



Know your Formula, Know your Food

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Types of Enteral Formulas

- There are > 100 enteral formulas available, classified as:
 - Standard
 - Hydrolyzed or Elemental (“pre-digested”)
 - Specialized or Disease-Specific
 - Blenderized

What’s the difference?

How is ONE chosen?

Classifications of Enteral Formula

- Standard
 - complete with intact nutrients, includes proteins, fats, carbohydrates, vitamins and minerals, may include fiber
 - 1kcal-2kcal/mL, adult and pediatric
- Hydrolyzed or Elemental
 - ***hydrolyzed proteins (amino acids and peptide chain)***, includes fats, carbohydrates, vitamins and minerals, may include fiber
 - referred to as “pre-digested”
 - 0.8-1.5kcal/mL, adult and pediatric

Classifications of Enteral Formula (cont.)

- Specialized or Disease Specific
 - **for special metabolic needs**, excludes inherited disease of metabolism, includes altered composition of proteins, fats, carbohydrates, vitamins and/or minerals, may include fiber
 - excludes inherited diseases of metabolism
 - adult
- Blenderized
 - **blenderized natural foods** with intact nutrients, includes proteins, fats, carbohydrates, vitamins and minerals, may include fiber
 - adult and pediatric

Differences among Standard Formulas

- Calories: range from 1-2kcal/mL
- With and without dietary fiber
 - Types of dietary fiber vary among formulas: oat, soy, pea, partially hydrolyzed guar gum, inulin
- With and without prebiotics (non-digestible fiber)
 - Stimulate the growth of healthy intestinal bacteria
 - Does not contribute to the residue in stool
- Different fat ratios
 - Long Chain Triglycerides (LCT) : Medium Chain Triglycerides (MCT)

Retail vs. Institutional

- Names may appear to be the same, but formulations are different
 - Pediasure / Pediasure Enteral Formula (EF) 1.0 (both with and without fiber)
 - Ensure
 - Ensure / Ensure Original
 - Ensure Clear (nutritional drink vs. therapeutic nutrition)
 - Ensure Complete (nutrition shake vs. institutional)
 - Glucerna Shakes / Glucerna 1.0, 1.2, 1.5
 - Nutrisource Fiber / Benefiber

Hydrolyzed and Elemental Formulas (“pre-digested”)

- Hydrolyzed: protein that has been broken down to peptide chains
 - Ingredients that indicate the formula is hydrolyzed: hydrolyzed whey protein, whey protein hydrolysate, hydrolyzed sodium caseinate, hydrolyzed protein blend, etc.
- Elemental: protein that has been broken down to amino acids
 - Ingredients that indicate the formula is elemental: individual amino acids that start with L- (L-arginine, L-glutamine, L-threonine, etc.)

Specialized / Disease Specific Formulas

- Formulas target a disease state (excluding inherited disease of metabolism)
 - Diabetic—altered amount of carbohydrate
 - Renal—altered amount of protein, electrolytes, fluid
 - Hepatic—higher composition of branch chain amino acids
 - Respiratory—altered carbohydrate composition to help reduce production of carbon dioxide
 - Immune-enhancing—contain higher levels of glutamine, arginine, omega-3 fatty acids, and antioxidants

Blenderized Formulas

- Formulated with real food ingredients such as chicken, fruit, vegetables, juice
- Contain fiber
- Not considered standard formulas, so Medicare coverage can be tricky
- Limited selection / availability

Ingredients: Standard, Pre-digested, or Blenderized?

Formula #1

- Water, Maltodextrin, Enzymatically Hydrolyzed Whey Protein (from Milk), Medium Chain Triglycerides (from Coconut and/or Palm Kernel Oil), and less than 2% of Cornstarch, Soybean Oil, Soy Lecithin, Magnesium Chloride, Calcium Phosphate, Guar Gum, Sodium Ascorbate, Potassium Citrate, Sodium Phosphate, Calcium Citrate, Choline Chloride, Potassium Chloride, Sodium Citrate, Magnesium Oxide, Taurine, L-Carnitine, Alpha-Tocopheryl Acetate, Zinc Sulfate, Ferrous Sulfate, Niacinamide, Calcium Pantothenate, Vitamin A Palmitate, Citric Acid, Manganese Sulfate, Pyridoxine Hydrochloride, Vitamin D₃, Copper Sulfate, Thiamine Mononitrate, Riboflavin, Beta Carotene, Folic Acid, Biotin, Potassium Iodide, Chromium Chloride, Sodium Selenate, Sodium Molybdate, Phytonadione, Vitamin B₁₂.

Formula #2

- Water, Corn Maltodextrin, Sodium Caseinate, High Oleic Safflower Oil, Calcium Caseinate, Canola Oil, Medium-Chain Triglycerides, Calcium Phosphate, Sodium Citrate, Magnesium Phosphate, Soy Lecithin, Potassium Citrate, Potassium Chloride, Magnesium Chloride, Cellulose Gel, Ascorbic Acid, Choline Chloride, Potassium Phosphate, Taurine, L-Carnitine, Cellulose Gum, Zinc Sulfate, Ferrous Sulfate, dl-Alpha-Tocopheryl Acetate, Niacinamide, Calcium Pantothenate, Manganese Sulfate, Beta-Carotene, Cupric Sulfate, Thiamine Chloride Hydrochloride, Pyridoxine Hydrochloride, Riboflavin, Vitamin A Palmitate, Folic Acid, Biotin, Chromium Chloride, Sodium Molybdate, Potassium Iodide, Sodium Selenate, Phylloquinone, Cyanocobalamin, and Vitamin D3.

Formula #3

Water, Maltodextrin, Corn Syrup, Chicken Puree (Water, Dehydrated Chicken), Sodium Caseinate (from Milk), Carrot and Pea Puree (Water, Dehydrated Carrots and Peas), Tomato Puree (Water, Tomato Paste), Canola Oil and less than 2% of Cranberry Juice (Water, Cranberry Juice Concentrate), Partially Hydrolyzed Guar Gum[♦] (Soluble Fiber), Potassium Citrate, Calcium Phosphate, Salt, Hydroxylated Soy Lecithin, Sodium Ascorbate, Choline Chloride, Magnesium Oxide, Carrageenan, Magnesium Phosphate, L-Carnitine, Taurine, Alpha-Tocopheryl Acetate, Zinc Sulfate, Ferrous Sulfate, Niacinamide, Calcium Pantothenate, Vitamin A Palmitate, Copper Gluconate, Manganese Sulfate, Vitamin D₃, Pyridoxine Hydrochloride, Riboflavin, Thiamine Hydrochloride, Beta Carotene, Potassium Hydroxide, Citric Acid, Chromium Chloride, Folic Acid, Biotin, Sodium Molybdate, Potassium Iodide, Sodium Selenite, Phytonadione, Vitamin

B₁₂

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Formula #4

- Water, Maltodextrin and less than 2% of Modified Cornstarch, L-Lysine Acetate, L-Leucine, Soybean Oil, L-Arginine, L-Glutamic Acid, Medium Chain Triglycerides (from Coconut and/or Palm Kernel Oil), Calcium Glycerophosphate, L-Threonine, L-Phenylalanine, L-Valine, L-Isoleucine, L-Proline, L-Histidine Hydrochloride, L-Methionine, Glycine, L-Tryptophan, Carrageenan, Dextrose, Potassium Citrate, Magnesium Sulfate, Sodium Citrate, L-Aspartic Acid, Citric Acid, L-Serine, Choline Bitartate, L-Alanine, Sodium Hexametaphosphate, Ascorbic Acid, Salt, Potassium Chloride, L-Tyrosine, Taurine, L-Carnitine, L-Cystine, Alpha-Tocopheryl Acetate, Ferric Orthophosphate, Zinc Sulfate, Niacinamide, Vitamin A Palmitate, Calcium Pantothenate, Copper Gluconate, Manganese Sulfate, Pyridoxine Hydrochloride, Vitamin D₃, Thiamine Hydrochloride, Riboflavin, Folic Acid, Chromium Chloride, Biotin, Potassium Iodide, Sodium Molybdate, Sodium Selenite, Phytonadione,

Questions

