

# Quick Tips – From the ER

## Hypertonic Saline

When you need a quick bump in vascular volume or blood pressure, consider Hypertonic Saline! This low cost, effective fluid choice can temporarily raise intravascular volume, mean arterial blood pressure (MAP), and improve venous return to the heart. Consider using Hypertonic Saline for:

1. Traumatic Brain Injury – rapid increase in MAP and cerebral perfusion pressure while creating an osmotic gradient to pull intracellular and interstitial fluid from the brain into the vasculature. Other beneficial effects include removal of neurochemical mediators that lead to neuronal cell death and potential immunomodulation of neutrophil-activated damage.
2. Shock (particularly in patients with head trauma and/or pulmonary contusions) – increase blood pressure via a rapid fluid shift from the interstitium into the vascular space. Immunomodulatory effects may also be beneficial by preventing neutrophil adherence to lung tissue, theoretically decreasing the likelihood of development of Acute Respiratory Distress Syndrome.
3. The big dog (think GDV) – Only a small volume is required to rapidly improve vascular parameters. Follow with larger volumes of crystalloids.

Dosing: 4ml/kg of 7.5% NaCl (even 2.5% NaCl may have similar benefits). Either purchase 7.5% NaCl or this fluid can be created by diluting 22.5% NaCl in the following manner: 17 ml of 22.5% NaCl in 43 ml of Dextran-70 or hetastarch (this will extend the beneficial colloidal effects to several hours as opposed to about 30 minutes of hypertonic saline alone). Give over at least 5 minutes to minimize the chance of transient hypotension. Follow with appropriate crystalloid dose.

*We hope you found this information helpful,  
The team of PESCM*



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