

# Acute Wound Care

When consulting about acute wounds, it is important to be knowledgeable about treatment, wound care products, the healing process, barriers to healing and how to identify and access wounds requiring medical attention.

## The Pharmacist's Role

Be familiar with basic first-aid procedures related to acute wound care, which involve wound cleansing and protecting, and stopping any bleeding. Assess the severity of acute wounds and recommend medical attention if necessary. Recognize signs of wound infection, advise patients on proper use of topical antibiotics and refer to a physician if necessary.

## Treating Acute Wounds

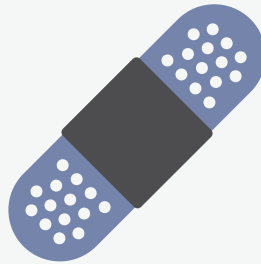
Acute wounds heal in a prompt and predictable fashion.<sup>1</sup> They are commonly caused by burns, bites or stings, and trauma, such as abrasions, scrapes, lacerations and punctures. There are four basic principles for treatment.<sup>2</sup>

### Cleansing the wound/stopping the bleeding:

Carefully remove dirt and debris that can cause infection and delay wound healing.<sup>2</sup> Unless contamination is suspected, wash minor wounds only once thoroughly with soap and water or normal saline. Multiple cleansings can interrupt the healing process.<sup>3</sup> Minimize bleeding by covering the wound with a clean dressing and applying pressure for 10 minutes. If bleeding does not stop in 10 minutes (15 minutes in patients taking anticoagulants), the patient should seek medical attention.<sup>4,5</sup> Keep minor burns clean and moist to prevent infection and scarring.<sup>3</sup>

Normal saline is adequate for cleansing most acute minor wounds, and is not harmful to tissue since it is physiologic.<sup>7</sup> Other commonly used cleansers and disinfectants that can impair wound healing due to tissue irritation/toxicity include Hydrogen Peroxide 3 percent Povidone-Iodine, Chlorhexidine Gluconate and Hexachlorophene (used in surgical soaps).<sup>8,9</sup>

“Recognize signs of infection, advise on use of topical antibiotics and refer to a physician if necessary.”



**Debridement:** In a healthy person with a minor acute wound, surgical debridement is not necessary. Autolytic debridement should occur naturally, thus preventing tissue destruction and accelerating wound healing.<sup>11</sup> Remove from an acute or chronic wound foreign material, such as dead or contaminated tissue (eschar or slough), which can harbor bacteria.<sup>11</sup>

## Mechanisms and Benefits of Moist Wound Healing

The rate of epithelialization of wounds kept in a moist environment under a polyethylene film has been shown to be double that of wounds healing under a dry scab.<sup>7,8</sup> Reasons include decreased dehydration and cell death and increased angiogenesis. Other reasons are as follows<sup>11-15</sup>:

**Enhanced autolytic debridement:** Enzymes can migrate more easily to the wound bed.

**Increased re-epithelialization:** Dry crusted scabs act as a physical barrier to epithelial cell migration and to the delivery of blood and nutrients to the wound.

**Bacterial barrier and decreased infection rate:** Semi-occlusive and occlusive dressings provide a barrier to migration of exogenous microorganisms into the wound, enable optimal functioning of phagocytes and reduce bacteria-harboring dead tissue (dry eschar and slough).

**Decreased pain/trauma to skin:** Moist wound healing requires less frequent, potentially painful dressing changes.

**Decreased cost:** Less-frequent dressing changes, shorter healing times and fewer complications, such as infection and trauma, lead to decreased labor costs and lengths of hospital stays.

**Temperature effects:** Tissue cooling can cause vasoconstriction and increase hemoglobin's affinity for oxygen, resulting in a decrease in the amount of oxygen available to infection-fighting cells, such as neutrophils. The inherent insulating properties of semi-occlusive dressings result in higher tissue temperatures than traditional gauze dressings.

**Electrical effects:** The positive bioelectrical charge of wounds, believed to be created by a moist environment, is thought to promote cellular movement and migration, resulting in faster wound healing.

**Decreased scarring:** Wounds that heal in a moist environment versus a dry one may be less prone to scarring, particularly partial-thickness wounds.

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## How You Can Help

When a patient presents with an acute wound:

- **Instruct** him or her to clean it with normal saline or soap and water, apply pressure for 10 minutes to stop the bleeding and then cover the wound to protect it and promote moist wound healing
  - **Assess** the wound and refer to a physician if the wound is serious or does not heal in an orderly fashion, or if there are barriers to wound healing
  - **Assist** in monitoring the progress of a wound so that dressing materials can be changed to achieve optimal moisture balance<sup>3</sup>
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## References

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14. Sussman C. Chapter 27. *Wound Care A Collaborative Practice Manual for Health Professionals*. 2012:732-734.
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## Online Resources

Websites for you and your patients:

### Association for the Advancement of Wound Care

[www.aawconline.org](http://www.aawconline.org)

Patient and professional resources for wound care

### American Professional Wound Care Association

[www.apwca.org](http://www.apwca.org)

Wound care information by and for professionals

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