Session Objectives

- Describe what makes the Integrative and Functional Nutrition approach unique
- Identify the assessment tools for the Integrative and Functional Nutrition practitioner
- Utilize the Integrative and Functional Nutrition approach for clinical decision making
- Offer resources for continuing education

Disclosure

- Palm Harbor Center for Health & Healing
- www.DrDeanNutrition.com
- USF Health Morsani College of Medicine, Adjunct Professor
- University of Tampa, Adjunct Professor
- Co-Founder of IFN Academy, LLC
  - www.IFNAcademy.com

What happens when you try to use the acute care model to problems that are chronic in nature?

- rush to diagnosis – to name the disease
- rush to pharmacology
- rush to surgery
- cut the patient into segments and the patient is not seen in the wholeness of who they are

The Results:

- Little attention is paid to the patient’s story beyond the chief complaint and history of the present illness.
- The patient’s whole story is not understood.
- Each complaint becomes a discrete issue, dealt with in isolation from the others.

A Potential in Life Expectancy...cont’d

“The trend in the life expectancy of humans during the past thousand years has been characterized by a slow, steady increase....Unless effective population-level interventions to reduce obesity and chronic disease associated with it are developed, the steady rise in life expectancy observed in the modern era may soon come to an end and the youth of today may, on average, live less healthy and possibly even shorter lives than their parents”.


Medicine Today

- Acute medical care is about:
  - Crisis management
  - Must be expeditious
  - stabilize that patient and “lock down” physiology to keep them alive.
  - Example: myocardial infarction or an asthma attack
Introducing Functional Medicine

- The term “functional medicine” was coined in 1993 by Jeffrey Bland, PhD to describe the medicine of the future. It is an approach that embraces:
  - Patient uniqueness and biochemical individuality
  - Patient centered
  - Preventative care
  - Root cause solutions vs. managing symptoms
  - Web-like interconnections of physiological factors

Chronic Disease

- Chronic illness is 80% of what we see in the medical office.
- The nature of chronic disease is multifactorial so that the intervention has to be multidimensional.
- Old approach – one molecule for one function for one disease
- New approach – multiple molecules - multiple functions - orchestra of health → A “systems biology” approach

Why systems biology?

Why Systems Biology?

- Because chronic disease is a food- and lifestyle-driven, environment- and genetics-influenced phenomenon.
- It won’t be conquered with drugs and surgery alone.
- It can, however, be conquered by integrating what we know about how the human body works with individualized, patient-centered, science-based care that addresses the causes of complex, chronic disease, which are rooted in lifestyle choices, environmental exposures, and genetic influences.
- Clinicians must pay much closer attention to etiology; taxonomy alone—naming the disease—and prescribing drugs or surgery are no longer sufficient strategies

What is Functional Medicine?

- Functional Medicine is a personalized, systems-oriented model that empowers patients and practitioners to achieve the highest expression of health by working in collaboration to address the underlying causes of disease.
- By shifting the traditional disease-centered focus of medical/nutrition practice to a more patient-centered approach, Functional Medicine addresses the whole person, not just an isolated set of symptoms.
- Functional Medicine practitioners spend time with their patients, listening to their histories and looking at the interactions among genetic, environmental, and lifestyle factors that can influence long-term health and complex, chronic disease. In this way, Functional Medicine supports the unique expression of health and vitality for each individual.
Defining Integrative Medicine

“Integrative medicine is the practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals and disciplines to achieve optimal health and healing.”

- Consortium of Academic Health Centers for Integrative Medicine, 2009

Diseases/Conditions Related to Poor Folate Metabolism

- Spina bifida and other NTDs
- Depression, Anxiety, OCD
- Alzheimer’s
- Cognitive Decline
- Heart Disease and Stroke
- Cancer
- High blood pressure
- Poor detoxification
- Poor energy
- Anemia – especially macrocytic and megaloblastic anemia

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Functional Nutrition

- Personalized approach
- Root cause of chronic disease
- Re-establish organ reserve and vitality
- Balance essential core areas of health

What are those core areas?

Integrative and Functional Nutrition

- Integrative – the integration of multiple modalities of healing and therapies
  - Diet/Food/Nutrition
  - Supplements
  - Exercise/Yoga
  - Meditation
  - TCM/Acupuncture
  - Massage
  - Pharmaceuticals

- Functional Nutrition – focuses on how whole foods and key nutrients modulates health and the process of healing
  - Nutrition is cornerstone of FM
  - Nutrition is prevention oriented
  - Nutrition is therapeutic
  - Nutrients and foods are powerful multi-targeted biological response modifiers
    - Example – magnesium, vitamin D, iodine, folate
Understanding these pathways generates an approach to treatment that is focused on the individual rather than the disease, and on restoration of health and function, rather than management of symptoms.
Insulin Resistance exists on a continuum

Hyperinsulinemia with maintenance of normal (or near normal) glucose control
(Compensated Hyperinsulinemia)

Impaired Glucose Tolerance = PreDiabetes
(Uncompensated Hyperinsulinemia)

TYPE 2 DIABETES

Insulin Resistance

Health and Disease
A Continuum

HEALTH fatigue, achy

INSUFFICIENCY fatigue, pain, migraines, cold, weight gain
PMS and IBS symptoms, FBS – 99 mg/dl

DEFICIENCY ↑TSH, ↑homocysteine, ↓25 OH D3, ↓HDL
↑MMA & FIGLU

DISEASE Dx: Hypothyroid, Fibromyalgia, CVD?
Personalized Care & NCP-ADIME at Center of IFMNT Radial

- Key areas connected and influenced by a person’s *biochemical and genetic uniqueness* illustrated by the DNA strands linking key areas
- Center of radial depicts *food as a determining factor* in health and disease
- Surrounding the radial are *precipitating factors* such as food allergens and intolerances, negative thoughts and beliefs, pathogens, and environmental exposures

Why Use the IFMNT Radial?

- The IFMNT Radial facilitates the decision-making process
- The IFMNT Radial form helps to be thorough, organized and prioritize information, and also clarifies where further investigation is needed
- The IFMNT Radial will help the RDN to organize the patient’s clinical imbalances by underlying causes of disease in a systems biology Radial framework
- Once a comprehensive assessment has been made and initial laboratory results have been obtained, the integrative and functional nutritionist develops a treatment plan that focuses on the areas where the greatest leverage can be found—those sections of the radial which appear to have the greatest concentration of dysfunctions and which are connected to the most important of the patient’s signs and symptoms.

What to consider eliminating:
- Gluten
- Dairy
- Corn? Soy? Grains? animal protein?
- Refined sugar
- Infection
- Toxins (alcohol, preservatives, smoking)
- Stress management

What to consider adding:
- Betaine HCL, broad spectrum digestive enzymes
- Probiotics/prebiotics/fermented foods
- Glutamine (dose low and go slow)
- Omega-3 fish oils
- Fiber rich foods
- Antioxidant/phytochemical rich foods (i.e. fresh fruits and vegetables, seeds, nuts, legumes, etc.)

The Integrative and Functional Medical Nutrition Therapy
RADIAL- A Tool for RDNs

- From the Integrative and Functional Medicine Model, the *Integrative Functional Medical Nutrition Therapy (IFMNT) Radial* was established in 2011 by Kathie Swift, MS, RDN, et. al. as a conceptual framework to assist dietetics practitioners implementing IFMNT in practice
- It is a model for critical thinking that embraces both the science and art of personalized nutrition care with consideration of multiple conventional or complementary medicine disciplines
- The circular architecture of the IFMNT Radial allows for the evaluation of complex interactions and interrelationships amongst the five key areas of Integrative and Functional Medical Nutrition Therapy
**Key Area #1: The Lifestyle Circle**

- The **Lifestyle Circle** takes into account the many factors that a nutritionist must consider in personalizing nutrition care.
- **Assess this area through:**
  - The Completed Nutrition Intake
  - The Patient’s Story – antecedents, triggers, etc.
  - the RDN's and patient dialogue
  - the Food Frequency
  - the Food Journal

**Key Area #2: The Systems/Signs and Symptoms Circle**

- The **Systems Circle** represents each of the body systems.
- **Assess this area through:**
  - A nutrition-focused physical exam
  - The MSQ
  - Other relevant clinical data in the interview, clinical exam and overall intake forms and surveys

**Key Area #3: The Biomarkers Circle**

- The **Biomarkers Circle** – biomarkers can have a considerable impact on diagnostics and prevention and can facilitate the development of personalized nutrition.
- **Assess this area through:**
  - Anthropometrics – wt, bmi, waist circumference.
  - Vitals – blood pressure
  - Nutrition Focused Physical Exam
  - Conventional Lab Data – blood, urine and saliva testing
  - Functional Diagnostic Tests

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**Medical/Multi Symptom Questionnaire (MSQ)- Toxicity**

- Many MSQs exist
- Rate frequency and severity of symptoms
- CDC has a Toxic Exposure History developed with Agency for Toxic Substances and Disease Registry

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Key Area #4: The Metabolic Pathways and Network Circle

• This area assesses the integrity of the metabolic networks and core imbalances that may be present

• Assess this area through:
  Reviewing biochemical assessments can give information on the functions of metabolic pathways or networks when interpreted within the clinical context in either health or disease

Key Area #5: Core Imbalances Circle

• Functional medicine is anchored by an examination of the core clinical imbalances that underlie various disease conditions
• The Core Imbalances Circle Using this construct, it becomes much clearer that one disease/condition may have multiple causes (i.e., multiple clinical imbalances), just as one fundamental imbalance may be at the root of many seemingly disparate conditions

Some Nutrition Assessment Biomarkers

- Methylation: homocysteine or FIGLU(folic acid), methylmalonic acid (B12 status)
- Iron status (transferrin saturation, ferritin, serum iron, total iron binding capacity)
- 25 OH vitamin D
- Comprehensive thyroid panel
  - TSH
  - T3, free
  - T4, free
  - T3
  - Anti-TPO antibodies
  - Anti-TG antibodies
- RBC magnesium
- Alkaline phosphatase (Zn status)
- CBC- MCV, MCH (folate, B12 status)
- Genomics:
  - MTHFR -methylation
  - VDR(vitamin D) polymorphisms
  - GST (Glutathione S-transferase M1,P1,T1)-detoxification
  - COMT
Differentiated Entry-Level Practice: Job Settings

Entry-Level Graduate RDN
"Integrative and Functional Medicine Centers"

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Differentiated Entry-Level Practice: Skills for RDN in Integrative/Functional Medicine

Entry-Level Graduate RDN
"Applies integrative nutrition principles to nutrition care and MNT, including use of nutritional genomics, dietary supplements and herbal remedies"
The Center for Mind Body Medicine
Food As Medicine CPE Program

Topics include:
Core imbalances, digestive health, lifestyle medicine, mindful eating, diet evolution, community action, culinary nutrition

Integrative and Functional Medicine
Certificate Programs

- Integrative and Functional Nutrition Academy – CPEUs offered for RDNs, certificate of training offered as well as the IFNCP credential (www.IFNAcademy.com)
- Rutgers School of Related Healthcare Professions – certificate in Integrative Health and Wellness
- Kansas University – Dietetics and Integrative Medicine Certificate Program
- Arizona Center for Integrative Medicine – Integrative Lifestyle and Health Certificate

Institute for Functional Medicine
CPE Programs

Live trainings and e-learning includes:
GI, Detox, Immune, Hormone, Cardio-metabolic, Methylation, NFPE, and AFMCP certification

Integrative & Functional Nutrition
Graduate Degree Programs

- Bastyr University: MS Nutrition (*Leads to RDN credential, on campus only)
- Saybrook University: MS Integrative and Functional Nutrition
- University of Bridgeport, CT: MS Human Nutrition
- Maryland University of Integrative Health: MS Nutrition and Integrative Health
- University of Western States: MS Human Nutrition and Functional Medicine
**KEY POINTS**

A Functional Medicine Dietitian....
• Takes the time to listen to a patient’s story
• Recognizes that health and disease exist on a continuum
• Draws connections between core areas of imbalance and looks for the root cause(s) of disease
• Collaborates with other Integrative and Functional Medicine healthcare providers
• Assesses knowledge and seeks additional training as needed

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