Peri-surgical inpatient management of patients with arginine vasopressin deficiency (AVP-D) (central or cranial diabetes insipidus) [for patients with intact thirst perception]: lack of the posterior pituitary hormone arginine vasopressin (AVP) results in uncontrolled diuresis and polyuria.

**IMPORTANT POINTS**
1. All patients should be managed in consultation with an endocrine specialist.
2. Prescribing an alert system for treatment with desmopressin is recommended with 24-h availability during hospitalisation.
3. Patients should have access to fluids and desmopressin.

**DESMOPRESSIN** (AVP RECEPTOR AGONIST)
- Life-preserving replacement therapy
- Reduces uncontrolled urine excretion
- Dosage and timing is symptom specific and might show daily variation

**PRE-SURGERY**
1. Patient orientated and able/allowed to drink:
   - Provide access to fluids
   - Should receive desmopressin as needed
2. If patient is able to self-administer desmopressin:
   - Allowed to manage their own desmopressin as needed
3. If patient needs to fast (nil by mouth, no fluids):
   - Allow to take desmopressin as needed
   - Consider i.v. fluid replacement (measure serum/plasma sodium at least every 4-6 h to avoid hyponatraemia).

**DURING SURGERY**
- Initial assessment of volume/hydration status
  - Fluid input & output monitoring
  - Measurement of sodium in venous blood gas (VBG)

**HYPONATREMIA** sodium <135 mmol/l
- Carefully restrict/pause i.v. fluid
- Measure VBG sodium at least every 1-2 h
- Low urine output indicates desmopressin over-dose => delay desmopressin
- Avoid overcorrection: max. 8-12 mmol/L per 24 h

**NORMONATREMIA** sodium 135-145 mmol/l
- Fluid input & output monitoring
- Measure VBG sodium depending on the duration of surgery at least every 2-3 h

**HYPERNATREMIA** sodium >145 mmol/l
- Treatment with hypotonic i.v. fluids (5% glucose)
- Measure VBG sodium at least every 1-2 h
- High urine output (>300ml/h) indicates desmopressin requirement (starting dose 0.5 mcg i.v.)
- Avoid overcorrection: max. 10 mmol/L per 24 h

**POST-SURGERY**
1. Regular assessment of volume/hydration status:
   - Fluid input & output monitoring
   - Measure VBG sodium until desmopressin & oral fluid intake is allowed at least every 4-6 h
2. If oral fluid & desmopressin is allowed:
   - Change to oral fluid replacement of choice as quickly as is clinically safe
   - Ensure oral fluids are within easy reach of patient at all times
   - Allowed to manage their own desmopressin as needed

*Desmopressin not needed:
- High urine osmolality
- Low urine output
- No thirst

*Desmopressin needed:
- Low urine osmolality
- High urine output
- Strong thirst

**TOTAL BODY WATER DEFICIT** (in liter) = 0.6 x premorbid weight x \[1 - (140 / [Na^+])]