



## GUIDELINE

### Hypertonic Saline - Administration

|                       |                                     |
|-----------------------|-------------------------------------|
| <b>Scope (Staff):</b> | All Emergency Department Clinicians |
| <b>Scope (Area):</b>  | Emergency Department                |

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# Hypertonic Saline - Administration

## Medication

### Actions

- The primary mechanism of action of hypertonic saline is rapid mobilisation of extravascular water into the intravascular compartment by creating a gradient in tonicity between the intravascular space and ECF
- It may also improve cardiac effectiveness by increasing preload and by reducing after load due to hypertonic vasodilation of systemic and pulmonary vessels

### Indications

- In ED, hypertonic saline is used for the correction of severe symptomatic hyponatraemia

### Adverse

- Central pontine myelinolysis due to rapid increase in serum Sodium (believed to be mainly associated with correction of chronic hyponatraemic states)
- Volume overload
- Hypernatraemia

### Dosage

| Sodium Content of Solutions | Sodium (mmol/l) |
|-----------------------------|-----------------|
|-----------------------------|-----------------|

|            |      |
|------------|------|
| 3% Saline  | 513  |
| 20% Saline | 3400 |

- 3% Saline is available in 1 l bags
- 20% Saline is available in 10ml ampoules

## Administration

### Via Peripheral IV:

- 3% Saline is the preferred solution
- 6ml / kg raises the serum sodium approximately 5 mmol/l
- Infusion rate: 3% Saline at 0.5 – 1.0 ml/kg/hr (max rate 100ml/hr)
- Duration: administer over 1 hour
- Recheck serum Na hourly while infusion being administered and one hour post completion of infusion

## Special

- Hypertonic Saline may cause thrombophlebitis, therefore caution should be exercised when giving via a peripheral cannula
- Preferred method of delivery is via a central venous catheter
- Do not give simultaneously with blood transfusions


## Tags

20%, 3%, hypertonic, hyponatraemia, na, saline, sodium

## References

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