Gastroenteritis in Pediatric Clinical Practice Guidelines

Definition

Acute gastroenteritis is defined as a diarrheal disease of rapid onset, with or without nausea, vomiting, fever, or abdominal pain.

Assessment (History and Examination)

The history should include onset and duration of symptoms, caregiver reports of fluid intake and output, and red flag symptoms that require aggressive treatment.

TABLE 1

Red Flag Symptoms and Signs in Children with Acute Gastroenteritis

- Altered sensorium
- Bilious or bloody vomiting
- Cyanosis
- Inconsolable crying or excessive irritability
- Petechial rash
- Poor peripheral perfusion
- Rapid breathing
- Temperature of 104°F (40°C) or more
- Toxic appearance
- Young age (younger than six months) or low body weight

TABLE 3

Clinical Dehydration Scale

Characteristic	0 points	1 point	2 points
Appearance	Normal	Thirsty, restless, or lethargic but irritable when touched	Drowsy, limp, cold, sweaty, comatose
Eyes	Normal	Slightly sunken	Very sunken
Mucous membranes	Moist	Sticky	Dry
Tears	Tears	Decreased tears	Absent tears

Scoring: 0 points = less than 3% dehydration; 1 to 4 points = mild (3% to 6%) dehydration; 5 to 8 points = moderate to severe (more than 6%) dehydration.

Information from reference 16.

Management

The goals of acute gastroenteritis treatment include preventing dehydration, treating dehydration when it occurs, and reducing duration and severity of symptoms.

MILD DEHYDRATION (6% OR LESS):
Mild dehydration from acute gastroenteritis can be managed at home, with oral rehydration therapy as the mainstay of treatment.

MODERATE TO SEVERE DEHYDRATION (MORE THAN 6%)
Treatment of moderate dehydration includes an ORS plus medication if needed to decrease vomiting and improve tolerance of the ORS. For children with moderate dehydration, oral rehydration is as effective as intravenous rehydration in preventing hospitalization and return visits.

TABLE 5

WHO Guidelines for IV Rehydration Therapy in Children

Start IV fluids immediately; if the patient can drink, give oral rehydration solution until the IV infusion is established; give 100 mL per kg of Ringer solution* divided as follows:

Infants (younger than 12 months): First give 30 mL per kg over one hour,† then give 70 mL per kg in five hours

Older children: First give 30 mL per kg in 30 minutes,† then give 70 mL per kg in 2.5 hours.

Reassess the patient every one to two hours; if hydration is not improving, give the IV drip more rapidly.

After six hours (infants) or three hours (older patients), assess the patient to determine the next steps in treatment.

IV = intravenous; WHO = World Health Organization.

*—If Ringer solution is not available, normal saline may be used.
†—Repeat once if radial pulse is still very weak or not detectable.

Adapted with permission from World Health Organization. The treatment of diarrhoea: a manual for physicians and other senior health workers. 2005. http://apps.who.int/iris/bitstream/10665/43209/1/9241593180.pdf. Accessed January 3, 2018.

TABLE 4

WHO Guidelines for Administering ORS in Children

Weight*	Age*	Approximate amount of ORS (mL) to give in the first four hours
Less than 5 kg (11 lb)	Younger than four months	200 to 400
5 to 7.9 kg (11 lb to 17 lb, 7 oz)	Four to 11 months	200 to 400
8 to 10.9 kg (17 lb, 10 oz to 24 lb)	12 to 23 months	600 to 800
11 to 15.9 kg (24 lb, 4 oz to 35 lb)	Two to four years	800 to 1,200
16 to 29.9 kg (35 lb, 4 oz to 65 lb, 15 oz)	Five to 14 years	1,200 to 2,200
30 kg (66 lb, 2 oz) or more	15 years or older	2,200 to 4,000

Note: If the patient wants more ORS than shown, give more. Encourage breastfeeding mothers to continue breastfeeding the child. For infants younger than six months who are not breastfed: if using the old WHO ORS solution (90 mEq per L of sodium), add an extra 100 to 200 mL of clean water; this is not necessary if using the new reduced osmolarity ORS (75 mEq per L of sodium).

ORS = oral rehydration solution; WHO = World Health Organization.

*—Use the patient's age only if the weight is not known. The approximate amount of ORS required (in mL) can also be calculated by multiplying the patient's weight in kg by 75.

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Prevention

- **Improving sanitation and water quality**
- **HANDWASHING**
- **VACCINES**
- Breastfeeding
- Probiotics

APPROVL			
	Name:	**Position:**	**Signature:**
Prepared By:	Dr. MashaelAlrowaished	FM Senior Registrar	
Reviewed and Approved By:	Dr. Mansoor Allajhar Dr. Musa Althwayee Dr. Ahmed Al Zahrani Dr. Hajar Al Suma Dr. Ahlam Al Harbi	FM Consultants	

Adopted from;

AAFP