

Pavement Burns Treated at a Desert Burn Center: Analysis of Mechanisms and Outcomes

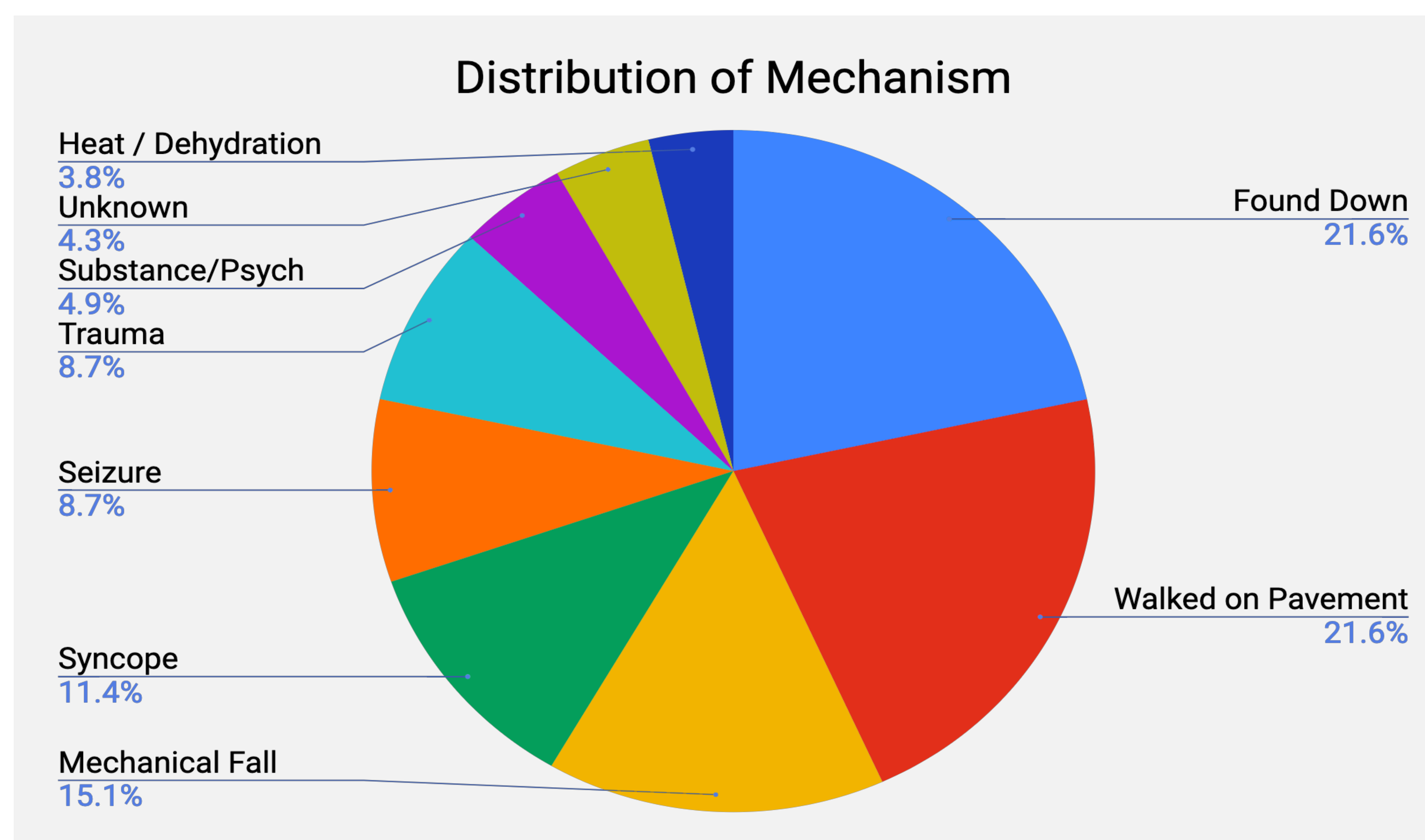
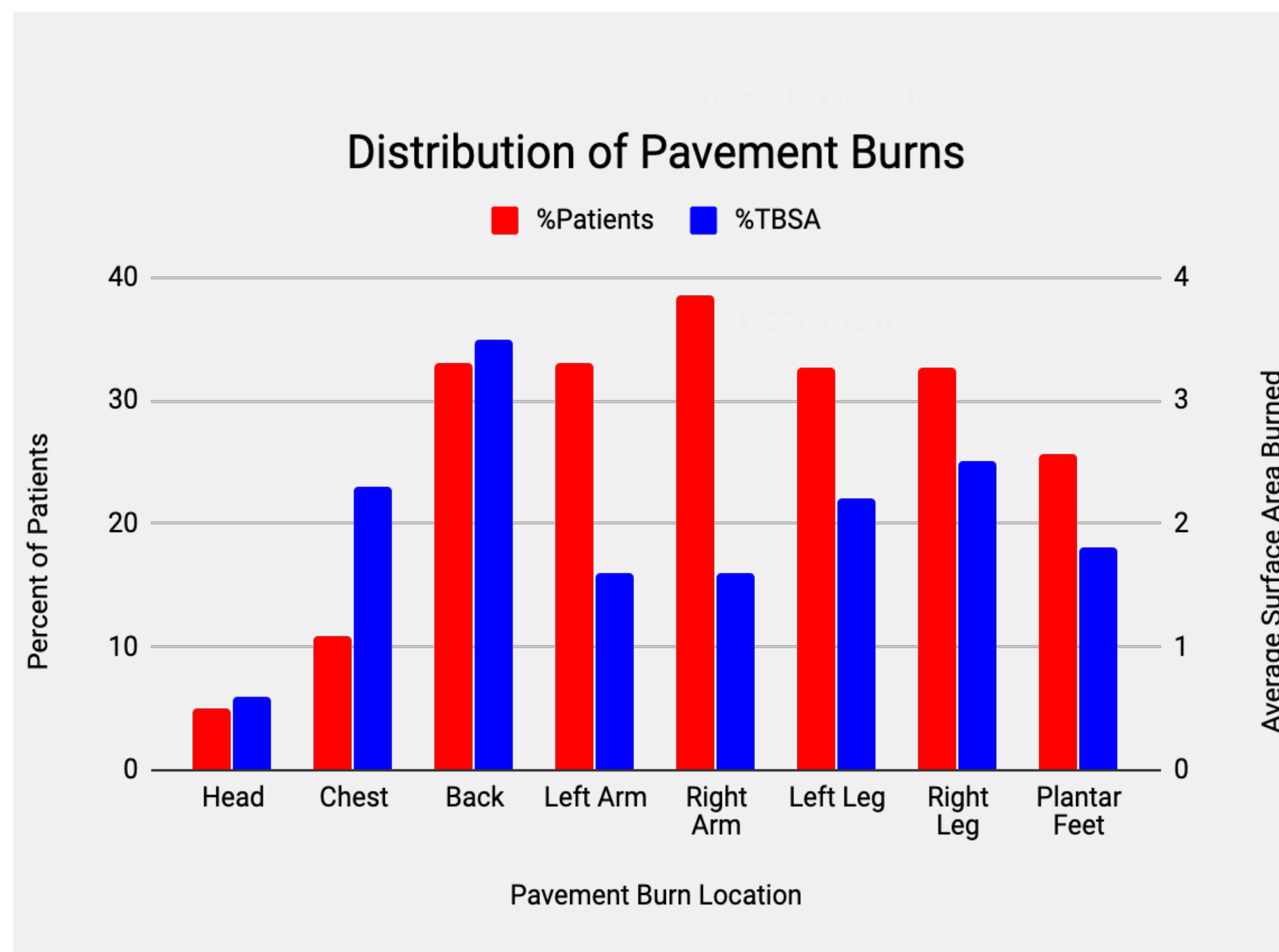
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Significance

Pavement burns are a common and unique burn phenomenon in a desert climate, with little research on this topic. This data is useful for clinicians to learn mechanism and management of pavement burns, and to guide burn prevention in hot sunny climates.

Methods and Results

- Retrospective review of 185 patients who were admitted for pavement burns from 2014 to 2018
- 173 (94%) patients survived
- Most common mechanisms are Found Down and Walked on Pavement
- 30 (16%) patients were hyperthermic on presentation with an average temperature of 106° F
- 51% required burn excision and 36% required split thickness skin grafting
- Comorbidities included:
 - Hypertension (32%)
 - Diabetes (22%)
 - Neuropathy (9%)
 - Chronic kidney disease (5%)
 - Coronary artery disease (2%)



	Hyperthermic (N=30)	Normothermic (N=155)	P Value
Hospital LOS, days	18.7	17.5	0.395
ICU LOS, days	9.1	2.9	0.045
TBSA (%)	10	4.6	<0.001
Excisional Debridement N (%)	17 (57)	76 (49)	0.445
Split-thickness Grafting N (%)	11 (37)	55 (35)	0.901
Surgical Procedures, mean	2.7	1.1	0.014
Hypertension N (%)	8 (26.7)	52 (33.5)	0.461
Diabetes N (%)	4 (14.3)	36 (23.2)	0.228
Chronic Kidney Disease N (%)	3 (10)	7 (4.5)	0.224
Rhabdomyolysis N (%)	6 (20)	4 (2.6)	<0.001
30-day Mortality N (%)	9 (30)	2 (1.3)	<0.001

Conclusion

Survival rate for pavements burns are very high and most required operative intervention. Hyperthermic patients had a significantly higher 30 day mortality, TBSA and incidence of rhabdomyolysis.

Lessons Learned

- There are a variety of etiologies that can cause pavement burns
- Hyperthermia is an independent risk factor for poorer overall outcomes
- Further review of hyperthermia patients can provide insight on what measures can be taken to minimize the risks of complications.
- Mechanisms indicate areas to target for injury prevention during hot summer desert months