Assessing and grading pressure ulcers

Pressure ulcers, commonly known as pressure sores (ulcers is the term preferred for European consensus) present an all too familiar problem to most nurses. Overall prevalence has been reported to be between 5 and 19 per cent (Gerhardt 1995). They can result in much pain and discomfort and greatly hinder the rehabilitation process following illness or injury.

Pressure ulcers are areas of localised cellular damage to the skin and underlying tissues caused by pressure, shearing and frictional forces. They usually occur over bony prominences such as sacrums, heels and hips and are graded according to the amount of damage caused to the tissues (NHS CRD 1995).

Pressure applied to the skin causes local capillary occlusion which results in ischaemia and tissue necrosis, which has been described as a Type one pressure sore (Barton and Barton 1981). Prolonged pressure can also be experienced internally, between bony prominences and soft tissue, which results in ischaemia and necrosis. This has been described as a Type two pressure sore and is said to occur in acutely ill patients. Short periods of high pressure can be equally as damaging as long periods of low pressure (Krouskop et al 1978).

1. PATIENT ASSESSMENT

It is essential to be able to recognise the first signs of tissue damage and act rapidly once they have been identified. Early signs are fixed red marks that do not fade (erythema). These may blanch if gentle finger pressure is applied which shows that the microcirculation remains intact; non-blanching erythema indicates the reverse. Assessment on dark skin types is difficult, so nurses should observe for changes in skin temperature, swelling or discomfort.

A thorough assessment is essential prior to drawing up a treatment plan. This should include examination of the wound bed and of the patient him or herself - treatment will not be effective unless it is also aimed at improving the patient's general condition.

Other factors that need to be considered in assessment are:
- Removing the pressure and shearing forces causing the damage, using pressure relieving equipment and an appropriate patient mobility programme
- Nutrition - nutritional status of patients with a pressure sore has been shown to be poor (Lewis 1996), with deficiencies of protein, vitamin C and zinc, all essential to wound healing (Rollins 1997) being noted
- Continence
- Physique
- Infection
- Stress
- Immunosuppressant drugs
- Sleep
- Drug therapy
- Ageing.

2. GRADING

It is important to determine the degree of damage that has been caused. A grading score should be used and included in any initial assessment to provide a baseline measurement (Healey 1995). This should be reviewed regularly, at least weekly. The grade of sore may change as healing occurs or, in some instances, increase as the full extent of the pressure damage manifests itself following debridement.

3. WOUND ASSESSMENT

Additional information concerning the local wound environment is also required in order to form a baseline from which an effective treatment plan can be formulated and progress monitored. This information will also encourage effective communication between care providers to ensure continuity of monitoring and care. Table 1 illustrates the major factors that need to be assessed.
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### TABLE 1 Criteria for pressure sore assessment

<table>
<thead>
<tr>
<th>Site of sore</th>
<th>This will influence the type of dressing and method of securing. Has all pressure been relieved from this site?</th>
</tr>
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<tbody>
<tr>
<td>Size of wound</td>
<td>This should include measurements of width, length and depth. Photographing and/or tracing using a sterile acetate sheet should also be undertaken weekly in order to gauge the healing rate. Check for presence of a sinus but do not probe the base of the wound with any blunt or sharp instruments.</td>
</tr>
<tr>
<td>INTACT (pink/red)</td>
<td>The first signs of pressure damage. The skin remains intact: reddening indicates a risk of tissue damage.</td>
</tr>
<tr>
<td>EPITHELIAL TISSUE (reddening)</td>
<td>The tissue forms the new epidermis. It migrates across from the sides of the sore or can be seen as small clusters or islands within the wound. This tissue is pink or white in appearance.</td>
</tr>
<tr>
<td>GRANULATION TISSUE (red)</td>
<td>This red, vascular tissue is needed to infill any defects in the dermal layer. It contains many cells including fibroblasts and macrophages and consists mainly of collagen.</td>
</tr>
<tr>
<td>INFECTED (green)</td>
<td>Wound healing will not take place in the presence of infection. The classic signs are redness, heat, swelling, pain and increase in exudate. Consider also unhealthy or discoloured granulation tissue, delayed healing or wound breakdown (Cutting and Harding 1994).</td>
</tr>
<tr>
<td>SLOUGH (yellow)</td>
<td>This is cell debris and is usually yellow in appearance. It can vary in its consistency and amount. Slough needs to be removed in order to allow wound healing.</td>
</tr>
<tr>
<td>NECROSIS (black)</td>
<td>This is dead tissue, usually black or grey in colour, that can be either dry or wet. It needs to be removed as it will delay healing and is a host for infection.</td>
</tr>
<tr>
<td>EXUDATE</td>
<td>Estimate the amount and type of exudate present. Although it provides nutrients and moisture needed for healing, excessive amounts will cause maceration.</td>
</tr>
<tr>
<td>Condition of surrounding skin</td>
<td>Erythema (redness) can be indicative of both inflammation and infection. Macerated skin will break down very easily.</td>
</tr>
<tr>
<td>Pain</td>
<td>This can help determine the appropriateness of dressings and treatments used and may be an indicator of infection. Effective measures must be taken to eliminate pain.</td>
</tr>
</tbody>
</table>

### Useful information

European Pressure Advisory Panel (EPUAP) guidelines on prevention and treatment of pressure ulcers are available from Churchill Hospital, Oxford. Tel: 01865 228269. The EPUAP website can be found at www.epaup.com.

The RCN guidelines on pressure ulcer prevention and management are due to be published later this year. This quick reference guide is based on an article published in Nursing Standard (Dunford 1998).

### References


Dunford C Managing Pressure Sores Nursing Standard 12, 24, 38-46.


