



Abstract Title:	Utilizing Novel Techniques and Technology in the Management of a 60 Year Old with 82% TBSA Full-Thickness Burn Injury
Author and Co-authors:	Clinton Leonard, CRNP; Alicia Lintner, CRNP; Andrew Bright, DO; Jennifer Firestone, CRNP; Jill David, CRNP; Steven A. Kahn, MD University of South Alabama Medical Center, Arnold Luterman Regional Burn Center, Mobile, AL
Objective:	Upon completion of the lecture, attendees should be better prepared to: <ul style="list-style-type: none">▪ Understand novel technology and its role in management of the high Baux Score patient
Abstract:	<p>Introduction: After severe burn injury, mortality is primarily determined by age, burn size, and the presence of inhalation injury. The Baux score, a function of these predictors, is the most widely used measure to predict mortality. In recent history, a Baux Score of 140 has been considered nonsurvivable in many institutions. However, with advances in critical care, resuscitation strategies, antibiotic therapy, and novel techniques/technology for surgical reconstruction, patients with higher Baux Scores are now survivable. The purpose of this study is to describe the clinical course of a 60-year-old 82% full thickness burns and inhalation injury who survived what would have been a traditionally nonsurvivable injury after newer techniques, antibiotics, and technology were utilized in his care.</p> <p>Methods: This is a case study of a 60-year-old with 82% full thickness burns, his injury, clinical course, and outcomes were described.</p> <p>Results: A healthy 60-year-old male was injured from an explosion while welding in a tank at work. He suffered 82% full thickness burns, with only his buttocks, genitals, feet, some of his right thigh, and right lower leg spared. He was resuscitated with an ideal body weight index formula that included “rescue” plasma supplementation. Bedside transthoracic echocardiography was used to assess his volume status during resuscitation and throughout his hospital course. He underwent early excision with placement of a dermal template over his trunk, arms, and left leg. His reconstruction also involved widely meshed grafts along with cultured epithelial autografts (CEA) and compassionate-use autologous skin cell spray (ASCS). He received 6:1 meshed autografts and CEA over his trunk, and 4:1 meshed grafts with ASCS over his upper extremities. His left leg was treated with 6:1 meshed grafts (with 4:1 over the knee and ankle) and an ASCS spray with CEA overlay. His donor sites were also treated with</p>

either CEA or ASCS. His clinical course was complicated by numerous multi-drug resistant Pseudomonas pneumonias and he was treated with traditional anti-Pseudomonal antibiotics when possible, but he also received meropenem-vaborbactam, ceftaroline, colistin, and inhaled amikacin depending upon the resistance profile of the particular pneumonia. He also developed AKI requiring dialysis twice during episodes of sepsis, but his kidneys recovered each time. He was discharged to rehab 8 months after injury with complete re-epithelialization of his donors and burns, except for a small open area on his left tibia and his scalp. At the time of discharge, his cognition was intact, he was able to take 30 steps with a walker, and he could hold his infant grandson independently while sitting in a chair.

Conclusions: With novel 21st century technology, antibiotics, and critical care, patients with traditionally “nonsurvivable” injuries are now able to survive severe burn injury even with a Baux Score >140. This particular 60-year-old patient with 82% full thickness burns and inhalation injury had essentially a zero percent chance of survival based on historical literature and statistics. However, he made it through a challenging hospital course with a reasonable, functional outcome. As technology continues to improve, patients with even higher Baux Scores will become survivors.

Disclosure:

Clint Leonard – No Relevant Financial Relationships to Disclose

Alicia Lintner – No Relevant Financial Relationships to Disclose

Andrew C. Bright – No Relevant Financial Relationships to Disclose

Jennifer Firestone – No Relevant Financial Relationships to Disclose

Jill Davis – No Relevant Financial Relationships to Disclose

Steven A. Kahn – Consultant: Medline; Mallinckrodt