

# Healthy Meals Made Easy

## Healing the Microbiome (Part 1)

*Remove and Repair*

**Part 1 Objective:** Remove and Repair:

### Microbiome Background

#### **Terms to know:**

- ◆ **Microbes:** Organisms that are too small to be seen with the naked eye.
  - Single celled, and can be classified as: Bacteria, Eukarya, Archaea and viruses
  - Bacteria and Archaea do not store DNA in nucleus
  - Eukarya store DNA in nucleus
  - Viruses, on the border of what we consider to be living, are made of DNA/RNA and are inactive until they come into a host.
  
- ◆ **Human Microbiome:** The human gut microbiome encompasses  $10^{14}$  resident microorganisms including bacteria, viruses, fungi, and protozoa that are living within the human intestinal tract; however, most of these **microbes** are beneficial to us! Bacteria are the most well studied gut microbe, and they are predominately gram positive Firmicutes and gram negative Bacteroidetes. Some of the roles that these microbes carry out for us include digesting our food, synthesizing vitamins, detoxification and stimulating renewal of cells in the gut lining which play a big role in our immune system.
  
- ◆ **Human Microbiota:** a particular community (microorganisms) living in/on the human body: Archaea, microeukaryotes, and viruses. The microbiota is on the “organism” level.
  
- ◆ **SCFA:** short chain fatty acids are end products of bacterial fermentation. The SCFA’s produced from this process are: butyrate (a relative of beta hydroxy butyrate (BHB) and how ketosis is measured), propionate and acetate. All of these end products get reabsorbed, and can strengthen the mucosal barrier and promote local intestinal immunity.

#### **What we Know About the Microbiome as it Relates to Health and Nutrition**

- ◆ Greater bacterial diversity leads to less health issues later in life.
- ◆ Both science and Hippocrates agree: “most diseases and health problems begin in the gut”.
- ◆ The more diverse your plant food is, the more diverse your microbiome can be!
- ◆ The gut is responsible for 75% of our immunity
  - In fact, when stretched out, the gut spans the length of a tennis court. That is a lot of real estate!
- ◆ The gut is also known as our “second brain” and is connected to the brainstem by way of the vagus nerve; digestion is an important function influenced by the vagus nerve.
- ◆ When the gut is compromised, the tight junctions lining the intestinal cell wall become leaky allowing toxins to leak into the blood stream, triggering inflammation.

## So How do we Begin to Heal our Microbiome?

- ◆ Remove Culprits:
  - High fat (predominantly animal fats), creams, cheeses, bacon, etc. Fats such as coconut oil are high in saturated fat and can be difficult to digest for those with compromised digestive tracts.
  - Inflammatory foods such as processed foods/refined sugars. Processed foods often contain vegetable oils, which are high in Omega-6 fatty acids.
  - Avoiding unnecessary intake of antibiotics, corticosteroids and birth control pills.
  
- ◆ Repair:
  - Add cooked diverse plant fiber (**pre**biotics) to your daily diet. Our microbes eat what we eat and they thrive on plant foods.
  - Healthy fats (monounsaturated, polyunsaturated, Omega 3's). These fats have anti-inflammatory properties.
  - Exercise regularly
  - Manage stress
  - Get adequate sleep

## Healing Ingredients from our Menu:

- ◆ Golden Milk  
**Turmeric** is an **anti-inflammatory compound** and when combined with black pepper, the bioavailability is significantly increased.
  
- ◆ Sweet Congee  
**Pears** contain **fiber**, a source of food for our microbes.
  
- ◆ Savory Congee  
**Ginger** is an **anti-inflammatory compound**.  
**Garlic** acts as a **prebiotic**, a source of food for our microbes.  
**Mushrooms** contain a powerful **antioxidant** called selenium, **prebiotic fiber** and have immune-boosting properties.