

# The Elemental Diet

Presented by Dr. Kara Fitzgerald, ND and  
Dr. Alex Keller, ND



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# Introductions

Dr. Kara Fitzgerald, ND



Dr. Alex Keller, ND,  
Medical Director, Fullscript





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# What we'll cover:

- An overview of the Elemental Diet
- Clinical applications and case studies
- Elemental diet protocols
- Important considerations

# The Elemental Diet: History

- Developed by W.C. Rose in the 1940s
- First used in hospital settings
- Research now supports its use in certain outpatient settings
- Commonly used in patients with compromised digestive systems (e.g., IBS, Crohn's disease)

# The Elemental Diet: An Overview

- Consists of pre-digested or elemental nutrients in their simplest forms
  - Amino acids
  - Essential vitamins and minerals
  - Fat (MCTs)
  - Sugars or simple carbohydrates
- Primarily absorbed in the proximal small intestine and easily assimilated by the body
- Typically hypoallergenic



# The Elemental Diet: An Overview

- Limits digestive function needed and allows the gut to “rest and repair”
- Promotes healing/nutritional recovery and prevents wasting
- Designed to be the sole source of nutrition for limited periods (generally for 14-21 days)
- Delivered enterally or parenterally

# Clinical Applications: Crohn's Disease

- **Crohn's disease**
  - Decreased disease activity, effective in inducing remission
  - Improved nutritional status
  - As effective or more effective than polymeric formulas, steroid medications, 6-mercaptopurine
  - Use in long-term Crohn's management

# Clinical Applications: Other GI Conditions

- SIBO:
  - Normalization of lactulose breath tests in IBS patients with abnormal LBTs
- Eosinophilic esophagitis
  - ↓ symptoms
  - Induction of clinical remission
- Intractable diarrhea
  - Faster resolution of malabsorption and diarrhea
  - ↓ complications
  - ↓ cost of hospitalization
  - Superior to total parenteral nutrition (TPN)



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# Clinical Applications: Other GI Conditions

- Persistent diarrhoea-malnutrition syndrome (PDM)
  - ↑ weight gain
  - Improvements in diarrhea frequency and recovery comparable to standard nutritional rehabilitation
- Chronic pouchitis
  - ↓ disease activity
  - ↑ concentration of *Clostridium coccoides*–*Eubacterium rectale*
- Celiac disease:
  - ↓ epithelial IL-15, IFN-secreting mucosal T cells, and IFN-messenger RNA levels



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# Clinical Applications: Post-operative

- Various GI-related operations and others (e.g., C-section)
- Improved nutritional status
- Decreased weight loss
- Faster recovery, decreased length of hospital stays
- Decreased risk of complications

# Clinical Applications: Cancer Treatment Side Effects

- Oral mucositis
  - ↓ incidence, ↑ rate of completion of chemoradiation
- Sarcopenia
  - ↑ lean body mass
- Stomatitis
  - ↓ severity
- Radiation injury
  - Prophylactic effect against acute phase of radiation injury



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# Clinical Applications: Other Conditions

- Aspiration pneumonia
  - ↓ episodes of aspiration
- Liver failure
  - ↑ nutritional state, ↓ clinical symptoms
- Perennial asthma
  - ↓ asthma
- Rheumatoid arthritis
  - Improvement in certain clinical parameters comparable to prednisolone

# Case Studies- DrKF & Team

- SIBO: 27 YO female, onset after food poisoning
- UC: 36 YO male. Maintained on SCD x years, recent flare- unsure of trigger.
- EoE: 58 YO female, lifetime allergic disease, food allergies. Recent diagnosis of EoE
- Severe hypersensitivities - diagnostic tool
  - Rash
  - Dust mite allergy



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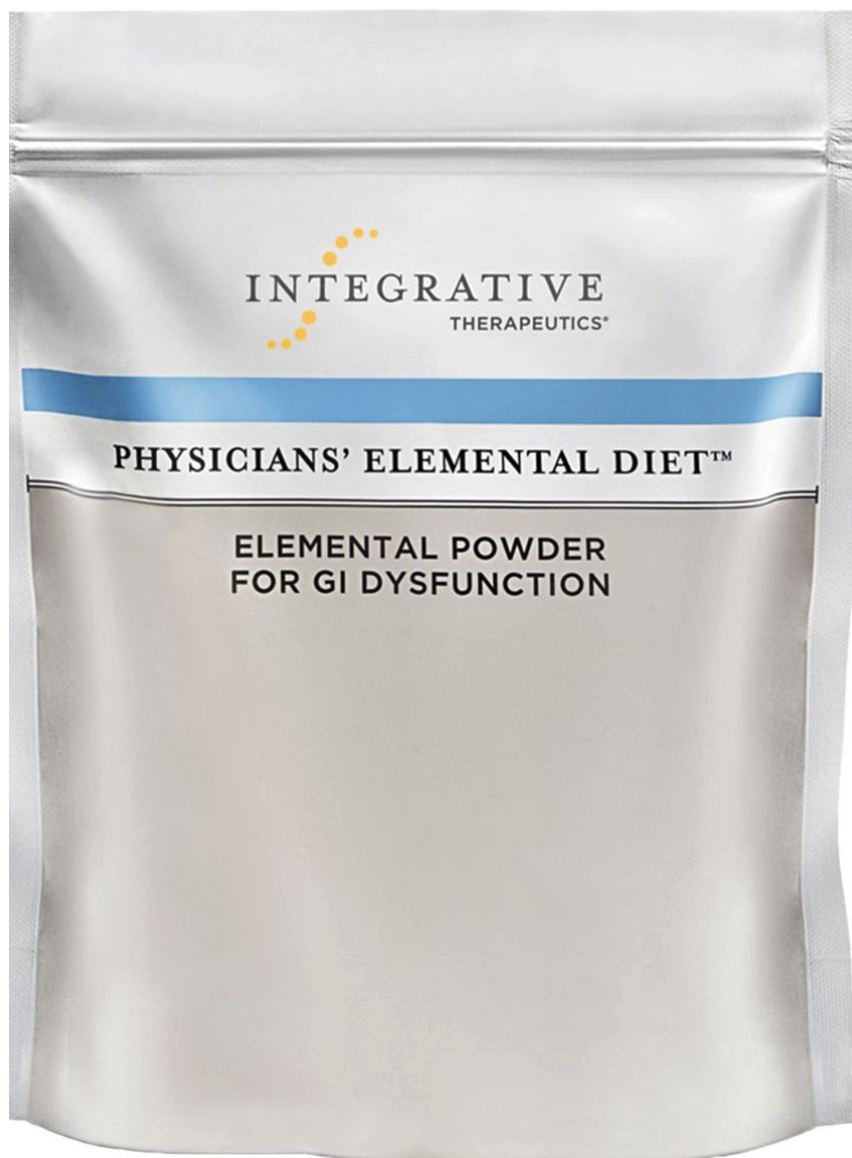
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# ED in Practice: Protocols

- **Preparation**
  - Education
  - Products → anti-microbial, support motility
- **Implementation\***
  - 2-4 weeks
- **Re-Introduction**
  - Start with baseline diet
  - Gradual introduction of foods
- **Remission**
  - Support epithelial health - L-Glutamine, NAG, NAC
  - Support digestive function - enzymes, HCl, bitters, 5-HTP
  - Support healthy microbial balance - probiotics, prebiotics



## NUTRITION INFORMATION

Serving Size 36 g

### Amount per Serving

Calories	150
Calories from Fat	25
Total Fat	3 g
Saturated Fat	1.5 g
Total Carbohydrate	25 g
Sugars	11 g
Sodium	95 mg
Potassium	150 mg
Protein	**
Vitamin A (Beta Carotene)	833 IU
Vitamin C	20 mg
Calcium	83 mg
Iron	1.5 mg
Vitamin D3	66 IU
Vitamin E	10 IU
Vitamin K	10 mcg
Thiamin	0.5 mg
Riboflavin (Riboflavin-5-phosphate)	0.56 mg
Niacin	3.3 mg
Vitamin B6 (Pyridoxal-5-phosphate)	667 mcg
Folate (as Quatrefolic® brand (6S)-5-methyltetrahydrofolate glucosamine salt)	33 mcg
Vitamin B12 (Methylcobalamin)	0.5 mcg
Biotin	50 mcg
Pantothenic Acid	3.3 mg
Phosphorus	116 mg
Iodine	16 mcg
Magnesium	33 mg
Zinc	2 mg
Selenium	18 mcg
Copper	167 mcg
Manganese	332 mcg
Molybdenum	8 mcg
Chloride	142 mg
Choline	33 mg

\*\*Contains 5 g free form amino acids per 36 g serving.



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FOR GI DYSFUNCTION**

**NUTRITION INFORMATION**

Serving Size 35 g

**Amount per Serving**

Calories	150
Calories from Fat	30
Total Fat	3 g
Saturated Fat	1.5 g
Total Carbohydrate	23 g
Sugars	<1 g
Sodium	90 mg
Potassium	150 mg
Protein	**
Vitamin A (Beta Carotene)	833 IU
Vitamin C	20 mg
Calcium	85 mg
Iron	1.5 mg
Vitamin D3	66 IU
Vitamin E	10 IU
Vitamin K	10 mcg
Thiamin	0.5 mg
Riboflavin (Riboflavin-5-phosphate)	0.56 mg
Niacin	3.3 mg
Vitamin B6 (Pyridoxal-5-phosphate)	667 mcg
Folate (as Quatrefolic® brand (6S)-5-methyltetrahydrofolate glucosamine salt)	33 mcg
Vitamin B12 (Methylcobalamin)	0.5 mcg
Biotin	50 mcg
Pantothenic Acid	3.3 mg
Phosphorus	82.8 mg
Iodine	16.5 mcg
Magnesium	33.5 mg
Zinc	2 mg
Selenium	18 mcg
Copper	167 mcg
Manganese	332 mcg
Molybdenum	8.25 mcg
Chloride	164.6 mg
Choline	33.35 mg

\*\*Contains 7.5 g free form amino acids per 35 g serving.

# ED in Practice: Preparatory Ingredients



- Vitamin A
- Calcium
- Zinc
- Pau D'Arco (*Tabebuia impetiginosa*) Bark
- Undecylenic Acid
- Caprylic Acid
- L-Glutamic Acid HCl
- Rosemary (*Rosmarinus officinalis*) Aerial Parts Oil Extract
- Thyme (*Thymus zygis*) Aerial Parts Oil Extract



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# ED in Practice: Preparatory Ingredients & Remission Support



- Barberry (*Berberis vulgaris*) Root Extract
- Oregon Grape (*Berberis aquifolium*) Root and Stem Extract
- Standardized goldenseal (*Hydrastis canadensis*) Root and Rhizome Extract



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# ED in Practice: Preparatory Ingredients & Remission Support



- Pycrinil® Artichoke (*Cynara cardunculus*) Leaf Extract
- Ginger (*Zingiber officinale*) Root Extract



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# ED in Practice: Remission Support



- Phase I
  - Betaine HCl
  - Pepsin
  - L-Glutamic Acid HCl
- Phase II
  - Pancreatin USP, (Amylase, Protease, Lipase)
  - Ox Bile



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# ED in Practice: Types of Diets

- **Full Elemental Diet**
  - Sole source of nutrition, fulfills 100% of daily caloric needs
- **Half Elemental Diet**
  - 50% of daily caloric intake, 50% from well-tolerated foods
- **PRN (pro re nata) Elemental Diet**
  - Full or partial source of nutrition, as needed



Type of Diet	Timing of Diet	When to Use
Full Elemental Diet	2-4 Weeks*  *based on clinic trials, though longer periods may be appropriate in some patients.	Patients diagnosed with <sup>1-12</sup> : <ul style="list-style-type: none"> <li>• SIBO</li> <li>• Crohn's Disease</li> </ul>
Half Elemental Diet	2-4+ Weeks	When patients are unable to complete or tolerate a full elemental diet or if continued use of GI Support Supplements are desired.
PRN (pro re nata) Elemental Diet	1-3 Days	To begin, or follow up, on a full or half elemental diet protocol. This approach can also be used to provide the gut with rest during exacerbations.

[Elemental Diet Guide.](#) Integrative Therapeutics. 2012.



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# ED in Practice: Protocol Considerations

- Medical supervision throughout the duration of the diet is essential
- Practitioners should monitor:
  - Weight changes to ensure adequate caloric needs are met
  - Symptoms in case of exacerbation or new symptoms
  - Adherence to the ED protocol

# Important Considerations

- Contraindications
- Antibiotic and pharmaceutical treatment
  - Deprescribing
  - Concomitant
  - Interactions

# Important Considerations

- Adverse effects
  - Blood sugar dysregulation
  - Digestive symptoms (e.g., constipation, cramping)
- Improving adherence
  - May be poor due to palatability, dietary restriction, and adverse effects
  - Tips to improve and supportive supplements

# Summary

- Looking for more information on the Elemental Diet? Visit [www.elementaldiets.com](http://www.elementaldiets.com)

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