

**BLOOD SCIENCES
DEPARTMENT OF CLINICAL BIOCHEMISTRY**

Title of Document: *Hyponatraemia(Adults) in Primary Care*
 Q Pulse Reference N^o: BS/CB/DCB/PROTOCOLS/43
 Authoriser: Peter Beresford

Version N^o: 3
 Page 1 of 4

Hyponatraemia (Adults) in Primary Care

Definition

Hyponatraemia is a sodium < 133 mmol/l.
 In general investigate if persistently Na < 130 mmol/l.

Mild Hyponatraemia	Na 125-133 mmol/l
Moderate hyponatraemia	Na 115-125mmol/l
Severe Hyponatraemia	Na <115 mmol/l OR mild symptoms
Significant Hyponatraemia	Symptoms of brain oedema or Acute onset

Chronic hyponatraemia should be assumed if the rate of Na fall is uncertain.
 Sodium should not be corrected rapidly to avoid osmotic demyelination syndrome.

Acute hyponatraemia Na has fallen >10mmol/l in <48 hours and is significant even if symptoms not yet apparent. It is rare and most often due to marked water intake such as with post-operative fluids, ecstasy use, marathon runners or psychogenic polydipsia. There is a high mortality and morbidity associated with acute onset.

Pseudohyponatraemia

High glucose can cause a hypertonic hyponatraemia and whilst it is a true cause of hyponatraemia it does not cause cerebral oedema.
 Pseudohyponatraemia can occur due to high triglycerides or paraproteinaemia.

Symptoms and Signs

Na <130mmol/L is associated with a cognitive decline even when not reported by the patient.
 Other symptoms include; lethargy, anorexia, nausea, agitation, dizziness, disorientation, seizures, coma.

Causes (Differentiated according to Fluid Status)

Hypovolaemia	Diuretics, Vomiting / diarrhoea, Acute Kidney Injury/ Interstitial Nephritis/ Renal disease, Addison's disease
Hypervolaemia	CCF, Chronic liver disease, Nephrotic syndrome, protein losing enteropathy
Euvolaemia	Medications (especially thiazides, ACEinhibitors, antidepressants, antiepileptics or proton pump inhibitors) Syndrome of inappropriate ADH (SiADH) Hypothyroidism or hypopituitarism, Low salt intake, Chronic alcoholism ("Beer potomania") or Polydipsia, Reset osmostats

* Addison's patients may present as euvolaemic if early in its clinical course.

**BLOOD SCIENCES
DEPARTMENT OF CLINICAL BIOCHEMISTRY**

Title of Document: *Hyponatraemia(Adults) in Primary Care*
Q Pulse Reference N^o: BS/CB/DCB/PROTOCOLS/43
Authoriser: Peter Beresford

Version N^o: 3
Page 2 of 4

Who to admit

- Admit those with symptoms or Na <115mmol/L or who are hypovolaemic.
- Moderate hyponatraemia (Na 115-125mmol/L) will need careful assessment. If there are any symptoms or there is a risk of the Na falling quickly admission may be appropriate. This group ideally should be discussed with the duty biochemist.

Who can be managed in primary care

- Mild hyponatraemia (Na 125-133mmol/L) and asymptomatic patients can be managed in primary care.
- All patients with new onset hyponatraemia should have a repeat Na checked after 1 week to exclude a rapidly decreasing level.

Management in primary care

1. Fluid status

Assess volume status. Common causes are fluid overload from CCF or dehydration from intercurrent illnesses and correct identification will dictate treatment (see flow chart below).

Excess fluid intake is less common but would be indicated by urine osmolality <100mOsm/Kg.

2. Medications

If taking medication which could be the cause stop them and repeat Na in 1-2 weeks. If the medication cannot safely be stopped then discuss with the prescribing consultant. If Na remains low after stopping medication discuss with duty biochemist.

3. Check for disorders that may cause hyponatraemia

Test for the following conditions when clinically indicated:

- Intercurrent illnesses (especially chest infections, GI disease or UTI's)
- Renal disease (urinalysis)
- Hypothyroidism (TFT)
- Addison's disease (8-10am Cortisol)
- CCF, liver disease or fluid overloaded states will require treatment of underlying condition.
- Myeloma (total protein, serum electrophoresis and urine bence jones protein)
- Cancers (especially lung and GI)

4. Investigation panel

If the cause is not known and there is persistent hyponatraemia then further testing is indicated. This should include the appropriate tests as mentioned above and a paired urine and serum for sodium and osmolality. It is essential these are sent on the same day. This will help to determine the cause and therefore which treatment is required (see flowchart).

When to refer

Refer any patient in which the following is suspected:

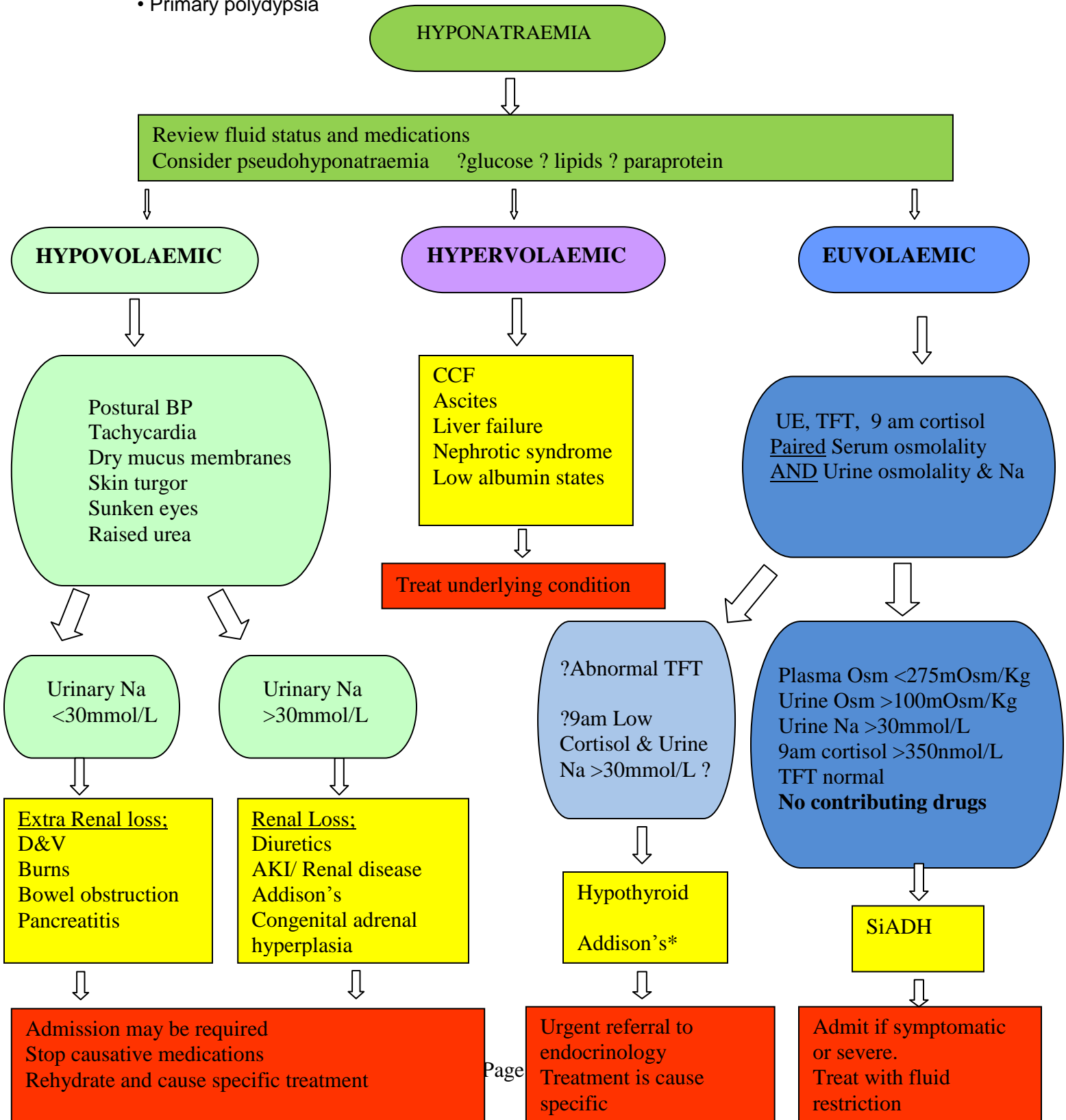
- Endocrinology cause
- Suspected SiADH

BLOOD SCIENCES
DEPARTMENT OF CLINICAL BIOCHEMISTRY

Title of Document: *Hyponatraemia(Adults) in Primary Care*
Q Pulse Reference N^o: BS/CB/DCB/PROTOCOLS/43
Authoriser: Peter Beresford

Version N^o: 3
Page 3 of 4

- Cancer
- Primary polydypsia



**BLOOD SCIENCES
DEPARTMENT OF CLINICAL BIOCHEMISTRY**

Title of Document: *Hyponatraemia(Adults) in Primary Care*

Q Pulse Reference N^o: BS/CB/DCB/PROTOCOLS/43

Authoriser: Peter Beresford

Version N^o: 3

Page 4 of 4

* Addison's patients may present as euvolaemic if early in its clinical course.

References

1. Hyponatraemia in adults, GAIN Guidelines 2010
2. Clinical Knowledge summaries. NICE. Updated 2011.
3. Clinical practice guideline on diagnosis and treatment of hyponatraemia. European journal of Endocrinology. 2014.
4. Hyponatraemia Treatment Guidelines, Verbalis. 2007 ; Expert panel Recommendations
5. Up to Date , Treatment of hyponatraemia.
6. Ann Clinical Biochem, 2002. Is a 0900h serum cortisol useful to a short Synacthen test in outpatient assessment?
7. Hammersmith Endobible.