

Pressure Injury Prevention Toolkit

A guide for patients, families and caregivers



Introduction

Pressure injuries, also previously known as pressure ulcers, bedsores, or decubitus ('lying down') ulcers, are wounds to the skin and underlying tissue that typically develop over the bony areas of the body, from prolonged lying or sitting.

This Pressure Injury Prevention Toolkit acts as a guide to what you can do to prevent pressure injuries. The Toolkit contains useful tips, as well as practical tools to assist you in carrying out the recommended best practices in pressure injury prevention.



Visit our '**Pressure Injury Hub**' for more useful information and tips on pressure injury prevention and management.

www.healthhub.sg/pressure-injury

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The Toolkit is categorised into 6 sections based on the acronym **I.N.J.U.R.Y.**



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Constantly wet skin (from urine or faeces) is more prone to skin breakdown. Ensure good personal hygiene, keeping skin clean and dry.

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Use Pressure Relieving Surfaces

Ensure your loved one has the right support surface. Ask a healthcare professional about surfaces that reduce pressure if you/your loved one sits or lies down for long periods.

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Nutrition & Hydration

Good nutrition and hydration makes the skin healthy and more resistant to pressure injuries.

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Prolonged pressure cuts off blood supply to the skin and tissues, leading to damage. Keep moving to help relieve pressure.

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You Should Seek Help

If you notice a change in skin condition and suspect a pressure injury, inform a healthcare professional early. Early treatment is key to pressure injury healing.

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Incontinence Care

Constant exposure of skin to moisture from urine or faeces can cause skin damage. With reduced movement, damaged skin can develop into pressure injuries.

If you/your loved one has incontinence, ask a healthcare professional for advice on appropriate treatment and management.

A suitable incontinence product (e.g. diapers, incontinence pads), or barrier products to protect the skin from moisture damage (e.g. barrier creams, sprays), may be recommended.



There are 3 elements to managing incontinence, and you can remember them using the term **C.P.R.**



Cleanse

Clean skin using water or pH neutral skin cleansers after every episode of incontinence. Dry skin gently and thoroughly after cleansing.



Protect

Barrier products (e.g. barrier cream or sprays) can minimise skin exposure to urine, stool, or excessive moisture. Ask a healthcare professional about the products suitable for you/your loved one.



Restore

If skin is dry, it can be prone to damage. Use a moisturiser or lotion to prevent skin from drying out.

Hints and Tips

- Have a skin care routine with timely cleansing of soiled or wet skin.
- Avoid using heavily perfumed soaps or talcum powder, as they can dry out the skin and make it vulnerable to injury.
- Do not rub or scrub the skin harshly when cleansing.
- Smoothen incontinence pads/diapers to prevent creases; resting on such creases for prolonged periods can cause pressure injuries.
- Do not use oil-based creams. They can reduce absorbency of incontinence products.

Nutrition & Hydration

Eating and drinking well makes the skin healthy and more resistant to pressure injuries.



Eating well

A wide variety of food taken in moderation and in the right balance, provides the nutrients required to maintain healthy skin.

If you/your loved one is at risk for developing a pressure injury, or has an existing pressure injury, it is important to ensure you have sufficient amounts of protein, Vitamin C, and Zinc in the diet.

Protein

Your body needs protein to help build and repair skin and other body tissues. Ensuring you eat enough protein keeps skin strong and promotes healing. Try to include one source of protein (e.g. lean meat, poultry, fish, eggs, dairy, or soy) with each meal.

Vitamin C

Vitamin C is important for wound healing and the formation of new skin tissues. Fruits and vegetables contain a wide range of vitamins and minerals. Some good sources of Vitamin C include oranges, kiwis, berries, tomatoes, and broccoli.

Zinc

Zinc is a mineral that is also involved with wound healing and the formation of new skin tissues. Some foods that are high in zinc include red meat (e.g. beef, mutton), milk and dairy products, shellfish (e.g. crab, prawns), beans and lentils, bread and cereals, and leafy green vegetables.

Drinking well

Dehydration causes skin to become more fragile and prone to injury. In addition to fluid from your food, it is recommended that you drink 6 to 8 glasses of fluids a day (1.5 litres), unless instructed otherwise by a healthcare professional.

An indicator of good hydration is urine that is pale in colour. Dark or strong-smelling urine may be a signal that you are not taking enough fluids.



Additional Considerations

Being overweight, underweight, or having diabetes can increase risk of developing a pressure injury, or poor healing of an existing pressure injury.

Being **underweight** reduces muscle and fat protecting the skin, increasing the chances of pressure injuries developing at the bony areas.

Being **overweight** puts excess pressure on the skin, and the risk of developing a pressure injury is greatly increased if you/your loved one is unable to move about much.

If you/your loved one has **diabetes** and has an existing pressure injury, good blood sugar control is important. High blood sugar levels can affect the function of the red blood cells that carry nutrients to the skin and surrounding tissue, and slow down wound healing.

Speak to a healthcare professional for more advice on diet, weight management, or diabetes control.

Just Move

Prolonged pressure cuts off blood supply to the skin and tissues, leading to damage. Whether you can move around independently or are dependent on others to move you, moving regularly can help reduce the risk of developing a pressure injury.

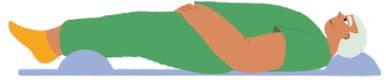


If you/your loved one is bed-bound...

Turning should be done at least 2-hourly, changing positions between the left side, right side, and lying flat. You may use the **'turning clock'** at the back of this Toolkit to guide you when you should perform turning.

1. Lying flat on the back

When lying flat, use a pillow to elevate the heels off the bed to prevent pressure on the heels.



2. Lying facing left/right

When lying facing the sides, place a pillow between the legs to prevent pressure between the knees and ankles.



If raising the head of the bed, avoid raising it more than 30 degrees, to avoid pressure on the tailbone and buttocks.



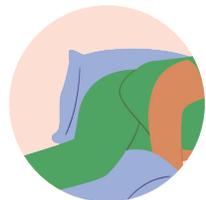
Ways to relieve pressure when lying in bed



Use a pillow to elevate the heels off the bed.



Tilt to the side at approximately 30 degrees, rather than lying completely on the side. Place a pillow between the legs.



If required, maintain the side lying position by supporting the back with a pillow.



If you/your loved one is chair-bound...

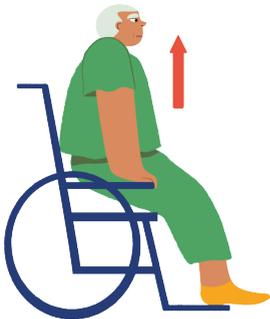
Change positions at least three times each hour when sitting to relieve pressure. Examples of such position changes include:



Leaning to the sides.



Leaning forward and back.



Lifting the buttock off the chair by pushing the body upwards, if you are able to.



If sitting for long periods with feet on a footrest, lift feet off regularly to prevent pressure injuries on the heel.

Frequently Asked Questions

I have a pressure relieving product. Does this mean that I do not need to move?

A pressure relieving product will not eliminate the risk of developing a pressure injury. It is important that you continue to move regularly.

A pressure relieving product is typically designed to reduce pressure while you remain in one position, and will do this effectively for up to two hours. After that, you will still need to move to promote blood circulation, and for your device to regain its shape.

I have an electric hospital bed at home. How can I use it to its full potential?

One of the functions of such beds is to help maintain optimum positioning to prevent pressure injuries.

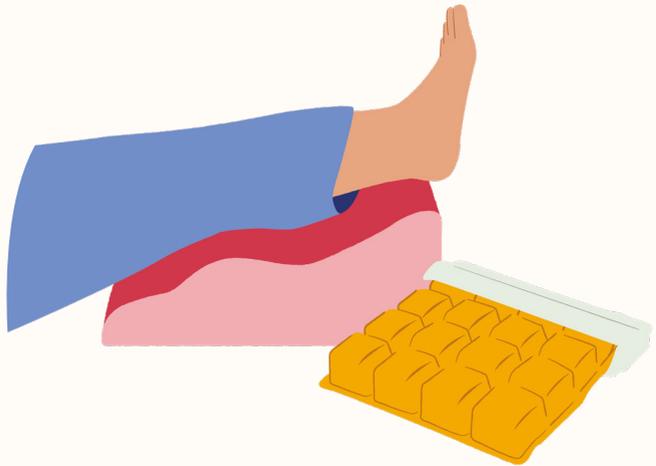
In order to prevent pressure over the tailbone and buttocks, avoid raising the head of the bed more than 30 degrees. If the head of the bed is required to be raised high for certain medical conditions (e.g. difficulty breathing when lying flat) or for enteral feeding, there is a higher risk of a pressure injury developing. Try to adjust the angle at which the head of the bed is raised every hour as tolerated.

In addition, before you raise the head of the bed, you can slightly raise the foot end of the bed. This will help prevent sliding down in bed, which can cause pressure, friction, and shear on the buttocks and feet.

Use Pressure Relieving Surfaces

There are many different types of mattresses, cushions and other aids that can help reduce pressure on the skin.

If you/your loved one sits or lies still for long periods, ask a healthcare professional about suitable products.



*Do note that there are many products on the market which are only for comfort and may be poor at preventing pressure injuries. In addition, products that you sit or lie on (e.g. continence aids) may also increase risk of developing a pressure injury. **Ask a healthcare professional if you have any queries or concerns.***

Examples of products that can help prevent pressure injuries:	Avoid use of the following products:
Memory foam	Rubber rings
Modular foam	Domestic cushions
Dermal pads	Fibre filled heel muffs
Heel protectors/ Heel suspension boot	Fibre filled mattress overlays
Static air cushions	Alternating air cushions
Alternating air mattresses	Sheepskins
	Fleeces
	Foam dressings/plasters

Hints and Tips

- Avoid the use of mattress protectors over a pressure reducing mattress, as they can reduce effectiveness of the mattress.
- Avoid using fitted bedsheets on alternating air mattresses, as they can affect air flow to the mattress and reduce its effectiveness. It is recommended to use a flat bedsheets instead.
- When turning or repositioning, check that the surfaces which you/your loved one is lying on (e.g. clothing, incontinence pads, bedsheets) are free of wrinkles, lines and tubings.
- Check your pressure relieving products/equipment daily to ensure that it is in good working order.
- A concerned relative or friend may buy you a product that they think can help relieve pressure. While this can be helpful, it may also worsen the problem. Always seek advice from a healthcare professional when in doubt.

Reassess Skin Regularly

Checking your skin often will help you know what is normal for your skin, and will help you spot and treat pressure injuries early.

Examine skin for pressure damage at least once a day, or after each turning (at least 2-hourly) if chair- or bed-bound. If using a medical device, remove or move the device at least once a day to assess the skin.



Areas of skin prone to pressure injuries

Pressure injuries can occur at any part of the body, however they often occur at the bony areas of the body, as shown below. **Examples of the most common areas to develop a pressure injury include:**

- **Heels**
- **Back of the head**
- **Buttocks**

How to Check Your Skin

Look for:

- Changes in skin colour such as red, purple, blue, or black skin
 - Redness that does not turn white when light finger pressure is applied
 - Changes in skin texture, such as dry patches, swelling, blisters, or breaks in the skin
-

Feel for:

- Warmer or cooler areas of skin
- Hardness or softness different from the surrounding skin
- Painful or sore areas

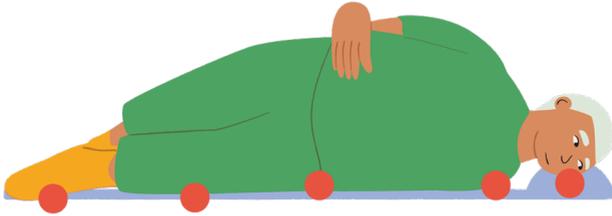
**Regularly assess all areas of skin,
paying attention to areas at risk.**



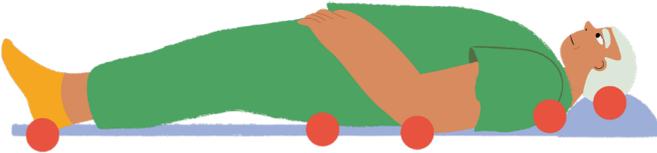
Sitting in a wheelchair



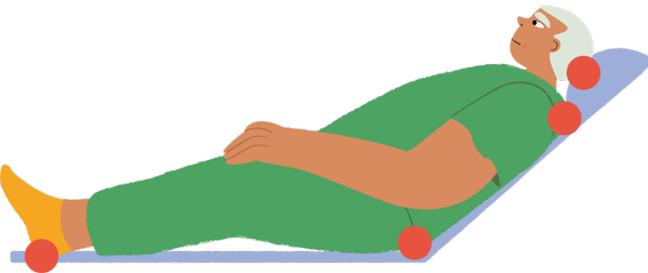
Sitting in a chair



Lying on your side



Lying on your back



Sitting up in bed

You Should Seek Help Early

If you notice a change in skin condition and suspect a pressure injury, inform a healthcare professional early.



Early treatment is key to pressure injury healing. Once a pressure injury worsens, it becomes harder to treat, and can lead to complications, including:

Abscess: A collection of pus

Cellulitis: Inflammation of body tissue, causing redness and swelling

Sepsis: Bacteria entering the bloodstream

Bone and joint infections

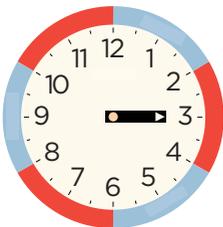
Hints and Tips

- Do not ignore signs of early skin damage (e.g. redness, swelling). With proper treatment, most non-severe (Stage 1, Stage 2) pressure injuries can heal within several weeks to a month.
- Severe pressure injuries (Stage 3, Stage 4, Unstageable, or Deep Tissue Pressure Injury) can take many months or even years to heal, and continued wound care and treatment is important to prevent complications.

 *Clock hand template*
Cut out and fold along white lines

Turning Clock

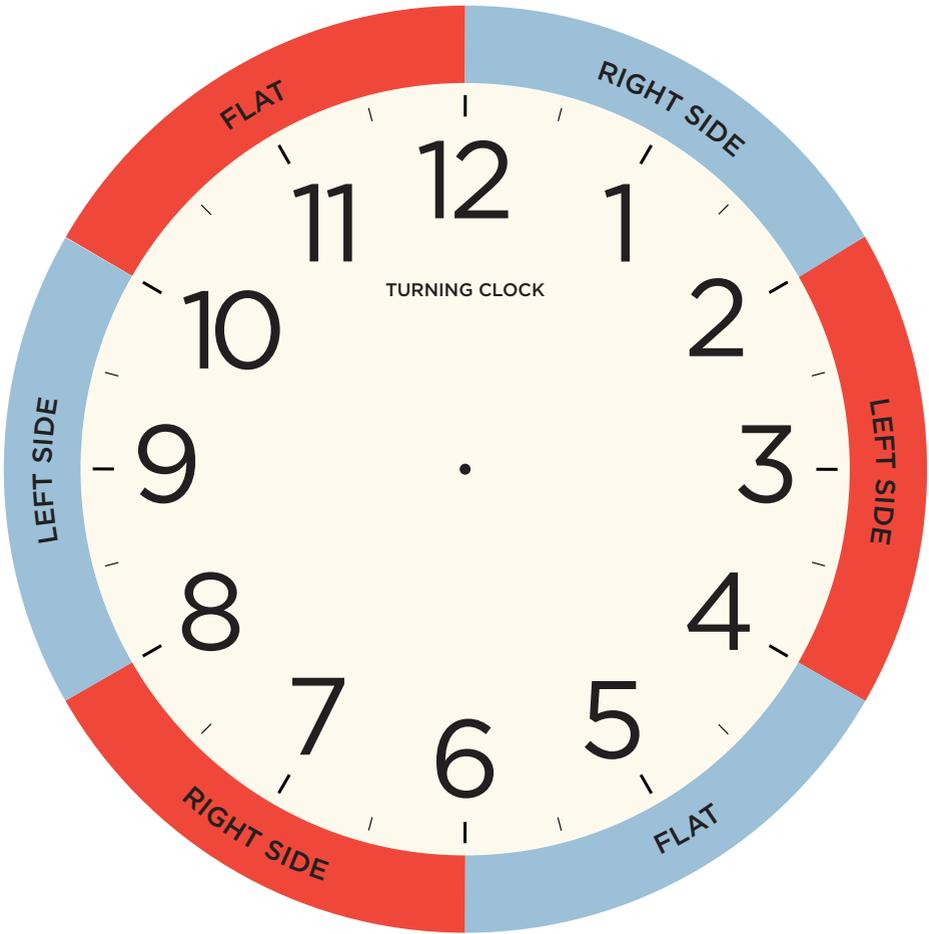
Instructions



Completed clock

- 1 Cut out the clock hand template at the top of the page and fold it in half twice.
- 2 Optional: Cut out the page and cut out the outer ring of the clock face if you would like to rotate and adjust the schedule according to your needs.
- 3 Attach the clock hand to the clock with a paper fastener/split pin so the arrow points to the time.
- 4 Place the clock at a visible location.
- 5 Perform turning at least 2 hourly. At each turn of the bed-bound patient, turn the hands of the clock to point at the next turning time.

 *Cut out this page (optional)*



Turning should be done at least 2-hourly, changing positions between the left side, right side, and lying flat.



MINISTRY OF HEALTH
SINGAPORE

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