

# Gauze, Hydrocolloid, and Hydrogel Dressings

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*This is the fourth article in the series on basic wound care. [AU: References have been renumbered so that they appear in numeric order. Originally, (5) was cited in text but there were only 4 references. Please check text and reference list carefully.]*

The huge range of wound dressings available is one of the more complicated areas that every health care provider who deals with wounds has to confront. There are at least 10 different varieties, and multiple manufacturers for each of those types. That complexity is not particularly unusual in medicine; the same is true for antibiotics, blood pressure medicines, diabetic medications, antidepressants, and so on. After a while, most providers have a few favorites that they use the majority of the time.

Many lay people, and some health care providers, believe that wounds will heal better if left open to the air, but that is not true. Wounds heal better in a moist environment, which usually requires an appropriate dressing. Dressings also protect the wound from trauma and bacteria.

There is a difference between dressings and bandages, although some people use the terms interchangeably. A dressing has direct contact with a wound, but a bandage does not. A bandage may be used for several reasons, including to keep a dressing in place, control bleeding by applying pressure, hold a splint in place, or protect a sprained joint. There are 3 major types of bandages: roller, tubular, and triangular. Wound care providers do need to be familiar with bandages (eg, for compressing an edematous weeping limb or treating venous ulcers). However, for this month, I will focus on gauze, hydrocolloid, and hydrogel dressings. A word before we begin about hydrocolloid dressings: A hydrocolloid dressing has a water base, and a hydrogel

dressing has a gel base. They are similar but there are differences.

### GAUZE DRESSINGS

Gauze dressings (Figure 1) are usually a bleached weave of 100% cotton. A closely woven gauze offers greater protection from dirt and bacteria, and an open weave absorbs drainage. Gauze is usually used on a bleeding wound with pressure for a few minutes.

Gauze pads are often used to clean or debride the wound, as part of the dressing, or to pack a deep wound. Gauze sponges are usually used for padding and protecting a wound. Surgical sponges are a type of gauze sponge.

Wet-to-dry gauze has been a traditional dressing for decades but has significant disadvantages and should no longer be used. It consists of saline-soaked gauze placed on a wound and then allowed to dry. The dressing may be changed 3 times a day. However, when this type of dressing is removed from a wound, it is very painful for the patient and often results in bleeding, trauma to the wound bed, and infection. Despite this, wet-to-dry dressings are still commonly used by health care providers who are not up to date with the many better alternatives available.

Impregnated gauze contains substances such as honey, petroleum, and iodine and does not adhere to the wound. These types of common dressings protect the wound from further trauma, maintain a moist wound healing environment, and have been demonstrated to be effective in wound healing. Dry gauze can be used over impregnated gauze as a secondary protective dressing that is then taped in place.

### HYDROCOLLOID DRESSINGS

Hydrocolloid dressings (Figure 2) are occlusive and waterproof dressings for



**FIGURE 1.** Bordered gauze dressings are available in several sizes. Image courtesy of AMERX Health Care.

wounds with light to moderate drainage levels. However, hydrocolloid dressing should not be used on heavily draining wounds. Generally, these types of dressings are impermeable to bacteria, which lowers the risk of infection. In addition, they can stay on a wound for up to 1 week, which has advantages both for patients and caregivers. These dressings can rehydrate necrotic tissue and assist with autolytic debridement. Thus, these types of dressings are useful for sacral pressure injuries that need to be protected from urine or feces. The type of patients in whom sacral pressure injuries develop are usually bedridden and incontinent. Hydrocolloid dressings are usually waterproof, although the author has found that a secondary dressing, such as an ABD pad, is effective over a sacral pressure injury to protect against further pressure and incontinence. The hydrocolloid dressing will adhere to intact skin but not to the wound itself. The ABD pad can be taped into place. ABD pads are frequently used as a protective dressing after abdominal surgery, leading many to believe that ABD stands for “abdominal.” It actually stands

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for Army Battle Dressing, developed by the military for combat wounds.

Finally, small over-the-counter hydrocolloid dressings are being used on facial acne because it reportedly works well and leaves no scars or blemishes<sup>1</sup>; this would count as a “home remedy.”

### HYDROGEL DRESSINGS

Hydrogel dressings consist of 90% water in a gel base (Figure 3). They provide an excellent moist environment for healing, are comfortable for the patient, and are very effective. They are a good choice for dry or dehydrated wounds, abrasions, mild burns, or radiation skin damage (eg, after radiation therapy).<sup>2</sup> These types of dressings should not be used on heavily draining wounds or even moist wounds. They usually need a secondary dressing because they are difficult to maintain in place and will dry out quickly if not covered. A hydrogel dressing should be changed when it appears to be saturated with fluid, that is, approximately every 3 days.<sup>3</sup>

Newer types of hydrogel dressing can be sprayed on or injected. Some types are transparent with an adhesive overlay.

**Venous leg ulcers.** Venous leg ulcers are probably the most common wounds seen in a typical wound care center. These types of chronic ulcers are both painful and difficult to heal. The mainstay of treatment consists of compression bandages



**FIGURE 2.** Medvance hydrocolloid thin dressing 4 in × 4 in. Image courtesy of Medway.

or stockings with a hydrocolloid dressing directly over the ulcerated areas so that the bandage does not adhere to the venous wounds.<sup>4</sup> Hydrogel dressings may be a better choice if the venous ulcers are dry. These types of dressings have a cooling effect that is soothing for the patient and provides a moist healing environment.

More on the fascinating subject of dressings next month. ■

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**FIGURE 3.** An example of a hydrogel wound dressing. Image courtesy of AMERX Health Care.

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