

HYPONATREMIA

Serum osmolality

Low= true hyponatremia

High= other osmotically active solutes
• glucose • triglycerides • protein
Suspect in recent hysterectomy or TURP
jaundice, lipemia, hx plasma dyscrasias

Urine osmolality (only if NO signs of hypovolemia)

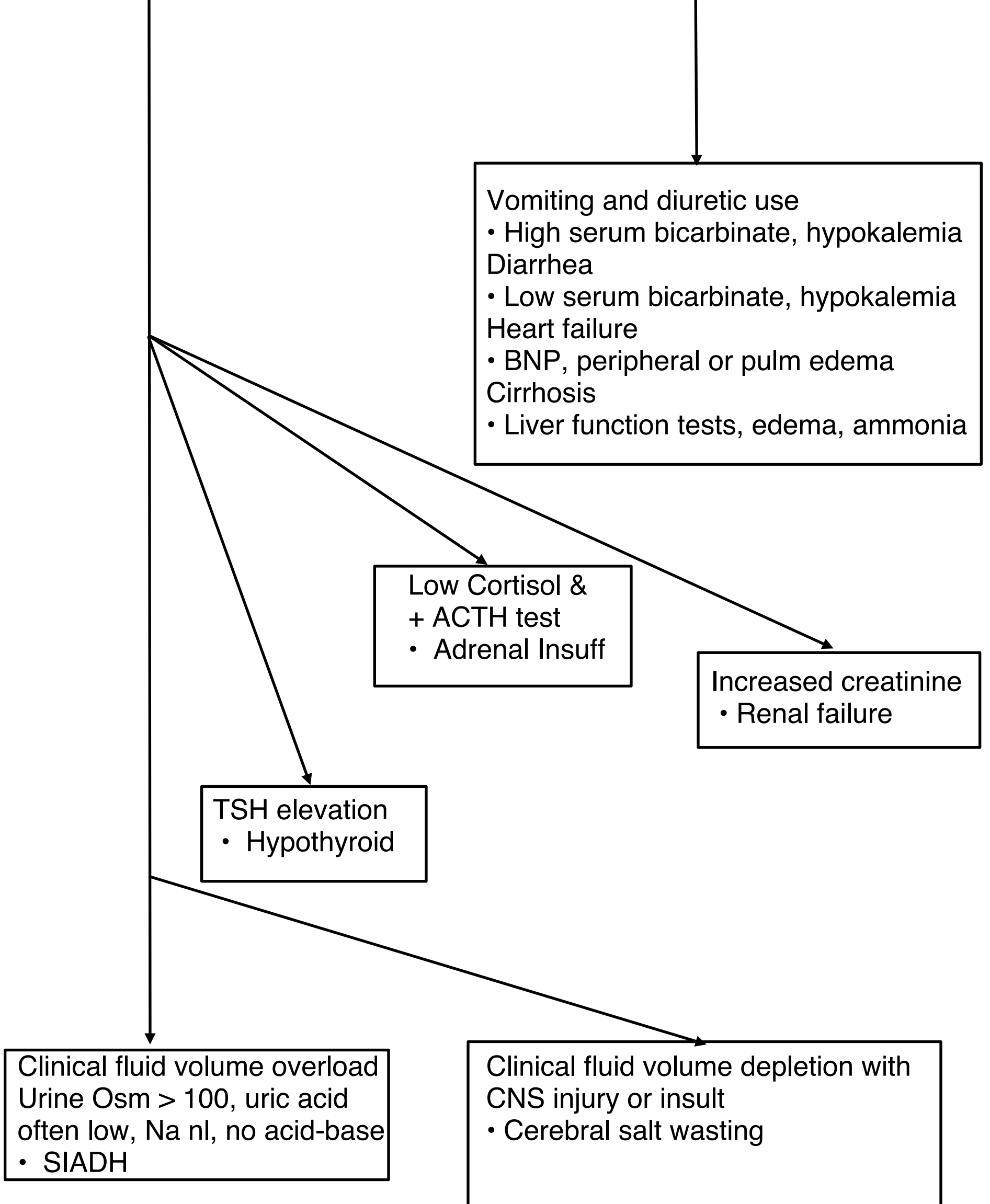
Greater than 100-150 mOsmol/L

Less than 100-150 mOsmol/L
• normal body response
• polydipsia (psych, drugs, endurance)
• malnutrition
• beer potomania (H fluid/L protein)
• recovery from hypovolemia

Urine sodium

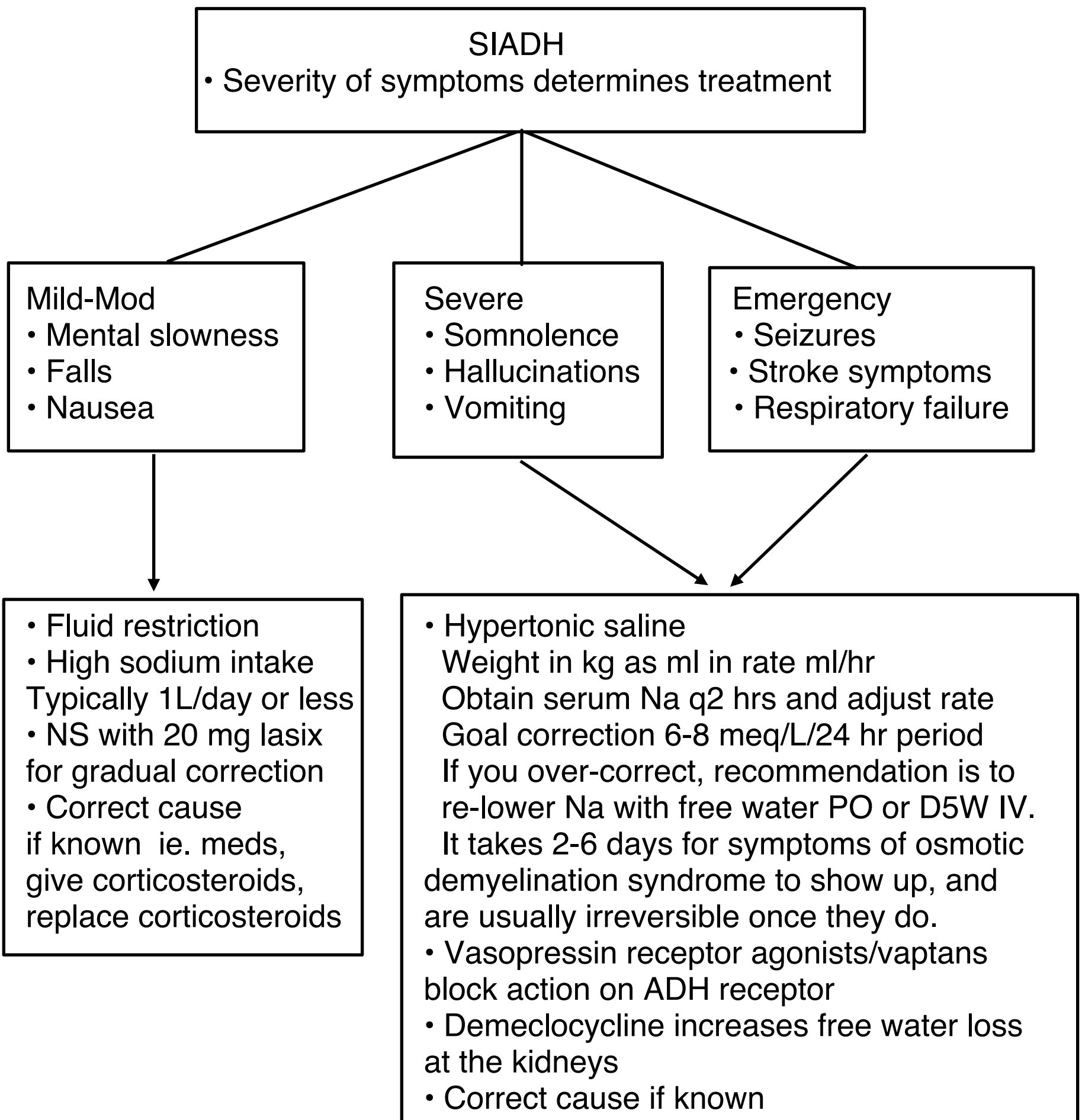
Greater than 40 meq/L
= Renal Loss

Less than 25 meq/L = Extrarenal Loss
• Hypovolemia from GI loss/diuretics
• Heart failure with dehydration
• Cirrhosis with vascular dehydration



When To Treat:

- Sodium < 110 or < 120 with neurological symptoms



Hypervolemic Hyponatremia

Heart failure

- Severe: hypertonic saline + loop diuretics
 - Mild-Mod: 1 L/day + loop diuretics if signs of fluid overload.
- Lift restriction if no response
- Consider vaptans

Cirrhosis

- Fluid restrict < 750 ml/day

Nephrotic syndrome

- Restrict fluid 500 ml - 1 L/day
- Consider vaptans

Hypovolemic hyponatremia

- Isotonic fluids, hypertonic rarely needed
 - Correct cause: Treat vomiting and diarrhea, stop diuretics, give blood
- Fludrocortisone useful in mineralocorticoid deficiency and CSW

CAUSES of SIADH

CNS: hemorrhage, infection, trauma induced increase in ADH secretion

Malignancy: ectopic ADH from lung, head, neck, olfactory, extrapulmonary small cell carcinomas

Drugs: Enhance ADH release: chlorpropamide, carbamazepine, SSRIs (fluoxetine, sertraline), amitriptyline, haloperidol, methotrexate, valproate, popliteal, NSAIDs, ciprofloxacin, amiodarone

Surgery: cardiac cath, any painful surgery, pituitary

Pneumonia, asthma, TB, pneumothorax: Unknown mechanism

Hormone: Hypothyroid and hypopituitarism

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