

# BOOSTING YOUR IMMUNITY

## What's Your Gut Got?

“For the invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made, even His eternal power and Godhead; so that they are without excuse.” Rom 1:20

### FUN FYI:

- 7,000,000,000 humans on this planet
- 5,000,000,000,000,000,000,000,000,000 bacteria on this planet

### Introduction

- You are not “all” human...
- You are a walking bacterial colony
- If you look at it in terms of cells, you are outnumbered 10 to 1.

### Human Microbiota

- They are normal bacterial flora residents in the body.
- Bacteria compose 10% of body weight (3x that of the brain)

**FLORA/MICROBES/MICROBIOTA-** Their number and type/specie depends on location in the body and geographic location and age of the human.

**COMMENSAL BACTERIA-** indigenous microflora/microbiota that have a symbiotic relationship with the human host

Your flora are your friends. If something goes wrong with the microflora/microbiota, something goes wrong with you! Not only by association but that bad gut microbiota can actually cause disease.

### Human Gut Microbiome

- Comprises 99.99% of DNA in the body
- There are a hundred microbial genes to one (100:1) of human genes in the human body

**“Seeded” at Birth-** the effect of birth passage, antibiotics at birth and breast feeding

**“A practice that is laying the foundation of a vast amount of disease and of even more serious evils is the free use of poisonous drugs.” MH 126**

**Environment: Rural vs. Urban-** living in rural settings offer the varied natural flora

**Home Niche-** a sterile environment is not conducive to the receiving of microbiome

**Source of Food:** Inorganic vs. Organic

**Traveling:** In contact with possible “inoculators”

**“Our artificial civilization is encouraging evils destructive of sound principles.”**

**MH 126**

### **How the Microbiome Affects Our Immune System**

- Research suggests that the relationship between gut flora and humans is not merely commensal (a non-harmful coexistence), but rather is a mutualistic, symbiotic relationship.++
- Cytokines released by the inflamed cells in the intestinal lumen and antibodies produced to fight against the invading toxins and foreign proteins disrupt the integrity of the blood-brain barrier that will allow repeated exposure of auto reactive lymphocytes and other factors to the nervous system which may result in euro-autoimmunity and degenerative disorders, thus abnormal mucosal immune function and a compromised gut-barrier are the gateways to inflammation and many autoimmune and neurodegenerative diseases.

### Microbiome and the Immune System

- Immune: first line of defense by blocking toxins, breaking allergy-causing proteins, and crowding out harmful bacteria and yeast-
- 70%-80% of immune system resided in the gut.
- *Lactobacillus rhamnosus GG, L. casei Shirota, L. johnsonii La1, B. lactis DR10, Bifidobacterium animalis Bb-12, and Saccharomyces cerevisiae boulardii, etc.*

Crit Rev Food Sci Nutri. 2014;54(7):938-56. doi: 10.1080/10408398.2011.619671

### Probiotic Mechanism of Action

1. Enhancement of the epithelial barrier
2. Increased adhesion to intestinal mucosa
3. Inhibition off pathogen adhesion
4. Competitive exclusion of pathogenic microorganisms
5. Production of anti-microorganism substances
6. Modulation of the immune system

### Immunomodulatory effect of Lactococcus lactis JCM5805 on human plamacytoid dendritic cells.

- *Lactococcus lactis JCM5805* activates **plasmacytoid dendritic cells (pDCs)** in the intestinal mucosa that play a crucial role in anti-viral immunity through production of large amounts of interferons (IFNs).

Clin. Immunolo. 2013; 143(3):509-18. doi: 10.1016/j.clim.2013.10.007. Epub 2013 Oct 25.



### Prebiotic food

= Jerusalem artichoke	= Onions and leeks	= Chickory
= Garlic	= Bananas (less ripe)	= Soy beans
= Burdock root	= Asparagus	= Maple syrup
= Chinese chives	= Peas/Legumes	= Eggplant
= Honey	= Yogurt, cottage cheese	= Kefir

D. **Re-inoculation-** transplanting bacteria from a “healthy” gut to a “unhealthy” gut;  
Re-“poo”pulation of gut bacteria

### **SBBO-** Small Bowel Bacterial Overgrowth or Small Intestinal Bacterial Overgrowth- **SIBO**

- Causes relative malnutrition because of the overgrowth of bacteria that uses up the food taken in even before they are absorbed
- Gassiness, bloatedness, diarrhea and pain/cramps
- Damage to the lining
  - Inadequate absorption = loss of essential nutrients
  - Leaky gut and all the havoc that follows (allergies)

## **RESTORE GUT MICROBOME**

### **Restore through Nurture Diet**

- Eliminate gluten/corn/soy/peanuts/sugars/additives/dyes (meat\*, dairy and poultry); eat of the right amounts of good food
- Eat food rich in probiotics (kefir, kimchi, yogurt, etc)
- Feed the good bacteria (prebiotics/fiber)
- Supplement when possible- timing is necessary
- Kill bad bacteria- natural antibiotics (garlic/onions/peppermint oil)
- Remove toxins/dead bacteria (charcoal vs. clay); avoid chlorinated and fluoridated water

### **Restore through Rest and Trust**

- Stop focusing on what is off balance and work to restore.
- REST if often needed- physical and emotional
  - not napping (2 hrs) alone, but doing something that heals the body and soul.
- Trust that God is true to His word
- Trust that “All things work together for good...”

### **Restore with Sunshine/Vitamin D**

- Current evidence supports a role for gut colonization in promoting and maintaining a balanced immune response in early life. An altered or less diverse gut microbiota composition has been associated with atopic diseases and/or obesity.
- There is emerging evidence that the vitamin D pathway may be important in gut homeostasis and in the signaling between the microbiota and the host.

### **Restore with Hydration**

- “The integrity of the skin plays an important role in protecting the host from infection, dehydration and other pathological processes. If this barrier is destroyed, some commensals on the skin may become opportunistic.” Human Microbiota and Microbiome
- The same mechanism also holds true in mucosal linings of other systems of the body where bacteria reside.

### **Restore with Exercise**

- Exercise inhibits / stops the adverse effects of toxins on the microbiome

### **FUN FYI:**

“Poo”sition also affects mucosal integrity and bacteria.

**“Knowing is not enough; We must apply...**

**Willing is not enough; We must do!”** Goethe

## **UNDERSTANDING COMES WITH OBEDIENCE**

***“It will take some time to get a right understanding of the matter, but just as soon as we begin to work in the line of true reform, the Holy Spirit will lead us and guide us, if we are willing to be guided.”***

[Quotations from Special Testimonies to Loma Linda] PH049 2.4

**DISCLAIMER:** This presentation is for educational purposes. It is not to take the place of medical diagnosis and management. Consult with your doctor.