



## Sundry Treatments for Blast-related Injuries

### Nebulized Epinephrine in Burn and Smoke Inhalation Injury

Researchers at the University of Texas Medical Branch at Galveston (Galveston, Texas) investigated the effects of nebulized epinephrine for alleviating acute respiratory distress syndrome (ARDS) following smoke inhalation and burn in animal models and in a pilot human study. The study design involved testing the efficacy of nebulized epinephrine in two different animal models of ARDS and conducting a pilot clinical study to investigate the efficacy of nebulized epinephrine in burn patients with smoke inhalation at the Shriners’ Hospital for Children (Galveston, Texas) (Table 1; *Foncerrada et al. 2017*). A total of 16 patients were enrolled and administration of nebulized epinephrine was found to be safe with no adverse effects. Although the study had a limited number of subjects, the effect of nebulized epinephrine appears to have favorable outcomes compared to those receiving nebulized albuterol (standard care) and nebulized phenylephrine such as strong tendency to reduce ventilator days and/or length of stay in hospital, and improve physical endurance.

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**TABLE 1:** Patient characteristics\*

\*Values are presented as mean ± standard deviation unless otherwise noted. Total body surface area (TBSA). Not Applicable (NA). (Table from *Foncerrada et al. (2017)* used with permission from the authors)

Characteristics	Standard of Care, n=8	Standard of Care Plus Epinephrine, n=8	P
Sex, male:female	5:3	6:2	NA
Age (yr)	13±4	11±2	0.481
Height (cm)	148.6±19.5	144.8±19.2	0.713
Weight (kg)	52.3±21.7	42.1±14.9	0.306
TBSA burn (%)	58±14	49±18	0.277
TBSA full-thickness burn (%)	51±20	43±24	0.502

#### REFERENCES:

Foncerrada, G., Lima, F., Clayton, R. P., Mlcak, R. P., Enkhbaatar, P., Herndon, D. N., and Suman, O. E. 2017. “Safety of Nebulized Epinephrine in Smoke Inhalation Injury.” *J Burn Care Res* 38 (6):396-402. doi: 10.1097/BCR.0000000000000575.

