

Management of Scalp Avulsion and Exposed Calvarium in the Critically-ill Patient With Resorbable Nanofiber Wound Matrix† and Bilayer Collagen Matrix*.

Lee Weber MD, Wo, Luccie MD, Crist, Taylor MD, Kassira, Wrood MD

Case Presentation

58 year old male suffered an unhelmeted motorcycle collision with spinal fractures, bowel perforation, subdural hemorrhage and scalp avulsion



Treatment Course

Operative debridement found exposed calvarium, with a large 100cm² wound.

Initiation of Negative pressure wound therapy with instillation and dwell with dilute sodium hypochlorite solution (NPWTi-D) for a 14 day course



28 day therapy with resorbable nanofiber wound matrix†

Concomitant NPWTi-D with dilute sodium hypochlorite solution.

Reapplied every two weeks

Burring of calvarium limited due to patient's critical comorbid conditions



3 weeks following with NPWT and bilayer collagen matrix* for split thickness skin grafting and result at 3 weeks post STSG with 1wk NPWT



Intracranial pressure monitor placed in a vascular at-risk scalp flap led to wound breakdown and Acinetobacter infection



Application of Resorbable collagen nanofiber matrix†



Return to OR with burring of areas of exposed calvarium
Application of bilayer collagen matrix* and NPWT



Conclusion
Scalp avulsion often occurs with significant trauma and is amplified in critically ill patients. A combined treatment strategy may be beneficial for those that may not tolerate more significant procedures.