

# Advances in Treatment of Painful Wounds

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## Wound management is one of the most common aspects of podiatric practice.

The etiology of the wound may vary from post-surgical, traumatic, or disease state progression but the treatment goal is the same: effective wound healing. Properly treating any wound early, provides the best chance for resolution especially in patients at risk of chronic wound development. Patients with diabetes, peripheral vascular disease, or peripheral neuropathies should be frequently and closely monitored for signs of wound development. Commonly, it is the podiatric physician who first identifies these problems in the office setting.

Once a wound has been assessed, debrided, cultured, and photographed, a hydrogel type dressing is an excellent option to promote a healing environment. Hydrogels have the ability to donate water molecules to dehydrated tissue while allowing the passage of water vapor and oxygen to the wound surface. A moist environment helps to increase the phagocytic activity of leucocytes and enzymatic activity of damaged cells. This, in turn, removes devitalized tissue during the early phase of wound healing and limits the development of a biofilm.<sup>1</sup> More so, the hydrogel does not adhere to the wound surface thereby preventing tissue damage during dressing changes.

Frequently, pain as a result of trauma, particularly during the dressing change procedure, has been described by patients as the worst part of dealing with a wound.<sup>2</sup> Proper pain management strategy is a key component in the treatment of wounds. The appropriate selection and use of analgesics is important. Separate analgesic strategies may be required for background pain and the pain arising from wound procedures. However, not all wound pain responds to systemic analgesics. More so, especially today, there is often a stigma attached to the use of opiates including medication misuse. As a consequence, most treatment guidelines for acute injuries recommend prescribers should explore non opioid medications and other modalities that can be used to reduce the need for opioid medication use.<sup>3</sup> Many clinicians use a topical anesthetic agent, lidocaine, to manage wound pain during procedures such as debridement and dressing changes.

Though pain control is often the patients primary concern, clinicians are more likely concerned with wound healing and the prevention of infection. Wound infection is one of the more difficult aspects of wound management and a major contributor to healthcare costs. Wound infection, especially when associated with *Staphylococcus aureus*, is a major concern for all healthcare providers. In a recent surveillance report most methicillin-resistant *S. aureus* (MRSA) infections were nosocomial: 58.4% were community-onset infections, 26.6% were hospital-onset infections, 13.7% were community-associated infections, and 1.3% could not be classified. Community-acquired MRSA rates as high as 60% have been reported in patients with skin and soft-tissue infections.<sup>4</sup> Additionally, alarming is the fact that clinical studies have at times shown that antibiotics are often ineffective against MRSA infections.<sup>5</sup>

Astero™ is the new prescription hydrogel wound product in the market. Astero™, which contains the topical anesthetic lidocaine, is specifically formulated to create a moist healing environment, which promotes granulation, epithelialization, and autolytic debridement, while providing prolonged anesthesia of the wound, lessening the need for systemic



pain medications including opiate based drugs. In addition, the hydrogel in combination with Meadowsweet and Oak Extract helps suppress the development of wound infections, increasing wound healing rates and decreasing secondary complications and related treatments.

Oak extract has been studied for its ability to suppress bacterial growth. In one study, the reduction in MRSA was significantly higher in wounds treated with oak bark formulation than in control (treated and untreated) wounds.<sup>6</sup> In a continuation of this study, evaluating burn wounds, oak extract was demonstrated to not only suppress bacterial infection but increase the rate of healing, leading the authors to suggest that the oak bark formulation can enhance the migration of epidermal cells to accelerate healing.<sup>6</sup> In another study, a product containing oak extract was shown to be superior to silver sulfadiazine cream in diabetic wound healing.<sup>7</sup>

Astero™, available by prescription only, provides the clinician a proven and trusted first line wound hydrogel for post-surgical incisions, cuts, abrasions, and ulcerations. The soothing hydrogel containing Meadowsweet and Oak Extract create a superior wound healing environment while the lidocaine component imparts sustained pain control of the wound. Though this data supports the need for continued clinical trials to better understand wound healing, podiatric practitioners now have a valuable new topical wound hydrogel to add to their clinical armamentarium.

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