

Rethinking Wound Care: Why Moisture and the Right Dressing Choice Matters

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Abstract

Wound care practices have evolved significantly with advances in scientific understanding; however, traditional beliefs such as maintaining a dry wound environment continue to persist in clinical practice. These longstanding practices are often deeply rooted in historical training and clinical habits, making them difficult to change despite emerging evidence. Substantial evidence demonstrates that a moist wound environment accelerates healing compared to dry conditions. This concept was first established by George D. Winter in 1962, who demonstrated enhanced epithelialization under moist conditions. Since then, multiple studies have consistently supported the superiority of moist wound healing in both acute and chronic wounds. Fibroblasts play a central role in wound healing through collagen synthesis, extracellular matrix formation, and the secretion of growth factors that regulate tissue repair and angiogenesis. Their activity is highly influenced by the local wound environment, including moisture levels and oxygen availability. A moist wound environment enhances fibroblast activity, thereby promoting faster and more efficient healing. It also facilitates cell migration, reduces dehydration and necrosis, and supports autolytic debridement. In addition, appropriate dressing selection based on the phase of wound healing is critical for optimal outcomes. Health care professionals must consider wound characteristics, exudate levels, and infection status while choosing dressings. Modern wound dressings not only maintain moisture balance but also reduce pain, minimize trauma during dressing changes, and improve patient quality of life. This review highlights the importance of moisture balance and phase-specific dressing selection in optimizing wound healing outcomes.

Keywords: Dressing selection, fibroblasts, moist wound environment, tissue repair, wound healing
