

## 21: Wounds and abscesses, including dressings

The management of wounds and selection of dressings is a complex subject, hindered in no small part by the fact that little evidence exists for many of the general principles of management or the selection of one type of dressing over another. It is worth seeking the advice of experienced nurses or, where available, wound care teams.

Wounds heal in two main ways: primary intention and secondary intention.

### Primary intention

Wounds that heal by primary intention have their edges opposed and secured by sutures, clips, *Steri-strips* or tissue glues. These wounds do not normally require complex management. A simple occlusive dressing provides mechanical protection, protection from secondary infection and should be non-adherent for easy and pain-free removal.

A second important component of the management of such wounds is the removal of sutures. The operation note will specify the suture material used for closing the skin (Table 21.1). Absorbable sutures do not have to be removed. As a general but not infallible rule, absorbable sutures are clear and are often subcuticular (no visible external suture).

The timing of non-absorbable suture or clip removal is again variable. As a general rule, sutures on the head and neck

should be removed after 3–7 days, chest and abdomen after 7–14 days and lower extremity wounds after 10–14 days.

### Secondary intention

Wounds healing by secondary intention are open. They fill with granulation tissue and then contraction. Such wounds may be classified into a number of different types as shown in Table 21.2.

### Types of dressing

#### Hydrocolloids (e.g. *Comfeel*, *Granuflex*, *Tegasorb*)

These dressings normally comprise an absorbent layer on a vapour impermeable film or foam. Their impermeability promotes autolysis and aids rehydration and moisture retention. They are usually self-adherent. They do not need to be changed daily but can be left in place for up to 1 week.

#### Hydrogels (e.g. *Intrasite*, *Granugel*, *Sterigel*)

These dressings are commonly supplied as an amorphous dressing that takes up the shape of the wound and can be moulded into the wound cavity. They often need to be covered with a non-adherent dressing or hydrocolloid. These dressings have a very high water

content and increase hydration of the wound, thus promoting autolysis. They have some capacity for absorption of exudates. These dressings often need to be changed daily, at least initially. However, *Intrasite* must be left in place for up to 3 days and *Granugel*, which contains a hydrocolloid component in addition to hydrogel, may be left for up to 7 days.

### Alginates (e.g. *Kaltostat*, *Sorbsan*)

These are prepared from calcium and sodium salts of alginic acid, a polymer prepared from seaweed. They are highly absorbent and are useful in leg ulcers with high exudates and also have haemostatic properties. These properties also make them excellent for packing abscess

cavities after surgical drainage. They are not appropriate for dry ulcers or wounds. The gelling characteristics of these dressing vary and those dressings that gel substantially may require moistening with saline to facilitate removal. The dressings may be left for over 24 h.

### Foam dressings (e.g. *Allewyn*, *Lyof foam*)

Different foam dressings within this category may differ substantially. In particular, they differ in their absorptive capacity. Some of these dressings (e.g. *Allewyn*) are useful for moderately exuding wounds. Often, these types of dressing are used only as secondary dressings.

### Vapour-permeable films and membranes

These allow the passage of water vapour and oxygen but not water or micro-organisms. They may allow inspection of the wound without dressing removal. They are useful in providing a moist environment for wound healing. However, they may not allow water vapour loss fast enough to prevent fluid accumulation under the dressing. This may cause skin wrinkling and dressing dis-

**Table 21.1** Examples and properties of commonly used suture types.

Chemical nature	Examples
<i>Absorbable</i>	
Polyglactin	Vicryl
Polydioxanone	PDS
<i>Non-absorbable</i>	
Polyamide (nylon)	Ethilon
Polypropylene	Prolene
Silk	

**Table 21.2** Type of wound and factors in selection of dressing.

Type of wound	Role of dressing
Hard, black, necrotic	Moisture rehydration or retention
Yellow, slough (rehydrated necrotic tissue)	Moisture retention or rehydration if dry or fluid absorption if wet
Green or red, exuding and granulating	Fluid absorption, thermal insulation
Pink, dry, with low exudate	Moisture rehydration or retention, thermal insulation and low adherence

ruption with entry of bacteria. They are less suitable for wounds with large amounts of exudates. They are often used as secondary dressings over alginates or gels.

### **Low-adherence dressings and wound contact materials**

There are a number of different dressing types within this category.

#### **Tulle or paraffin gauze dressings (e.g. *Jelonet*)**

Tulle or paraffin gauze dressings comprise cotton or viscose fibres impregnated with yellow or white soft paraffin to prevent the fibres from sticking. However, the paraffin content reduces the ability of these dressings to absorb exudates. Medicated tulle dressings are also available and these may be impregnated with such compounds as sodium fusidate and chlorhexidine. There is no evidence of benefit of the antibacterial component of these dressings.

#### **Povidone-iodine fabric dressings**

These are knitted viscose dressings with povidone-iodine incorporated in a hydrophilic polyethylene glycol basis. Diffusion of iodine into the wound is facilitated, although this is probably rapidly deactivated by wound exudates. There is systemic absorption of iodine from these types of dressing.

## **Special situations**

### **Cavity wounds**

Any abscess or pus should be drained.

Traditionally, such wounds were packed with ribbon gauze, sometimes soaked in proflavine. Such gauze may be very difficult or painful to remove and the antibacterial properties of proflavine are not established.

Alginates (such as *Sorbsan* and *Kalto-stat*) are probably the dressings of choice as they are capable of absorbing 15–20 times their weight in exudates. They are easily removed with saline. Hydrocolloid dressings may also be useful. They help with autolysis and are easy to remove.

### **Superficial burns**

Place burnt area under cool running water for 10–20 min and give analgesia and reassurance. Non-adherent occlusive dressings are often helpful in this situation. Hydrocolloid dressings and vapour-permeable films and dressings may also be helpful.

Silver sulphadiazine cream is often used as a topical agent for superficial burns and may be helpful in reducing the bacterial load of the burn. It is sometimes helpful to cover the hands or feet afflicted by burns with a clear plastic bag. This allows physiotherapy and easy observation and monitoring of the wounds.

### **Leg ulcers**

Non-adhesive occlusive dressings are often most useful. Typically, a hydrocolloid or hydrogel may be selected for a drier wound with little exudate. By contrast, an alginate may be preferable for an ulcer with a larger amount of exudate.