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Introduction:

- Hands are the most commonly burned body part, and are prone to developing limited range of motion and scar contractures. In order to overcome these functional limitations, an aggressive occupational therapy regimen is paramount¹
- Many burn survivors are in vulnerable populations with limited resources and poor follow up²
- The purpose of this study is to determine outpatient occupational therapy (OT) referral and compliance rates in our patient population

Methods:

- Our retrospective chart review examined all patients with upper extremity burns admitted to a single ABA verified burn center who were referred to OT
- **Included:** all patients treated by our burn center for hand injuries (1/1/2015 to 6/31/2019) who had long-term outpatient follow-up (minimum of 3 outpatient OT sessions)
- **Tracked:** demographics (living situation, substance use, psychiatric illness), injury variables (TBSA, hand dominance), interventions (type/number of surgeries), outcomes (length of stay [LOS]), and OT outcomes (inpatient treatment, outpatient treatment, and reason for discontinuation)

Results:

Of 717 patients screened, 60.53% (n=434) had hand burns, and of those, 13.5% (n=59) met inclusion criteria for our study

Descriptive outcomes: Table and Graph 1

- 366 adult patients admitted with hand burns → 203 were referred for outpatient OT
- Only 59 (29.1%) consistently presented for a minimum of 3 outpatient OT sessions
 - Of those referred to OT, 104 (51.2%) were lost to follow up, 23 (19.7%) had insurance/financial limitations, and 7 (1.0%) relocated
- 163 patients were not referred for outpatient OT at our institution
 - 78 (21.3%) had normal hand function and did not require outpatient OT, 59 (16.1%) followed up at a different hospital, and 26 (7.1%) expired during the hospitalization

Demographic and injury variables of cohort: Tables 2 and 3

- Mean age = 41.3±13.6 years; 37 (62.7%) male; mean TBSA% burned = 15.0%±16.7
- Mechanism of injury: Flame (45.8%, n=27) > scald (35.6%, n=21) > electrical (10.2%, n=6)
- Hand characteristics: Full thickness hand burns in 41 (69.5%) patients, 10 (17.0%) with tendon exposure, 2 (3.4%) with hand fractures.
 - Areas burned: dorsal (81.4%, n=48) > volar (62.7%, n=37) > both (50.9%, n=30)

Table 1: Descriptive outcome of all patients screened for study

	Not hand burn	Not required	Insurance or Financial	Outside hospital	Relocated	Lost to follow-up	Expired	Long-term follow-up	Pediatric
n	283	78	16	59	7	104	26	76	68
Percentage (%)	40.03	10.88	2.23	8.23	0.98	14.50	3.63	10.60	9.48

Graph 1: Descriptive outcome of all patients screened for study

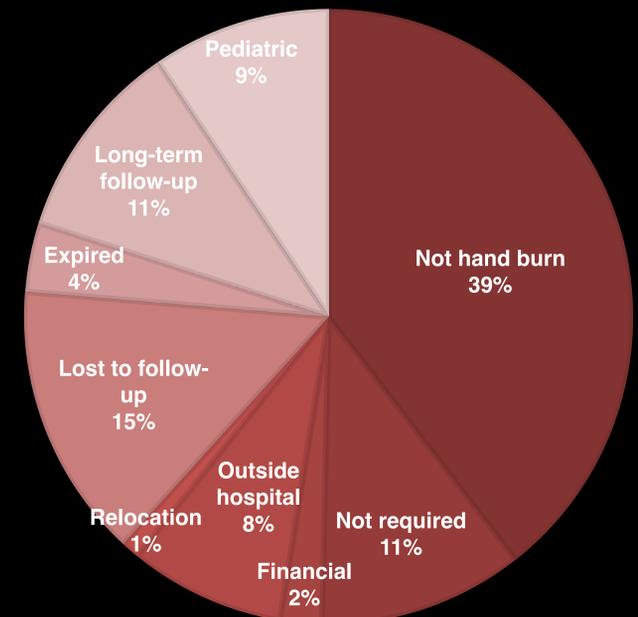


Table 2: Demographic information of patients with long-term follow-up

Demographic information		
Number of patients		59
Average age (years)		41.3±13.6
Gender (male)		37 (62.7%)
Comorbidities	Smoking	19 (32.2%)
	Other drug use	12 (20.3%)
	Hypertension	8 (13.6%)
	Diabetes	7 (11.9%)
	Psychiatric illness	14 (23.7%)
	Low social resources	16 (27.1%)
	Pre-existing hand pathology	6 (10.2%)

Table 3: Injury variables of patients with long-term follow-up

Injury variables		
TBSA (%)		15.0±16.7
Injury mechanism	Flame	27 (45.8%)
	Scald	21 (35.6%)
	Electrical	6 (10.2%)
	Chemical	3 (5.08%)
Location of hand burn	Dorsal	48 (81.4%)
	Volar	37 (62.7%)
	Both	30 (50.9%)
Full thickness hand burn		41 (69.5%)
Tendon injury or exposure		10 (17.0%)

Conclusion:

- At our center, nearly 1 in 4 patients with hand burns had excellent function upon discharge and did not require further outpatient therapy
- However, when patients are referred for outpatient therapy, many do not show up or maintain reliable compliance
- While we can identify some barriers to continuing care in an outpatient setting, many patients are simply lost to follow up

Applicability to Practice:

While occupational therapy remains an effective and viable option for hand rehabilitation, further efforts must be aimed at providing patients mechanisms and education for achieving reliable outpatient follow up.

References:

1. Cowan, April C., and Caroline W. Stegink-Jansen. "Rehabilitation of Hand Burn Injuries: Current Updates." *Injury*, vol. 44, no. 3, 2013, pp. 391-396., doi:10.1016/j.injury.2013.01.015.
2. Dissanaika et al. "Socioeconomic status, gender, and burn injury: A retrospective review". *The American Journal of Surgery*, 2017. <http://dx.doi.org/10.1016/j.amjsurg.2017.06.012>