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Elemental Diet Instructions

Elemental Diet for Patients with Moderate to Severe Gastrointestinal/Digestive Impairment

Physicians' Elemental Diet is intended for use under medical supervision for the dietary management of patients with GI dysfunction. The elemental diet is designed for the dietary management of:

- Irritable bowel syndrome
- Crohn's disease
- Small intestinal bacterial overgrowth (SIBO)
- Moderate to severe impaired gastrointestinal function

WHAT IS AN ELEMENTAL DIET?

- An elemental diet is a diet consisting of **pre-digested nutrients** designed to be a sole source of nutrition for limited periods (generally for 14-21 days).
- They are considered **medical foods**, and are available through a few delivery methods, including orally, gastric tube feeding, or intravenously.
- They can be in a ready-to-drink package, or as a powder reconstituted with water. The nutrients of an elemental diet are in their simplest form, **allowing them to be easily assimilated by the body, while allowing the gut to rest.**

Physicians' Elemental Diet contains a balanced blend of macronutrients fortified with essential vitamins, minerals, and electrolytes to assure **comprehensive support as a sole source of nutritional intake for limited periods.** It has been:

- Specifically formulated to contain free amino acids, partially hydrolyzed carbohydrate, and medium chain triglycerides to aid in their absorption from the GI lumen.
- **Designed to maintain nutritional sustenance as a sole source of nutrition for up to four weeks.**
- Produced as a **strictly hypoallergenic formula**, free from yeast, wheat, gluten, dairy products, fructose, sucrose, lactose, disaccharides, sorbitol, mannitol, xylitol, artificial colors, flavors or preservatives.
- Formulated with a well-tolerated flavor for improved patient adherence



SMALL INTESTINAL BACTERIAL OVERGROWTH (SIBO)

Background of SIBO

- SIBO was first described in 1939, in association with intestinal strictures. SIBO is more likely to occur as a complication of gut motility disorders (the gut not moving), including strictures, scleroderma, gastroparesis, or diabetic enteropathy. Recently, however, the association between SIBO and irritable bowel has piqued the interest of clinicians. In 2000, Mark Pimental, MD, and his colleagues at Cedars-Sinai Medical Center reported a 78% prevalence of SIBO in patients with irritable bowel. Since that time, SIBO has been identified more frequently in patients with irritable bowel than in healthy controls.

Assessing SIBO

- **The upper portions of the small intestine normally contain minimal numbers of bacteria.** Gastric acid, intestinal motility, biliary secretions, and immunoglobulins keep bacterial growth in check. With the loss of any of these protective mechanisms, **bacteria can thrive in the wrong place.** Bacteria which should be living in the large intestine start to thrive in the small intestine. This is called **SIBO or small intestine bacterial overgrowth.**
- Lactulose is a sugar not digested by the body, meaning that it is able to travel all the way through the small intestine without modification in normal physiology. **The lactulose breath test thus allows detection of abnormally increased numbers of bacteria located in the distal small intestine.** Patients consume lactulose syrup and samples of their breath are collected over a 2-3 hour period. The lactulose is taken up by bacteria in the small intestine which digest and ferment it, producing different types of gases such as hydrogen and methane. Similarly, when **dietary intake includes fermentable carbohydrates, such as lactulose and poorly digested oligosaccharides, it feeds bacteria present in the small intestine producing gases** that can be measured in the breath. Elemental diets do not contain such fermentable carbohydrates and provide safe nutrition for the patient.

Application of an Elemental Diet in Patients with SIBO

- **SIBO can be treated by antibiotics (usually Xifaxin/rifaximin and neomycin) or Elemental Diet**
- **The FODMAPS diet** also helps SIBO, as you restrict the sugars that feed the bacteria thriving in the wrong place.



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- An elemental diet for the dietary management of SIBO provides highly bioavailable and essentially monomeric versions of macronutrients, thus there is a greater chance for **absorption to occur before arriving in the distal small intestine** where bacterial overgrowth is common. The focus of this strategy is to **feed the host rather than feed the translocated commensal bacteria**. Many of the human clinical trials used durations of two-four weeks for the elemental diet, so that is commonly recommended.
- **When you go on an Elemental Diet, you starve the bacteria, which are living in the wrong place in your gut.** At Miami Beach Comprehensive Wellness Center, we like to call this approach to treatment **“the hunger games.”**
- Research demonstrates that the **Elemental Diet is may be a more effective treatment than antibiotics.**
 - In a study using the elemental formula, patients were instructed to consume only the formula for 14 days. On the 15th day, they were re-tested for the presence of SIBO. Remarkably, 80% tested negative.
 - Those who were still SIBO-positive were instructed to continue the formula for another 7 days, after which the cure rate went up to 85%.
<https://link.springer.com/article/10.1023/B:DDAS.0000011605.43979.e1>
 - Though figures vary for the efficacy of rifaximin, the majority of studies I’ve seen estimate it to be around 50% effective, but some studies show even lower rates.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2691494/>
 - One study in particular showed the cure rate for rifaximin to be 34%, while herbal antimicrobials were more effective at 46%.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4030608/>
 - So Elemental Diet has an effective rate of 85%, whereas antibiotics have an effective rate of about 50%.

CROHN’S DISEASE

Background of Crohn’s Disease

Crohn’s disease is a chronic disease characterized by patchy inflammation of the intestines and relapsing and remitting symptoms. It is an autoimmune disease where the immune system attacks the gastrointestinal tract, resulting in abdominal pain, diarrhea, mucus and/or blood in the bowel movements. It can also result in extraintestinal manifestations, such as joint pain.

The intestinal inflammation of Crohn’s disease is driven by an altered immune response that activates nuclear factor (NF)-KB, tumor necrosis factor (TNF)-alpha, and pro-inflammatory cytokines. Numerous genes and polymorphisms have been associated with Crohn’s disease, but environmental signals are thought to play a key role in triggering disease onset.

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Application of an Elemental Diet in Patients with Crohn's Disease

An elemental diet is most often utilized after first-line therapies as a sole source of nutrition. The value of enteral nutrition in the dietary management of patients with Crohn's disease was reported over 30 years ago. The colonic microflora is abnormal in Crohn's disease, which may lead to production of toxic chemicals such as alcohols, aldehydes, and the ethyl esters of fatty acids. It is believed that this is the reason for the loss of normal immune tolerance to the gut flora in Crohn's disease, which results in the coating of fecal bacteria by immunoglobulin. Overall, the results of enteral nutrition, using an elemental diet, are excellent within two-three weeks. It allows your gut to have a rest, so that it can recover from the inflammation induced by eating.

Instructions for the Elemental Diet

- **No other foods are supposed to be consumed during the use of the Elemental Diet.**
- The purpose of the diet is to **rest the bowels** and to **starve any unwanted bacteria.**
- **You cannot have cheat days.** You cannot take Elemental Diet for 5 days and then eat burgers and fries on the weekend and then return to the Elemental Diet on Monday. **It is intended to be done consecutively for 2-3 weeks for it to work.**
- **No alcohol** during this time period, as alcohol can feed the SIBO bacteria and cause inflammation in Crohn's. Sorry! No tequila shots with Elemental Diet!
- **Coffee and tea are allowed as long as it has no sugar or milk**
- No milk, juice, kombucha or other liquids
- You can drink as much water as you want
- There is **no caloric limitation.** This is a medical diet to treat SIBO and Crohn's. It is not intended for weight loss.
- Drink as much Elemental Diet as you need in order to keep your blood glucose up. We recommend **drinking small frequent amounts throughout the day, so that you don't drop your blood glucose.**

We recommend rechecking a SIBO breath test after treatment in SIBO patients and rechecking a Calprotectin level in Crohn's patients.

Thanks!

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