

# GUT HEALTH MASTERCLASS

## GLOSSARY OF TERMS:

- **Autoimmune Dis-ease:** an overactivation of the immune system leading to issues such as Hashimoto's thyroiditis, lupus, multiple sclerosis, Chrohn's disease, rheumatoid arthritis
- **Accessory Organs (to GI tract):** assists the GI tract in the digestive process and includes salivary glands, liver, gallbladder, pancreas
- **Amino Acids:** building blocks of proteins
- **Anus:** opening at the end of the large intestine that allows for the excretion of waste products from our body
- **Ascending Colon:** ascending colon is the part of the colon located between the cecum and the transverse colon
- **Autonomic Nervous System:** regulates involuntary physiologic processes including heart rate, blood pressure, respiration, digestion, and sexual arousal
- **Bicarbonate:** acts as a buffer to break down and dilute the acidic content and increases the pH of the chyme
- **Bile:** fluid that is made and released by the liver and stored in the gallbladder, plays a role in digestion and detoxification
- **Bilirubin:** waste product of red blood cells after they have been broken down in the liver
- **Bolus:** food we chewed
- **Butyric Acid:** a fatty acid that's created when the good bacteria in your gut break down dietary fiber
- **Candida:** fungal infection caused by yeast
- **Capillaries:** tiny blood vessels that transport blood, nutrients and oxygen to cells
- **Cardiac/esophageal Sphincter:** valve that allows the bolus to enter the stomach and come back up
- **Conventional Medicine:** answers "what do I have" in the form of a diagnosis; relief of symptoms; shines in the case of emergency
- **Chyme:** acidified bolus
- **CCK:** tells gallbladder to release bile
- **Celiac Disease:** autoimmune disorder that damages the small intestine as a result of eating gluten
- **CRP:** blood marker used to measure systemic inflammation

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- **Deficiency-Driven Dysfunction:** lack of necessary nutrients leading to GI dysfunction
- **Descending Colon:** section of the large intestine that passes downward
- **Digestive Enzymes:** proteins made by your body or found in different foods that help break down the food we eat into its individual components
- **Dopamine:** our “feel good” hormone
- **Duodenum:** first part of the small intestine
- **Emulsification:** the breakdown of fat globules in the duodenum into small droplets creating a larger area where the pancreatic lipase enzyme can work to digest the fat into fatty acids and glycerol
- **Enteric Nervous System:** controls the gastrointestinal system as well as the rest of the body; produces serotonin and dopamine, also houses 70% of our immune system
- **Enzymes:** proteins that help speed up metabolism, or the chemical reactions in our bodies
- **Esophagus:** hollow, muscular tube that carries food and liquid from your throat to your stomach
- **Functional Medicine:** answers “why do I have these symptoms and how can I reverse them?”; addresses problem at its root
- **GI Origin Inflammation:** Osteoarthritis, asthma, migraines, chronic fatigue, fibromyalgia, eczema, intestinal permeability
- **Gallbladder:** stores bile which is released into the small intestine to help break down fats
- **Gastric Juices:** secreted from the stomach to help break down food; includes
- **Gastrin:** hormone that docks on receptor sites of parietal cells which produce hydrogen and chloride, aka hydrochloric acid pepsinogen/pepsin, mucus, and hydrochloric acid
- **Gastroesophageal Reflux Disease (GERD):** occurs when stomach acid makes its way back up the esophagus leading to irritation and discomfort
- **Gastrointestinal Dis-ease:** IBS, constipation, belching, bloating
- **Gastrointestinal Tract:** includes the mouth, esophagus, stomach, small intestine, large intestine, anus
- **G-Cells:** cells that line the stomach and control the release of gastrin
- **GI Effects:** comprehensive stool test, similar to GI MAP
- **Glucose:** smallest component of carbohydrates
- **Gut-Brain Axis:** two-way biochemical signaling that takes place between the gastrointestinal tract and the central nervous system

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- **Gut Microbiome:** the collection of all microbes, such as bacteria, fungi, viruses, and their genes, that naturally live on our bodies and inside us
- **Hashimoto's Thyroiditis:** autoimmune disease that attacks the thyroid leading to lower to no thyroid function
- **Hydrochloric Acid (HCl):** acid produced in our stomach that helps breakdown protein
- **Hyper Intestinal Permeability (aka "Leaky Gut"):** damage to the intestinal membrane that allows more molecules to get through that are not supposed to; membrane becomes more permeable than it should be
- **Hypochlorhydria:** lack of sufficient stomach acid to appropriately breakdown food
- **Hypothyroidism:** a condition in which the thyroid is underactive leading to less available thyroid hormone or a dysfunction in the conversion of inactive thyroid hormone (T4) to active thyroid hormones (T3)
- **Ileocecal Valve:** valve connecting small intestine (ileum) to large intestine
- **Ileum:** third part of the small intestine
- **Immune Tolerance:** how well our immune system handles the stress put on it
  - **Immune Dominance:** an overactive immune system
  - **Pathogen Dominance:** an underactive immune system, leading to dysbiosis or imbalance
- **Intrinsic Factor:** hormone that contributes to the absorption of B12 and other key nutrients (i.e., zinc, phosphorus, magnesium, copper, etc)
- **Jejunum:** second part of the small intestine
- **Lipase:** enzyme that breaks down fats
- **Liver:** in digestion, the liver is an organ that makes and secretes bile to process and purify the blood containing newly absorbed nutrients that are coming from the small intestine.
- **Long Chain Fatty Acids (LCFAs):** saturated or unsaturated fatty acids
- **Lymphatic System:** part of your immune system and helps protect your body from pathogens, maintain body fluid levels, absorbing fats and removing waste
- **Macrocytic Anemia:** blood disorder where bone marrow produces abnormally large red blood cells
- **nFKB (Nuclear factor kappa B):** regulator of innate immunity; controls how much our cells secrete inflammatory chemicals and can set the stage for future inflammatory responses
- **OAT (Organic Acid Testing):** urine test providing 75 markers that gives you a full picture of what is happening in the body

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- **Osteopenia:** loss of bone mineral density that weakens bones
- **Pancreas:** in digestion, the pancreas helps produce bicarbonate and digestive enzymes
- **Parasympathetic State:** our rest and digest response
- **Pepsinogen:** a substance which is secreted by the stomach wall and converted into the enzyme pepsin by gastric acid.
- **Pepsin:** enzyme that breaks down proteins into amino acids
- **pH:** stands for Power of Hydrogen. It's a numerical value that represents the acidity or alkalinity of a substance. The scale for pH runs from 0 to 14, with 0 representing pure acid and 14 representing pure alkalinity. 7 is neutral.
- **Portal Vein:** the main vessel of the portal venous system (PVS), which drains the blood from the gastrointestinal tract, gallbladder, pancreas, and spleen to the liver
- **Pyloric Sphincter:** valve at the bottom of stomach that allows chyme to pass through
- **Peristalsis:** movement of the small intestine to move molecules
- **Rectum:** last few inches of the large intestine that connects to the anus
- **Rheumatoid Arthritis:** autoimmune disease where body attacks the cells leading to inflammation in the joints
- **Salivary Amylase:** enzyme that begins the chemical breakdown of carbohydrates
- **Salivary Glands:** secrete saliva
- **Secretin:** tells pancreas to release sodium bicarbonate and digestive enzymes
- **Serotonin:** neurotransmitter responsible for good mood, good sleep and good gut motility
- **Short Chain Fatty Acids (SCFAs):** produced by the bacteria in your gut as a result of eating fiber or indigestible starches
- **Sigmoid Colon:** last section of the large intestine that connects to the rectum
- **Solutes:** substance that is dissolved in a solution
- **Stool:** collection of water, fiber, maldigested or malabsorbed molecules from our diet, dead bacteria, waste products (i.e., heavy metals, chemicals)
- **Sympathetic State:** our fight or flight response
- **T4 Hormone:** inactive thyroid hormone
- **T3 Hormone:** active thyroid hormone
- **Transverse Colon:** a segment of the large intestine that passes horizontally across the abdomen and sits beneath other organs in the abdominal cavity

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- **Tyrosine:** protein needed to make thyroid hormone that can be impacted by poor gut health; precursor to dopamine
- **Villi/microvilli:** finger-like projections running along the small intestine that allows for the absorption of nutrients into the bloodstream
- **Vitiligo:** A disease that causes the loss of skin color in blotches.
- **Zinc:** essential mineral required by the body for more than 100 enzymatic reactions