

CHOOSING THE APPROPRIATE DRESSING: HYDROCOLLOIDS

This article looks at the benefits of using hydrocolloid dressings in the treatment of a range of wound problems, such as dry black eschar, as well as aiding autolytic debridement in sloughy wounds, surgical wounds, abrasions and minor burns.

Dressings are a fundamental part of caring for a wound, but can cause great distress to the patient if the desired effects are not achieved. Dressings do not heal wounds, but play a vital role by providing the optimum environment for the physiological process of wound healing to occur. It is paramount that every patient has both a holistic and a wound assessment to determine the cause and influential factors important for wound healing.

Treating the underlying cause will often address and promote wound healing. Pressure ulcers will not heal by dressings alone, but need the pressure eliminated, while venous leg ulcers will not heal without compression. In essence, dressings are only one element of caring for a wound.

The lack of a thorough assessment can lead to dressing changes and choices being unsuitable, and the patient may interpret this as the clinician trying to find a dressing that will make the wound heal, rather than treat the cause. Without reassessment in cases where there is no wound progress, wounds can become chronic, deteriorate and are prone to

recurrent infections that can threaten good health.

As healing is physiological, patients need to be well informed about the expectations of a dressing and the actions they can take to influence healing, such as exercise and eating a well-balanced diet.

There are many categories of dressings, such as:

- ▶▶ Hydrocolloids
- ▶▶ Hydrogels
- ▶▶ Alginates
- ▶▶ Foams
- ▶▶ Antimicrobials
- ▶▶ Hydrofibers® (ConvaTec)
- ▶▶ Honey.

All of these dressings have their place in wound healing and the choice is dependent on the clinician weighing up the options available.

Hydrocolloids

Hydrocolloids were introduced in the 1980s and were welcomed as a new advance in wound care. They were originally developed as stoma products, where they were used as a barrier over excoriated skin. Hydrocolloids are occlusive dressings that contain a gel-forming agent, such as carboxymethylcellulose,

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Figure 1. The triangular shapes are normally designed for the sacral area, to help ensure a seal towards the natal cleft.



Figure 2. Some hydrocolloids have an indication line so when exudate reaches that point it is time to change the dressing.



Figure 3. Hydrocolloids can also be chosen for thickness and bevelled edges to aid absorbency and adherence properties.

pectin or gelatine. This is combined with adhesives and applied to a polyurethane foam or film to create a single-layer adhesive dressing (Thomas, 2010).

Not all hydrocolloids contain gelatine, but in those that do, the gelatine is often pork-derived and strict vegetarians and vegans may object to its use. Some cultures may also prefer to use an alternative dressing.

Hydrocolloids come in many shapes and sizes. The dressings can be bordered or unbordered to aid adherence and wear time. The different shapes help application on different parts of the body. For instance, the triangular shapes are normally designed for the sacral area, to help ensure a seal towards the natal cleft (Figure 1). Some hydrocolloids have an indication line, so that when exudate reaches this point, the clinician knows to change it (Figure 2). Hydrocolloids can also be chosen for their thickness and bevelled edges to aid absorbency and adherent properties (Figure 3). Familiar brands include Granuflex® (ConvaTec), Duoderm® (ConvaTec), Comfeel® (Coloplast), Comfeel Transparent® (Coloplast) and Tegisorb® (3M).

Mode of action

Hydrocolloids provide and maintain a moist wound environment that supports the healing process (Finnie, 2002). Hydrocolloids work by forming a hydrophilic gel when exudate is present, which aids autolytic debridement by softening and rehydrating necrotic tissue and slough (Fletcher, 2005). They provide an occlusive environment to prevent loss of moisture, but become progressively more permeable as the gelling takes place, resulting in some loss of water vapour through the dressing and an increase in absorbency (Ousey et al, 2012).

Clinical indications

Hydrocolloids are chosen for

their ability to rehydrate necrotic tissue and slough as they facilitate autolytic debridement. They are designed for wounds with light-to-moderately heavy exudate levels (Casey, 2000) and can also be used on granulating wounds. As they are an adhesive dressing, there should be an area of healthy tissue surrounding the wound to adhere to. Skin-protecting solutions can also be used under the adhesive.

To ensure optimum results when choosing this dressing, it must be left in place for a minimum of three days and a maximum of seven. It would not be the dressing of choice if it needed to be changed daily. Hydrocolloid dressings can be cut to shape around difficult sites, however, it must be stressed that the manufacturer's directions for use need to be followed.

Types of wounds

Hydrocolloids are suitable for hydrating dry black eschar (see contraindications) and to aid autolytic debridement in sloughy wounds (Figure 4).

Hydrocolloids are also suitable for surgical wounds, abrasions and minor burns. As they are occlusive, they are useful for reducing pain in wounds by covering the nerve endings in partial thickness wounds. Before choosing a hydrocolloid, the amount of exudate should be assessed, because if the hydrocolloid dressing is unable to control this, then maceration of the periwound skin can occur.

Contraindications

Contraindications include:

- ▶ Overgranulation can occur under a hydrocolloid dressing. If this is the case, change the dressing to a more permeable type, such as foam or film
- ▶ Caution must be taken when considering the use of hydrocolloids for black necrotic heels or on diabetic feet. The

European Pressure Ulcer Advisory Panel (EPUAP) advises that heels are kept dry and the limb must be assessed to ensure that an adequate arterial blood supply is present

- ▶ Arterial and diabetic foot ulcers present with a reduced arterial blood supply. Using an occlusive dressing, such as a hydrocolloid, can encourage the growth of anaerobic bacteria, increasing the risk of infection in an already compromised limb (Nurse Prescriber, 2012)
- ▶ Daily dressing changes are advised to monitor diabetic foot wounds, therefore, hydrocolloid dressings would not be the best choice due to the need for a longer action time
- ▶ Hydrocolloids should not be used on full thickness burns or infected wounds (Ousey et al, 2012)
- ▶ Hydrocolloids should be used on infected and highly exuding wounds (Nurse Prescriber, 2012).

Method of Use

Applying and removing a hydrocolloid dressing:

- ▶ The wound should be measured so that the choice of dressing overlaps the normal skin by 3cm around the edges. If the dressing is too small, this can cause leakage or if it is too large, this can cause maceration of the surrounding skin. The correct size will help to protect the periwound skin
- ▶ The product will become more pliable if warmed between the hands before application — this will also aid adherence
- ▶ There is no need for a secondary dressing. Hydrocolloids are waterproof and the patient is able to shower with the dressing in place
- ▶ Hydrocolloids have a significant odour on removal and this should not be mistaken for a problem with the wound (Ousey et al, 2012)
- ▶ Change the dressing when

the exudate can be seen to be approximately 1–2cm from the edge of the dressing or it has reached the maximum seven-day application

- ▶ As the hydrocolloid aids autolytic debridement and helps remove devitalised tissue at the wound edges, the wound may appear larger to start with. This is normal and it is important to inform the patient.

Conclusion

Selecting the appropriate dressing continues to be a challenge for clinicians. A good knowledge of wound care with clear wound management aims will help inform the choice. It is essential to understand the methods and actions of dressings and what will be accomplished through its use, as the outcome may not always be a healed wound. The patient may need other interventions of care before the wound finally heals. Debridement is only one aspect of wound care and hydrocolloid dressings can provide a cost-effective management option if chosen and used correctly. **WE**

References

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Figure 4. Hydrocolloids can be used in the treatment of dry, black eschar.



Figure 5. Hydrocolloids are also used for grade 1 and 2 pressure ulcers and moisture lesions.



Figure 6. Hydrocolloids can be used for leg ulcers under compression bandaging.