

121 **Acute Stress Disorder and Post-traumatic Stress Disorder in the Outpatient Burn Population**

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Introduction: Early screening and intervention for acute stress disorder (ASD), diagnosed within 30 days of the inciting trauma, and post-traumatic stress disorder (PTSD), diagnosed after 30 days, are quality metrics in burn care. However, a considerable knowledge gap remains surrounding these psychological conditions in the *outpatient* burn setting. In this study, we assessed the effectiveness of ASD and PTSD screening at an academic burn center and identified risk factors for their development.

Methods: A retrospective cohort study of all patients treated at our ABA-verified burn center's outpatient clinic, between July 2016 and August 2019, was undertaken. Adult patients with flame, flash, contact, or scald burns who were initially evaluated in the outpatient setting were included. ASD and PTSD were assessed using validated screening tools (ASDS and PCL-5, respectively). ASD/PTSD screening rate, screening tool appropriateness, and subsequent interventions were tracked, along with age, gender, % total body surface area (TBSA) burned, burn mechanism, operative intervention, psychiatric history, substance abuse history, and co-morbidities. Chi-square and Mann-Whitney *U* tests were used for univariate analysis of categorical and continuous variables, respectively.

Results: The analysis included 2494 clinic encounters and 1147 unique patients. Patients were screened for ASD or PTSD at 94.8% of encounters. Median age was 36 years (range of 18 to 94 years), 57.6% of patients were male (n=661), and median TBSA burned was 1% (range of 0.1 to 12%). Among all screens, the appropriate screening tool was applied 88.5% of the time. For all encounters, positive screening rates for ASD and PTSD were 13.2% (n=286) and 14.6% (n=48), respectively. Risk factors for positive ASD screens included a history of substance abuse (OR 1.9, *p*=0.03) and history of psychiatric illness (OR 2.6, *p*=0.002). Similarly, risk factors for positive PTSD screens included a prior positive ASD screen (OR 9.5, *p*=0.001), a history of substance abuse (OR 2.1, *p*=0.04), and a history of psychiatric illness (OR 3.3, *p*=0.002). Age, gender, burn mechanism, TBSA burned, and need for operative intervention did not predict positive screens. The intervention rate for positive PTSD screens by referral, counseling, or medication, was only 7.9%.

Conclusions: Demographics and burn severity do not appear to predict development of ASD or PTSD in the outpatient burn population. In contrast, a history of substance abuse or psychiatric illness warrant further attention. Despite consistent use of validated screening tools, these conditions remain under-treated in the outpatient setting, indicating a need for resource-expansion.

122 **PTSD Symptom Clusters as Predictors of Pain Interference in Burn Survivors**

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Introduction: Individuals who experience burns are at higher risk of developing post-traumatic stress disorder (PTSD) and chronic pain. There exists a synergistic relationship between PTSD and chronic pain in burn survivors. Theories exist about how aspects of each condition may perpetuate one another, or share underlying mechanisms. Both of these conditions are of relevance to pain-related disability. We sought to examine the role of individual PTSD symptom clusters as predictors of pain interference. We hypothesized that the hyperarousal and emotional numbing symptom clusters would be predictive of pain interference, even when accounting for the other two PTSD symptom clusters, pain intensity, and other covariates (burn size, hospital length of stay, age and gender).

Methods: Data were analyzed from the Burn Model System National Database. Inclusion criteria required participants to have a moderate to severe burn injury that required surgery for wound closure. Patient-reported outcome data: PTSD Checklist - Civilian, PROMIS-Pain Interference Short Form 4a, and a 0-10 average Pain Intensity item were analyzed at 6-months after injury. Hierarchical linear regression models were fit to examine the impact of PTSD symptom clusters on pain interference over and above that of pain intensity, and standardized betas were calculated (**B**).

Results: A total of 439 adult participants had complete responses on the measures of interest (e.g. PTSD symptoms, PROMIS-Pain Interference, and Pain Intensity) and were included in the analysis. Mean age, percent total body surface area burned, and hospital length of stay were 47 years, 18%, and 27 days, respectively. 69% were male and 82% were Caucasian. Results of a linear regression found that hyperarousal (**B** = .10, *p* = .03) and emotional numbing (**B** = .13, *p* = .01) PTSD symptom clusters were each significant predictors of pain-related disability, even when accounting for pain intensity (**B** = .64, *p* < .001). The covariates age, gender, days until discharge, and TBSA were all nonsignificant. The model accounted for 61% of the variance associated with pain-related disability.

Conclusions: Results highlight the importance of the emotional numbing and hyperarousal PTSD symptom clusters in explaining pain interference. Future evaluations parsing out the longitudinal relationships (i.e., beyond 6-months postburn) between PTSD symptom clusters, pain intensity, and pain interference, as well as evaluating other underlying mechanisms, are warranted.