Working together to prevent pressure ulcers
(prevention and pressure-relieving devices)

Understanding NICE guidance – information for people at risk of pressure ulcers, their carers, and the public

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About this information

This information is for people who are vulnerable to developing pressure ulcers (also called pressure sores, bed sores or decubitus ulcers), though it may also be useful for family members and those who care for people vulnerable to developing pressure ulcers. The recommendations described here apply wherever you are being cared for, whether in your own home, in hospital, or in a care home. They explain what action you can expect from your healthcare team to prevent pressure ulcers, and also what you or your carer can do to help to prevent them.

The information given here does not cover treatment of pressure ulcers. If you want to find out more about pressure ulcers, NHS Direct Online may be a good starting point (www.nhsdirect.nhs.uk).

This information is based on clinical guidelines produced by the National Institute for Clinical Excellence (called NICE for short) for doctors, nurses and others working in the NHS in England and Wales. These guidelines make recommendations on how the risk of a pressure ulcer can be assessed and how pressure ulcers can be prevented by using devices designed to reduce pressure, such as mattresses and overlays. You can find out more about clinical guidelines at the end of this information.

Terminology

People may be cared for by a relative or a friend when they are ill, while others may have paid care workers or nurses to look after them. In this information, the word ‘carer’ means unpaid carers, such as friends or relatives, not paid care workers.

The words ‘pressure-relieving’ are used in this information to describe any device that either spreads out the pressure or removes pressure regularly from different parts of the body. (They may also be called 'pressure-reducing' or 'pressure-redistributing' devices.)
About pressure ulcers

Pressure ulcers are areas of damage to the skin and underlying tissue.

Pressure ulcers may develop very quickly in some individuals if they are immobile even for a very short period of time. This can happen in less than an hour in very susceptible people.

Without care, pressure ulcers can be very serious. They can damage not just the skin, but also deeper layers of tissue under the skin. Pressure ulcers may cause pain, or mean that you have to stay longer in hospital. Severe pressure ulcers can destroy the muscle or bone underneath the skin, so they can take a very long time to heal. In extreme cases, pressure ulcers can become life-threatening. They can become infected, sometimes causing blood poisoning or bone infections.

The only way to prevent a pressure ulcer is to keep all pressure off the body.

Grading pressure ulcers

Pressure ulcers can be graded to describe how much damage to skin and underlying tissue has occurred.

• In a stage 1 pressure ulcer, the skin is unbroken but looks red after the pressure is relieved.

• In a stage 2 pressure ulcer, the skin (but nothing below the skin) is damaged and looks as though the area has been rubbed hard, like a blister.

• In a stage 3 pressure ulcer, all the layers of skin are damaged, together with tissue under the skin (but not bone, tendons or joints).

• In a stage 4 pressure ulcer, the skin and underlying tissue is extensively damaged together with muscle, bone, tendons or joints.
What causes pressure ulcers?

Pressure ulcers can be caused by one or more of these factors:

- pressure – in vulnerable people, body weight can compress skin and other tissues and damage the blood supply to the area, which can lead to tissue damage. The pressure points on the body depend on whether you are sitting or lying down, and in what position you are lying (see diagrams).

- shearing – the upper layers of skin can be forced away from deeper layers, for example when you slide down, or are dragged up, a bed or chair, or when you are transferring to and from your wheelchair.

- friction – poor lifting and moving techniques can remove the top layers of skin; if this happens the risk of developing pressure ulcers is increased.

Usually, people can relieve the effects of pressure, friction or shearing, by moving around, changing position and adjusting clothing and bedding. If you are unable to do this, you may be vulnerable to pressure ulcers.

Why you may develop pressure ulcers

You may be more likely to develop pressure ulcers for a number of reasons (called risk factors), some of which are listed here.

Problems with movement

Your ability to move may be limited or you may be unable to move, for example if you have a spinal cord injury or a long-term illness such as osteoarthritis. People who are unconscious, having a long operation or the very young or very old may also be unable to move.
Problems with sensitivity to pain or discomfort

Some conditions, for example diabetes or stroke, may reduce your sensitivity to pain or discomfort so that you are not aware of the need to move.

Poor circulation

Poor circulation caused, for example, by heavy smoking, may increase the likelihood of pressure ulcers developing.

Moist skin

If you have damp skin caused, for example, by incontinence, sweat, or a weeping wound, your skin may be damaged more easily by pressure.

Pressure ulcers in the past

Scar tissue, for example from a previous pressure ulcer, is weaker and more prone to further damage.

Poor diet or fluid intake

If your diet is poor or you do not drink enough water, you may become malnourished or dehydrated. As a result, you may lose too much weight, which can reduce your padding over bony points (see diagrams).

Assessing your risk

To work out how likely you are to develop pressure ulcers, a member of the healthcare team looking after you will examine you and ask you some questions. From this assessment, you may be described as being ‘vulnerable’ or ‘at elevated risk’ of pressure ulcers. In this information, these words are used as follows:

- ‘vulnerable’ means someone who is likely to develop pressure ulcers without special care

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- ‘at elevated risk’ (or ‘at higher risk’) means someone who is especially likely to develop pressure ulcers without special care.

An assessment should be performed wherever you receive care, by a person who has been specially trained to assess pressure ulcer risk and identify vulnerable patients.

The sort of questions you will be asked may be about your previous experience of pressure ulcers, your comfort levels when sitting, sleeping, resting, or being moved, and how well you are. If you or your carer are aware of a risk, or if you have previously been assessed as being vulnerable to pressure ulcers or at elevated risk of pressure ulcers, you should tell your carer or a member of your healthcare team as soon as possible. You should also tell them about any previous experience you have had with pressure-relieving devices (such as special mattresses, overlays and cushions).

When the assessment takes place will depend on your individual circumstances and condition, but if you are admitted to hospital it should take place as soon as possible (within the first 6 hours). The results of the assessment should be noted in your healthcare records. If your condition or circumstances change over time, you should have another assessment.

What you can expect from your healthcare team

If your assessment shows you are vulnerable to pressure ulcers, your healthcare team should draw up a care plan to help prevent the development of a pressure ulcer. The care plan should be discussed with you and/or your carer, written into your healthcare records, and put into action shortly after the examination.

You and your carer should be fully informed about your care and be involved in decisions about your care. The healthcare team that looks after you should respect and take into account your knowledge and experience, especially if you have been vulnerable to pressure ulcers for a long time.

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Skin inspection

Your skin, particularly areas that may be vulnerable, should be inspected regularly by your healthcare team. How often that happens will depend on your condition.

If you are willing and able to do so, healthcare staff can also teach you and your carer how to inspect your own skin.

Signs of possible or actual damage that can be seen are:

- purplish/bluish patches on dark-skinned people
- red patches on light-skinned people
- swelling
- blisters
- shiny areas
- dry patches
- cracks, calluses, wrinkles.

Signs that can be felt are:

- hard areas
- warm areas
- swollen skin over bony points.

If you or your carer notice possible or actual signs of damage, you should tell someone in your healthcare team immediately – one of the nurses if you are in hospital or a care home, or your district nurse or GP if you are at home.
Positioning and relieving pressure

Your healthcare team should advise you and your carer on how best to relieve or reduce pressure on areas of your skin that are vulnerable to pressure damage. The advice should include:

- correct sitting and lying positions
- how to adjust your lying or sitting position
- how often you need to move or be moved (depending on what your skin looks like and how comfortable you are)
- supporting your feet
- keeping good posture
- which equipment you should use and how
- how you can avoid pressure, such as by making sure bedding is free of creases, that clothing does not have thick seams, that you avoid lying or sitting on zips, studs and buttons, and that shoes and socks are not too tight.

If you need help to move, staff looking after you should move you regularly (or your carer, if you are being cared for at home). How often you are moved and to what position will depend on your level of vulnerability, and should be agreed with you and recorded in your healthcare record. You should be moved according to what is suitable for your situation. If you are uncomfortable at any time, you should tell the staff who are looking after you.

Staff may use special lifting equipment, which should be removed once it has been used to move you.
Using pressure-relieving devices to prevent pressure ulcers

Pressure-relieving devices (such as high-specification foam mattresses and overlays) mould or contour around the body, spreading the weight and relieving pressure over bony areas that are at risk of developing pressure ulcers. Some of the more complicated 'high-tech' pressure-relieving devices may remove pressure from different areas of the body at regular intervals or have a fan which provides inflation to adequately support the patient.

[Diagrams of beds/mattresses will be placed below]

Various types of pressure-relieving devices are available, including beds, mattresses and overlays. The recommendations made by NICE focus mainly on mattresses and overlays, because there isn’t enough evidence to recommend which beds are the most effective for preventing pressure ulcers.

You may be advised to use a special seat cushion to relieve pressure when you are sitting. However, no one particular type of seat cushion has been shown to be better than any others.

You should not use water-filled gloves, man-made (synthetic) sheepskins, or ring cushions as pressure-relieving aids, as they may be harmful.

Assessing your needs

Before you are given a pressure-relieving device, you should have a holistic assessment of your need for a pressure-relieving device which takes into account:

- your comfort
- your general health
- your lifestyle and abilities
- any specific care needs that you have
• your ability to move independently

• your preferences and previous experiences of pressure-relieving devices

• your skin assessment

• how vulnerable you are to pressure ulcers.

You should be assessed at regular intervals, depending on your condition and your level of risk.

Choosing the right pressure-relieving device

It is very important that you are given the right type of pressure-relieving device to suit your needs. This depends on how vulnerable you are to developing pressure ulcers.

If you are vulnerable to pressure ulcers

If your holistic assessment shows that you are vulnerable to pressure ulcers, you should be placed on a mattress specially designed to relieve pressure. These are made from high-specification foam and vary in size and thickness. They are used on beds, trolleys and operating tables, and are easily shaped for particular bony points, for example heels and heads. Thicker foam overlays are better at relieving pressure than thinner foam overlays or standard, ‘old-fashioned’ hospital mattresses, which have few pressure-relieving properties.

The healthcare professional looking after you should explain why you are placed on this mattress (or on any other device). In some hospitals, these special mattresses may be available automatically for everyone. In other hospitals, only people vulnerable to pressure ulcers may be placed on them.

If you are at home or in a care home and are vulnerable to pressure ulcers, you should ask your healthcare professional how long it will be before you are given one...
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of these mattresses. You should take extra care to reposition yourself regularly until the pressure-relieving device arrives.

If your condition changes for any reason, then the mattress, bed or overlay on which you are being cared for may also need to be changed.

**If you are at elevated risk of pressure ulcers**

If your holistic assessment shows that you are at elevated risk of developing pressure ulcers, you may be placed on a different type of mattress or overlay. This may be described to you as an alternating pressure, low-air-loss, or other ‘high-tech’ mattress (see page 9). People at elevated risk, who are cared for on high-tech mattresses, suffer fewer pressure ulcers than those cared for on standard, ‘old-fashioned’ mattresses. Your healthcare professional should explain to you why you have been placed on this mattress and how it works. If you are at home, you should be given information on its correct use and who to contact if you have any difficulty managing the device or if you feel it is uncomfortable.

**If you are having surgery and are vulnerable to pressure ulcers**

If your holistic assessment shows that you are vulnerable to pressure ulcers and you need an operation, you should be placed on a special mattress or overlay designed to reduce pressure while you are in the operating room. This is because people who are vulnerable suffer fewer pressure ulcers after their operation if they lie on a pressure-relieving device during the operation.

When you leave the operating room, you should be cared for on a pressure-relieving device (mattress or overlay) in the wards. This ensures that your care on the ward is the same as the care you have received during your operation.
How you should be managed when you are using a pressure-relieving device

Even when you are using a pressure-relieving device, there is still a chance that you may develop pressure ulcers. You and your healthcare team still need to follow the guidelines on preventing pressure ulcers discussed earlier in this document and also be aware of the principles below.

You should be regularly moved

If you are vulnerable to pressure ulcers and are using a pressure-relieving device of any sort, it is important that you are regularly repositioned. The same things as stated in the earlier section 'positioning and relieving pressure' apply here. In addition:

- your need for repositioning whilst on a pressure-relieving device should be assessed and reviewed regularly
- it may be necessary to change your pressure-relieving device and how often you are moved.

You should have a 24-hour pressure relief plan

You, your carer and your healthcare team should consider your pressure relief needs throughout the day and night. This should include your pressure relief needs in different situations, for example when you are at home, in hospital, or travelling. As well as a special mattress, you may need pressure relief while you are sitting, using the toilet and showering. Even with suitable pressure relief, you may have to limit the time that you sit during each 24-hour period until your risk level lowers.

Your Healthcare Trust should have a coordinated plan for providing pressure-relieving devices

Various healthcare professionals, such as doctors, nurses and therapists, may be responsible for providing pressure-relieving devices to people who need them. Your
Healthcare Trust should have a policy that ensures you do not have to wait long to be provided with the devices that you need, wherever you are being cared for.

Your healthcare team should be able to tell you when you will receive your pressure-relieving device. While you are waiting for it, they should tell you about others ways of avoiding pressure ulcers. When you have received your pressure-relieving device, someone from your healthcare team should explain to you how to get the most benefit from it.

**What information and training you should receive**

Your healthcare team should offer you and your carer information or training on how to prevent pressure ulcers yourselves. They should provide information and advice on:

- why you may be vulnerable to pressure ulcers
- areas of your skin that are most vulnerable to pressure damage
- how to inspect your skin and recognise skin changes
- how to care for your skin
- how you can relieve or reduce pressure
- which pressure-relieving devices to use
- seeking professional advice as soon as you notice signs of pressure
- where to seek further advice and assistance if you need it.

**Further information**

You have the right to be fully informed and to share in making decisions about your healthcare. If you have any questions about your health or the health of your family or a friend, speak to your GP. If you or a friend or relative has been assessed as

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being vulnerable to pressure ulcers and you have questions about the information here, or about treatment and healthcare in general, talk to a member of your (or your friend’s or relative’s) healthcare team. Tissue Viability Nurses are specially trained in pressure ulcer care. In addition, further information is available from NHS Direct (which you can access on the Internet at www.nhsdirect.nhs.uk or by telephone on 0845 4647).

Advice and assessment of your need for pressure-relieving devices may be available from your local physiotherapy or occupational therapy department.

More about clinical guidelines

Clinical guidelines are recommendations for good practice. The recommendations in NICE guidelines are prepared by groups of health professionals, patient representatives with experience or knowledge of the condition being discussed, and sometimes scientists. These groups look at the evidence available on the best way of treating or managing a condition and make recommendations based on this evidence.

There is more about NICE and the way that the NICE guidelines are developed on the NICE website (www.nice.org.uk). You can download the booklet The Guideline Development Process – Information for the Public and the NHS from the website and the two Clinical Practice Guidelines (Pressure Ulcer Risk Assessment and Prevention (Guideline B) and Pressure-Relieving Devices: the Use of Pressure-Relieving Devices for Prevention of Pressure Ulcers in Primary and Secondary Care) on which this booklet is based from the website, or you can order copies free of charge by phoning 0870 1555 455.

How guidelines are used in the NHS

In general, health professionals working in the NHS are expected to follow NICE’s clinical guidelines. But there will be times when the recommendations won’t be suitable for someone because of his or her specific medical condition, general
health, wishes, or a combination of these. If you or your carer think that the care you receive does not match the care described here, you should discuss your concerns with someone from your healthcare team, such as your doctor, nurse, physiotherapist, or occupational therapist. If you feel that you have a cause for complaint, your Healthcare Trust will have a complaints procedure.
Diagram 1: Common sites for pressure ulcers. Diagram courtesy of the Tissue Viability Society.

As you may have observed, most pressure sores occur over a bony prominence.
Diagram 2: Common sites for pressure ulcers. Diagram courtesy of the Tissue Viability Society.