

**British Columbia's Children's Hospital  
Reference Care Plan**

**Central Diabetes Insipidus**

**Date Initiated: 2010/11/15**

**Date Revised: 2015/11/08**

**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, or 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 polyuria. 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
<p><b>1. Potential for fluid imbalance due to ADH deficiency.</b></p>	<p>Pt. will maintain homeostatic fluid balance as evidenced by normal serum Na levels, normal urine specific gravity and normal urine output.</p>	<p>a. Maintain <b>STRICT in/out q1–2h</b> or as ordered. Ensure q12h and q24h totals complete.</p> <p>b. <b>Weigh patient on same scale daily.</b></p> <p>c. <b>Check and record urine specific gravity (SG) each void using a refractometer or by sending to the lab.</b></p> <p>d. Check serum electrolytes as ordered (usually before DDAVP® dose is due).</p> <p>e. Assess patient frequently for increased thirst (specifically for ice water) and increased output of dilute urine. Assess for signs of dehydration.</p> <p>f. Notify physician based on the parameters ordered for urine output, specific gravity, or serum sodium levels.</p> <p>g. If patient is on DDAVP® consult physician if fasting or fluid boluses are required.</p> <p>h. Administer DDAVP® dose as per <a href="#">Intranasal medication administration policy and procedure</a>. Assess for side effects throughout treatment. Observe for signs of overdose including: severe headache, abdominal cramps, severe facial flushing, dyspnea and severe fluid retention. Report any of these symptoms to the physician STAT.</p> <p>i. If possible have PRN dose of DDAVP® available on unit.</p>	<p>Careful monitoring is required to establish and determine a pattern for the appropriate management of diabetes insipidus.</p> <p>Careful monitoring is required to maintain fluid balance and prevent complications.</p>

Problem/Potential Problem	Objectives	Anticipatory/Therapeutic Nursing Interventions	Evidence-base/Rationale
<p><b>2. 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>	<ol style="list-style-type: none"> <li>a. Refer to “Psychosocial Care Reference Care Plan”</li> <li>b. Listen to parent’s concerns and suggestions as they have likely received previous education on their child’s condition and management.</li> </ol>	<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>3. 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> <ol style="list-style-type: none"> <li>a. Ability to administer prescribed medication.</li> <li>b. Ability to measure ins/outs.</li> <li>c. Knowing signs of breakthrough for their child.</li> <li>d. Knowing when to have sodium levels checked.</li> <li>e. Knowing how and when to call endocrinologist on call.</li> </ol>	<ol style="list-style-type: none"> <li>a. Endocrine nurse clinician (local 7927) to provide teaching.</li> <li>b. The following handouts may be given to the family by the endocrine Nurse Clinician:                             <ul style="list-style-type: none"> <li>• <a href="#">Central Diabetes Insipidus</a></li> <li>• <a href="#">Fluid Balance Record Sheet</a></li> </ul> </li> <li>c. Collaborate with discharge planning nurse/nurse coordinator, social worker and community liaison nurse to prepare for transition to home/community</li> </ol>	<p>Parents/care-givers that are knowledgeable will be able to effectively manage the condition at home, thereby reducing healthcare interventions.</p>

**References:**

- Saborio P, Tipton GA, Chan J. Diabetes insipidus. *Pediatrics in Review* 2000;21(4):122–129.
- Simmons S. Flushing out the truth about diabetes insipidus. *Nursing* 2010;40(1):55–59.