

### PATIENT POPULATION

Children with central diabetes insipidus are unable to make the hormone vasopressin. This may be due to an abnormal hypothalamic/pituitary axis, brain injury, brain tumours, brain surgery, effect of medications or alcohol. Vasopressin is replaced intranasally or orally with desmopressin (DDAVP®) and is managed by the parents. However, a child may present to the hospital for many different reasons: intercurrent illness, surgery, chemotherapy, diagnostic procedures, post cranial surgery, new diagnosis.

### DEFINITIONS

**Breakthrough:** Breakthrough is a term used to mean that the desmopressin has worn off. The child will show symptoms of polydipsia and polyurea. Serum sodium levels will be increased.

**Vasopressin** (also called Antidiuretic Hormone {ADH}): Vasopressin (ADH) is a hormone made in the hypothalamus and stored in the pituitary gland. It acts on the kidneys to reabsorb water in response to serum Na levels.

**Vasopressin Replacement:** Desmopressin (DDAVP®) is used to replace vasopressin.

Problem/Potential Problem	Objectives	Anticipatory/Therapeutic Nursing Interventions	Evidence-base/Rationale
<b>Potential for fluid imbalance due to ADH deficiency</b>	Pt. will maintain homeostatic fluid balance as evidenced by normal serum Na levels, normal urine specific gravity and normal urine output.	a) Maintain <b>STRICT in/out q1-2h</b> or as ordered. Ensure q12h and q24 hr totals complete. b) <b>Weigh patient on same scale daily.</b> c) <b>Check and record urine specific gravity (SG) each void.</b> d) Check serum lytes as ordered (usually before DDAVP® dose is due). e) Assess patient frequently for increased thirst (specifically for ice water) and increased output of dilute urine. f) Assess for signs of dehydration: <b>Note:</b> confusion and seizures can be caused by high serum Na. g) Notify physician based on the parameters ordered for urine output, specific gravity, or serum sodium levels.	Careful monitoring is required to establish and determine a pattern for the appropriate management of diabetes insipidus.  Careful monitoring is required to maintain fluid balance.

## REFERENCE CARE PLAN: CENTRAL DIABETES INSIPIDUS

Problem/Potential Problem	Objectives	Anticipatory/Therapeutic Nursing Interventions	Evidence-base/Rationale
		<p>h) If patient is on DDAVP® consult physician if fasting or fluid boluses are required.</p> <p>i) If possible have PRN dose of DDAVP® available on unit.</p>	
<p><b>Anxiety and loss of control, ineffective coping related to:</b></p> <ul style="list-style-type: none"> <li>- Hospital environment</li> <li>- Medical/surgical procedures</li> <li>- Illness</li> <li>- Pain</li> <li>- New diagnosis</li> <li>- Developmental stage</li> <li>- Past experience</li> </ul>	<p>Refer to “Psychosocial Care Reference Care Plan”</p>	<p>a) Refer to “Psychosocial Care Reference Care Plan”</p> <p>b) Listen to parent’s concerns and suggestions as they have likely received previous education on their child’s condition and management.</p>	<p>Parents may recognize subtle changes in their child’s behaviour indicating dehydration or fluid overload before these changes are noticed by staff.</p>
<p><b>Inability to manage care at home / in community due to knowledge deficit of parents / caregivers.</b></p>	<p>Family and primary caregivers will demonstrate ability to provide care for the patient in the home/ community as evidenced by:</p> <p>a) Ability to administer prescribed medication.</p> <p>b) Ability to measure ins/outs.</p> <p>c) Knows signs of breakthrough for their child.</p>	<p>a) Endocrine nurse clinician (local 7927) to provide teaching.</p> <p>b) The following handouts may be given to the family by the endocrine Nurse Clinician:</p> <ol style="list-style-type: none"> <li>1. <a href="#">Central Diabetes Insipidus</a></li> <li>2. <a href="#">Fluid Balance record sheet</a></li> </ol> <p>c) Collaborate with discharge planning nurse/ nurse coordinator, social worker and community liason nurse to prepare for transition to home/community</p>	

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Problem/Potential Problem	Objectives	Anticipatory/Therapeutic Nursing Interventions	Evidence-base/Rationale
	d) Knows when to have Na levels checked.  e) Knows how and when to call endocrinologist on call.		

### REFERENCES

Saborio, P., Tipton, G.A., & Chan, J. (2000). Diabetes insipidus. *Pediatrics in Review* 21(4), p.122-129.