



Pressure area care

Learner information pack
and workbook

Name



Public Health
Agency

Introduction

Pressure ulcers/sores are a common problem, which can severely affect the quality of life for individuals. However with good care, most can be avoided, by removing the causes of pressure damage.

For this unit, you need to be able to undertake pressure area care for individuals, following the individual's care plan and risk assessment, as well as relevant protocols and procedures within your work area. The aim is to maintain healthy skin and thus prevent breakdown and the development of pressure ulcers.

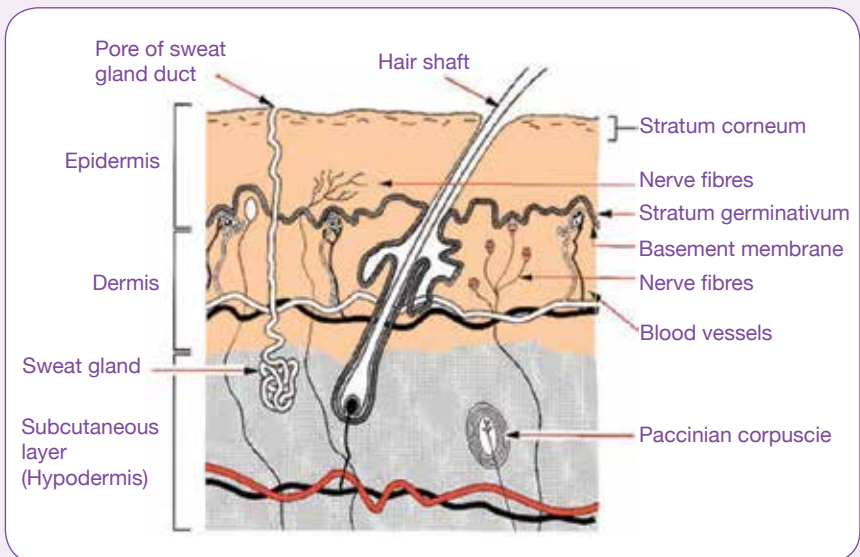
You will learn about the risk factors that make an individual more susceptible to developing pressure ulcers, changes in skin condition to look out for and how to position individuals to reduce pressure. The unit also covers the equipment and materials for maintaining hygiene, moving, handling and positioning individuals as well as pressure relieving aids. It stresses the importance of taking adequate health and safety precautions, providing physical and emotional support and working as a team with other professionals, the individual and their family.

Throughout the unit, you will have the opportunity to demonstrate your learning through activities and questions.

1. The normal structure and function of the skin

The skin is an amazing organ. Measuring around two square meters and accounting for up to 15% of your body weight, it is the largest and heaviest organ of your body. It is made up of three layers:

- **The epidermis** – this is the thin outer layer of the skin that you can see when you look at yourself. It is only about 0.04mm thick and does not have its own network of blood vessels, so that it has to get its nutrients from the underlying dermal layer. Every four weeks the epidermis completely renews itself as the outer cells are worn away and replaced with new ones from underneath.
- **The dermis** – this lies beneath the epidermis, it is about 0.5mm thick and is the active part of the skin. It contains blood vessels, nerves, hair follicles, sebaceous (oil) and sweat glands and lymphatics. The dermis contains collagen, fat and elastin fibres which give the skin its strength and flexibility.
- **The hypodermis** – this is a layer of subcutaneous fat under the dermis. It also contains blood vessels and connective tissue. It forms a protective layer over the underlying organs and structures and also acts as an energy source for the body and provides insulation from changes in the outside temperature.



The skin has several different functions, but its main job is to protect the body. It does this by:

- **Regulating temperature** – when the outside temperature rises, the body is cooled by the production and evaporation of sweat from the skin. Blood vessels in the skin dilate to increase blood flow near the surface of the skin (that's why you go red when you get hot) so that heat can be radiated away from the body. When the outside temperature falls, the skin tries to insulate the body by forming goose bumps, this makes the hairs stand up trapping warm air near the body and the blood vessels contract to limit the heat lost at its surface.
- **Forming a physical barrier** – the skin helps to shield the body from mechanical, thermal or chemical damage. It also protects you from UV radiation, bacterial invasion and stops you becoming dehydrated.
- **Providing sensation** – nerve endings within the skin can detect changes in temperature and pressure. They can also detect vibration and pain.
- **Excreting waste products** – the skin is one way in which the body gets rid of excess heat, water, salts and toxic organic compounds

The skin is considered to be an organ because one of its important functions is to help in the production of Vitamin D. When your skin is exposed to sunlight, the UV rays activate modified cholesterol in the dermis to produce Vitamin D. This is needed to help the body absorb calcium to form healthy bones.

The appearance of the skin is important because if damaged or abnormal in any way, it can affect an individual's body image and quality of life. For example a teenager who develops severe acne may become very self-conscious, lose their confidence and stop socialising.

Finally skin plays a part in communicating with others. Like body language, changes in skin colour (eg blushing), facial expression and body odour can all give clues as to how an individual is really feeling. Sometimes this may be at odds with what the individual is actually saying.

Activity 1

1. What are the three layers of the skin? Briefly describe each one.



2. Name four protective functions of the skin



3. Why is the skin considered to be an organ?



2. How pressure ulcers develop

Pressure ulcers, often called bed sores, can be a problem for individuals in a hospital or care setting. They develop when pressure, shear or friction to the skin and the underlying soft tissues closes or damages local capillary, venous or lymphatic networks. The cells around the closed vessels die and if the pressure is not removed, the damage will spread.

The severity of the damage can range from reddening of the skin, to large cavity wounds with damage to muscles and even bones.

Damage may be caused by:

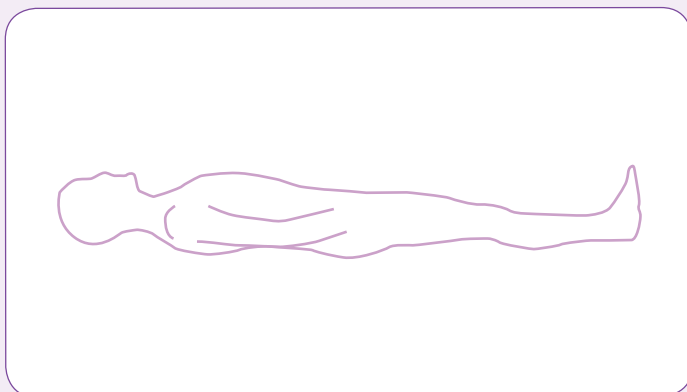
- low pressure for prolonged periods (eg lying in bed for hours without moving)
- high pressure for relatively short periods of time (eg rough handling when being moved or lying on the floor following a fall)
- pressure from equipment being used to monitor or treat an individual (eg urinary catheter, oxygen tubing).

The most common sites for pressure ulcers to develop are:

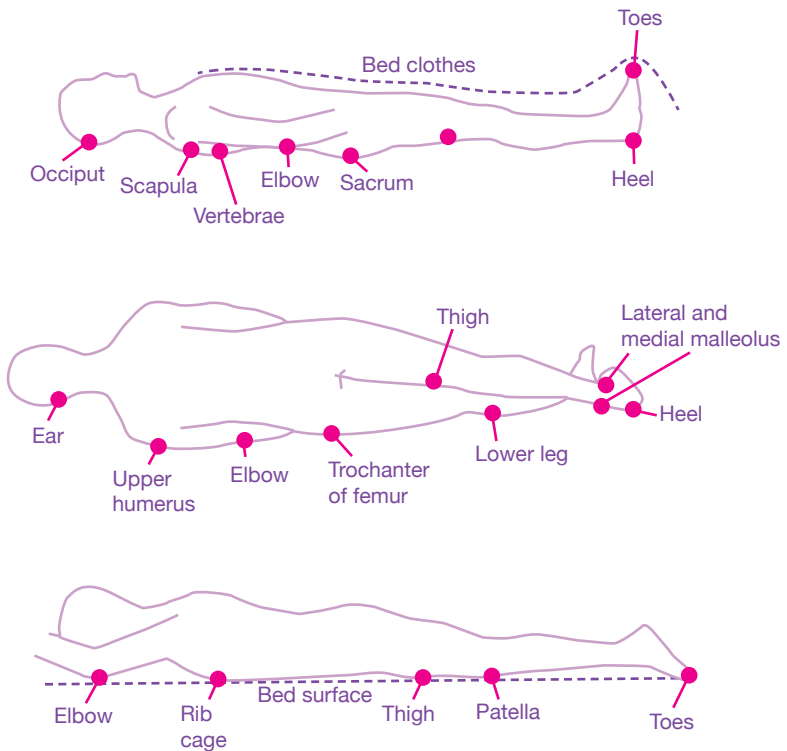
- the sacrum (the curved triangular bone just above the buttocks) - accounts for over 30% of all pressure ulcers;
- the heels – accounts for 25-30%;
- the ischial tuberosities (buttocks) – accounts for around 10%.

Activity 2

Draw on the figure to show where you think the pressure areas would be on a person lying in bed on their back.



Common pressure areas



3. The importance of using pressure ulcer damage risk assessment tools

Individuals who are confined to a bed or wheelchair, or who spend a long time sitting each day are particularly prone to developing pressure ulcers. However some individuals are more at risk of developing pressure ulcers than others, and a number of factors have been identified as being important in predicting who is most at risk. There are now several risk assessment tools available to help you identify who will need most preventative care. A good risk assessment tool should look at both the intrinsic and extrinsic risk factors.

Intrinsic risk factors – these are factors to do with the individual and include:

- **Age** – those over 65, neonates and very young children are at highest risk.
- **Health** – if the individual is unwell, they are at increased risk. Acute illness can cause changes in the body's normal functioning eg raised temperature, low blood pressure, constriction of the blood vessels. Chronic or terminal illness may result in reduced mobility or poor circulation. Certain medications can also increase the risk, eg by increasing sedation.
- **Level of consciousness** – if the individual becomes unconscious, he or she will not be able to change position to reduce pressure eg following surgery.
- **Weight** – obese individuals are more at risk, because there is more weight on the pressure points – underweight individuals are also more at risk.
- **Nutritional status** – those who are malnourished or dehydrated are at most risk. Poor nutrition can affect the elasticity of the skin and its ability to fight infection.
- **Previous history** – individuals who have suffered from pressure damage in the past are more likely to develop pressure sores.
- **Mobility** – patients who have reduced mobility or are immobile are most at risk, because they are less able to relieve pressure by moving position.
- **Sensory functioning** – individuals with sensory impairment (eg those unable to sense pain due to nerve damage or spinal injury) may not receive the stimulus to move to relieve pressure and are at greater risk.
- **Urinary or bowel incontinence**
- **Vascular disease** – individuals with poor circulation due to damaged or partially blocked blood vessels are at increased risk of pressure damage. This is due to reduced blood volume and reduced flow of blood in the arteries and capillaries supplying the skin and underlying tissues.

Extrinsic risk factors - these are factors to do with the surrounding environment eg

- **Amount of pressure** – eg from tubing (urinary catheter, oxygen tubing)
- **Type of pressure** – eg from being moved across a bed
- **Duration of pressure** – eg how long the individual remains in the same position
- **Level of care available** – eg patient's care package and family support
- **Type of mattress** – using low pressure foam mattresses may reduce the risk
- **Design of seat or wheelchair**
- **Education** – showing individuals how to sit correctly and explaining why frequent repositioning is important can reduce the risk
- **External influences upon the skin** such as urine, faeces, starch from sheets, perfumes etc

Risk assessment tools, combined with clinical judgment of the nursing staff are used to formulate the individual's care plan to prevent pressure ulcers developing and to treat or manage any already present.

The Registered Nurse will carry out a risk assessment when a patient is admitted under their care.

Activity 3

Mr Brown is 67, weighs more than he should (15 stone when his height is only 5ft 7ins), he has a history of high blood pressure and is recovering from a hip replacement operation.

1. What are the factors that put Mr Brown at risk of developing pressure ulcers?



Mrs Smith is 75; she is in the terminal stages of breast cancer and is confined to bed. She finds it difficult to eat, and needs diamorphine to help control the pain. Unfortunately this medication makes her very drowsy and she spends much of the day drifting in and out of consciousness.

2. What are the factors that put Mrs Smith at risk of developing pressure ulcers?



3. Who do you think is more at risk and why?

A large rounded rectangular box with a purple border, containing six horizontal dotted lines for writing.

4. The prevention and management of pressure ulcers

The best way of preventing pressure damage from starting or getting worse is to remove the cause. This can be done by:

- **Getting individuals mobile again** – so that they can change position by themselves
- **Making sure that individuals are regularly repositioned** to relieve pressure over bony prominences
- **Keeping time spent on the damaged area to a minimum**
- **Using a suitable support surface** such as a foam mattress or a well-designed and adjustable chair or one of the many types of pressure reducing aids available
- **Keeping the skin clean and dry** using simple non-perfumed products for washing the skin
- **Taking precautions** to prevent infection
- **Moving and handling individuals with great care** to prevent friction, abrasion or stretching of the skin
- **Educating patients** on how to avoid damage

Prevention

- **Two important aspects of your job** in preventing pressure damage will be skin inspection and repositioning.
- **Skin inspection** – this is the best way of identifying whether pressure damage could become a problem. Ideally the individual should inspect their own skin regularly for any changes, but this is not always possible and you may have to carry out the inspection for them. This will involve checking the skin over bony prominences (eg the heels, sacrum, buttocks) and any other areas likely to be affected by pressure. The signs of early pressure damage that you should look out for are:
 - Non-blanching erythema** – this is redness of the skin (erythema) which does not go white (blanche) if you apply light finger pressure. The skin may also feel warm to the touch, show signs of oedema (swelling) or become hard.
 - Blisters** – blisters over a bony prominence indicate that the epidermis has become separated from the underlying dermis
 - Discolouration** – in the early stages the skin usually becomes red. However watch out for other discolouration which may indicate that significant damage has already occurred. If the skin appears more blue, purple or black, it could mean that there is more extensive damage below the surface of the skin. In particular if the skin is black with a hard or leathery covering it indicates that tissue necrosis (death) has occurred and the individual has a severe pressure ulcer. It is more difficult to see early signs of pressure damage in dark or heavily pigmented skin, which may appear purple or blue rather than red.


Repositioning

- **If possible the individual should be encouraged to reposition themselves** whenever they begin to feel uncomfortable. However if this is not possible, or practical, you will have to carry out regular manual repositioning.
Frequency – in the past repositioning the individual every two hours was recommended, but there is no evidence to support this practice. It is better to be guided by the appearance of the skin and the needs of the individual. However if the individual is at high risk, then sitting in a chair should be restricted to less than two hours.
- **Support surfaces** – it is important to choose an appropriate support surface when repositioning individuals.
- **Mattresses** – There are many beds and mattresses which claim to reduce pressure, however the only recommendation that can be made based on current research is that low-pressure foam mattresses should be used rather than standard hospital mattresses.
- **Pressure relieving equipment** – be aware of pressure relieving/reducing mattresses/cushions provided for the patient and ensure correct use of the same.

- **Heel protectors** – observe heels closely for pressure damage and report any skin changes.
- **Other aids** – there are many aids available claiming to help reduce the risk of pressure ulcers. However none of these have been scientifically proven to help and indeed some may even make things worse. In particular you should not use:
 - ring cushions or other doughnut shaped devices;
 - synthetic sheepskins;
 - water-filled gloves.
- **Alternative positions** – there are many repositioning alternatives. One of the most popular is the lateral (sideways) 30° tilt. The body is positioned using pillows to reduce pressure over the bony prominences.
- **The advantages are that repositioning** can be carried out regularly with minimal disturbance to the patient and less risk of back injury for the carer. However, so far there is little research to say that this method is effective in preventing damage.

Activity 4

1. List five things you can do to help prevent pressure damage



2. What are the three most common early signs of pressure damage?



5. Health and safety when carrying out pressure area care

There are two main areas of concern for health and safety when carrying out pressure area care:

Infection control

It is very important to prevent any areas with pressure damage becoming infected. You can help to prevent the spread of infection by taking standard precautions at all times:

- **Washing your hands** is the most important method of preventing and controlling the spread of infection. Wash your hands thoroughly before and after carrying out pressure area care
- **Wearing disposable gloves and aprons**
- **Wearing a new pair of gloves for each patient** and washing your hands thoroughly after glove use and between individuals
- **Only disturbing the wound and dressing** if really necessary
- **Making sure the pressure ulcer is covered with a dressing** to minimise the risk of airborne cross-infection
- **Disposing of dirty dressings with care** in the correct container
- **When treating multiple ulcers on the same individual**, attending to the most contaminated ulcer last (eg in around the anus).

Moving and handling

Moving and handling injuries are unfortunately fairly common in any care setting. There is a risk both to the carer and the service user. To reduce the risk of moving and handling injuries when carrying out pressure area care, you should carefully follow the procedures specified by your workplace. These should include:

- **Using correct techniques** for moving and handling
- **Checking your position and posture** throughout the move
- **Using hoists or other technical moving and handling aids** wherever possible
- **Encouraging individuals to move more** by themselves
- **Getting help if the individual is too heavy** or the position is too awkward for one person to manage
- **Using the lateral 30° tilt to reposition** individuals lying in bed as this lowers the risk of back injury for the carer
- **Taking particular care when moving vulnerable individuals** across a bed or cushion to prevent abrasion of the skin due to friction between the skin and the mattress or cushion. Any abrasion can make superficial pressure ulcers worse especially if the individual's skin is moist or wet due to sweating or incontinence.

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

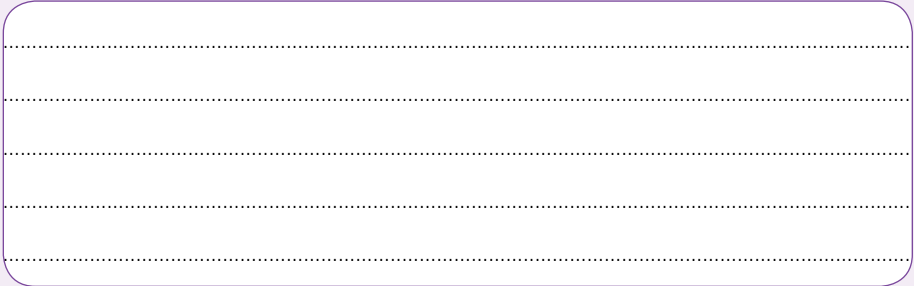
It is impossible for any carer to monitor an individual for pressure damage 24 hours a day. That's why it is important that you encourage individuals to be involved in their own pressure area care. You can do this by:

- explaining the importance of pressure area care
- educating them on the signs of pressure damage to look out for
- making sure they know what to do if they suspect pressure damage
- getting them to regularly check the condition of their skin
- if possible reminding them to frequently reposition themselves
- stressing the need for them to maintain a high standard of hygiene to keep skin clean and dry
- explaining the importance of eating a healthy diet and drinking enough water
- helping them to become mobile again as soon as possible eg by using mobility aids or exercise.

Activity 6

Put together a sheet of information that you could give to individuals to encourage them to be involved in their own pressure care. You can use the following headings to organise the information:

1. What is pressure damage?



2. Why is pressure area care important?




3. How often do I need to check my skin?




4. What signs should I look out for?



5. What should I do if I suspect pressure damage?



6. How should I look after my skin?



7. What else can I do to prevent pressure damage?





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