HYPERTONIC SALINE provides a supranormal concentration of sodium and is generally given in a 3%, 7%, or 7.5% IV solution. The effect is to rapidly draw water from the interstitial space into the intravascular space, rapidly expanding the intravascular volume. Hypertonic saline may also decrease cellular swelling and improve myocardial contractility. If the animal has concurrent interstitial fluid deficits (dehydration), or a disease that results in free water loss (e.g. hyperthermia, diabetes, etc.), administration of hypertonic saline could result in severe hyperosmolality with neurologic complications. Because hypertonic crystalloid solution will leak into the interstitium in <1 hr, combining hypertonic saline with a colloid is recommended to offset the interstitial oedema resulting from interstitial extravasation.

Hyperosmolar solutions include hypertonic saline, Normosol-M® with 5% dextrose, or any isotonic fluid that has glucose or hypertonic saline added. Except for hypertonic saline, the hyperosmolar glucose-containing solutions are meant to be maintenance solutions used in animals in which fluids are not shifting rapidly from the vascular compartment to a third body fluid space. They are usually not used as volume replacement solutions.

Note fresh water should be available to the animal after hypertonic administration; wiithin 5 mins the animal should drink. If it does not drink, pump 5 gallons of water into the rumen.

HYPERTONIC CRYSTALLOIDS: For HORSES: Dose: 4 ml/kg, administered as rapidly as possible

Fluid: 5 or 7% saline.

Must be followed up with isotonic volume replacement.

SOURCES:

1. http://www.vet.ohio-state.edu/assets/courses/vm70016/equinefluid.pdf
2. <http://www.merckmanuals.com/vet/emergency_medicine_and_critical_care/fluid_therapy/the_fluid_resuscitation_plan.html>