

## A Feasibility Study Comparing Virtual and Face to Face Care Using a Novel Telemedicine Optimized Burn Intervention (TOBI) for Pediatric Burn-injured Patients and Their Caregivers

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**Introduction:** Pediatric burn injury is a major public health issue, with approximately 120,000 injuries annually in the US. About 91% of pediatric burns are managed outpatient and patients and their families often travel several hours for clinic visits. Mobile health technology provides an opportunity to span this geographic barrier and we created a smartphone application, Telemedicine Optimized Burn Intervention (TOBI) to enable burn experts to direct burn wound care. We performed a feasibility study to determine the contingency of a future multicenter randomized control trial of burn care utilizing TOBI.

**Methods:** 65 patient/caregiver dyads were recruited from outpatient burn clinic or emergency room and were randomized to burn care enhanced with TOBI (n=32) or face to face (FTF) standard care (n=33). Participation, study retention and clinical outcomes were assessed at baseline and each TOBI or clinic visit to determine signals of efficacy for future power calculations.

**Results:** The retention rate for TOBI was 65.6% compared to 54.5% in the FTF group. No adverse events were reported in either group. Overall treatment adherence was 84.9% for TOBI and 76.8% for FTF, with a decreased travel time, cost of treatment and time to work return for TOBI.

**Conclusion:** These findings demonstrate the high feasibility of testing TOBI, a scalable, low-cost intervention in a multicenter RCT.

Table 1

### *TOBI 2 Feasibility Measures*

Number of participants agreeing to participation	65/83 (78.3%)	
Reasons for not participating (n=18)		
Does not qualify	8/18 (44.4%)	
Not interested in telemedicine	7/18 (38.9%)	
Time restraints	3/18 (16.7%)	
Participants retained in study		
Total	39/65 (60.0%)	
TOBI Group	21/32 (65.6%)	
FTF Group	18/33 (54.5%)	
Reason for lack of retention (n=26)	TOBI Group (n=11)	Clinic Group (n=15)
Lost to follow up	11/11 (100%)	14/15 (93.3%)
Not interested	0/11 (0%)	1/15 (6.7%)
Number of participants with adverse advents	0/65 (0%)	
Number of reported technology issues	1 reported	