CONCLUSIONS: Xenografting appears to be a reasonable option for patients with partial-thickness scald injuries. The cost, LOS, HAIs, and ICU days for the Xenografting cohort fell in-between the Non-Op and Autografting cohorts, as would be expected. While non-operative management may be appropriate for small/superficial burns, and Autografting may be required for large/deep burns, xenografting provides rapid wound closure. Xenografting also permits earlier hospital discharge, reduces need for reconstruction, and should strongly be considered as first line therapy for intermediate-depth pediatric scald injuries.

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Panniculectomy with Simultaneous Ventral Hernia Repair: A Retrospective Analysis of Surgical Outcomes

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BACKGROUND: Panniculectomy (PAN) and ventral hernia repair (VHR) are major procedures that carry significant risk. In cases where both surgeries are indicated, there is limited evidence that addresses the safety of performing the two simultaneously. In this study, we investigated clinical outcomes associated with PAN and PAN with concomitant VHR over an eight-year period at a single institution.

METHODS: We used CPT codes to retrieve charts for patients who underwent panniculectomy from 2007–2014. Charts were reviewed for patient characteristics, hospital course, post-operative complications, and hospital readmissions. Chi-squared tests were used to compare unadjusted marginal differences for categorical variables, and Wilcoxon rank sum tests were used to compare continuous variables.

RESULTS: 58 patients underwent PAN alone and 41 underwent PAN+VHR. Cohorts were similar with a mean age of 46 and a mean BMI of 33.0. 13% of patients endorsed a current smoking history, and 52% had prior bariatric surgery. Mean length of follow-up was 7 and 15 months, respectively (p=0.23). PAN+VHR patients had an increased risk of cellulitis compared to PAN alone patients (29.3% vs. 10.2%; p=0.02), although risk of overall wound-related events was not increased (p=0.22). There was no significant difference in the risk of infection (p=0.56), dehiscence (p=0.13), seroma (p=1.00), or skin necrosis (p=0.16). PAN+VHR patients had an increased risk of related emergency room (ER) visit within 1 year of discharge (p=0.03), but risk of readmission within the same time frame was not increased (p=0.25). Among patients who underwent PAN+VHR, hernia size ≥16cm² was associated with an increased risk of 1-year ER visit (p=0.01) and hospital readmission (p=0.02). Additionally, PAN+VHR patients who underwent mesh repair had an increased risk of post-operative complication (p=0.02) and readmission (p=0.04).

CONCLUSIONS: In our study, patients who underwent PAN+VHR had an increased risk of cellulitis and related ER visit compared to patients who underwent PAN alone. While this discrepancy in outcomes certainly warrants consideration when evaluating patients for surgical candidacy, one must note that the magnitude of risk imparted by simultaneous VHR depends on individual comorbidities as well as hernia-specific characteristics such as size and complexity. Further investigations to include outcomes following VHR alone are indicated to evaluate the extent to which our findings might be attributed to VHR alone.

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Flaps and Lower Extremity Trauma: Differences in Flap Rates Across the United States

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INTRODUCTION: Open fractures with large soft tissue defects represent a challenging reconstructive problem.
Successful attempts at limb salvage require a multi-disciplinary approach including early access to reconstructive plastic surgery. However, given the only recent rise in microsurgery, it is not yet known if this demand is being met.

**MATERIALS AND METHODS:** Using ICD-9CM codes, all adult patients presenting with open tibia fractures in the 2003–2012 Nationwide Inpatient Sample (NIS) were included in the analysis. Flap rates during the index hospitalization were evaluated over time and against demographics, comorbidities, rates of amputation, and patient and hospital factors regarding access to care. NIS data was multiplied to its United States (US) population estimate.

**RESULTS:** We identified 29,717 patients over 10 years, a predicted 14,859 open tibia fractures in the US per year, with a mean age of 41.24±16.68 years. Yearly, 5.92% (n=879) of open tibia fractures receive local or free flap coverage on the index hospitalization. Younger age and peripheral vascular disease were significantly associated with increased rates of flaps (p<0.01). Other medical co-morbidities, including diabetes, and race were not associated. Medicare (p<0.01), patient zip code with a mean household income in the lower 25% (p<0.05), city less than 1 million people (p<0.05), small (p<0.01) or medium (p<0.05) hospitals, and rural or urban non-teaching hospitals (p<0.01) were all associated with significantly lower rates of flaps. Mean income greater than 50% (p<0.05), large hospitals (p=0.05), urban teaching hospitals (p<0.01), and metropolitan areas with at least 1 million people (p<0.01) were associated with significantly higher rates of flaps than the mean. East South Central had significantly lower flap rates (p<0.001) and higher amputation rates (p<0.01), and geographic regions with higher flap rates were New England (p<0.05), Mid Atlantic (p<0.001), and Mountain (p<0.01).

**CONCLUSION:** Rates of flap coverage for open tibia fractures differ primarily based on factors related to access to care, and are not explained by differences in medical co-morbidities. Specifically, medically underserved areas of the country, as well as individuals without financial resources received flaps at lower rates and amputations at higher rates. These findings suggest that skilled lower extremity reconstruction is not universally applied to all Americans. Hospital administrators, insurance providers and the plastic surgery community must work together to support lower extremity reconstructive surgeons.

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