Severe Hyponatraemia

NHS
Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

Mild 130-135 mmol/L **Moderate** 125-129 mmol/L **Severe** <125 mmol/L

Symptoms

- **Mild/absent:** Asymptomatic
- **Moderately severe:** Nausea without vomiting, confusion, headache
- **Severe:** Vomiting, cardiorespiratory arrest, seizure, ↓consciousness/coma (GCS ≤ 8)

Assess fluid status

- **Euvolaemic**
- **Hypovolaemic:** ↓skin turgor, ↓BP, ↑HR
- **Hypervolaemic:** ↑JVP, oedema, ascites

TREAT as emergency if:

1. **Severe symptoms**
2. **Acute Hyponatraemia with symptoms** (regardless of severity)
3. **Hyperacute Hyponatraemia due to water intoxication** (even without symptoms)
4. **Symptomatic** if post-op Hyponatraemia or Hyponatraemia associated with intracranial pathology.

Rule Out
Pseudohyponatraemia!
(page 2*)

EMERGENCY ALGORITHM

1ST HOUR: IV infusion **100 mL 2.7% Sodium Chloride infusion (Hypertonic Saline)** over 20 min. If severe/CNS symptoms, consider discussing with Critical Care.

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Check Na^+ (VBG) and give a repeat **100ml 2.7% sodium chloride infusion** whilst awaiting results

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Deliver a further (ie. third) **100mL 2.7% Sodium Chloride infusion** or **STOP** once **5 mmol/L Na^+ increase** or an **improvement in symptoms**

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IF CLINICAL STATUS NOT IMPROVED seek urgent specialist advice from most senior on-call clinician.

Management after Na^+ ↑ by 5 mmol/L or clinical improvement:

- Stop hypertonic saline infusion
- Keep IV line open minimum volume 0.9% Sodium Chloride (e.g 10ml/hr)
- Limit Na^+ ↑to 10 mmol/L (or a target of 130, whichever is reached first) over the first 24 hours
- Start diagnosis-specific treatment as per trust guidelines & refer to relevant Specialist/Endocrinology
- Ensure this patient is part of the acute medical handover

If correctional ↑ Na^+ > 10 mmol/L in 24h, contact most senior on-call clinician or Endocrinologist for advice on whether hypotonic fluid (e.g 0.45% NaCl) or complex anti-diuresis (Desmopressin) is appropriate.

* Causes of Pseudohyponatraemia:

- Hyperglycemia/DKA
- Paraproteinaemia (multiple myeloma)
- High dose IV immunoglobulins
- Severe hypertriglyceridaemia (diabetes, obstructive liver disease, nephrotic syndrome, acute pancreatitis, familial hypertriglyceridaemia).

Approved by Trust D&TC Jan 2026. Review by Jan 2029. Dr P Chaturvedi.

References:

1. Dineen R, Thompson CJ, Sherlock M. Hyponatraemia - presentations and management. Clin Med (Lond). 2017;17(3):263-269. doi:10.7861/clinmedicine.17-3-263.
2. Hoorn EJ, Zietse R. Diagnosis and Treatment of Hyponatremia: Compilation of the Guidelines. J Am Soc Nephrol. 2017;28(5):1340-1349. doi:10.1681/ASN.2016101139.