pressure and/or shear.
- The area may be surrounded 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 tone.

If you are supporting a person with a reddened area of skin that the RN has deemed as not yet at Stage I, you will need to monitor this area closely. Any change in the colour, warmth or feel of the skin could signal that the area has moved to Stage I.

A Stage I injury relates to intact skin. If you notice a change in the skin and you believe it is no longer intact, you must contact the RN immediately as this may indicate that the injury has moved to Stage II.
Reporting and monitoring

Because pressure injuries can occur quickly, your role as an observer is extremely important. Throughout the day, you will have many opportunities to view vulnerable areas of the person’s skin. Early detection of a pressure injury can prevent the injury becoming worse.

When doing skin checks, keep the following in mind:

- pay particular attention to skin overlying bony prominences, including the buttocks, sacrum, heels and hips. Don’t forget the ears on people who are bed ridden.
- because pressure injuries are more difficult to detect in people with darker skin tones, pay particular attention to skin that is warm to the touch, harder than the surrounding skin or filled with fluid.
- observe the skin for pressure damage related to medical devices, for example, braces, splints, tubes, etc.
- ask the person to identify areas of discomfort or pain associated with pressure and pay particular attention to assessment of these areas.

REMEMBER that someone who has a condition which interferes with normal feeling, such as nerve damage from diabetes, may not feel pain or discomfort where a pressure area is developing. That is why it is VITAL that your observation is thorough.

The RN will advise you how to document or report any areas of concern. Any areas of concern must be reported immediately as the injury has a better chance of healing if addressed quickly.

Find out what your organisation’s policy is for reporting pressure injury concerns. Have a look at the wound photos for each Stage and complete a report for each one.
What to look out for:

- Any area of skin that is unusually warm to touch
- Moist, spongy skin or signs of maceration
- Presence of pain
- Reddened areas of skin
- Changes in colour or hardness or skin
- Dry or cracked skin
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<th><strong>Glossary</strong></th>
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