

**The use of CurX™ Antimicrobial Gel  
Treatment of Non-Healing Complicated Skin Tear  
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**Introduction**

Skin tears are traumatic wounds that result from a separation of the two major layers of human skin, the epidermis and the dermis. They represent a major problem affecting older adults and many compromised individuals. It is estimated that at least 1.5 million skin tears occur in institutionalized older adults each year<sup>1</sup>, with prevalence rates between 14% and 24%<sup>2</sup>. Ultimately, they cause the patient to suffer pain, the caregiver to waste precious time, and the facility to lose money and resources. As the skin ages, the rete ridges begin to flatten between the dermal-epidermal junction. Such epidermal/dermal flattening typically appears by the sixth decade<sup>3</sup>. With this anchoring now diminished, there is an increased potential for the epidermis to detach from the dermis, leading to tearing of the uppermost layers of the skin, especially in the older adult population<sup>4</sup>. Table 1 lists the classification system for skin tears.

<b>Category</b>	<b>Amount of tissue loss</b>	<b>Description</b>
1	Skin tear without tissue loss	linear type flap type
2	Partial tissue loss	scant: <25% epidermal flap lost moderate: >25% epidermal flap lost
3	Skin tears with complete tissue loss	epidermal flap completely gone

Table 1: Payne-Martin Skin-Tear Classification System<sup>5</sup>

<sup>1</sup> Malone ML, Rozario N, Gavinski M, Goodwin J. The epidemiology of skin tears in the institutionalized elderly. *J Am Geriatr Soc* 1991;39:591-5.

<sup>2</sup> Bank D, Nix D. Preventing skin tears in a nursing and rehabilitation center: an interdisciplinary effort. *Ostomy Wound Manage* 2006;52(9):38-46.

<sup>3</sup> Humbert P, Sainthillier JM, Mac-Mary S, Petitjean A, Creidi P, Aubin F. Capillaroscopy and videocapillaroscopy assessment of skin microcirculation: dermatologic and cosmetic approaches. *J Cosmet Dermatol* 2005;4:153-62.

<sup>4</sup> Baranoski S, Ayello E. Skin: an essential organ. In: Baranoski S, Ayello E, eds. *Wound Care Essentials: Practice Principles*. Springhouse, PA: Lippincott, Williams & Wilkins; 2004:47-59.

<sup>5</sup> Payne RL, Martin ML. Defining and classifying skin tears: need for a common language. *Ostomy Wound Manage* 1993;39(5):16-26.

### **Case Discussion:**

This 88 year old white female has a history of Alzheimer's, low albumin, PVD, hypertension, and hypothyroidism. She has been undergoing unsuccessful treatment for four months to manage a complicated skin tear. Many dressing techniques have been attempted with minimal progress, including silver and topical antibiotics. There has been no evidence of infection during this period. She is not a candidate for a biopsy, but pyoderma gangrenosum is a differential diagnosis, given the slow healing. The patient lives in an assisted living facility and is non-ambulatory; transfers have reopened the tear multiple times.

### **Method**

A thin layer of CurX™ was applied to and around the wound area. A non-adherent gauze sheet was then applied, followed by an ace wrap (for compression). This dressing was changed weekly. At each dressing change, her leg was cleaned with saline.

Baseline prior to 1<sup>st</sup> dressing change



## Results

Within two weeks, the wound had stabilized, with complete epithelialization within two weeks. Moreover, while non-adherent regimens were always used, dressing changes were painful to the patient, indicated by visual and auditory responses to the removal of dressing materials from the wound site. While using CurX™, there was no discomfort/pain response during dressing changes. CurX™ added an additional, non-adherent layer of protection, decreasing discomfort while stimulating healing, ultimately resulting in re-epithelialization.

### Week 1



### Week 2



Week 3



Week 10:



### **Conclusion**

The treatment of this patient has been a long process with minimal improvement and much frustration. The use of CurX Antimicrobial during the dressing change protocol stimulated healing, protected the site from additional physical insult, and reduced pain during dressing changes. For such non-ambulatory patients, risk of limb loss and infection is very high, and the healing of such a complicated, difficult wound represents a major success.