

Clinical Experience Using Functional Outcome Measures in the Outpatient Burn Center

Presenters: Melissa Boals, PT, DPT, NCS; Lisa Curtis, OTD, OTR/L

Collaborating Authors: Amalia Cochran MD; John Kevin Bailey MD; Rebecca Coffey PhD, CNP

INTRODUCTION

- Survival rates for patients with burn injuries have increased
- Medical care has shifted to maximizing their quality of life^{1,2}.
- Outcome measures establish baseline functional status and monitor progression towards their prior level of function.

AIM

The objective of this study is to determine pertinent burn patient demographics and describe the use of self-reported and performance-based outcome measures with this population in an outpatient setting using standardized measures – QuickDASH and grip strength for upper extremity injuries, LEFS for lower extremity injuries, and return to work from time of injury.

METHODS

A retrospective chart review of burn patients seen in the outpatient burn clinic between February 1, 2017 and May 31, 2019 was conducted

- Outcomes measures**
 - LEFS
 - QuickDASH
 - Grip strength dynamometry
- Additional data**
 - Patient characteristics
 - Body area burned
 - Co-morbidities

RESULTS

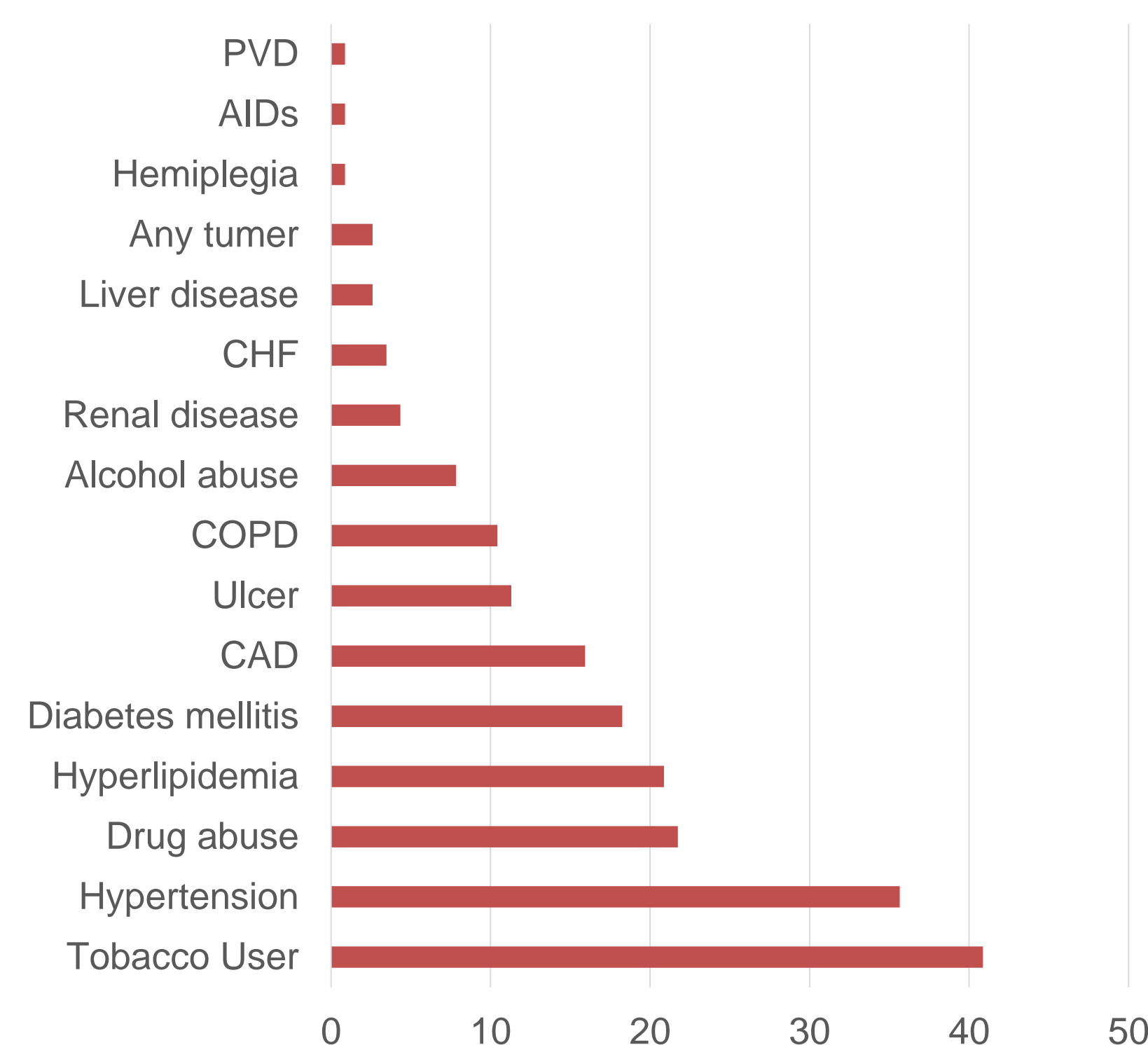
Clinical Data

- Clinically significant improvements in both LEFS (p=0.0003) and QuickDASH (p=0.0020) measures over time
- No clinically significant improvement in grip strength
- 1.4 mean number of OT and PT visits
- Mean return to work for 46 patients was 53.6 days

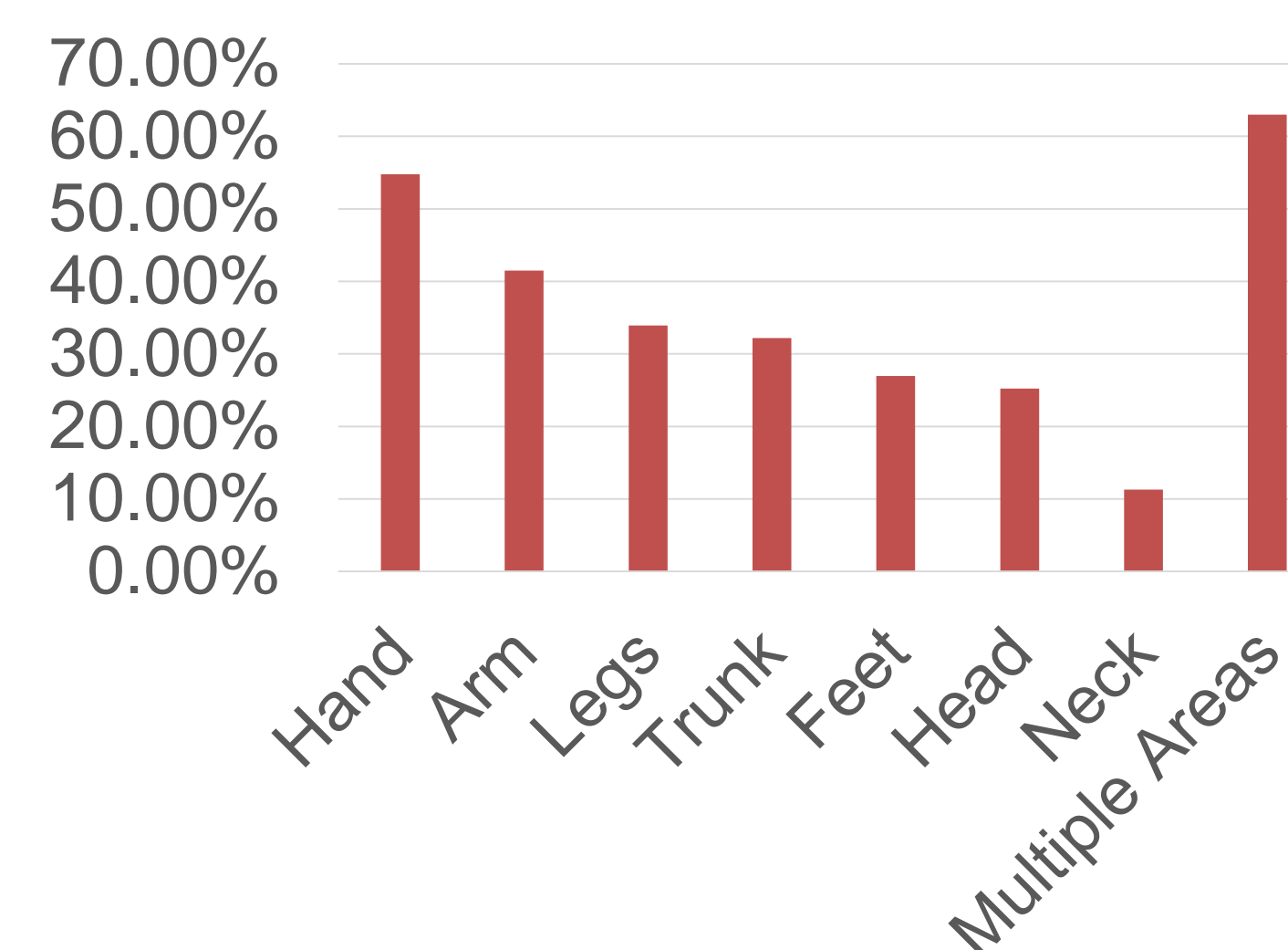
Patient Characteristics

Variable	Mean (Range) (N=115)
Age	43 (20-88)
TBSA	6.1% (0.1-67)
% PT	4.06% (0-23)
% FT	2.05% (0-31)
Gender, Male	63%
Mechanism	
Thermal	88.70%
BMI	29.26
Custom Garments - Yes	32.70%
Grafted - Yes	48.70%
Amputations - Yes	5.22%
Race	
Caucasion	63.48%
Black	27.83%
All others	8.69%
Insurance	
Medicare	15.65%
Medicaid	37.39%
Private	27.83%
BWC	18.26%
Self/None	0.87%
Return to Work	53.6 days

Comorbidities



Body Area Burned



Grip Strength

Level of time	N	Number of Days Post Burn		Grip Strength Right	
		Mean	Std dev	Mean	Std Dev
1	90	34.08	69.48	49.32	36.50
2	46	42.91	49.14	47.81	31.64
3	19	74.21	71.84	53.80	29.72
4	10	91.2	57.68	60.17	33.91
5	6	126	69.05	50.40	34.83
6	2	64.5		34.60	14.99

Level of time	N	Number of Days Post Burn		Grip Strength Left	
		Mean	Std Dev	Mean	Std Dev
1	90	34.08	69.48	53.35	31.47
2	46	42.91	49.14	50.23	28.13
3	19	74.21	71.84	51.00	27.25
4	10	91.2	57.68	47.90	26.39
5	6	126	69.05	53.18	27.89
6	2	64.5		32.80	2.54

QuickDASH

Level of time	N	Number of Days Post Burn		Quick Dash	
		Mean	Std dev	Mean	Std Dev
1	91	50.51	61.31	50.05*	27.72
2	44	68.42	76.09	39.02*	25.30
3	20	134.2	128.6	27.45	23.35
4	6	94.8	77.54	34.47	12.97
5	3	80.5		25.00	11.81

LEFS

Level of time	N	Number of Days Post Burn		LEFS	
		Mean	Std Dev	Mean	Std Dev
1	71	61.97	79.56	0.49*	0.31
2	37	68.98	74.13	0.62*	0.26
3	13	134.7	126	0.57	0.30
4	5	139.4	92.87	0.44	0.13

DISCUSSION

- Patient improvements occurred as a result of multi-disciplinary burn care
- Patient characteristics consistent with other studies
- Functional outcomes may be influenced by numerous patient factors
- Results suffered from attrition bias
- Patients received few therapy visits and more clinically significant improvements may result from increasing access to rehab services

CONCLUSIONS

The results of this study provide valuable demographic and baseline information for future outpatient burn research. The functional outcome measures used in this study help to quantify a patient's clinically significant improvements over time and help to justify the importance of having OT/PT as part of the multidisciplinary burn team. Additional burn related research and rehabilitation-specific research is needed to evaluate efficacy with facilitating return to work, school, and other usual valued life roles for burn survivors and their families

REFERENCES

- Staley, Marlys, Reg Richard, Glenn D. Warden, et al. "Functional outcomes for the patient with burn injuries." The Journal of burn care & rehabilitation 17.4 (1996): 362-368.
- Van Baar, M. E., Marie-Louise Essink-Bot, I. M. M. H. Oen, et al. "Functional outcome after burns: a review." Burns 32.1 (2006): 1-9.