

ORAL REHYDRATION THERAPY FACT SHEET

Dehydration from diarrhea can be dangerous. Dehydration can be prevented if fluids are replaced early and with a proper replacement fluid: oral rehydration therapy consists of an Oral Rehydration Solution (ORS) and feeding; foods recommended include bland cereals, rice, soda crackers, farina, oatmeal, plain pasta, toast, mashed potatoes. Correctly balanced fluids should have certain proportions of sodium and potassium and carbohydrates. Osmolarity should be low; sugary drinks or foods can increase losses. Solutions that have too little or too much salt also can be dangerous, leading to hypo or hypernatremia.

Recommended for diarrhea management:

Product	Carbohydrate grams per liter	Sodium/Potassium mEq/liter	Chloride/Citrate mEq/liter	Osmolarity mOsm/L	Suggested Use:
Ceralyte 50 mixed berry, 10g pkts	40 grams complex rice carbohydrate	50 / 20	40 / 30	200	Good for mild diarrhea and dehydration in adults and children
Ceralyte 50 citrus, 10g pkts	40 grams rice digest carbohydrate	50 / 0	20 / 30	180	Ceralyte Potassium Free: Good for people who need sodium but no potassium.
Ceralyte 70 Lemon, RTD, 50g pkts, 10g pkts, chicken broth, 10g pkts	40 grams rice digest carbohydrate	70 / 20	60 / 30	220	Ceralyte 70: Good for mild to severe diarrhea and rehydration; natural flavors and colors; powder ready to mix with water or ready to drink in 250ml drink boxes, reclosable screw top. For all ages.
Ceralyte 90 Natural flavor, 50g pkts	40 grams rice digest carbohydrate	90 / 20	80 / 30	260	Ceralyte 90: Good for severe diarrhea and fluid losses (cholera, short-gut), natural.
Ready to Drink US Glucose-based Oral Electrolyte Solutions	25 grams/liter Glucose Fructose, Dextrose	45 to 50 / 20	35 / 30	275	Good for mild diarrhea and maintenance and for children. Contains fructose, not an effective sodium carrier, and the alternative sweeteners sucralose and acesulfame K
WHO/Unicef ORS	13.5 grams/liter Glucose	75 / 20	65 / 30	245	Good for rehydration, primarily used for children in Third World. 13.5g simple sugars as substrate.

Not recommended for diarrhea management:

Product	Carbohydrate grams per liter	Sodium/Potassium mEq/liter	Osmolarity mOsm/L	What this means:
Colas and Sweet Drinks	50 to 150 gram/liter (Too much sugar, can increase diarrhea)	2 / 0.1 Not enough sodium or potassium	550 to 700 High osmotic penalty – can be dangerous	NOT correct for replacing fluids lost from diarrhea; actually increases dehydration
Sports Drinks	45 grams/liter sugars	16 / 3 Not enough sodium or potassium	>365 Too High	NOT correct proportions for replacing fluids lost from diarrhea
Tea or WATER (H ₂ O)	0 Not good for transport of necessary salts and minerals	0 / 0 No sodium or potassium	5 Too Low; risks H ₂ O intoxication	NOT correct proportions for replacing fluids lost from diarrhea (or to use alone for sweat loss)
Coconut Water	30-50 grams carb/liter simple sugars	Not enough sodium, too much potassium	280-350	Significant variation in sugar and electrolyte content of coconut water products. Most are too low in sodium

Recommended for Rehydration from Sweat Losses:

Product	Carbohydrate grams per liter	Sodium/Potassium mEq/liter	Chloride/Citrate mEq/liter	Osmolarity mOsm/L	What this means:
Cerasport	40 grams complex carbohydrates	20 / 5	19 / 6	135	For sweat replacement (exercise, or for fever)
CerasportEX1	20 grams complex carbohydrates	35 / 10	30 / 15	135	For sweat replacement (exercise, or for fever, especially high heat, high stress)

WHO ORS and Pedialyte® are meant for diarrhea replacement and not for replacing sweat losses.

References: 1. Roper, WI: The management of acute diarrhea in children: oral rehydration, maintenance, and nutritional therapy. *MMWR*, 1992; 42/R-16:1-20. 2. Gore, SM, Fontaine O and Pierce NF: Impact of rice-based oral rehydration solutions on stool output and duration of diarrhea: meta-analysis of 13 clinical trials. *BR Med J*, 1992; 304: 287-291. 3. Greenough, WB III. Oral Rehydration: Something Old, Something New. *Infect Dis. In Clinical Practice* 1998; 7:97-100. See www.ceraproductsinc.com for more references and resources.

*Ceralyte is available both in packets to reconstitute with water AND in pre-mixed, liquid form.

©Copyright 2019 Cera Products, Inc. 88 Main Street, Suite D1, Hilton Head Island, SC 29926 USA Tel: 843.842.2600 Toll Free: 866.237.2598 Fax: 843.842.2601 email: customerservice@ceraproductsinc.com and website: www.ceraproductsinc.com

PHARMACY AND THERAPEUTICS COMMITTEE

FORMULARY ADDITION FORM

Medical Staff members may request for the addition of Ceralyte to the Hospital Formulary. Complete this form and forward it to the Pharmacy and Therapeutics Committee, in care of the Director of Pharmacy Services or Chief of Dietary Services, as appropriate. The request will be considered on the next available agenda of the Pharmacy and Therapeutics Committee and the requesting physician or medical staff member should be notified by mail. This form also may be used for additions to Dietary Formulary.

- A. Generic Name:** Rice-based oral electrolyte products for oral rehydration therapy to prevent or correct dehydration.
- B. Registered Trade Name and Manufacture:** Ceralyte by Cera Products, Inc.
- C. Dosage Forms and Strengths:** Calories are 160 per liter. Both Liquid Ready-to-drink (RTD) and Powder in Packets, which reconstitute with clean drinking water, are available. Packets are available in 50, 70, or 90 mEq/L sodium strengths in five flavors and two sizes (10gram to mix into 200 ml, or 50 grams to mix with 1 liter). Liquid RTD Ceralyte 70 is available in Lemon. Potassium is 20 mEq/L; citrate is 30 mmoles; each liter has 40 grams of rice-carbohydrate (no fat) as the substrate to deliver the electrolytes. A lower sodium/potassium choice (20 mEq/L sodium and 5 mEq/L potassium) is available as Cerasport.
- D. Usual Dose:** Start with 200 ml (one 10g packet) after every loose stool, or the amount required to replace stool lost; continue until diarrhea stops; also may be used to replace fluid losses from vomiting, with small sips of fluid.
- E. Pharmacologic Class:** Beverage (a Medical Food).
- F. Specific Pharmacologic Action:** Replaces salts and water losses in stool to balance electrolyte levels.
- G. Comparable Drugs in Formulary:** Dry: oral rehydration salts; Liquid: pediatric electrolyte solutions.
- H. Reasons why this drug is superior to drugs listed in Formulary:**
- All Cera products are gluten free and use Stevia as a sweetener
 - Dual Action: more co-transport substrate in long-chain rice carbohydrate than is available in glucose alone providing more nutrition while increasing fluid retention
 - Fast Absorption: long-chain rice carbohydrate delivers water and electrolyte quickly, promoting early recovery and faster restoration of circulating blood volume;
 - Packets: require less storage space and easy to send to different areas, or home with patient;
 - Liquid and Powder cost less per ounce than most other products;
 - Serve hot or cold, depending on patient requirements; variety of flavors available; and
 - Versatility: may be used for bowel prep kits and enteral nutrition flushes. Can also be delivered through a nasogastric tube (NGT) or Dobhoff tube (DHT) to help wean patients off of total parenteral nutrition (TPN).
- I. Cite published literature references for F. and H. above: (see www.ceraproductsinc.com for more references)**
- Bennett RG and Greenough WB III. Approach to Acute Diarrhea in the Elderly. Gastroenterology Clinics of North America. 1993; V22#3: 517-33.
 - Gore SM, Fontaine O, Pierce NE. Impact of rice-based rehydration solution on stool output and duration of diarrhoea; meta-analysis of 13 clinical trials. British Med J 1992; 304: 287-91.
 - Zaman K, Yunus M, Rahman, A, Chowdhery, HR, and Sack DA. Efficacy of a Packaged rice-oral rehydration solution among children with cholera and cholera-like illness. Acta Paediatrica, May 2001;V90 #5: 505-511.
 - Warren JL, Bacon E, Harris T, McBean AM, Foley D, Phillips C. The Burden and Outcomes Associated with Dehydration among US Elderly, 1991. Am J Public Health. Aug 1994; 84:1265-69.
 - Greenough, WB III. Oral Rehydration: Something Old, Something New. Infectious Disease In Clinical Practice 1998; 7: 97-100. f. Nauth J, Chang CW, Mobarhan S, Sparks S, Borton M, Svoboda S. A Therapeutic Approach to Wean Total Parenteral Nutrition in the Management of Short Bowel Syndrome: Three Cases Using Nocturnal Enteral Rehydration. Nutrition Grand Rounds. May 2004. 221-231.
- J. Which drug(s) listed in G above may be deleted from formulary:** Other oral electrolyte solutions (OES or ORS).
- K. Special cautions and side effects:** In patients with renal failure, look for the potassium free Ceralyte 50.

Requested by: _____

Extension: _____

Date: _____