

Functional Medicine & Dental Health

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My Catalyst

- My journey and personal experiences as a catalyst to change my personal and professional practices!



Learning Objectives

- Understand Functional Medicine paradigm as a method of holistic health care delivery.
- Learn basic concepts of functional dentistry and toxic substances used in dentistry.
- Learn oral exam findings linked to nutritional deficiencies.
- Identify interventions and resources for Dental Hygiene practice.
- Understand importance of nutrition and lifestyle in oral health.
- Recognize the importance of self care as a health care worker.

What is Functional Medicine?

- * IFM: “an approach to medicine that addresses the underlying *causes of disease* using a *systems-oriented, individualized approach*, which engages both patient and practitioner in a *therapeutic partnership*. It reflects a personalized lifestyle medicine approach, and utilizes the **Functional Medicine Timeline** and **Functional Medicine Matrix** to help organize the patient’s story and determine appropriate interventions for the prevention and treatment of chronic diseases.”

History of Functional Medicine

- * Founded by Dr. Jeffrey Bland (1990) and his wife Susan.
- * Dr. Jones IFM president 1999-2013.
- * Leaders: Dr. Mark Hyman, Dr. Patrick Hanaway
- * 2014: Cleveland Clinical: Center for Functional Medicine (CC-CFM)
 - * Has clinically expanded it’s space twice now to 18,000sq ft.
 - * Wait list >3000 in 2017!
 - * Studies proving value and quality better than quantity/volume

Total Cost of Care Study

- * Outcomes measuring cost and function
- * Cleveland Clinic Family Medicine (CC-FM) vs. Cleveland Clinic Functional Medicine(CC-CFM)
- * Working with payers for reimbursement of functional medicine (Blue Cross Blue Shield Anthem, Allina, United Healthcare)
- * Using PROMIS 10 Tool to compare clinically significant improvement in patients:
 - * CC-FM: 27.4%
 - * CC-CFM: 38%
 - * overall monthly costs 9% less than CC-FM, fatigue 20% less, mood 13% less, autoimmune 20% less

Oral Health

- * The oral exam is critically important to help determine what is going on deep inside the body
- * It's part of the whole
- * There's a strong link between chronic oral inflammation and disease processes
- * Oral exam findings are linked to nutrition

Oral Exam Findings

- * Lips
 - * Cracking, fissures, cheilosis: Water intake, iron, zinc, thiamine, riboflavin, niacin, pyridoxine, folate, B12, biotin, Vit C OR Excess Vit A
 - * Angular stomatitis: Iron ,zinc, thiamine, riboflavin, niacin, pyridoxine, folate, B12, biotin, Vit C
 - * Herpes Simplex Virus 1: glutamine, leucine, lysine, zinc, vitamins A,E,C

Oral Exam Findings

- * Gums
 - * Red: need for Vit C, CoQ10. Causes mixed metals in mouth. Mercury.
 - * Darkened gum line (Burton line): Needs nutrients for Phase 1 and Phase 2 liver detox. Cause toxicity, contaminant exposure (cadmium, mercury lead, copper)
 - * Red gum line without margination: Need for Vit C
 - * Boggy next to restoration: auto-immune reaction to restoration materials
 - * Retraction: Vitamin C, D deficiency
 - * Hyperplasia: Vitamin C deficiency, ? adverse drug reactions

Oral Exam Findings

- Gums
 - Gingivitis (gingival tenderness, ulcerative, hemorrhagic):
 - Nutritional Deficiencies: Calcium, zinc, iron, CoQ10, Vitamins A,C,D, B-vitamins especially folate.
 - Think: insulin resistance, sugar intake!! Linked to endothelial dysfunction and oxidative stress!
 - Periodontal Disease
 - Nutritional Deficiencies: Calcium, selenium, zinc, iron, CoQ10, Vitamins A,C,D,E, B-vitamins especially thiamine, riboflavin, niacin, floate
 - Think: Cardiovascular disease, diabetes, insulin resistance

Oral Exam Findings

- Buccal Mucosa
 - Lichen Planus: Nutritional deficiency Vit A, B12, Folate
 - Leukoplakia: Nutritional deficiency Iron, selenium, zinc, vit A,C, B12, beta carotine
 - Xerostomia: Protein intake?, need for Vit A,C,D, Autoimmune disease or hypersensitivity reactions to gluten, ? medication side effects (SSRI, beta blockers, stimulants)
- Soft/Hard Palate
 - Tonsillar Hypertrophy: Nutrients for immune balance and function: protein, EFA's, iron, zinc, vitamins A,D,E. Phytonutrients.

Oral Exam Findings

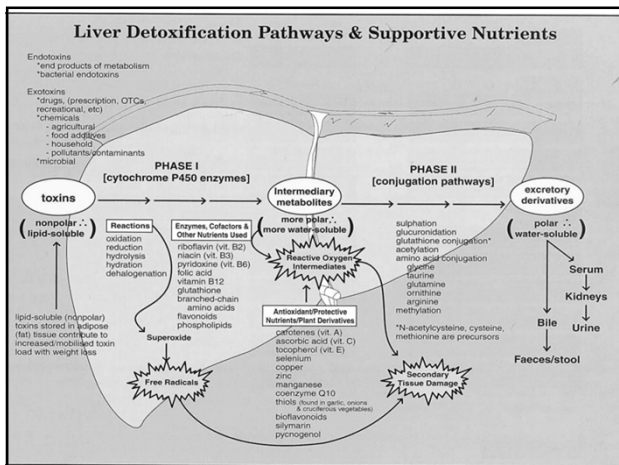
- Tongue
 - Small-protein undernutrition w/weight loss
 - Large-allergy, drug reaction, infection, hypothyroid
 - Scalloping-sleep apnea, allergy
 - Geographic-nutrient deficiency niacin, B vitamins, Celiac disease, gluten sensitivity, ?galvanism, mixed metals
 - Cancers-Deficiencies of protein, EFA's, Immune nutrients (iron, zinc, vitamins A,C,D,B's, especially folate
 - Excess synthetic folate
 - Think hyperglycemia (>200), glutathione depletion

Oral Exam Findings

- Teeth
 - Decay, caries: Nutritional deficiencies-calcium, phosphorus, fluoride, vitamins A,D, gluten sensitivity, inadequate normal flora, dysglycemia
 - Root canals: Immune nutrients such as protein, EFA's, iron, zinc, Vit A,C,D, B's. Higher incidence CHF and diabetes in patients with multiple root canals
 - Implants: heavy metals can trigger autoimmune response, bone infection, toxicity, oxidative stress and mitochondrial dysfunction
 - Silver fillings: Higher need for detox nutrients, mercury has negative effect on GI flora
 - Yellow Gold fillings: autoimmune response

Oral Exam Findings

- Teeth/Enamel Changes
 - Dysplasia: Vit D deficiency during prenatal period, calcium, phosphorus, ? Celiac, Vitamin A toxicity during prenatal period
 - Dysmorphic enamel: Vitamin A,D, ? Celiac
 - Enamel erosion: anorexia and bulimia, eating disorders, GERD
 - White mottled or pitting: Calcium, fluorosis (toxicity)
 - Brown: Fluorosis (toxicity), adverse drug reactions. Consider fluoride concentration in infant formula and canned foods.



Mercury

- * Detoxification Plan:
 - * Removal of source (fish, fillings)
 - * Sauna
 - * Binders (chlorella)
 - * Nutrients: anti-oxidants, herbals, glutathione

Flouride

- * What is fluoride? Chemical ion of fluorine which is the 9th element in periodic table: halogen and highly toxic.
- * Fluoride naturally exists in minerals, as well as in soil, water, and air, fluoride is also chemically synthesized and used in community water fluoridation, dental products, and other manufactured items.
- * Food sources because of pesticides, fertilizers, industrialization increases fluoride in some soil/foods.
- * It is non-essential for optimal health

Flouride

- * Effects on health
 - * Dental fluorosis
 - * Skeletal Fluorosis & Arthritis
 - * Cancer of the bone, osteosarcoma
 - * Central Nervous System
 - * lower IQ in communities with safe fluoride levels per EPA
 - * 2014, The Lancet: "Neurobehavioral effects of developmental toxicity." In this review, fluoride was listed as one of 12 industrial chemicals known to cause developmental neurotoxicity in human beings.

Flouride

- * Effects on health
 - * Endocrine-Hormones
 - * Thyroid-competes with iodine and results in iodine deficiency
 - * Diabetes/insulin resistance
 - * GI-causes symptoms similar to gastroenteritis

Flouride Alternatives

- * Oral health bacteria & Nutrition
 - * Streptococcus mutans
 - * "Streptococcus mutans lives in microscopic colonies on the surface of the teeth, and it has the distinction of being able to produce concentrated acid waste that can dissolve the tooth enamel on which it resides. In other words, these germs can create holes in teeth, and all they require to do so is a fuel such as sugar, processed foods, and/or other carbohydrates." (IAGMT.org, 2017)



Nutrition for Oral Health

- * Phytonutrients
- * Nutrition plans
- * Focus on whole foods
- * Probiotics

Probiotics & Oral Health

- * Lactobacillus
 - * L.paracasei, L.plantarum, L.rhamnosis, L.salivarius
- * Bifideobacterium
 - * B.Bifidum, B.dentium, B.longum
- * Studies support these healthy bacteria compete with Streptococcus mutans which is the cause of decay and found in higher concentrations of those with periodontitis.

Lifestyle Changes

- * Nutrition
- * Exercise
- * Tobacco cessation

Clinical Application

- Respect and honor the patient journey-It's REAL to them.
- IFM as resource and training
- Whole 30 Elimination plan
- Probiotic recommendations
- Toothpaste changes
- Network with FM practitioners for referrals
- Community Education
- Most importantly: Self-care!

Self-Care

- Whole foods based diet
 - 8-12 servings veggies & fruit daily
- Exercise/Movement
 - Aerobic 5 days per week, 30 min
 - Strength 2 days per week
- Relaxation/Meditation
 - Meditation 12 min per day
 - Doing nothing is ok
- Nutrient supplementation
 - Probiotic rich foods or supplement
 - EFA's-fish oil, cod liver oil
 - Vit D
 - Multi vitamin/mineral
- Reducing Toxin Burden & Taming Inflammation



Thank You
