Food Sensitivities, Intolerances, and Gut Disorders

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Your presenters:

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Basic gut anatomy

1. Basic energy acquisition
2. Nutrient assimilation
3. Barrier function
4. Immune defence system
5. Hydration & conservation
6. Hormone connection

Overview of healthy gut function

1. Densely contoured by thick folds & villae
2. Like a tubular forest
3. Massive surface area
1. Gelatinous rich & slime covered villae forest
2. Gut surface area is equal to size of a ½ tennis court

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Healthy gut ecology

Lots of bugs inside of us. Up to 4-6 kg of total body weight.

Bacterial balance is vital for gut function, total body health, & digestive success

40]. Most of the bacteria in the colon are obligate anaerobes: *Bifidus and Bacteroides* (gram-positive or -negative, nonsporulating bacilli). Aerobic forms such as *E. coli*, enterococci and lactobacilli account for less than 1% of the total colonic bacteria count. There are over 400 species of bacteria in the colon; bacteria make up 30–50% of the total dry matter in the feces, or even 75% according to other calculations [42].

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Immunity - based in your gut

1. Gut associated lymphoid tissue (GALT) and Mucosa associated lymphoid tissue (MALT)
2. 70% of the human immune system cells are harboured around the length of the gut.
3. Is this relevant??

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The “mind – gut” relationship

The ability of the brain to influence the intestinal microbiota

- Perturbation of normal habitat via stress-induced changes in gastrointestinal:
  - Physiology
  - Epithelial function
  - Mucin production
  - EE cell function
  - Motility
- Release of neurotransmitters

The ability of the microbiota to influence brain and behavior

- Activation of neural afferent circuits to the brain
- Activation of mucosal immune responses
- Production of metabolites that directly influence the CNS

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Food Sensitivity or Food Intolerance:

- A **food intolerance**, or a **food sensitivity** occurs when a person has difficulty digesting a particular **food**.
- This can lead to symptoms such as intestinal gas, abdominal pain or diarrhea.
- A **food intolerance** is sometimes confused with or mislabeled as a **food allergy**.
- **Food intolerances** involve the digestive system.

Intolerance ≠ Food Allergy
1. Over what time period do guts get sick?
2. What could speed this up?
3. What could delay gut healing & regeneration?

Diet toxins, high sugars, acidic beverages, microorganisms, non-digestible foods, medications, etc.

Gut dysbiosis and leaky gut symptoms will vary greatly
Pesticides, chemicals, modern diet, hybridization of seeds, GMO foods, food processing, genetic susceptibility all lead to immune reactions to foods.

Two consequences:

1. Immediate reaction IgE allergy (anaphylaxis, rhinitis, sinusitis, asthma, conjunctivitis)

2. Gradual response from gut inflammation >>>> food sensitivity
   - A. Skin reactions, mucous congestion, brain fog, slow metabolism, depression, and chronic pain

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Self tolerance

- Central tolerance
  - Negative selection
  - Receptor editing
  - Generation of regulatory T cells

- Peripheral tolerance
  - Clonal anergy
  - Clonal deletion
  - Regulatory T cells
  - T-T interaction

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Stress Physiology & Leaky Gut

1. Emotional, physical, dietary, and chemical stressors
2. Activated stress response and adrenal hormones
3. Suppressed intestinal immunity, interrupted intestinal blood flow, decreased regeneration of intestinal cells and secreted IgA
4. Bacterial and fungal overgrowth >> gut wall breakdown
5. Leaky gut formation >>>> autoimmunity may develop

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Mechanisms of Leaky Gut

1. Dietary - alcohol, gluten, casein, processed food, excess sugar, fast food
2. Medications - Corticosteroids, antibiotics, antacids, xenobiotics
3. Infection - H. Pylori, SIBO (bacteria/yeast overgrowth, viruses & parasites)
4. Stress - ↑Cortisol, ↑CRH, ↑Catecholamines (all stress hormones)
5. Hormonal - ↓Thyroid, ↓Progesterone, ↓Estradiol, ↓Testosterone
6. Neurologic - Brain trauma, stroke, neurodegeneration
7. Metabolic - Glycosyl.-end-products, intestine inflammation, autoimmunity

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The common “leaky gut”

1. Commonly affecting:
   1. Immune function
   2. Energy/mood/mental acuity
   3. Digestion and respiration
   4. Weight/bowel regularity
   5. Skin complexion
   6. Joint health

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Symptoms of leaky gut

Abdominal pain (chronic)  Poor immunity
Attention deficit disorder  Poor memory
*Insomnia*  Recurrent bladder infections
Bloating  Recurrent vaginal infections
Excessive flatulence  Recurrent skin rashes
Anaphylactic reactions  Brittle nails
Shortness of breath  Hair loss
Anxiety  Swollen lymph glands
Fevers of unknown origin  Food allergies
Gluten intolerance (*celiac disease*)  Constipation
Hemorrhoids  Diarrhea
Heartburn  Liver dysfunction
Malnutrition  *Brain fatigue*
Migraines  Abdominal spasms
Muscle cramps  Anal irritation
Multiple chemical sensitivities  Constant hunger pains
Muscle pain  Depleted appetite
Myofascial pain  Sluggishness
*Mood swings*  Depression
Poor exercise tolerance  Chronic fatigue

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Conditions linked to leaky gut

- Celiac disease
- Multiple Sclerosis
- Autism
- Fibromyalgia
- Chronic Fatigue Syndrome
- Irritable Bowel Syndrome
- Eczema & Dermatitis
- Ulcerative Colitis
- Candidiasis
- Chronic hepatitis
- Asthma & general inflammation
- Chemotherapy
- Cystic Fibrosis
- Multiple Chemical Sensitivities
- Accelerated Aging
- Endotoxemia

- Colon cancer
- Crohn's disease
- Food allergies
- Giardia
- Arthritis
- Pancreatic dysfunction
- Hives
- Acne
- AIDS
- Alcoholism
- Ankylosing spondylitis
- Inflammatory bowel disease
- Liver dysfunction
- Malnutrition
- Psoriasis
- Schizophrenia
- Alcoholism

Gluten: A problem for many

1. Gluten is a protein and part of all grains
2. Historically, gluten was always generally digestible, but hybridization in the common modern grains has rendered all modern day WHEAT, RYE, BARLEY to be TOXIC and NON-DIGESTABLE to human gut.
3. All other grain glutens ARE digestible, yet share some similarities with toxin gluten, or may be contaminated.
4. Due to toxic gluten, many people’s guts are irritated and inflamed from being exposed to this in foods they eat.
5. Large undigested protein parts bombard the intestinal walls – erosion ensues through the delicate lining.
1. Without complete digestion of nutrients, larger particles (food parts, microorganisms, toxins) enter the body triggering immune system (IS) activation.
2. The IS will raise levels of cytokines, interleukins and other inflammation chemicals that irritate and weaken the gut wall which leads to advanced destruction of the lining walls.
3. Those inflammatory chemicals circulate throughout your entire body – and may trigger joint/muscle/nerve pain and symptoms
4. If aggravation persists too long, the IS activates the IS cell response, and millions of antibodies will be made by the lymphocyte cells. These attack our tissues.
5. Over time, leads to the 3rd leading cause of death!

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Gluten related disorders

- Celiac disease
- Non-celiac gluten sensitivity
- Other Autoimmune Diseases
- Dermatology
- Cognitive
- Hepatic
- Cardiac
- Neurological
- Endocrine
- Musculoskeletal

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Healthy Microbiome Diversity Diet

1. Goal: Food diversity and maintaining oral tolerance
2. Eat as many diverse kinds of foods as you can tolerate
3. Dietary Guidelines include:
   A. Fermented foods
   B. High fiber
   C. Low/moderate protein & fat
   D. Low Sugar/Carbohydrates

6 Step Guide for Mucosal Health and Food Tolerance

1. A Dietary Plan - use food to support mucosal health and food tolerance; identify and remove reactive foods
2. Digestive Enzymes - Support the body’s ability to help break down proteins, fats and carbohydrates
3. Healthy Microbial Environment - Support a health and diets intestinal bacterial environment
4. Mucosal Support - Support the intestines’ ability to help maintain a healthy mucosal layer
5. Proper Liver (Hepatic) Clearing - Support healthy phase I, II, & III detoxification
6. Immune Support - Support healthy immune regulatory reaction and immune tolerance
Eat clean, diverse, & natural

1. Eat in a manner congruent with good gut function, balanced immune function, no inflammation, and peak energy.
2. Ask us for our “Anti-inflammatory Diet guide”
3. Hunter and gatherer diet
4. Mediterranean diet

Supplements to heal the gut

1. Multiple vitamin & mineral
2. Vitamin D3
3. Omega 3 fatty acids
4. Probiotics
5. Gut cleanse & repair
6. Digestive enzymes
7. Anti-oxidants
Hunter-gatherer diet style is the most genetically congruent eating style with basic human health.

**Mediterranean diet**
- Promotes leanness, lowest mortality rates in general, and congruent with good gut health
- Use ancient grains, whole or cracked grain, wild rice, whole baby potatoes, minimal baked goods and minimal pastas
### The top things to avoid

1. Gluten grains  
2. Corn  
3. Beef/pork  
4. Shellfish  
5. Soy  
6. Oranges  
7. Peanuts  
8. Refined sugars  
9. Dairy products  
10. Eggs

Alcohol, processed food, fast food, corticosteroids, antacids, antibiotics, xenobiotics, medications (unless critical).

### Upcoming Workshops at Beacon Hill Chiropractic

1. Yoga  
2. Seniors (Golden Years) Workshop

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