

Consensus Statement Describes Dressings for Acute and Chronic Wound Management **CME/CE**

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October 18, 2007 — Based on a systematic review, a consensus statement has been issued to explain appropriate dressings for use in the management of acute and chronic wounds. Both documents appear in the October issue of the *Archives of Dermatology*.

"Current clinical practice guidelines on the treatment of pressure ulcers, leg ulcers, and diabetic foot lesions and available systematic reviews on the treatment of arterial leg ulcers or surgical wounds have not established a care strategy for each type of wound," write Guillaume Chaby, MD, from the Centre Hospitalier Universitaire d'Amiens in France, and colleagues of the review.

"Since the 1960s, it has been accepted that wound healing is optimal when the wound is kept in a moist environment rather than air dried. Occlusive or semioclusive dressings that promote reepithelialization and wound closure have been developed for chronic and acute wounds to reduce pain and healing time, absorb blood and tissue fluids, and to be painless on application and removal."

Occlusive or semioclusive dressings include hydrocolloid dressings, alginates, hydrogels, foam dressings, hydrofiber dressings, and paraffin gauze and nonadherent dressings. Newly developed products said to promote angiogenesis or decrease infection include hyaluronic acid cream or dressings and dressings supplemented with activated charcoal or silver.

For the literature review, the authors searched MEDLINE, EMBASE, and the Cochrane Controlled Clinical Trials Register) from January 1990 to June 2006 for trials of the efficacy of modern dressings in healing chronic and acute wounds by secondary intention. They identified 99 studies meeting the selection criteria, including 89 randomized controlled trials, 3 meta-analyses, 7 systematic reviews, and 1 cost-effectiveness study.

These studies offered some evidence that hydrocolloid dressings were superior to saline gauze or paraffin gauze dressings for complete healing of chronic wounds, and alginates were better than other modern dressings for debriding necrotic wounds. When compared with other traditional dressings or a silver-coated dressing, respectively, hydrofiber and foam dressings reduced time to healing of acute wounds.

"Our systematic review provided only weak levels of evidence on the clinical efficacy of modern dressings compared with saline or paraffin gauze in terms of healing, with the exception of hydrocolloids," the review authors write. "There was no evidence that any of the modern dressings was better than another, or better than saline or paraffin gauze, in terms of general performance criteria. More wound care research providing level A evidence is needed."

Some of the authors of the systematic review have disclosed various financial relationships with Smith & Nephew, Mölnlycke Products, Braun, Kinetic Concepts Inc (KCI), the French Ministry of Health, Coloplast, Johnson & Johnson, Urgo, and Genevrier.

The goal of the accompanying consensus statement was "to seek a consensus on recommendations that would help health professionals choose appropriate wound dressings in daily practice, since a systematic review found only limited evidence to support reported indications for modern wound dressings," write Michel Vaneau, PharmD, from Haute Autorité de Santé, Saint Denis, France, and colleagues.

The steering committee for the consensus statement selected a panel of 27 experts in wound care with no declared conflicts of interest to generate recommendations. Evidence considered included the accompanying review, a classification of indications established by a working group, and definitions for the dressings.

"A strong consensus was reached for use of the following combinations: for chronic wounds, (1) debridement stage, hydrogels; (2) granulation stage, foam and low-adherence dressings; and (3) epithelialization stage, hydrocolloid and low-adherence dressings; and for the epithelialization stage of acute wounds, low-adherence dressings," the review authors write. "For specific situations, the following dressings were favored: for fragile skin, low-adherence dressings; for hemorrhagic wounds, alginates; and for malodorous wounds, activated charcoal."

Chronic wounds were defined as those expected to take more than 4 to 6 weeks to heal because of 1 or more factors delaying healing, including venous leg ulcers, pressure ulcers, diabetic foot ulcers, extended burns, and amputation wounds. Acute wounds were defined as those expected to heal in the expected time frame, with no local or general factor delaying healing. These included burns, split-skin donor grafts, skin graft donor site, sacrococcygeal cysts, bites, frostbites, deep dermabrasions, and postoperative-guided tissue regeneration.

The various stages of wound healing are debridement or the stage in which debridement is required; granulation, in which the wound is recovered by newly formed, pink granular tissue (granulation tissue); and epithelialization, in which keratinocytes migrate across the wound surface.

"Both panels agreed that the following criteria were useful when choosing a dressing: pain on application and removal, management of exudates, and dressing tolerance," the review authors conclude. "Interestingly, the consensus statements giving rise to strong agreement did not confirm the highest level (level B) evidence from the literature, maybe because the indications defined in published clinical trials are only of limited relevance to real-life situations in which considerations such as the stage of the healing process or the specific nature of the case (eg, hemorrhagic or malodorous wounds) tend to prevail."

There was neither evidence nor consensus opinion to support claims that specific dressings, such as silver-containing antibacterial dressings, are most appropriate for selected indications, such as care of infected wounds or prevention of infection. Despite the widespread use of classic paraffin gauzes by many panelists in their routine daily practice or in specialized treatment protocols, such as specific surgical procedures or care of extensive burns, often in combination with other topical agents, the panel could not reach any consensus opinion on their clinical value.

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Clinical Context

Current clinical practice guidelines regarding various types of wound care have not established specific recommendations for each type of wound. It has long been known that a moist environment facilitates wound healing more so than allowing the wound to air dry. Occlusive or semioclusive dressings for chronic and acute wounds are designed to promote reepithelialization and wound closure, reduce pain and healing time, absorb blood and tissue fluids, and to be painless when applied and removed.

In addition to standard occlusive or semioclusive dressings, such as hydrocolloid dressings, alginates, hydrogels, foam dressings, hydrofiber dressings, and paraffin gauze and nonadherent dressings, there are recently developed wound care products thought to stimulate angiogenesis or decrease infection, such as include hyaluronic acid cream or dressings, and dressings supplemented with activated charcoal or silver.

Study Highlights

- For the systematic review, the authors searched MEDLINE, EMBASE, and the Cochrane Controlled Clinical Trials Register from January 1990 to June 2006 for trials of the efficacy of modern dressings in healing chronic and acute wounds by secondary intention.
- Of 99 studies meeting selection criteria, 89 were randomized controlled trials, 3 were meta-analyses, 7 systematic reviews, and 1 was a cost-effectiveness study.

- These studies suggested some evidence that hydrocolloid dressings were better than saline gauze or paraffin gauze dressings for complete healing of chronic wounds, and alginates were superior to other modern dressings for debriding necrotic wounds.
- Compared with other traditional dressings or a silver-coated dressing, respectively, hydrofiber and foam dressings reduced time to healing of acute wounds.
- The steering committee for the consensus statement selected a panel of 27 experts in wound care with no declared conflicts of interest to generate recommendations. Evidence considered was the accompanying review, a classification of indications established by a working group, and definitions for the dressings.
- Criteria that the panel deemed to be useful in choosing a dressing were pain on application and removal, management of exudates, and dressing tolerance.
- Chronic wounds were defined as those expected to take more than 4 to 6 weeks to heal because of 1 or more factors delaying healing, including venous leg ulcers, pressure ulcers, diabetic foot ulcers, extended burns, and amputation wounds.
- The various stages of wound healing are debridement or the stage in which debridement is required; granulation, in which the wound is recovered by newly formed, pink granular tissue (granulation tissue); and epithelialization, in which keratinocytes migrate across the wound surface.
- Strong consensus opinion supported the following for chronic wounds: hydrogels for the debridement stage, foam and low-adherence dressings for the granulation stage, and hydrocolloid and low-adherence dressings for the epithelialization stage.
- Acute wounds were defined as those expected to heal in the expected time frame, with no local or general factor delaying healing, including burns, split-skin donor grafts, skin graft donor site, sacrococcygeal cysts, bites, frostbites, deep dermabrasions, and postoperative-guided tissue regeneration.
- Strong consensus opinion supported low-adherence dressings for the epithelialization stage of acute wounds.
- Low-adherence dressings were favored for fragile skin, alginates for hemorrhagic wounds, and activated charcoal for malodorous wounds.
- The consensus statements giving rise to strong agreement did not confirm the highest level (level B) evidence from the literature, which the panel thought may have been the result of limited relevance of the indications defined in published clinical trials to real-life situations. In the latter, considerations such as the stage of the healing process, or specific factors such as hemorrhagic or malodorous wounds, take precedence.
- There was neither evidence nor consensus opinion to support claims that specific dressings, such as silver-containing antibacterial dressings, are most appropriate for selected indications, such as care of infected wounds or prevention of infection.
- Although many panelists used classic paraffin gauzes, often combined with other topical agents, in their routine daily practice or in specialized treatment protocols, such as specific surgical procedures or care of extensive burns, the panel could not reach any consensus opinion on their clinical value.

Pearls for Practice

- Strong consensus opinion supported the following for chronic wounds: hydrogels for the debridement stage, foam and low-adherence dressings for the granulation stage, and hydrocolloid and low-adherence dressings for the epithelialization stage.
- Strong consensus opinion supported low-adherence dressings for the epithelialization stage of acute wounds. Low-adherence dressings were favored for fragile skin, alginates for hemorrhagic wounds, and activated charcoal for malodorous wounds.

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