STRATEGIES FOR IMPLEMENTING ORAL REHYDRATION

IN CLINICAL SETTINGS

Adapted by REGION 1 Regional Disaster Health Response System

The US faced a large shortage of IV fluids following Hurricane Maria. In 2018, Patiño et al. published "Facing the Shortage of IV Fluids — A Hospital-Based Oral Rehydration Strategy" in the New England Journal of Medicine. The concrete tools and resources they detailed have been adapted here to support implementation in healthcare facilities based on local response efforts.

Oral rehydration therapy has been studied for nearly 60 years. It has been shown to reduce mortality from diarrheal illnesses by 93% and to reduce the case fatality rate of cholera from 30% to 1%. It is less expensive than IV-fluid therapy, and its use results in fewer admissions and shorter lengths of stay.

Use for patients with mild dehydration. Generally, patients with the following conditions:

- Acute gastroenteritis
- Pregnancy-related hyperemesis
- Mild viral upper respiratory infection or pharyngitis

Exclusion Criteria:

- Moderate or severe dehydration
- Inability to receive oral intake for another reason

IMPLEMENTATION STRATEGIES

1. Support standardized ordering through templates in the electronic health record (EHR).

Where possible, creating standard templates for ordering with interdisciplinary clinical input will strengthen your clinical response efforts and maintain patient safety. Leveraging EHRs for ordering will maintain workflows.

2. Order Oral rehydration fluids in the electronic health record (EHR)

Add antiemetic, pain control, or both if needed. Consider benzocaine or menthol lozenges in addition to acetaminophen or ibuprofen for pharyngitis. If there is significant nausea or pain, wait 20 min after medications to begin drinking (can start immediately otherwise).

3. The EHR order will direct the nurse to bring the patient two 500-mL pitchers (or ordered amount) of desired drink.

- Provide patient with straw as well as 30-ml medicine cup.
- Instruct patient to drink two large sips or 30 ml every 3–5 min. Use timers on cell phones or ask family to assist.
- Explain target hydration goals (see table) and provide a tracking sheet. Draw lines on pitcher for target volumes (e.g., “250 mL left”). Patient or family member should fill the tracking sheet.
- Return to reencourage oral intake as needed.

Patiño, Andres M. M.D., et al. Facing the Shortage of IV Fluids - A Hospital-Based Oral Rehydration Strategy. NEJM. 2018 March 21; 378(16):1475-1477. DOI: 10.1056/NEJMp1801772

Target Hydration Goals*

Target times are given for the amount of liquid remaining at 2 sips or 30 ml every 3 minutes or every 5 minutes.

Volume Liquid Remaining	2 Sips Every 3 Minutes	2 Sips Every 5 Minutes
1000 mL	0 min	0 min
750 mL	25 min	40 min
500 mL	50 min	1 hr 20 min
250 mL	1 hr 15 min	2 hr
0 mL	1 hr 40 min	2 hr 40 min

*

Patients with vomiting should be encouraged to maintain a slower rate of intake until they tolerate the fluid well. Patients without vomiting can drink faster, as tolerated.

After an intake of 250 ml has been successfully completed without vomiting, and if nausea is well controlled, intake can increase to four sips or 60 ml every 3–5 min.

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Troubleshooting

- If oral intake is insufficient, determine why and give additional antiemetic, antipyretics, pain control, or both as needed.
- If taste is a problem and dehydration mild (or not due to gastroenteritis), consider alternative liquid options, such as half-strength sports drink, dilute juice, or ginger ale.
- For pregnancy-related hyperemesis, oral intake can often help. Encourage patients to try to eat a few crackers if possible.
- Exercise clinical judgment when choosing oral hydration in patients with coexisting conditions such as renal disease, diabetes, or heart failure.
- Consider using powdered formulations of sports drinks to reduce storage space needed.

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