

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 electrolyte solution (ORS) and feeding; foods recommended include cereals and starches with high complex carbohydrates. 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 mEq/liter	Potassium mEq/liter	Osmolarity mmoles/liter	What this means:
CeraLyte 50*	40 grams complex carbohydrates rice digest and 10 grams sucrose or sucralose	50	20	<190 low Osmol	Good for mild to severe diarrhea; Low osmolarity and cost; Powder: small packets, natural flavors, reconstitutes with water.
CeraLyte 70	40 grams rice digest	70	20	<220 low Osmol	
CeraLyte 90	40 grams rice digest	90	20	260 low Osmol	
Ready to Drink US Glucose-based Oral Electrolyte Solutions	25 grams/liter Glucose Fructose, Dextrose, Aspartame	45 to 50	20	275 mOsm/L	Good for mild diarrhea and maintenance; Bulky, plastic bottles; Cost \$5.00 - \$9.00/liter; Neither Fructose NOR aspartame are effective sodium carriers.
WHO/Unicef ORS	13.5 grams/liter Glucose	75	20	245 mOsm/L	Good for all levels of rehydration. Available through some hospitals.
CeraSport	40 grams complex carbohydrates rice digest 1 gram glucose	20	5	<135 low Osmol	For sweat replacement (exercise, or for fever)
CeraSportEX1	20 grams complex carbohydrates rice digest 1 gram glucose	35	10	<135 low Osmol	For sweat replacement (exercise, or for fever)

Not recommended for diarrhea management:

Product	Carbohydrate grams per liter	Sodium mEq/liter	Potassium mEq/liter	Osmolarity mmoles/liter	What this means:
Colas and Sweet Drinks	50 to 150 gram/liter (Too much sugar, can increase diarrhea)	2 Not enough sodium	0.1 Not enough 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 Not enough sodium	3 Not enough potassium	>330 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 No sodium	0 No 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)

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

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email: customerservice@ceraproductsinc.com and website: www.ceraproductsinc.com

PHARMACY AND THERAPEUTICS COMMITTEE

FORMULARY ADDITION FORM

Medical Staff members request for addition of a drug 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-digest 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 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 50grams to mix with 1 liter). Liquid RTD CeraLyte is available in sodium strength of 50 mEq/L in natural/unflavored or Lemon flavor. Potassium is 20 mEq/L; citrate is 30 mmoles; each liter has 40grams of rice-carbohydrate w/natural protein (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:** four to eight ounces 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:**
- More co-transport substrate in long-chain rice carbohydrate than is available in glucose;
 - Dual Action: reduces fluid losses while it rehydrates, includes protein inherent in rice digest;
 - 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: for example may be used for Bowel Prep Kits and for TPN flushes.
- 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 Diarrhea in the Elderly; Topics in Infectious Dis: Acute Infectious Diarrhea 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. BRIT 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.
- 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, potassium is present in CeraLyte.
- L.**

Requested by: _____ Extension: _____ Date: _____