

Intravenous fluid-related symptomatic acute hyponatremia (HNA)

CANADIAN PAEDIATRIC SURVEILLANCE PROGRAM

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REPORTING INFORMATION

(To be completed by the CPSP Senior Coordinator)

Report number: _____

Month of reporting: _____

Province: _____

Today's date: _____

**Please complete the following sections for the case identified above.
Strict confidentiality of information will be assured.**

CASE DEFINITION FOR INTRAVENOUS FLUID-RELATED SYMPTOMATIC ACUTE HYPONATREMIA

Report all children and youth less than 18 years of age, receiving IV fluid, who develop symptomatic acute hyponatremia during their hospitalization, including those who receive IV fluids from a referring hospital, during transfer, in the emergency department or operating room.

Symptomatic acute hyponatremia is defined as:

- 1) A fall in serum sodium from the normal range (135–145 mmol/L) to <130 mmol/L within 48 hours. (In the case of a previously healthy child hospitalized for elective reasons, in whom baseline laboratory values were not drawn, a serum sodium <130 mmol/L, within 48 hours of IV fluid initiation, will be accepted.)

AND

- 2) Temporally accompanied by one or more of the following manifestation(s):

- Seizures
- Decreased level of consciousness
- Loss of consciousness
- Respiratory arrest
- Cardiac arrest
- Death

Exclusion criteria

- 1) Preterm infants < 37 weeks
- 2) Patients on diuretic therapy
- 3) Patients with severe gastrointestinal losses (e.g., diarrhea, nasogastric or ostomy output > 50% of total enteric intake or >15 mL/kg/day if NPO)
- 4) Patients with cardiac or renal failure
- 5) Patients with known diabetes insipidus
- 6) Patients with diabetic ketoacidosis
- 7) Patients with chronic hyponatremia due to other etiologies

Month first seen _____

SECTION 1 – DEMOGRAPHIC INFORMATION

1.1 Date of birth: ____ / ____ / ____
 DD MM YYYY

1.2 Sex: Male ____ Female ____

1.3 Province/Territory of residence: _____

1.4 Was the child born in Canada? Yes ____ No ____

1.5 Ethnicity – Mother

First Nations ____ Innu ____ Inuit ____ Métis ____ Chinese ____ Japanese ____

Other Oriental ____ East Indian ____ Black ____ Caucasian ____ Latin American ____

Middle Eastern ____ Other (specify) _____ Unknown ____

SECTION 1 – DEMOGRAPHIC INFORMATION (cont'd)

1.6 Ethnicity – Father

First Nations ___ Innu ___ Inuit ___ Métis ___ Chinese ___ Japanese ___
 Other Oriental ___ East Indian ___ Black ___ Caucasian ___ Latin American ___
 Middle Eastern ___ Other (specify) _____ Unknown ___

SECTION 2 – PRESENTATION TO HOSPITAL WHERE HYPONATREMIA OCCURRED

2.1 Type of hospital:

Academic health sciences centre ___

General hospital with \geq 100 beds ___

General hospital with <100 beds ___

2.2 Date of admission: ___/___/___ Weight: _____ kg Height: _____ cm
DD MM YYYY

Blood pressure: ___/___

2.3 Diagnoses

2.3.1 Admitting diagnosis: _____

2.3.2 Pre-morbid diagnoses: _____

2.3.3 Other (please explain): _____

2.4 Initial admission to the following unit:

Emergency department ___ Short-stay unit ___ Inpatient medical unit ___ Inpatient surgical unit ___

PICU ___ NICU ___

SECTION 3 – DETAILS OF SYMPTOMATIC ACUTE HYPONATREMIA

3.1 Date of symptomatic acute hyponatremia (per case definition): ___/___/___
DD MM YYYY

3.2 IV fluids were administered at the following location(s):

Pre-hospital care ___ Emergency department ___ Short-stay unit ___ Inpatient medical unit ___

Inpatient surgical unit ___ PICU ___ NICU ___

3.3 Hyponatremia occurred at the following location:

Pre-hospital care ___ Emergency department ___ Short-stay unit ___ Inpatient medical unit ___

Inpatient surgical unit ___ PICU ___ NICU ___

3.4 Description of clinical sequelae (check all that apply):

Seizures ___ Decreased level of consciousness ___ Loss of consciousness ___

Respiratory arrest ___ Cardiac arrest ___ Death ___

3.5 Did the hyponatremia result in transfer to: a PICU? Yes ___ No ___
 an NICU? Yes ___ No ___

SECTION 4 – MANAGEMENT OF INTRAVENOUS FLUIDS (PRIOR TO HYPONATREMIA)

4.1 Fluid administration (check all that apply): NPO ___ Oral fluids ___ Intravenous fluids ___ Unknown ___

4.2 IV fluid bolus: Yes ___ No ___

SECTION 4 – MANAGEMENT OF INTRAVENOUS FLUIDS (PRIOR TO HYPONATREMIA) (cont'd)

4.2.1 If yes, please list all boluses ordered and/or received:

Date DD/MM/YYYY	Volume (mL) ordered	Volume (mL) received	Tonicity (circle)	
			0.9% Normal saline (NS)	Other (specify)
			NS	Other
			NS	Other
			NS	Other
			NS	Other
			NS	Other

4.3 IV maintenance fluid: Yes ___ No ___

4.3.1 If yes, please complete table to the best of your ability and add further information, if applicable

Date DD/MM/YYYY	Rate (mL/hr) ordered	Rate (mL/hr) received	Total time this fluid was infused (hr)	Tonicity (circle)	With dextrose?
				0.2% NS 0.33% NS ("2/3-1/3") 0.45% NS 0.9% NS Other:	Yes ___ No ___
				0.2% NS 0.33% NS ("2/3-1/3") 0.45% NS 0.9% NS Other:	Yes ___ No ___

4.4 Medications (check all that apply):

Morphine ___ Other narcotic: _____ Anesthetic: _____
Other medications: _____

4.5 Procedures (specify all that apply):

Elective surgery: _____
Urgent surgery: _____
Image guided procedure: _____
Minor procedure (e.g., biopsy, lumbar puncture, fluid aspirate): _____

SECTION 5 – INVESTIGATIONS

5.1 Biochemistry	DD	MM	YYYY	Results (units)			
5.1.1 Serum sodium (on admission)	___	/	___	/	___	(___)
5.1.2 Serum sodium (at event)	___	/	___	/	___	(___)
5.1.3 Serum osmolality	___	/	___	/	___	(___)
5.1.4 Urine sodium	___	/	___	/	___	(___)
5.1.5 Urine osmolality	___	/	___	/	___	(___)
5.1.6 Serum glucose	___	/	___	/	___	(___)

SECTION 5 – INVESTIGATIONS (cont'd)

5.1.7 Serum total protein _____ / _____ / _____ (_____)

5.1.8 Serum lipid level _____ / _____ / _____ (_____)

5.1.9 Further laboratory information, if applicable _____

SECTION 6 – OUTCOME6.1 Date of last assessment: _____ / _____ / _____
DD MM YYYY

6.2 Final diagnoses: _____

6.3 At the time of last assessment, the patient was:

fully recovered ___ recovered with sequelae ___, specify _____

deceased ___, specify cause of death _____

unknown ___

6.4 Provide any additional information that you think may be important:

6.5 Does your institution have a guideline or protocol regarding IV fluids? Yes ___ No ___ Unsure ___

___ I agree to be contacted by the research team for further information.

___ I do not wish to be contacted by the research team for further information.

SECTION 7 – REPORTING PHYSICIAN

First name _____ Surname _____

Address _____

City _____ Province _____ Postal code _____

Telephone number _____ Fax number _____

E-mail _____ Date completed _____

Thank you for completing this form.