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ACADEMY

DRESSING SELECTION SIMPLIFIED

This Simplified Guide is intended to aid your clinical decisions and practice around dressing selection.

DRESSING SELECTION SIMPLIFIED

Selecting the correct dressing for a wound can be a complicated process. It requires knowledge of the various wound types, the differing characteristics of a wound, the dressing categories available and any specific needs of the individual.

LEARNING OUTCOMES

- **Identifying the factors to consider before selecting a dressing**
- **Recognising the different tissue types and treatment aims**
- **Awareness of the variety and types of dressings available**
- **Identifying the significance of choosing the correct dressing**

The purpose of a dressing is to facilitate an optimal environment in which the body can heal itself. The key to selecting the right wound care product is a comprehensive holistic patient and wound assessment. Following which, an appropriate course of action and dressing can be implemented.

Factors that should be considered when choosing a dressing include:

- **The stage of wound healing**
- **Location of the wound**
- **Extent (size/depth) of the wound**
- **The predominant tissue type on the wound surface**
- **The amount of exudate**
- **Infection and wound bioburden**
- **Odour**
- **The adhesiveness of a dressing (ease of removal)**
- **Irritation caused by the adhesive**
- **Absorption**
- **Frequency of dressing changes**
- **Ease of use of the dressing**
- **Amount of pain at dressing changes**
- **Protection of the surrounding skin**
- **Quality of life and well being**
- **The individuals preference and engagement**

(WUWHS, 2019; NICE, 2016)

WOUND MANAGEMENT

The aim of wound management is to encourage the optimum wound environment for the natural healing process to occur. The goals of wound care should include:

- Promoting wound healing by controlling or eliminating causation
- Preventing or managing infection
- Removing non-viable tissue (debridement)
- Ensuring adequate blood supply
- Providing nutritional and fluid support
- Establishing and maintaining a clean, moist, protected wound bed
- Managing wound exudate and drainage
- Maintaining surrounding skin to ensure that it remains dry and intact

(Vuolo, 2009; Errol et al., 2019)

DRESSING SELECTION

Morgan's concept of an 'ideal' dressing is well documented and lists ideal dressing characteristics:

- Maintains a moist environment at the wound dressing interface
- Provides thermal insulation
- Low or non-adherent
- Requires infrequent changing
- Provides mechanical protection
- Free from particulate contaminants
- Safe to use (non-toxic, non-sensitising, non-allergenic)
- Conformable and mouldable
- Good absorption characteristics (for exuding wounds)
- Impermeable to micro-organisms
- Acceptable to the patient
- Cost-effective
- Sterile
- Available in a suitable range of forms and sizes

(Morgan, 1999; Hughes, 2013)

Selecting the correct dressing for a wound can be a complicated process and requires knowledge of the characteristics of wounds, dressings, and the needs of the individual.

The preference of the person with a wound is important, and can influence concordance with regards their treatment. Where possible, involve the individual and their relatives/carers in treatment options.

Before applying any dressing, the health care professional should question:

- What is the action of this dressing?
- When should it be used?
- What are the limitations or contraindications to its use?
- Do I know the correct method of application and removal?
- Have I had sufficient training about the dressing?

(Edwards et al., 2013)

Health care professionals' decisions must be based on the best available evidence. Importantly, health care professionals need to recognise their own limitations and, when it is necessary, refer for specialist advice. When treating a wound, it is not uncommon to use a combination of dressings.

PRIMARY DRESSING

A primary dressing is one which is placed directly on the wound surface e.g. wound contact layer, hydrogel, alginate or hydrofibre/ gelling fibre. The dressings mentioned usually require a cover dressing; however, not all primary dressings will need covering. If a dressing is required to absorb leakage or to secure a primary dressing, it may be referred to as the secondary dressing.

SECONDARY DRESSING

A secondary dressing goes on top of the primary dressing. It can be used for a number of reasons, including extra absorption or securing a primary dressing in place. When selecting a secondary dressing, it is important to consider its compatibility with the primary dressing *(Edwards et al., 2013; Hughes, 2013)*.

DRESSING PRODUCTS

TISSUE INDICATORS

NECROTIC · SLOUGHY · INFECTED · CAVITY

GRANULATING · EPITHELIALISING · FUNGATING

EXUDATE INDICATORS

NIL EXUDATE · LOW EXUDATE

MODERATE EXUDATE · HEAVY EXUDATE

SIMPLE ISLAND DRESSINGS

Used on primary intention wounds, they have a central pad of cellulose for oozing wounds and adhesive to keep the dressing in place. They are often showerproof. Most simple island dressings do not provide a moist wound environment and are used as a protective barrier.

WOUND CONTACT LAYERS

NIL > HEAVY

Low or non-adherent dressing that can be used on lightly exuding granulating wounds that allows exudate to pass through into the secondary dressing. These dressings are designed to minimise the ingrowth of granulation tissue. They can also be used as carriers for other products, such as hydrogels. The contact layer requires a secondary dressing whilst preventing adherence to the wound. It is also available in a silicone format, providing atraumatic removal and wound bed protection. Exudate passes through onto the secondary dressing, which can then be changed as required whilst the silicone dressing remains on the wound. A silicone wound contact layer dressing can remain on the wound for up to 14 days *(Mancini, 2015)*.

DRESSING PRODUCTS

FILMS

NIL

Most films allow moisture vapour transfer (MVT), which means that they are permeable to moisture vapour and oxygen but impermeable to bacteria. They allow visual inspection, and help to provide a moist, warm clean environment. Films may also be useful to reduce friction between the skin and a surface and also provide a protective barrier to prevent bacteria entering the dressing.

Films are often used as a fixation device; they should not be used to secure other dressings with a higher MVT rate as this will reduce those dressings' properties, reducing their ability to handle exudate *(Wound Care Today, 2016)*.

HYDROCOLLOIDS

NIL > LOW

Adhesive and mouldable dressing that consists of either gelatine, pectin or carboxymethyl cellulose, with a backing made of foam or film. Hydrocolloids are indicated for nil to low exuding wounds. These dressings turn to a gel as they absorb, assist in supporting rehydration whilst aiding autolytic debridement of necrotic and sloughy, nil to low exuding wounds. Hydrocolloids can also be used on granulating wounds and are often used as a primary dressing for minor burns and abrasions. They can also be used as a secondary dressing to prevent other dressings on the wound from becoming contaminated *(Ousey et al., 2012)*. They also help to promote a moist wound healing environment.

HYDROGEL DRESSINGS

NIL

Water-based dressings that are available in tubes or sheet form and donate fluid when placed in contact with dry, necrotic/sloughy wounds to aid debridement. Hydrogels can also be used on wounds where a loss of moisture due to dressing materials has reduced wound bed cellular activity and to provide a moist wound healing environment *(Hedger, 2013)*. They require a secondary dressing, which can support autolytic debridement.

ALGINATES

MODERATE > HEAVY

Soft dressings, made from seaweed, are available as flat or rope dressings. Indicated for moderate to heavy exuding wounds. They absorb exudate, promote autolysis and turn into a gel on contact with exudate. Those that contain calcium have haemostatic properties meaning minor bleeding can be reduced by contact with an alginate for 10 minutes *(Morgan, 2004)*. Alginates help to keep the wound bed moist and promote healing. A secondary dressing cover is required.

GELLING FIBRES

MODERATE > HEAVY

Highly absorbent dressings mainly derived from cellulose with a high wet strength and structural integrity. The dressing absorbs exudate by vertical wicking and has a rapid uptake of fluid directly into its fibres, which can reduce the risk of maceration of the surrounding skin. The dressing becomes a soft, conformable gel and allows an increased amount of wound fluid to be absorbed and retained *(Edwards et al., 2013)*. Gelling fibres can aid with autolysis. They effectively absorb exudate, debride slough, and encourage granulation. A secondary dressing cover is required.

DEBRIDEMENT PADS AND CLOTHS

Mechanically removes slough, dead tissue and wound debris when gently used over the wound bed and surrounding skin. Assists in preparing the wound bed for healing. They can be used in conjunction with wound cleansers and emollients. Mechanical debridement using debridement pads and cloths, and products related to these, should be undertaken with caution in patients with bleeding disorders or who are on anticoagulation therapy and/or who are in intolerable or unpreventable pain *(Nowak et al., 2022)*. Debridement pads and cloths are designed for single use only.

DRESSING PRODUCTS

SILICONE FOAM DRESSINGS

NIL > LOW | MODERATE > HEAVY

Made of polyurethane foam with a soft silicone adhesive. Those dressings with a silicone wound contact layer incorporated can be described as atraumatic. The silicone minimises tissue adherence and reduces wound bed trauma and pain on removal. These types of dressings can be used when either the wound bed or surrounding skin is fragile or the wound is painful, particularly at dressing change *(Meuleneire, 2013)*. Silicone foams can be used as primary dressings or in conjunction with other products such as alginates and gelling fibre dressings. Silicone foam dressings can be repositioned, unlike the acrylic version. Multilayer versions can be used to assist with pressure ulcer/injury protection *(EPUAP, 2019)*. Silicone foams can also have a "lite" version designed for nil to low exudate management.

SUPERABSORBENTS

MODERATE > HEAVY

Designed for moderate to heavy levels of exudate, these dressings have extra fluid handling capacity. They feature multiple layers with an inner core containing either fibres, powder, gelling agents or crystals to absorb fluid. Their absorption capacity allows extended wear time, thus reducing the frequency of dressing changes *(Stephen-Haynes, 2011)*. Care should be taken to select the correct superabsorbent dressing when used in conjunction with compression.

FOAM DRESSINGS

MODERATE > HEAVY

Made of polyurethane foam, and can be either adhesive or non-adhesive. Also known as acrylic foam dressings. They are an absorbent product for moderate to heavy exuding wounds of most wound types. They promote a moist wound healing environment and have an MVTR (moisture vapour transmission rate), which assists in minimising skin and wound maceration. Foams can be used as primary dressings or in conjunction with other products, such as alginates and gelling fibre dressings. They can also be used to provide a protective cushion for fragile skin *(British National Formulary, 2022)*.

DRESSING PRODUCTS (ANTIMICROBIAL DRESSINGS)

ANTIMICROBIAL DRESSINGS

It is recommended that antimicrobial dressings be used for a two-week challenge period.

- Usage should be reviewed after two weeks, and the management plan adjusted accordingly.
- If, after two weeks, the wound has improved but has continuing signs of infection, continue with the same antimicrobial dressing.
- If, at the end of this period, the wound has failed to improve, other alternative antimicrobials should be considered following a full wound assessment.
- If the wound has improved and there are no longer signs or symptoms of infection, antimicrobials should be discontinued.

(IWII International Consensus, 2022)

HONEY

NIL > HEAVY

Made from medical-grade honey, dressings are available in several formats, including gels, pastes, alginates and sheets. They have an antimicrobial and deodorising action. Honey promotes wound debridement and assists in maintaining a moist wound environment whilst also having some anti-inflammatory properties *(Molan & Rhodes, 2015)*.

Contraindications
Honey dressings should be avoided in patients with a history of sensitivity or allergy to honey and/or bee venom.

When selecting a dressing, please refer to manufacturer's instructions for use (IFU).

DRESSING PRODUCTS (ANTIMICROBIAL DRESSINGS)

IODINE

NIL > HEAVY

There are two forms of iodine used in dressings; povidone and cadexomer. Povidone can be used in the management of infection in minor injuries. Cadexomer has a de-sloughing ability and can be used to treat chronic wounds with exudate. Iodine can be used to clean and prepare the wound bed and also to manage wound infection *(Sibbald et al., 2011)*.

Contraindications

Iodine dressings must be used under medical supervision in patients with thyroid diseases, known or suspected iodine sensitivity, in pregnant or breastfeeding women or newborn babies up to the age of six months.

POLYHEXAMETHYLENE BIGUANIDE (PHMB)

NIL > HEAVY

PHMB is a broad-spectrum antimicrobial with a low toxicity profile, which can be used for infection prevention and treatment. PHMB is available as a gel, wash, foam or cellulose dressing. PHMB is similar to naturally occurring antimicrobial peptides (AMPs) and is used to reduce wound biofilm and/or bioburden. The mode of action is quick, so microorganisms are unlikely to develop resistance to PHMB *(King et al., 2017)*. PHMB has a good safety profile *(Hubner & Kramer, 2010)*.

Contraindications

Known sensitivity to PHMB.

SILVER

NIL > HEAVY

Not all silver dressings are the same. Silver may be incorporated into dressings as a coating, within the structure of the dressing, or a combination of these. Silver is available in a number of different forms such as elemental silver, silver oxide or silver sulphate, or silver alginate. *(Wounds UK, 2021)*
Dressings are available in a variety of forms: alginate, gelling fibres and paste. Not all silver dressing products are the same. Silver dressings have a broad spectrum antimicrobial activity, similar to naturally occurring antimicrobial peptides (AMPs) and reduce bioburden. In its metallic/elemental form, silver is not reactive and in order to become effective, silver atoms (Ag or Ag^0) must lose an electron and become positively charged silver ions (Ag^+). Elemental silver ionises in air but does this more readily when exposed to a moist environment, such as wound exudate. *(Wounds UK, 2021)*

Contraindications

In hepatic and renal failure patients, pregnancy and lactation and newborns. Do not use if sensitivity to silver occurs; this can cause pain and a burning sensation. Do not use during radiotherapy or magnetic resonance imaging scanning *(Hedger, 2015)*. N.B. not all silver dressings will have these contraindications, always refer to the manufacturer's instructions for use.

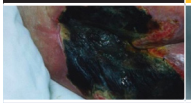
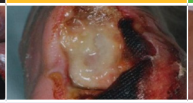
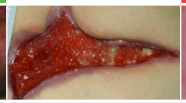
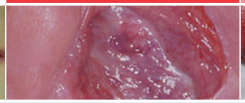
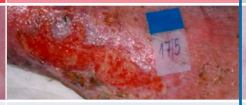
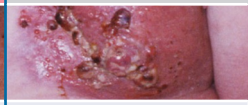
ENZYME ALGINOGEL

NIL > HEAVY

These comprise of antimicrobial enzymes, glucose oxidase and lactoperoxidase. These are mixed in with alginate gel and polyethylene glycol. They have good biocompatibility with a limited chance of allergy. *(Beele et al., 2012)*.
Currently, enzyme alginogel can be used for both dry and exuding wounds.

Contraindications

Should not be used where patients have a previous sensitivity reaction to alginate dressings or to polyethylene glycol.

NECROTIC	SLOUGHY	INFECTED	CAVITY	GRANULATING	EPITHELIALISING	FUNGATING/ MALODOROUS
						
Necrotic wounds are typified by black dead tissue.	Mixture of dead white cells, dead bacteria, rehydrated necrotic tissue and fibrous tissue.	May be identified by signs including oedema, swelling, increased exudate, pungent odour, inflammation and pain.	Wound extends to tissues deep into the epidermis and dermis.	Granulating tissue usually deep pink in colour at the base with red 'lumps' over the surface.	Typified by pink/pale mauve coloured tissue.	Often has an offensive odour indicating infection or colonisation of bacteria. Palliative - relieving symptoms, preventing complications.
TREATMENT AIM						
To soften and remove necrotic tissue by rehydration and debridement to allow granulation.*	To soften and remove slough using debridement.	To control and manage infection. Consider use of antimicrobials.	To promote granulation from the base of the wound.	To maintain ideal environment for granulation.	To protect epithelialising tissue until established. To promote an ideal environment for epithelialisation and contraction.	To manage odour, bleeding and exudate.

Wound hygiene should be undertaken before applying the leave on dressings. Please refer to local policies for wound hygiene and dressing recommended products.

NIL/LOW EXUDATE						
Primary Hydrogel, Honey, Hydrocolloid, Low-Adherence or Silicone Contact Layer **Secondary** Hydrocolloid, Foam	**Primary** Low-Adherence or Silicone Contact Layer, Hydrogel, Honey, Hydrocolloid **Secondary** Hydrocolloid, Foam, Silicone Foam	**Primary** Honey, Silver, PHMB, Iodine or Enzyme Alginate can be used. *(Please refer to local policy)* **Secondary** Dependent on primary chosen, Foam, Silicone Foam Lite	**Primary** Low-Adherence or Silicone Contact Layer, Alginate, Alginate & Foam	**Primary** Hydrocolloid, Low-Adherence or Silicone Contact Layer **Secondary** Foam	**Primary** Low-Adherence or Silicone Contact Layer, Film, Hydrocolloid, Silicone Foam and Silicone Foam Lite **Secondary** Foam, Silicone Foam, Silicone Foam Lite	**Odour** **Primary** Low-Adherence or Silicone Contact Layer *(Antimicrobial dressings can be used, please refer to local policy)* **Secondary** Charcoal Dressing **Bleeding** **Primary** Low-Adherence or Silicone Contact Layer, Alginate **Secondary** Silicone Foam, Adsorbent Pad **Exudate** **Primary** Alginate, Gelling Fibre, Silicone Foam **Secondary** Silicone Foam, Adsorbent Pad
MEDIUM/HIGH EXUDATE						
Primary Alginate, Gelling Fibre, Honey **Secondary** Foam, Silicone Foam or Absorbent Pad	**Primary** Alginate, Gelling Fibre, Honey **Secondary** Foam, Silicone Foam or Absorbent Pad	**Primary** Honey, silver, PHMB, Iodine or Enzyme Alginate can be used in an absorbent form such as: Alginate, Gelling Fibre, Foam, Silicone Foam. *(Please refer to local policy)* **Secondary** Foam, Silicone Foam, Absorbent Pad	**Primary** Alginate, Gelling Fibre **Secondary** Foam or Absorbent Pad	**Primary** Foam, Silicone Foam, Alginate, Gelling Fibre **Secondary** Foam, Silicone Foam, Absorbent Pad	Unlikely to be high exudate	

*Necrotic tissue on the feet and leg lower limb, should be treated with great caution. Vascular status established before treatment is carried out. Referral to the relevant specialty e.g. vascular or diabetic foot clinic as per local policy.

CONCLUSION

Correct dressing selection will create an ideal environment for wound healing.

Wound care products are just tools to help promote healing, a thorough wound and patient assessment is required to make informed choices regarding the correct product selection. It is also important to read the manufacturer's instructions to assist in selection and to provide optimum benefit for the patient. Please refer to local policies and guidelines for further information.

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NOTES

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Simplifying the Complexities of Wound Care

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Advanced Medical Solutions

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