Background
Mucormycosis is an extremely rare and deadly infection in trauma patients, carrying a mortality risk of 31%. The mainstays of management are aggressive surgical debridement and administration of the antifungal agent, amphotericin. Despite such attention, this can be horribly disfiguring and reconstruction techniques have rarely been described.

Patient Presentation
A previously healthy, 18-year-old female was involved in a high-speed, side impact MVC and sustained a Morel-Lavallee (closed degloving) lesion of the lateral thigh, a small adjacent laceration, and an open fracture of the tibia. After appropriate trauma triage and evaluation, she underwent ORIF of her tibial fracture, with local washout and closure of the thigh laceration. On post-op day 5, she developed an aggressive fungal infection requiring local excision and, due to the large lesion, invasive necrotizing fungus and septic shock, was referred to our burn center (Fig. 1). We proceeded with serial excision, IV amphotericin and broad spectrum antibiotics pending tissue culture and histology. Her wound on presentation was 600 cm², with necrotic fat and muscle less than 24 hours after prior excision. She underwent 7 surgical debridements involving fascia, muscle, and tendon in the 14 days following her transfer before the infection was showing signs of improvement. Histology from the referring facility confirmed mucormycosis.

Treatment Regimen
The wound area had increased to 2,250 cm² and now had exposed nerve and greater femoral trochanter and no remaining fascia. Negative pressure wound therapy (NPWT) was applied (Fig. 2) and after 6 days, PriMatrix® Dermal Repair Scaffold was placed. At 2 weeks, we had 100% take of the PriMatrix and a confluent, well-vascularized wound bed amenable to epidermal autograft placement, harvested at 8/1000th of an inch and meshed 2:1 with negative pressure wound therapy. (Fig. 3) She had 99% graft take at 5 days and was discharged to rehab (Fig. 4), ambulating with assistance. She subsequently resumed playing golf within 8 months.

Clinical Outcome
She is currently undergoing tissue expansion and cosmetic contouring of the wound while in college.

Conclusion
This case demonstrates that, once adequate microbial control has been achieved, it is possible to reconstruct the subsequent wound with dermal scaffolds and epidermal autografts resulting in a functional and durable outcome. This is the first case reported using PriMatrix and epidermal autograft in a wound previously harboring mucormycosis.
The Treatment and Reconstruction of Cutaneous Mucormycosis after Blunt Trauma

PriMatrix Dermal Repair Scaffold is a unique scaffold for the management of the most challenging wounds.

Ordering Information

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PriMatrix is intended for the management of wounds that include:
- Partial and full thickness wounds
- Pressure, diabetic, and venous ulcers
- Second-degree burns
- Surgical wounds—donor site grafts, post-Moh’s surgery, post-laser surgery, podiatric, burn dehiscence
- Trauma wounds—abrasions, lacerations, and skin tears
- Tunnelled undermined wounds
- Draining wounds

Contraindications
- PriMatrix should not be used for patients with a known history of hypersensitivity to collagen or bovine products.
- PriMatrix is not indicated for use in third-degree burns.

Warnings and Precautions
- Do not expose to chemicals or substances other than sterile, room temperature 0.9% saline.
- Excessive heat can damage collagen. Do not heat in 0.9% saline warmed above room temperature. If, when hydrated, the product shrinks in size, DO NOT use the product as it may be damaged.
- PriMatrix should be used with caution in regions where an infection exists or is suspected. Treat any existing infection appropriately.

Potential Complications
The following complications are possible. If any of these conditions occur, the device should be removed: infection, chronic inflammation, allergic reaction, excessive redness, pain, swelling, or blistering.

Availability of these products might vary from a given country or region to another, as a result of specific local regulatory approval or clearance requirements for sale in such country or region.

Non contractual document. The manufacturer reserves the right, without prior notice, to modify the products in order to improve their quality.

Warning: Applicable laws restrict these products to sale by or on the order of a physician.

Consult product labels and inserts for all indications, contraindications, warnings, precautions, and instructions for use.

For more information or to place an order, please contact:
United States, Canada, Asia, Pacific, Latin America
USA 800-654-2873 888-980-7742 fax International +1 609-936-5400 +1 609-750-4259 fax integralife.com

References

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