

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

Central Diabetes Insipidus

Date Initiated: Nov/2010

Date Revised:

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
<p>1. Potential for fluid imbalance due to ADH deficiency.</p>	<p>Pt. will maintain homeostatic fluid balance as evidenced by normal serum Na levels, normal urine specific gravity and normal urine output.</p>	<ul style="list-style-type: none"> a. Maintain STRICT in/out every 1-2 hours or as clinically indicated. Ensure q12h and q24h totals complete. b. Weigh patient on same scale daily. c. Check and record urine specific gravity (SG) each void using a refractometer or by sending to the lab. d. Review serum electrolyte results before DDAVP® dose is due. e. Assess patient frequently for increased thirst (specifically for ice water) and increased output of dilute urine. Assess for and report signs of dehydration. Note: confusion and seizures can be caused by abnormal serum sodium (Na). f. Consider initiating seizure precautions if newly diagnosed or if sodium levels fluctuating out of normal range. g. Notify physician based on the parameters ordered for urine output, specific gravity, or serum sodium levels. h. If patient is on DDAVP® consult physician if fasting or fluid boluses are required. i. Administer DDAVP® dose as per NM009 Intranasal medication administration policy and procedure. Assess for side effects (headache, nausea, hyponatremia, nasal 	<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>congestion, abdominal cramps, hypertension) 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>j. If possible have PRN dose of DDAVP® available on unit.</p>	
<p>2. Patient/family anxiety and loss of control, ineffective coping related to:</p> <ul style="list-style-type: none"> - Hospital environment - Medical/surgical procedures - Illness - Pain - New diagnosis - Developmental stage - Past experience 	<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>3. Inability to manage care at home / in community due to knowledge deficit of parents / caregivers.</p>	<p>Family and primary caregivers will demonstrate ability to provide care for the patient in the home/ community as evidenced by:</p> <ul style="list-style-type: none"> a. Ability to administer prescribed medication. b. Ability to measure ins/outs. c. Knowing signs of breakthrough for their child. d. Knowing when to have Na levels checked. e. Knowing how and 	<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> <ul style="list-style-type: none"> o Central Diabetes Insipidus o Fluid Balance record sheet <p>c. Collaborate with discharge planning nurse/nurse coordinator, social worker and community liaison nurse to prepare for transition to home/community</p>	<p>Parents/care-givers that are knowledgeable will be able to effectively manage the condition at home, thereby reducing healthcare interventions. .</p>

Problem/Potential Problem	Objectives	Anticipatory/Therapeutic Nursing Interventions	Evidence-base/Rationale
	when to call endocrinologist on call.		

References:

- Chan, J.C.M. & Roth, K.S. (updated February 3, 2010). Diabetes Insipidus. *Medscape EMedicine Specialties Article 919886*. Retrieved January 31, 2011 from <http://emedicine.medscape.com/article/919886-overview>
- Saborio, P., Tipton, G.A., & Chan, J.C.M (2000). Diabetes insipidus. *Pediatrics in Review*. 21(4):122-129.
- Simmons, S. (2010). Flushing out the truth about diabetes insipidus. *Nursing*. 40(1):55-6, 58-9.