

## Healing Regimes for Your Gut

### Components of a Healthy Digestive Tract

- The barrier integrity of the lining to keep factors in and out appropriately
- The muscular health of the lining to propel food through
- The balance of the good to bad bacteria
- Appropriate digestive enzymes
- Avoidance of food allergens and intolerances

### Intestinal and Colonic Lining: How it Works

The cells that line the digestive tract, called **enterocytes**, are very rapidly dividing, growing, and renewing. They are very busy cells, so they need excellent nutrition. There are many day to day practices and foods that impact your enterocytes.

Enterocytes are shaped like columns, and they line the small intestines and colon. Their surface coat contains digestive enzymes.

Each enterocyte cell contains **microvilli**, which are finger-like projections. These projections serve to increase the surface area available for the important absorption of nutrients and molecules from the gut into the blood stream. The goal is to have as many nutrients as possible reach the rest of your body, so a large and healthy surface area for absorption is important. Think about the surface area of a flat wood floor that's 2 feet by 2 feet ( $2 \times 2 = 4$  square feet). If that was your intestine, it would amount to 4 feet of surface area for absorption.

If, instead of a flat surface, your intestine was lined with a shag carpet, each of the shags have additional surface area, making the total surface available for absorption much bigger.

Enterocytes also secrete special immune cells, called **SIgA**, which protect all the mucous membranes in your body.

## Foods and Conditions that Damage Your Intestinal Lining

Sugar, lactose intolerance, food allergies, unfriendly bacteria, nutrient deficiency, excessive alcohol, and drugs like NSAIDs are harmful to your delicate intestinal lining. It's vital to stop the things that are harming your gut while you take action to repair it.

## Healing Agents for a Leaky Gut

### Avoid:

- Alcohol
- All allergens: gluten, corn, soy, dairy, eggs, peanuts and anything to which you have a sensitivity
- Caffeine
- Certain medications, like NSAIDS
- Dairy
- Gluten
- Nightshades
- Sugar and sugar alcohol
- Trans Fats: margarine, mayonnaise, baked goods
- Vegetable oils like corn, soybean, safflower, and sunflower, especially when heated

### Include Practices and Substances That Heal Your Gut:

- *AM Gut Rejuvenator*
- Balance gut flora: probiotics and cultured foods
- Balance stomach acid
- Chewing and relaxed eating
- Daily green drink
- Digestive enzymes
- Elimination diet
- Fiber: lots of fruits and veggies, whole foods
- Healing and soothing herbs, foods, and supplements
- Optimize transit time, increase fluid , increase movement, increase fiber, decrease fat

## Quick Guide to Nutrients to Heal Your Intestine:

### Healing Supplements for Gut:

Select one to three protocols to start. You can rotate them, alternate them, and see which ones create the most comfort to your digestion. Be sure to do each for at least a month for best effect.

- **Glutamine:** 1500 mg three times per day or 2500 mg twice a day
- **Arabinogalactans:** 1 to 3 tablespoons per day at 4 - 5 grams per tablespoon
- **Zinc:** 50 - 80 mg per day
- **Quercitin:** 500 mg 2 times per day
- **N-Acetyl Cysteine:** (NAC) 500 - 1000 mg per day
- **Vitamin A:** 20,000 - 25,000 IU's per day
- **Vitamin B1:** 50 mg 3 times per day
- **Vitamin E:** 400 IU's per day
- **DHEA:** 1 drop (1 mg) 3 times per day
- **Vitamin C:** to bowel tolerance

## Extensive List of Foods, Nutrients, and Herbs to Heal Your Gut

This is an extensive list of nutrients, herbs and foods that can heal leaky guts and restore normal digestive function so you are no longer at high risk for food allergies and related conditions.

This is an extensive but not exhaustive list.

You may not need all of the nutrients listed. In fact, taking all of them would be overwhelming and could be counterproductive. Instead, I suggest you read the summaries below and choose any vitamins and minerals you know or suspect you are deficient in, along with 2 - 3 potent healing and anti-inflammatory herbs. Eat foods freely as long as they are in your current GO list.

## Foods That Heal Your Gut

**Demulcent Herbs:** Soothing and healing to the mucous membrane

- Chia seed
- Flax seed
- Licorice
- Marshmallow
- Slippery elm
- Comfrey
- Irish moss
- Cinnamon
- Chamomile
- Fenugreek
- Jujube dates
- Aloe Vera gel
- Plantain
- Calendula
- Yarrow

**Bitters:** Stimulate HCl, pepsin, mucous in upper GI

- Licorice
- Hops
- Milk thistle
- Gentian
- Orange peel
- Dandelion
- Goldenseal and Oregon grape
- Chicory

**Carminatives:** Expel gas, reduce bloating, tone the digestive tract.

- Dill
- Fennel
- Ginger
- Caraway
- Cinnamon
- Turmeric
- Clove
- Cardamom
- Chamomile
- Oregano
- Rosemary
- Thyme

## Nitric Oxide Foods

- Arugula  
(100x more than any other foods)
- Spinach
- Beets
- Hawthorn berries
- Dark leafy greens

**Quercitin foods or supplement:** (500 mg 2 times per day)

- Onions
- Garlic
- Apples
- Berries
- Green cabbage
- Spinach
- Grapefruit
- Cranberries
- Kale
- Pears
- Grapes

**Anti-inflammatory herbs and foods:** reduce the irritation and damage that causes leaky gut and food sensitivities

- Ginger
- Turmeric
- Licorice (DGL form  
if you tend towards  
high blood  
pressure)
- Chia seeds
- Flax seeds
- Hemp seeds
- Deep ocean fish
- Algae and sea  
greens
- Purslane
- Vitamin C
- Omega-3 fats
- Bromelain and  
other proteolytic  
enzymes
- Capsaicin  
containing goods -  
pepper
- Cinnamon
- Rosemary
- Basil
- Cardamom
- Chives
- Cilantro
- Cloves
- Garlic
- Parsley
- Boswellia
- Quercitin  
(bioflavonoid in  
onions)

**N-AcetylCysteine NAC rich foods or supplements:** (500 – 1000 mg per day) potent antioxidant and glutathione precursor

- Red peppers
- Garlic
- Onions
- Broccoli
- Brussels  
sprouts

**Vitamin A:** 20,000 - 25,000 IU's per day

**Vitamin B1:** 50 mg 3 times per day

**Zinc:** 50-80 mg per day

**Glutamine:** 1500 mg three times per day or 2500 mg twice a day (some studies show benefit in the range of 10 grams)

**Arabinogalactans:** 2000 mg 1-3 times per day

**Vitamin E:** 400 IU's per day

**DHEA:** liquid DHEA allows you to start 1 mg and increase by 1 mg until you see changes. Women need to be careful not to take too large a dose, as it can cause masculinization. 1 mg 3 times a day might be sufficient.

**Vitamin C:** take up to your bowel tolerance dose, which means just short of causing diarrhea

## Nutrients and Your Intestines: Details

**Glutamine:** If the enterocyte is working well, glutamine converts into citrulline and arginine which promotes intestinal health and circulation.

Glutamine supplementation supports intestinal mucosal structure and function, decreases bacterial problems, and supports the immune system. Glutamine feeds the intestinal mucosa. Glutamine may reduce the permeability of intestinal mucosa, and thus provides protective effects on intestinal barrier function. Thus Glutamine, in some, makes guts less leaky.

**Vitamin A, B, Zinc:** Vitamin A deficiency has been linked to inflammation of the intestinal tract. Vitamin A helps heal leaky gut. So does zinc. They work together, along with B vitamins, to keep the lining of the gut appropriately permeable. It's important not to take more than the recommended dosages of vitamin A unless you are working with a professional. Vitamin B1 is especially important for restoring intestinal cell integrity.

**DHEA:** Hormones protect the lining of the gut. Dr. Davis Lamson, a naturopathic doctor in Washington, noted that improving DHEA levels through low-dose supplementation can improve various intestinal diseases. Low levels of hormones, especially DHEA, seem to aggravate the more serious autoimmune inflammatory bowel diseases.

**Nitric Oxide:** From food, exercise, and sometimes supplements. Nitric oxide (NO) increases circulation to the gut wall and aids in healing gut permeability, aka leaky gut. While nitric oxide supplementation is used quite successfully in patients with high blood pressure and cardiovascular disease, with leaky gut it's best to supplement with foods rich in nitric oxide, unless you've tested and found yourself to be deficient. Too much nitric oxide can increase inflammation. The best food source of NO appears to be arugula. Also good are spinach, beets and hawthorn berry.

**Hawthorne Berry Extract:** The extract is made from the tiny red berries that grow on the Hawthorne shrub. Hawthorne berries, leaves and flowers are traditionally used in herbal medicine to strengthen the cardiovascular system, due to a large part of its ability to boost nitric oxide production. Hawthorne berry supplements are available in capsules and tinctures. You can also purchase the whole berries at **Mountain Rose Herbs** and make tea or add to salads, smoothies, or dressings. <http://www.drritamarie.com/go/MountainRose>

**N-acetylcysteine:** This is a great detoxifier of the intestinal tract. Reactive oxygen species (ROS) are increased in inflammatory bowel disease (IBD) and have been implicated as mediators of intestinal inflammation. Results suggest that NAC may be effective in the treatment of colitis through its free radical scavenging capacity.

**Vitamin E:** Protects gut lining.

**Vitamin C:** Anti-inflammatory supports adrenal function, which can play a role in leaky gut and inhibits growth of h.pylori, a bacteria that has been shown to cause stomach pain and ulcers.

**Vitamin B6:** This vitamin reduces ulcers under physiologic stress, supports good gut lining, and protects enterocytes.

**Deglycyrrhizinated licorice:** Also known as DGL, this form of licorice has had the constituent that increases blood pressure, called glycyrrhizinic acid, so is safe for people who have a tendency towards high blood pressure. It heals and soothes the gut lining. It protects the lining like a covering. Studies show it protects the gut wall against aspirin, NSAID, and various mucosal damages. It has been studied extensively with regard to ulcers and appears to aid in the repair of the gut lining. Licorice helps renew gut epithelium, the cells that line hollow organs and glands and tissues that make up the outer surface of the body.

**Fiber:** Insufficient fiber is linked to diseases of every organ in the GI tract — stomach, intestines and colon. It absorbs toxins and moves food waste through the system more quickly, thus preventing the reabsorption of toxic waste products.

**Cabbage Juice:** Cabbage juice significantly increases the rate of healing in patients with ulcers in their stomach. Dr. Garnett Cheney, M.D. showed in the 1950s that fresh, raw cabbage juice (4 glasses a day), reduced the pain and dramatically accelerated the healing in patients with peptic ulcers. Patients said their pain and healing was dramatic and rapid and this was backed up by x-rays. 81% of the patients were symptom-free within one week, and over two thirds were better within four days. While the studies are for ulcers, it seems logical to assume that cabbage juice could be just as effective in healing the intestinal wall and restoring normal permeability. **NOTE:** *Care should be taken with long term use of large amounts of cabbage juice, as it may inhibit thyroid function.*

## References: Scientific Literature

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9. Proc Soc Exp Biol Med 1947;64;273.A critical role for nitric oxide in intestinal barrier function and dysfunction. Alican I, Kubes P.
10. J Am Med Women's Assoc 1963;18;460: Standardized cabbage factor complex for peptic ulcers. Report of animal experiments and 162 ambulatory cases.
11. Get Your Gut In Gear with Dr. Ritamarie Loscalzo and Dr. Lindsey Berkson.

## Additional Reading: Online Articles

1. Arabinogalactans:  
<http://www.thorne.com/altmedrev/.fulltext/5/5/463.pdf>
2. Glutamine:  
<http://www.edwardsdrugs.com/PDF/010601%20-%20Glutamine.pdf>
3. N-AcetylCysteine:  
<http://www.sfrbm.org/frs/ErcalNAC.pdf>
4. Reference for leaky gut and allergies:  
<http://www.leakygut.co.uk/Liz%20Lipski%20Digestive%20Wellness.pdf>