47 COVID-19 Impact on Burn Care- A Summary of Weekly Bed Counts and Surge Capacity

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Introduction: The COVID-19 pandemic has raised global awareness of healthcare resource limitations. Specifically, the pandemic has demonstrated that burn disaster planning should involve non-burn disasters that threaten staff, supplies, or space. The ABA facilitated bed counts with the assistance of regional disaster coordinators from April through August of 2020. Our analysis examines the impact of the pandemic on burn surge and bed capacity in the U.S.

Methods: Bed availability was obtained by the ABA regional disaster coordinators through an initiative by the Organization and Delivery of Burn Care Committee. Bed availability was defined as immediately available burn beds and categorized as adult, pediatric, or flexible. Surge capacity was defined as the maximum number of patients that a burn center could admit in a surge situation. Data was deidentified by the central office with descriptive statistics to determine bed availability and surge capacity trends regionally and nationally.

Results: Bed counts were performed 6 times from 04/17/2020 through 08/14/2020. Response rates from the 137 North American burn centers varied from 86–96%. At least 6 burn centers (5%) were either closed or converted for COVID patients during the initial two bed counts. The total number of adult or pediatric burn beds was 2,082. Total bed availability decreased from 845 at the first survey down to 572 beds at the last survey. Surge capacity baseline was 1,668 beds and decreased from 1,132 beds in the initial survey down to 833 beds in the final survey.

Conclusions: Our study demonstrates a significant impact on burn bed availability due to the COVID-19 pandemic with a 37% reduction in available burn beds from April to August and a 26% reduction in surge capacity. This study demonstrates a substantial reduction in bed availability during the pandemic with additional analysis in process to examine regional trends.

48 Higher Admission Frailty Scores Predict Increased Mortality, Morbidity and Healthcare Utilization in the Elderly Burn Population

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Introduction: The Rockwood Clinical Frailty Scale is a validated rapid assessment of frailty phenotype, predictor of mortality and other clinical outcomes in the geriatric population, even when applied retrospectively. Using data from a large tertiary care burn center, we assessed the association between admission frailty in an elderly burn population and outcomes.

Methods: Retrospective analysis of burn patients ≥ 65 years, admitted to a tertiary care referral burn center from 2015–2019 (n= 652). Patients were assigned to Rockwood frailty subgroups, low (1–3), moderate (4–6), or high (7–9), based on comprehensive medical, social work, physical and occupational therapy assessments. Patients who did not have complete assessments to allow for appropriate frailty scoring were excluded. Hospital-associated infections (HAIs) were identified through the institutional epidemiology database and healthcare utilization data were extracted from burn registry and medical records. Cox proportional hazards regression was used to estimate associations between admission frailty and 30-day inpatient mortality.

Results: Our study included 644 patients (low: 262, moderate: 345, and high: 37 frailty subgroups). Frailty was associated with higher percent TBSA (median TBSA: low 2.0%; moderate 3.0%; high 3.0%; p=0.01) and older age at admission (p=0.0004). The 30-day cumulative incidence of mortality was 2.3%, 7.0%, and 24.3% among the low, moderate, and high frailty strata, respectively. After adjustment for age, TBSA and inhalation, high frailty was associated with increased 30-day mortality (HR 5.73; 95% CI 1.86, 17.62). Moderate frailty appeared to increase 30-day mortality, although estimates were imprecise (HR 2.19; 95% CI 0.87–5.50).

Morbidity and healthcare utilization results are reported in Table 1. Higher frailty was associated with any ICU stay during the hospitalization, need for mechanical ventilation, and higher median hospital cost/day. HAIs were infrequent in all frailty subgroups. The proportion of patients discharged to hospice, rehab, long and short-term care facilities was highest in the high frailty subgroup. Those in the moderate and low subgroups were more likely to be discharged home or home with services.

Conclusions: High admission frailty is associated with an increased 30-day mortality regardless of age group. Higher frailty correlates with increased morbidity and healthcare utilization.