

PRESSURE INJURY AWARENESS

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A pressure injury (PI) is a “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 and/or friction” (October 2009 International NPUAP-EPUAP). People often refer to them as bed sores, pressure sores or pressure ulcers. The term ‘pressure injury’ has now been adopted across four countries – Australia, Singapore, and New Zealand, because the term injury reflects opinions that pressure injuries are largely preventable.

In Australia, according to AWMA, (Australian Wound Management Association), pressure injuries present a serious economic and clinical problem and their prevention and appropriate management is essential. Not only are they a huge economic burden to the healthcare system, they have a detrimental effect on clients’ health and wellbeing. Chronic wounds have a huge impact on an individual’s quality of life and many people living with a chronic wound report relentless pain.

In the US, it has been suggested that the estimated cost to the hospital sector is \$11bn a year. The total cost in the UK was estimated at £1.4-£2.1bn each year - 4% of total NHS expenditure. Most of this expenditure cost is nursing hours.

In 2012, Pan Pacific Guidelines for the Prevention and Management of Pressure Injury were launched in Australia. The aim of these Guidelines is to increase awareness amongst healthcare professionals. However, it is important that clients recognize and understand their risk factors for developing pressure ulcers.

Skin Breakdown

Pressure injury development primarily occurs due to disruption of blood supply (microcirculation) to an area, due to excessive pressure being applied to soft tissues. The other factor affecting the development of a pressure injury, as a result of point-pressure, is the ability of both the skin and its underlying supporting structures to endure pressure without adverse outcomes.

A wide range of factors affect tissue tolerance. These are generally organised into two major groups:

- Extrinsic** (primary or management related factors)
- Intrinsic** (secondary or patient-condition related factors)

A risk factor is any factor that either contributes to increased exposure of the skin to excessive pressure or decreases the skin’s tolerance to pressure.

Pressure is a physical force applied to a designated area.

Extrinsic Factors

Extrinsic factors influence tissue tolerance by impinging on the skin surface:

- Shearing forces are generated by forces acting in opposite directions. Force is generated by patient movement through gravity and sliding or by incorrect manual handling.
- Friction is resistance to movement between the patient’s skin and the external support surface. This force acts in a direction that is opposite to patient movement. Abrasions of the epidermis and dermis occur as a result of friction between the skin and the bed surface. Tissues, which are attached to the bone, are compressed, obstructed and torn in both shear and friction situations. Shearing and friction occur when:
 1. The client slides in bed/chair
 2. The client’s bed-head is elevated beyond 30 degrees (the most common cause of shear injury)
 3. The client is pulled across bed/chair as a result of incorrect manual handling, causing friction between the skin and bed/chair’s surface
 4. The client is restless or has limb spasms, leading to friction between the skin and the bed surface.

Moisture alters the resistance of the epidermis to external forces by softening the skin’s surface and reducing its strength. Urine, faeces, and/or perspiration may soften the skin, making it more susceptible to pressure, shear and friction.

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Intrinsic Factors

Intrinsic factors are those factors that influence the skin's supporting structures and/or the lymphatic system and hence reduce the tissue's tolerance to pressure.

- Factors include:
- Nutrition
- Demographics
- Oxygen delivery
- Chronic illness
- Pain
- Medication

Nutrition

Poor nutrition has a significant role in pressure injury development. Deficiencies can result from either decreased intake or malabsorption. Research indicates that the following factors increase the risk of developing a pressure injury:

- Malnutrition
- Low levels of protein/albumin
- Recent weight loss or morbid obesity
- Specific deficiencies such as Vitamin C and zinc

Demographics

Individual characteristics that appear to be associated with increased risk include:

- More than 65 years of age
- Male
- Caucasian
- Multiple co-morbidities
- Previous history of pressure injury

Oxygen Delivery

Decreased supply of oxygen to the area under stress leads to increased risk. Risk conditions include:

- respiratory disorders
- cardiovascular impairment
- smoking

- autonomic dysfunction (spinal cord injury)
- fever or other conditions that lead to increased skin or core body temperature (a rise in temperature leads to a 10% increased demand for oxygen)

Chronic Illness

The following conditions are also an increased risk of pressure injury development:

- diabetes mellitus
- metastatic cancer
- renal impairment

Pain

- Pain can inhibit a patient's movement

Medications

Drugs can have a variety of effects including:

- decreased sensation
- drowsiness leading to decreased movement
- decreased inflammatory response
- decreased peripheral blood pressure.

Therefore, identification of intrinsic risk factors is important when assessing pressure injury risk.

Risk Factors

The following risk factors increase the duration and/or intensity of pressure on soft tissues:

Impaired mobility - Increases the duration of unrelieved pressure, as clients are less likely to be able to reposition themselves and/or change their position as desired.

Impaired activity - Makes people more susceptible to friction and shear forces, as they may be confined to a bed or chair.

Impaired sensory perception - Due to decreased awareness of discomfort, clients are less likely to reposition themselves. This leads to an increased duration of pressure.

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Preventing Pressure Injuries

- Move to relieve pressure
- Look after your skin – keep it clean using a mild cleanser or soap, keep it moisturised, inspect it regularly, particularly if you are unable to feel pressure or have poor circulation.
- Eat a balanced diet of lean meats, poultry, eggs and dairy products. Oily fish like tuna, sardines or salmon help fight infection. Include plenty of fruits, vegetables, wholegrains and cereals in your diet.
- Smoking damages blood vessels – each puff causes the blood vessels to constrict, reducing blood flow.
- Look out for signs of:
 - Red/purple/blue skin
 - Blisters
 - Swelling
 - Dryness or dry patches
 - Shiny areas
 - Cracks/Calluses/Wrinkles

Further Tips

If you have limited movement or are unwell, while you are lying in bed:

1. Turn yourself at least every hour, or more frequently if you are not on a special pressure relieving mattress.
2. Lie on your side on a 30 degree tilt – this takes the pressure away from your tail bone and your hips. Place a pillow in between your legs
3. Make sure you are lifted correctly – not dragged
4. Use a 'slide sheet' for transferring
5. Wear long sleeved clothing and socks
6. Avoid sitting on creases / zippers / buttons

While you are sitting in a chair:

1. Sit upright, support your feet so that your knees are level with your hips
2. Lift your bottom up from the chair every 15mins, for 15 seconds
3. Push yourself up off the chair using the armrests or by lifting one buttock at a time
4. If you are still sliding forward, ask to see an Occupational Therapist who may be able to suggest a way to help you stay upright
5. Lie down during the day to give your bottom a break from the pressure

References

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