

Quick Reference Guide Adult Oral Rehydration Therapy (ORT) Pathway

Situation: Due to the current shortage in IV fluids including normal saline (NS), Lactated Ringers (LR), and dextrose containing fluids Denver Health is implementing an adult oral rehydration therapy (ORT) pathway for adult patients with mild to moderate volume depletion. The oral rehydration pathway is distinctly different than diet orders, clear liquid diets, or the ‘sip to send’ protocol being used prior to procedures and surgeries. ORT will consist of Pedialyte or its generic equivalent. Most of these products contain Na, Cl, K, and 25-32 grams of carbohydrates and are consistent with WHO guidelines around ORT. Fluids like Gatorade tend to have significantly more sugar and fewer electrolytes so are suboptimal in this setting but could be used in contingency or crisis settings. The adult ORT pathway will include EPIC orders to create a standardized approach. ORT therapy can be given via any enteral access (e.g., mouth, NGT, PEG, etc.).

Patients: Adult patients with suspected mild to moderate volume depletion.

Indications (i.e., history and physical signs consistent with mild to moderate volume depletion):

- Appropriate clinical history of volume depletion (e.g., decreased PO intake, excessive thirst, fevers, vomiting or diarrhea, recent increases in diuretic dosing, etc.)
- Vital signs: e.g., fevers, mild to moderate tachycardia, mild hypotension without shock
- Physical signs: e.g., dry mucous membranes, capillary refill time of >2 seconds, poor skin turgor, dark urine, etc.
- Laboratory: e.g., mild to moderate elevations in BUN/Cr, mild hyponatremia, etc.

Exclusions:

- Patients who are strictly NPO
- Patients with shock or those who are actively decompensating (i.e., those who require IV fluids)
- Patients with significantly elevated lactate
- Major trauma
- Patients with severe kidney injury or those who are anuric

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- Most oral rehydration therapy protocols are based on resource limited settings for patients with severe GI disease (e.g., cholera). Therefore, these guidelines are extrapolations from other guidelines and may be modified based on the clinical context.
- Initially, ORT will be available in premixed 1L bottles that will be delivered from Central Supply to the patient location.
- Consider prophylactic anti-emetics or analgesics to facilitate ORT.
- Sugar-free Crystal Lite flavoring powder is available to make unflavored ORT more palatable.
- The provider order will include options for volume, timeline, and route which will vary based on severity of volume depletion (**Table 1**).

Table 1: Initial Adult ORT Recommendations		
	Degree of Volume Depletion	
	Mild	Moderate
Clinical Signs	Dry mucous membranes Mild tachycardia Mild renal dysfunction Capillary refill time 2-3 seconds	Moderate tachycardia Moderate renal dysfunction Capillary refill time >3 seconds
Volume of ORT	1-2L over 12 hours	3-4L over 12-24 hours.

- As an initial order, consider 1-2L of ORT over 12 hours for patients with mild volume depletion. Consider 3-4L over 12-24 hours for patients with moderate volume depletion.
- For patients with enteral access (OGT, NGT, PEG, etc.), more prescriptive orders can be used (e.g., 500ml every 4 hours or something similar).
- For patients with active losses (fevers, vomiting, diarrhea, etc.) additional resuscitation may be required. The WHO recommends an additional 2ml/kg of IBW for each large volume emesis and 10ml/kg of IBW for each large volume diarrheal episode.
- Providers must inform patients of the plan to use ORT and instruct them on the importance of adequate intake and the goals for ORT.

Reassessment:

- Providers should reassess patients receiving ORT every 4-6 hours to ensure adequate intake and effectiveness of ORT. Effectiveness can be determined based on improvement in vital signs, physical findings, urine output, or laboratory values.
- If a provider is notified that a patient’s clinical status is worsening (e.g., worsening hypotension, anuria, altered mental status, etc.) and volume depletion is still suspected, consider transitioning to IV fluid replacements.

Nursing

- Providers will place the adult ORT order via EPIC. ORT will be available through central supply in premixed 1L bottles initially. In some cases, ORT may be stored on the floor.
- Nursing staff will deliver the 1L bottle to the bedside with instructions on the volume and timing of consumption. Patients can be provided with straws, cups, and ice as needed.
- Nursing staff can also offer patients Crystal Lite (or equivalent) sugar-free flavoring powder to make the unflavored ORT more palatable.
- Nursing or other staff should assess patient progress at least every 60 minutes and encourage ongoing intake.
- Nursing should notify the provider for insufficient intake.
- Nursing should document ORT in the I/O flowsheet based on actual volume consumed and can use free text Nursing Notes to document when a patient was provided with the fluid and any related updates.
- If the shortage worsens, it may be necessary to transition to powdered formula that will need to be reconstituted at the bedside. Further guidance will be issued if needed.