Introduction: Pediatric burn injuries pose a major clinical problem worldwide and result in significant morbidity. Early application of adjunctive negative pressure wound therapy (NPWT) has been shown to significantly improve time to re-epithelialization in pediatric burn patients, however this treatment has not yet been reliably or consistently adopted.

Methods: This investigation used a sequential mixed methods design to identify and explore barriers to the implementation of adjunctive NPWT in acute pediatric burn care. An online questionnaire was developed and disseminated to healthcare professionals within four major pediatric hospitals, each with a dedicated burns service. Specific barrier data were coded according to the Consolidated Framework for Implementation Research (CFIR). Semi-structured interviews were then conducted with senior clinicians across the four participating hospitals to adapt and tailor implementation strategies to local contexts. A stakeholder consensus meeting was then conducted to consolidate implementation strategies and local processes.

Results: A total of 63 healthcare professionals participated in the online questionnaire, and semi-structured interviews were conducted with nine senior burn clinicians. Two interviews were also conducted with parents and caregivers of pediatric burn patients who had received NPWT as part of their acute burn treatment within the last 12-months. This investigation identified eight implementation barriers across all five CFIR domains then co-designed targeted strategies to address these identified barriers. Barriers included lack of available resources, limited access to knowledge and information, individual stage of change, patient needs and resources, limited knowledge and beliefs about the intervention, lack of external policies and incentives, intervention complexity, and planning.

Conclusions: There are multiple and inter-related contextual characteristics that influence the uptake of adjunctive NPWT into acute pediatric burn settings. In order to
implement NPWT into clinical practice for the acute treatment of pediatric burn injuries, additional resources, education, training, and updates to policies and guidelines are required. It is anticipated that NPWT, in conjunction with tailored implementation strategies, will enhance adoption and sustainability.

**Applicability of Research to Practice:** The time lag in evidence-to-practice implementation is a well-recognized issue in clinical and healthcare research. This investigation is one of the first to define barriers and enablers of implementation in acute pediatric burns. Findings from this research can help inform and guide other acute burn related implementation studies in the future, the implementation of other technologies, devices, or treatment pathways for pediatric patients in a healthcare setting.

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**784 Burn Injuries During Pregnancy**

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**Introduction:** Burn injury during pregnancy is uncommonly studied, but represents a potentially devastating public health crisis. There is the potential for multiple people injured and lives lost. The aim of this study was to review our institution's experience with this rare subgroup and to isolate specific trends.

**Methods:** A retrospective study of burn injuries in pregnant women, admitted from 2013-2023 to a single burn center, was conducted to determine outcomes of pregnant patients. Data on these patients were collected utilizing the burn registry and a manual chart review.

**Results:** Forty patients were identified and stratified by age, weeks of gestation, mechanism of burn injury, TBSA, length of stay, ICU status, surgical intervention, maternal and fetal mortality, and substance use. The mean average age was 27.6 years, and patients were, on average, 20.8 weeks pregnant. The majority of the injuries being sustained were from scald burns (22), followed by flame (12), chemical (3), contact (2), and electrical (1), with one reported inhalation injury. TBSA ranged from 0-40%, with an average TBSA of 4.5%. Length of stay averaged 5.3 days, and 12 patients were admitted to the ICU, with a mean ICU length of stay of 4.3 days. The majority of patients did not receive any surgical intervention, but for those who did, they received either skin replacement (11), or skin substitute (4). During this time, there was one live birth, and no maternal or fetal deaths. Of those admitted, 12 (30%) tested positive for illegal substance use (22.5% marijuana, 7.5% cocaine), and 5 (12.5%) identified as a smoker.

**Conclusions:** The high incidence of substance use in this population was a surprising finding and warrants further investigation. There is a need for a multi-center, retrospective study to better understand trends in this unique population, with a focus on substance use.

**Applicability of Research to Practice:** Investigating substance use in this population will help us understand how to better treat these patients.