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## Integrative Approaches for Managing Inflammatory Bowel Disease

Inflammatory bowel disease (IBD) can be a challenging disease to manage. We know that a disturbance of intestinal mucosal homeostasis, genetic factors, the intestinal microbiome, and the immune system underlies IBD. In addition to medications, there are many other ways to support your body's ability to heal and improve symptoms. It is important to work with your medical team and communicate any changes in your diet or supplements you are considering starting.

### NUTRITION

Many individuals follow the Anti-Inflammatory diet which is mostly a plant-based diet high in omega-3 fatty acids. One of the most researched examples of an anti-inflammatory way of eating is the traditional Mediterranean diet, which is a dietary pattern inspired by some countries of the Mediterranean basin. In general, the Mediterranean Diet is a plant-based pattern (though not exclusively), rich in fresh fruits and vegetables, whole grain cereals, and legumes. It emphasizes nuts, seeds, and olive oil as sources of fat and includes moderate consumption of fish and shellfish, white meat, eggs, and fermented dairy products (cheese and yogurt), and relatively small amounts of sweets and red and processed meat.

In general, people with Inflammatory Bowel Disease tend to do better with plant-based diets that either eliminate or have small amounts of dairy-containing foods and eliminate or have small amounts of red meat. During a flare, people with IBD may do better with low-fiber foods. Fruits and vegetables are important, but cooking vegetables and peeling fruits, or blending, can make them easier to digest. During periods of remission, individuals should be able to follow a high/normal fiber diet.

*Keep reading for more information below regarding specific foods and food components:*

#### **Foods to Add/Incorporate:**

- **Fiber:** Fiber is critical for improving the gut microbiota (gut bacteria) and is a key factor in lowering chronic inflammation. Higher fiber diets are also associated with lower risk of inflammatory bowel disease. However, foods like beans, intact whole grains, nuts and seeds are not always tolerated by an inflamed and irritated gut. Soluble fibre, which is gel-forming in the gut – such as oranges, oats, barley and psyllium – tends to be better tolerated than insoluble fibre from grains and fibrous vegetables. You can start slowly with soluble fibres and then cooked and blended sources of insoluble fibres.

- **Prebiotic foods:** Foods that feed and maintain the good intestinal bacteria. Foods that contain prebiotics include steel-cut oats, bananas, ground flax seeds, vegetables, legumes. Use/introduce these in small amounts and with caution as high fiber loads can lead to gas and bloating.
- **Probiotic foods:** These are fermented foods that have live bacteria within them, such as plain yogurt, kefir, kimchi, miso, and fermented veggies like sauerkraut.

### Consider Cutting Back or Eliminating:

- **Dairy:** Consider going easy or eliminating dairy, and consider finding non-dairy substitutes such as pea-based milk (Ripple) or soy milk. Some families choose to try almond milk, rice milk, or coconut milk. It is important to make sure you are getting enough Calcium and Vitamin D, as we often get these through dairy products.
  - Individuals with IBD can enjoy homemade yogurt (fermented >24 hours), hard cheese, and farmers cheese.
  - Eliminate/Minimize: Foods that include dairy are cow's milk, ice cream, cheese, sour cream, cottage cheese. Many foods contain dairy in their ingredients so it is important to read labels! Ingredients that contain milk protein found in prepared foods include: Artificial butter or cheese flavor, Casein or caseinates, Curd, Ghee, Hydrolysates, Lactalbumin, lactalbumin phosphate, Lactose, lactoglobulin, lactoferrin, lactulose, Rennet, Whey or whey products
  - Consider a multivitamin or Ca/Vitamin D supplement if you are eliminating/cutting back on dairy products. Having a baseline vitamin D level as well as periodic checks of vitamin D levels are important.
  - For reference, 1 cup of fortified almond milk contains 25% of your daily vitamin D needs. You can also try coconut milk based yogurt with fortified vitamin D. You can get calcium and magnesium you need from plant-based foods like tofu, beans, and tahini.
- **Gluten:** Gluten is a general name for the proteins found in wheat (wheat berries, durum, emmer, semolina, spelt, farina, farro, graham, khorasan wheat and einkorn), rye, barley and triticale – a cross between wheat and rye. Gluten helps foods maintain their shape, acting as a glue that holds food together. Some people find that gluten containing foods can exacerbate their symptoms as well. Whether or not gluten worsens inflammatory bowel disease is not clear-cut according to studies. If you would like to consider trying a gluten elimination diet, it is important to learn about what foods contain gluten and make a plan to have gluten-free foods you can eat and digest. If you are considering trialing a gluten-free diet, it can be helpful to be strictly gluten-free for 8 weeks to see how this affects your symptoms. Be careful, often foods that are labeled “gluten-free”, can be full of sugar and aren't necessarily healthy for you.
  - If you continue to be gluten free, consider taking a B-complex (which contains folic acid and other important B vitamins).

- **Meat:** Consider cutting back on meat and stick to lean cuts of meat. Elimination of processed meats (sausages, salami, ham, cured bacon, smoked meat) is important. Red meat is a source of omega 6 linoleic acid, which is metabolized to arachidonic acid, which is associated with disease risk. High iron intake – rich in red meat – may also increase inflammation in the colon. In addition, the availability of sulfur in the colon – which may be increased by a meat-heavy diet – is associated with ulcerative colitis outcomes. Moving towards a plant-based diet may be helpful for healing!
- **Other foods:**
  - Trans fats (store-bought baked goods, anything containing “partially hydrogenated oil”)
  - Emulsifiers like carrageenan, maltodextrin, and polysorbate 80, carbosymethylcellulose (check ingredients)-these are often found in processed food.
  - All foods with refined sugar
  - Grains, except for oats (MAYBE barley....)
  - Fast food or processed food

#### **Helpful websites to learn more about nutrition for IBD:**

- University of Massachusetts Medical School, Center for Applied Nutrition  
<https://www.umassmed.edu/nutrition/>
- Crohn's and Colitis Foundation  
<https://www.crohnscolitisfoundation.org/>

## **SUPPLEMENTS**

There are many supplements people with inflammatory bowel disease are interested in trying to see if they will help with symptoms or prevent recurrence. The evidence for supplements is very mixed and more studies need to be done to help us understand what supplements are worth recommending routinely. However, often families would like to try other products that may seem more natural. Whatever supplement you try, here are a few recommendations about how to choose carefully.

- **Interactions:** Dietary supplements can have interactions with prescription medications or other supplements, so it is always important to let your doctors know if you are taking something or would like to start something.
- Not all supplements are created equally. When choosing a supplement, look for a few different labels that can help you feel confident that the product has been tested for contaminants and contains what it says it does on the label.
  - NSF International (NSF) and U.S. Pharmacopeia (USP) are two organizations that test products for purity and content. You can look for these labels on the bottle (NSF or USP).

- Start low and slow. When starting a supplement, start slowly and monitor for side effects. Starting with ¼ to ½ the recommended dose for a few days is helpful and then going up to goal dose.

**Three supplements that may help with IBD in children/adolescents are probiotics, omega-3 Fatty acids, and tumeric. These supplements are not covered by insurance. They are safe supplements to try. You can try them for 6-8 weeks to see if they have an effect. Always discuss with your doctor before starting a supplement, especially if you are taking medications. There can be interactions with medications and it is important to make sure what you would like to start is safe.**

**Probiotics:** A blend of probiotics may be helpful. One study showed that *Saccharomyces boulardii*, a nonpathogenic yeast, may be helpful for maintenance of Crohn's disease in addition to mesalamine. *Lactobacillus* as well has shown some promise.

Watch for the following when you choose probiotics:

- Make sure the probiotic is not past the expiration date printed on the container.
- Try to use products that are refrigerated, as they often contain live, healthier cultures of bacteria.
- Protect probiotics from direct light.

**Suggested Brands:** Ortho Molecular Ortho Biotic-1 capsule/day (contains both *Saccharomyces* plus *Lactobacillus*); Nature's Way Primadophilus Ultra, VSL #3

**Omega-3 Fatty Acids:** There is quite a bit of interest in omega-3 Fatty Acids (found in Fish Oil). Fish oil is the richest, natural source of preformed EPA and DHA. The evidence is not clear on whether or not Omega-3-fatty acids contribute to improvement in disease, but some studies show an improvement in inflammation. If you do want to try Fish oil, use a combination of EPA+DHA, look for a relative balance between the two, or EPA>DHA. It is important to read the label and look at the amount of EPA and DHA on the label.

<b>Supplement Facts</b>		
Serving Size: 2 Softgels		
Servings Per Container: 30		
	Amount Per Serving	%DV
Calories	18	*
Calories from Fat	18	*
Fat	2 g	2%
Total Omega-3 Fatty Acids	1,490 mg	*
EPA (Eicosapentaenoic Acid)	894 mg	*
DHA (Docosahexaenoic Acid)	446 mg	*
* Daily Value not established.		
<b>Other Ingredients:</b> Ultra Refined Fish Oil Concentrate, Gelatin (softgel), Glycerin, Ammonium Hydroxide, Ethylcellulose, Coconut Oil, Stearic Acid, Sodium Alginate, Water, Mixed Tocopherols.		

### **Suggested brand:**

- Nordic Naturals: Ultimate Omega 2x (2 capsules contains 2g of EPA+DHA)

### **Safety and side effects of Omega-3 Fatty Acids/Tips for Taking:**

- Minor GI side effects: burping, reflux, diarrhea. (If your child/teen can swallow capsules, can try freezing as this can reduce sx's).
- It is uncertain if patients with fish or shellfish allergies can safely consume fish oil supplements.
- May extend bleeding time, so be cautious if you are taking anticoagulants or NSAIDs regularly. This is usually with doses >3g/day however.
- Can try liquid, chewable tablets (but then often have to take many); mixing in peanut butter, orange juice. Not in water or milk, won't mix.
- Discontinue fish oil before surgery.

**Turmeric:** Turmeric is a bright yellow spice that comes from the root (rhizome) of the *Curcuma longa*, which is a member of the ginger family. It is used to flavor food and is also used as an additive that can color foods to be a brighter orange or yellow. Curcumin is a substance that is found in the spice turmeric. Turmeric has been used as a medicinal supplement for digestive problems. One reason why curcumin has been considered as an area for study is because it may have an effect on some of the mechanisms of disease activity in IBD. Many studies of curcumin and IBD include doses of up to 2 grams per day in order to achieve beneficial effects. In most cases, the dosage is started small and then increased over the course of a few weeks. Supplements that contain curcumin may also contain black pepper. This is because there is an ingredient in black pepper, called piperine, which may help the body uptake more curcumin. In addition, there is some speculation that eating a food with some fat content when taking the curcumin supplement may help in absorbing the curcumin. If you would like to try taking curcumin, discuss first with your healthcare provider.

- Start at a low dose and go up slowly.
- Because it can act as a blood thinner, and can increase the risk of bleeding, curcumin should not be taken prior to having surgery. It is usually recommended that the curcumin supplement be stopped for two weeks before having surgery.
- Typical doses range from 500mg to 2000mg per day and should be taken with food (a healthy fat) to help with absorption.
- Suggested brands: Doctor's Best Curcumin C<sup>3</sup> Complex -- 500 mg capsules (\$28/month); Jarrow Formulas Curcumin 95™ -- 500 mg capsules (\$20/month);

Families often ask where to buy supplements. A few local resources are Berkeley Bowl (Berkeley), Pharmaca (Oakland), and the Food Mill (East Oakland). On-line, I recommend the website [www.vitacost.com](http://www.vitacost.com).

## STRESS AND THE IMMUNE SYSTEM

We know that our immune system is affected by our stress levels. Developing ways to cope with stress is important not only for our minds, but our bodies. There are many ways to manage stress and no one way is right for everyone. Here are some suggestions:

- Exercise/walking
- Breathing exercises
- Listening to music, guided meditations, guided imagery
- Self-hypnosis
- Talking to friends/family/therapist
- Journaling
- Prayer
- Spending time in nature

## ACUPUNCTURE/ACUTHERAPY

Acupuncture is one of the oldest therapies of traditional Chinese medicine, dating back more than 3,000 years. The principle of acupuncture is stimulation of different points, important for the normal functions of the body. These points, called acupoints, are located along the lines connecting different organs, and based on the principles of acupuncture, represent the channels carrying the vital energy (“qi”) through the body. Scientists found that many acupoints overlay with bundles of nerve cells, providing supporting evidence to the mechanism by which acupuncture can alleviate pain. There are different ways to stimulate the acupoints. Research is ongoing to assess the benefits of acupuncture beyond pain management. Some studies relevant to IBD reported that acupuncture and moxibustion improved GI symptoms, including: abdominal pain, diarrhea, constipation, gas, bloating, and nausea, as well as alleviating inflammation. Acupuncture can be a safe, cost-effective, noninvasive, and widely available nonpharmacological option as adjunctive therapy for managing disease activity and reducing symptoms in IBD. If you choose to try acutherapy, make sure to work with a provider who is familiar with the medicines you are taking and can work together with your medical team.