

Hydrogel Evaporation Rates and Their Effect on Wound Healing

By Regina Anderson

There is a plethora of dressings for health care professionals to choose from when treating moist wounds. When it comes to the treatment of dry wounds, options are limited. Hydrogels' ability to maintain an even moisture balance in the wound bed is vital to the healing process and makes it the standard treatment for dry wounds. Studies show a moist healing environment speeds wound healing, promotes granulation, epithelialization and autolytic debridement. Hydrogel dressings can contribute to a moist wound environment and provide topical pain relief by soothing the skin.

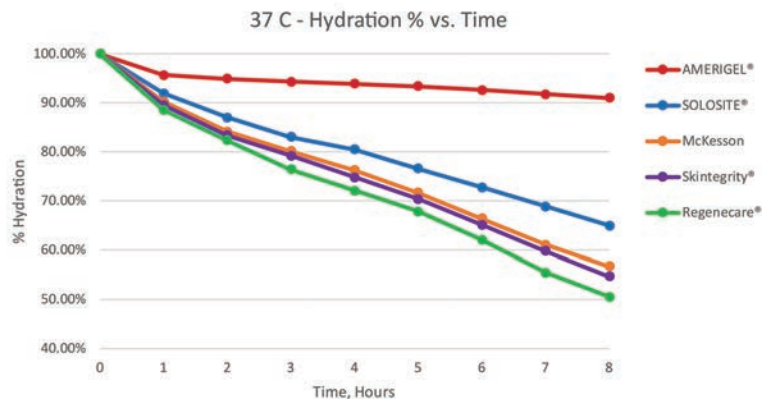
Evaporation Rates Impact on Hydrogel Effectiveness

Evaporation rates should be considered when choosing a hydrogel dressing for dry wounds. For example, low evaporation rates are essential in the context of home health care to sustain the benefits of a moist micro-environment in a patient's wound long after the visit is complete. Hydrogels are defined as a 3-dimensional hydrophilic polymer capable of holding large amounts of water and are valued in biological applications for resembling natural tissue. Hydrogel dressings are formulated with up to 90-96% water in a gel base. A variety of humectants are used in hydrogels to retain moisture while preserving the properties of the product. They include glycerin, glycol, polyvinyl alcohol, sodium polyacrylate, polyethylene glycol, polymers and copolymers. Humectants bind water to itself, or in the case of a hydrogel dressing, to the product. The concentration of the humectant varies, with higher concentrations of humectants creating longer lasting moisture in the wound. Evaporation rate can determine appropriateness of dressings considered for treatment.

Hydrogel Drying Study Results

AMERX Health Care commissioned an independent laboratory to determine *Evaporation/Moisture Loss Over Time of Five Commonly Prescribed Hydrogel Brands*. This study addresses air evaporation only. Study test samples were standardized for size and test method was consistently controlled. Hydration concentration for each sample was calculated as a percentage of the original sample weight. Loss of mass was determined to be a loss of water/hydration.

Test results demonstrated by the chart shown revealed, at an average body temperature of 37C, AMERIGEL® Hydro-



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gel Wound Dressing retained 90.06% of its hydration after eight hours; while SOLOSITE® exhibited a 35.04% loss of hydration; McKesson a 43.28% loss of hydration; Skintegrity® a 45.36% loss of hydration; and Regencare® a 49.52% loss of hydration during the same time period. Study results revealed the average percentage of hydration loss for AMERIGEL Hydrogel Wound Dressing remained significantly less than all other samples tested at all time intervals; exhibiting a 1.13% average percentage hydration loss per hour while other products averaged a 4.38-6.19% moisture loss per hour. Hydration provided by AMERIGEL retained up to 4.5 times more moisture than other hydrogels at 37C.

AMERX Health Care introduced its flagship product, AMERIGEL Hydrogel Wound Dressing, to podiatrists in 2000. Since that time, AMERIGEL has been awarded Podiatrists' Top Choice for topical wound-ulcer and post-matrixectomy treatment for 17 consecutive years. AMERX Health Care's ongoing product research continues to support product efficacy and underscores why podiatrists consistently choose AMERIGEL for the treatment of dry wounds.

While further studies are needed to determine the overall effect of prolonged hydration in long-term treatment, study results suggest that AMERIGEL Hydrogel Wound Dressing's ability to retain a significantly larger percent of hydration over an eight-hour period can have a positive impact on wound healing, autolytic debridement and reduced pain.

Contact AMERX Health Care today at (800) 448-9599, and talk to your dedicated Account Manager about dispensing AMERIGEL Hydrogel Wound Dressing and other trusted AMERX products to your patients. [Click here for more information.](#)