

Wounds with Exposed Bone

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Exposed bone may be present with a wide variety of wounds ranging from pressure and neuropathic ulcers to surgical wounds. As in care of wounds without exposed bone, the goals to keep in mind in treating a wound with bone exposure are maintaining aseptic technique, providing moist wound healing, and achieving optimum healing times — all without compromising bone integrity.

Healthy exposed bone should appear white or pale yellow in color. When the principles of moist wound healing are applied, granulation tissue will start to form over healthy bone to eventually cover it completely. If the wound does not progress toward healing, it would be prudent to rule out osteomyelitis as the cause for the delay. Splintering and porous areas often are observed when osteomyelitis is present. If osteomyelitis develops, wound closure can be delayed or a closed wound can spontaneously reopen. Osteomyelitis can lead to systemic infection or require amputation. As part of diagnosing possible osteomyelitis, obtaining a complete blood count and erythrocyte sedimentation rate can help determine infection or inflammation are present within the body. Combining the blood work with a bone scan will help identify whether osteomyelitis is active within the suspected region. If osteomyelitis is confirmed, intravenous antibiotics are administered and when the infection resolves, wound closure will follow. If wound closure does not follow, surgical intervention may be required to remove the infected bone in order to achieve healing. ■

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Commentary from Ferris Mfg. Corp.

PolyMem® dressings comprise several unique components that enhance wound healing. The dressings absorb, cleanse, moisten, and fill the wound bed. Working together, these components concentrate healing substances from the body into the wound bed, helping promote rapid healing and optimizing moisture balance. The dressings also help decrease both persistent and procedural wound pain, as well as edema and ecchymosis.

In a representative case study,¹ PolyMem multifunctional dressings were applied to a Boston Marathon-qualified athlete who was tripped while running the Chicago Marathon and split open his chin. Exposed bone (mandible) was visible at the base of the full-thickness wound.

Treating wounds with exposed bone is challenging; these wounds must be kept appropriately moist in order to maintain bone viability. PolyMem was chosen because of its unique ability to maintain appropriate healing conditions while reducing edema and pain. Unlike other types of dressings, PolyMem dressings are appropriate for use on dry wounds, including exposed bone, as well as for heavily exuding wounds. PolyMem dressings balance moisture to provide an optimal healing environment.

This split chin was closed, with minimal scarring, in only 14 days using PolyMem dressings. The patient did not need pain relievers during the treatment. ■

Reference

1. Sessions RC. Full-thickness chin laceration neatly closed in 14 days using only Polymeric Membrane Dressings. Poster presented at the 3rd Congress of the World Healing Societies. Toronto, Ontario, Canada. June 4-8, 2008.



Day of injury: exposed bone visible in the wound base; wound measures 15 cm x 4 cm x 1.5 cm. PolyMem Silver Rope initiated, covered with PolyMem Silver.



Day 14: the site is neatly closed without use of sutures, staples, glue, or adhesive strips. The natural wicking properties of the PolyMem dressing approximated the wound edges.