

TITLE

ORAL FLUID REHYDRATION FOR THE PEDIATRIC PATIENT

SCOPE

Provincial: Emergency Departments and Urgent Care Centres

DOCUMENT

HCS-215-01

APPROVAL AUTHORITY

Senior Program Officer Strategic Clinical Networks™

INITIAL EFFECTIVE DATE

March 1, 2018

SPONSOR

Emergency Strategic Clinical Network™

REVISION EFFECTIVE DATE

Not applicable

PARENT DOCUMENT TITLE, TYPE, AND NUMBER

Not applicable

SCHEDULED REVIEW DATE

March 1, 2021

NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To assist **health care professionals** when initiating specific diagnostics, therapeutics, and interventions for pediatric patients, prior to the initial Physician or Nurse Practitioner (NP) assessment.
- This protocol is intended for the pediatric patient presenting to the Emergency Department (ED) / Urgent Care Centres (UCC) with symptoms of acute vomiting and/or dehydration and are who are eligible for fluid rehydration, based on assessment and inclusion criteria.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS**1. Point of Emphasis**

- 1.1 Patients who are fed their age-appropriate normal diet, even with symptoms of vomiting and/or diarrhea recover more quickly than those patients who receive intravenous (IV) fluids only.
- 1.2 For patients with repeated episodes of vomiting and/or diarrhea, the best approach is to concentrate on fluids, in small and frequent amounts, and gradually re-introduce age appropriate foods, as tolerated.

Inclusion and Exclusion Criteria

1.3 Inclusion criteria:

- a) patients older than three (3) months of age and less than 10 years; and
- b) significant and recent vomiting:
 - (i) significant vomiting is defined as four (4) or more episodes in the past six (6) hours; and
 - (ii) recent vomiting is defined as more than once in the last 60 minutes.

1.4 Exclusion criteria:

- a) episodes of vomiting and/or diarrhea lasting longer than five (5) days;
- b) localized abdominal pain (guarding on palpation, tense abdomen);
- c) chronic medical conditions such as diabetes; phenylketonuria (PKU); immunodeficiency; long QT syndrome and other conduction abnormalities, or those affecting any other major organ systems;
- d) signs suggesting gastrointestinal (GI) obstruction such as abdominal distension or bilious vomiting;
- e) any known toxin ingestion;
- f) predominant symptom is diarrhea without significant and recent vomiting; and/or
- g) medications known to prolong the QT interval such as macrolides (e.g., azithromycin, clarithromycin, erythromycin) and domperidone.

2. Dehydration Assessment

2.1 Signs or symptoms of dehydration are measured using the dehydration scale scoring tool.

- a) Each sign scores one (1) point as follows:
 - (i) capillary refill over two (2) seconds;
 - (ii) absent tears;
 - (iii) dry mucous membranes; and
 - (iv) ill general appearance.

- 2.2 Score of one (1) or less: indicates less than five percent (5%) dehydration and maintenance of hydration is the goal of therapy. Patient is treated with age-appropriate “normal” diet as tolerated.
- 2.3 Score of two (2): indicates the presence of some dehydration: five to ten percent (5-10%) and oral rehydration should be started. Oral re-hydration solution is recommended for fluid therapy.
- 2.4 Score of three (3) or four (4): patient may have severe dehydration (greater than 10%) and may require IV rehydration.
- 2.5 Refer to Alberta Health Services (AHS) *Assessment and Reassessment of Patients* Guideline for overall assessment guidelines.

3. Administration of Ondansetron

- 3.1 The health care professional shall obtain an order from an **authorized prescriber** prior to the administration of Ondansetron.
- 3.2 Ondansetron is administered orally or as an orally-disintegrating tablet according to the following dosing:

Weight	Dose	
Less than 8 kg	0.2 mg/kg	CAUTION – Protocol is not applicable for patients under three (3) months of age.
8 - 15 kg	2 mg	
Greater than 15 kg	4 mg	

mg= milligrams / kg= kilograms

Note: if the patient vomits within 15 minutes of administration of initial dose of ondansetron, repeat the dose and wait an additional 15 minutes prior to starting oral rehydration.

4. Oral Rehydration

- 4.1 Oral rehydration may be initiated 15 minutes after the administration of ondansetron.
- 4.2 Use oral rehydration solutions such as Enfalyte© or Pedialyte©.
 - a) Patient’s with minimal dehydration (dehydration scale score of one [1] or less) may be rehydrated with either an oral rehydration solution or a liquid of their choice.
- 4.3 Promote oral hydration to:
 - a) administer five (5) millilitres (mL) of oral rehydration solution every three (3) to five (5) minutes; and
 - b) increase the volume as tolerated to the volumes outlined in the table below:

Weight in kg	Sip Volume over five (5) minutes (Calculated based on 15 mL/kg/hour)
Less than 10	10 ml
10 - 15	15 ml
15.1 - 20	25 ml
20.1 - 25	30 ml
25.1 - 30	35 ml
30.1 - 35	40 ml
Greater than 35	50 ml

** May round off to nearest half or full ounce (30 ml = 1 ounce)
 Pedialyte® Freezer Pops = 62.5 ml each.

- c) If vomiting resolves, patients may drink as much as desired, provided minimum volume in above table is met.
- 4.4 Reassessment shall occur at minimum within one (1) hour, or more frequent if symptoms worsen.
- 4.5 If the patient has not vomited, increase the amount of oral rehydration fluids administered to 30 mL/kg, which is equivalent to double the amount listed in the above table.
- 4.6 Continue to evaluate hydration status (refer to Section 3) on repeat assessments and vital signs. Refer to AHS *Assessment and Reassessment of Patients* Guideline for overall assessment guidelines.

5. Documentation

- 5.1 All assessments, reassessments, interventions and patient responses to interventions shall be documented on the patient’s **health record**.

DEFINITIONS

Authorized prescriber means a health care professional who is permitted by Federal and Provincial legislation, her/his regulatory college, Alberta Health Services, and practice setting (where applicable) to prescribe medications.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* [Alberta] or the *Health Professions Act* [Alberta], and who practises within scope and role.

Health record means the Alberta Health Services legal record of the patient’s diagnostic, treatment and care information.

REFERENCES

- Alberta Health Services Governance Documents:
 - *Assessment and Reassessment of Patients* Guideline (#HCS-181-01).
- Alberta Health Services Resources:
 - *Ondansetron for nausea/vomiting* Alberta Children's Hospital (May 2010).
 - *Acute Childhood Vomiting and Diarrhea Pathway* (November 2011)

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