



Northern College of Acupuncture

Online MSc Programmes (Research and Practice)

NCA 7308 Complex Case Management in Nutrition

Keynote Lecture 1 – Introductions, Concepts and Positioning

Keynote Lecture 1: Themes

- Challenges for 21st century medicine
- Personalised medicine and personalised nutrition
- Evidence-based or evidence-informed practice
- Evaluation of current practice



Study Materials and Resources

- Keynote lecture
- Guided self-directed study (mandatory and optional)
- Weekly video conference
- Discussion forum
- Personal Development Plan



Before We Start

Mandatory Activity

Take 20-30 minutes to reflect on the following questions:

- What would you define as the main challenges facing medicine in the 21st century?
- What about the main challenges for healthcare practitioners?
- What do you see as the **top five key challenges** for your own clinical practice over the next 5-10 years?



Share your thoughts with your colleagues on the discussion forum

Challenges for 21st Century Medicine



- Halt and then reverse the epidemic of chronic disease
- Develop content and process of patient care to deal successfully with 21st century healthcare demands
- Develop and integrate new paradigms e.g. systems biology, integrative medicine and personalized care
- Build consensus for systematic approaches to addressing challenges
- Balance:
 - Demands for acute and chronic care
 - Costs and performance
 - Science and art
 - Research and clinical practice



Challenges for 21st Century Medicine



Daily challenges for healthcare practitioners in practice:

- Making better use of evidence
- Translating new tools and ideas into clinical practice
- Managing the uncertainty that is inherent in clinical practice
- Creating a healing partnership with patients



Requires a personalised, systems-medicine approach adapted to the complex demands of chronic disease

So how can we meet these challenges as experienced practitioners?

Challenges for 21st Century Medicine

- Learn and introduce different approaches to gathering and analysing patient data
- Twist the kaleidoscope and look at a new view
- Apply critical thinking to the use of evidence
- Create healing partnerships for both patients and practitioners
- Evaluate outcomes of clinical practice in the light of knowledge and experience



Personalised Medicine

“The effort to define and strengthen the art of individualizing health care by integrating the interpretation of patient data (medical history, family history, signs and symptoms) with emerging ‘-omic’ technologies - nutritional genomics, pharmaco-genomics, proteomics and metabolomics”

Source: Jones, D., Hofman, L. and Quinn, S., 2009. *21st Century Medicine: A New Model for Medical Education and Practice*. Gig Harbor, WA: Institute for Functional Medicine



Personalised Medicine

Optional Reading (45 minutes)

Useful articles on defining terms:

- Palou, A., 2007. From nutrigenomics to personalised nutrition. *Genes and Nutrition*, [online] 2(1), pp.5-7. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2474919/> > [Accessed 30 May 2018]
- Kussmann, M. and Fay, L.B., 2008. Nutrigenomics and personalized nutrition: Science and concept. *Personalized Medicine*, [online] 5(5), pp.447-455. Available at: <<http://www.medscape.com/viewarticle/583041>> [Accessed 30 May 2018]

Mandatory Activity (20 minutes):

- Identify three key strengths and three potential weaknesses of a personalised approach to medicine
- Post your thoughts on the discussion forum

Personalised Nutrition

Mandatory Activity (30 minutes)

- How do you define 'personalised nutrition'?
- How do you explain this concept to your clients/patients?



Post your definition and explanation on the discussion forum to debate with your colleagues and tutors

Personalised Nutrition

“An innovative concept that identifies individual nutritional needs based on genetic make-up. Included in the concept are the products and services that will be developed according to those needs.”

Optional Reading (30 minutes):

- Ronteltap, A. and Van Trijp, H., 2007. Consumer acceptance of personalised nutrition. *Genes and Nutrition*, [online] 2(1), pp.85-87. Available at: <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2474929/>> [Accessed 30 May 2018]



Personalised Medicine and Personalised Nutrition

Integrating the Science and the Art of Medicine



- A model of comprehensive care and primary prevention for complex, chronic illness grounded in both the science and the art of clinical medicine

Optional Activity (40 minutes)

- Listen to Dr John Briffa discussing the art and science of medicine (clinical practice) at the Functional Forum (September 2017)
- Read this article by Woolever (2008) on the Art and Science of Clinical Decision Making: Woolever, D.R., 2008. Clinical Decision Making. Family Practice Management, [online] 15(5), pp.31–36. Available at: <<https://www.aafp.org/fpm/2008/0500/p31.pdf>> [Accessed 30 May 2018]
- *Please note: Unfortunately the Patrick Hanaway video is no longer available on YouTube*

Mandatory Activity (15 minutes)

Reflect on the following questions:

- Which aspects of personalised medicine and personalised nutrition might represent the science?
- Which aspects might represent the art?



Continue the discussion with colleagues on the discussion forum

Integrating the Science and Art of Medicine

- Evolving sciences (genomics, pharmacogenomics and nutrigenomics) blended with...
- Nutrition science (diet, nutraceuticals and botanicals) for disease prevention and wellness promotion and...
- Mind-body therapies and other complementary and integrative approaches offer innovative and promising new approaches to healthcare plus the benefits of hard sciences, clinical medicine and integrative practices to patients, clinicians, researchers and educators



Source: Jones, D., Hofman, L. and Quinn, S., 2009. *21st Century Medicine: A New Model for Medical Education and Practice*. Gig Harbor, WA: Institute for Functional Medicine

Evidence-based Medicine to Evidence-informed Practice

General approach to EBM in clinical settings:

- Select specific clinical questions from the patient's problem(s)
- Search the literature or databases for relevant clinical information
- Appraise the evidence for validity against the hierarchy of evidence and usefulness to the patient and practice
- Implement useful findings in everyday clinical practice



Gets us part of the way but EIP requires more!

Evidence-based Medicine to Evidence-informed Practice

‘No RCT can inform, in a specific way, the appropriate clinical roadmap for assessment and planning for therapeutic interventions in this complex environment. Clinicians must use science; it is a powerful tool. But they should be in charge of how and when to use it, not dominated and intimidated by it’

- Combining research evidence with clinical practice and the patient’s story can help to achieve optimal outcomes

Mandatory Reading (10 minutes)

Optimal outcomes:

- Jones, D., Hofman, L. and Quinn, S., 2009. *21st Century Medicine: A New Model for Medical Education and Practice*. Gig Harbor, WA: Institute for Functional Medicine, pp.50-52



Evidence-based Medicine to Evidence-informed Practice

- This document outlines some key differences between a conventional approach to medicine and the functional medicine approach and indicates how we can move from EBM to EIP

Evidence-based Medicine to Evidence-informed Practice

Mandatory Activity

Module Discussion Forum Debate:

- How do we transition from an EBM, guideline-driven, prescriptive clinical approach, to an evidence-informed, personalised, patient-centered practice that captures both the science and the art of medicine and is safe, ethical and effective?
- How do we balance the element of 'prescription' with the elements of 'personalised' and 'patient-centred' in our work with clients?
- What are some of the key practical challenges in using evidence to inform clinical practice? As busy practitioners, how can we overcome these?



Core Tenets of Functional Medicine

Optional Activity

Watch the following AV resources as reminders of the main tenets of FM:

- Mark Hyman Ted Med - What is FM?
- Please note: Unfortunately the David Perlmutter and David Jones video clip from 2009 is no longer available on YouTube

Additional optional resources:

- Functional Medicine: An 'operating' system for complex, chronic disease' - a short video clip with Patrick Hanaway from 2013
- Jones, D.S. and Quinn, S., 2017. *Introduction to Functional Medicine*. Gig Harbor, WA: Institute for Functional Medicine. Available at: <https://sa1s3.patientpop.com/assets/docs/23325.pdf> [Accessed 30 May 2018]



Revision - Core Principles of FM

- Biochemical individuality based on genetic and environmental uniqueness
- Patient-centered vs. disease-centered approach
- Networks of causation
- Dynamic balance between external and internal factors
- Web-like interconnections of physiological factors
- Health as positive vitality
- Enhancement of organ reserve



Importance of the Patient's Story

Three main angles:

- Where do the symptoms come from? (Antecedents and Triggers)
- What keeps them going? (Mediators and processes of mediation of the symptom)
- What can change the diseased allostatic balance point for the patient? (Underlying Points of Leverage where intervention can be most effective)

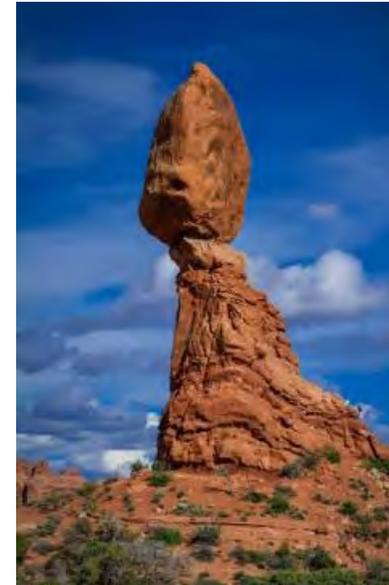


Optional Reading (20 minutes)

- Jones, D., Hofman, L. and Quinn, S., 2009. *21st Century Medicine: A New Model for Medical Education and Practice*. Gig Harbor, WA: Institute for Functional Medicine. pp.61-79
- Benson, D., 2014. David Jones, MD: Shaping the Practice of Medicine. *Integrative Medicine*, 13(5), pp.14–16. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4684102/> [Accessed 16 Feb. 2021]

Before You Begin, Remember

- Always seek the cause FIRST – dig deep!
- Focus on 5 underlying causes of illness
 - Toxins, allergens, infections, nutrition and stress
- Remember 7 ingredients for optimal function:
 - Food, nutrients, environment (air, light, water), movement, rhythm, love and meaning



The Right Order of Things

Learn how to restore function IN THE RIGHT ORDER

- Doing the right thing in the wrong order can have adverse effects (underwear over trousers, socks over shoes?)
- Navigate from the outer layers to inner layers of imbalance and dysfunction
- Seek to reset homeodynamic balance



The Right Order of Things

1. Start with food: Whole, real foods
2. Remove food allergens
3. Work with the gut – almost always
4. Optimise nutrient status
5. Balance hormones
6. Focus on detoxification as the last step!





The Right Order of Things: Peeling the Onion of Chronic Disease

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COLUMN

THE RIGHT ORDER OF THINGS: PEELING THE ONION OF CHRONIC DISEASE

Mark A. Hyman, MD

Mark A. Hyman, MD, is a contributing editor of *Alternative Therapies in Health and Medicine*. He recently launched the Functional Medicine Foundation, based in New York, New York, to promote awareness of, fund research on, and educate the public about functional medicine. (*Altern Ther Health Med*, 2009;15(2):18-20.)

"The will meaning are often all doing."
—Herbert Benson, MD, Benson-Henry Institute for Mind Body Medicine

In the practice of medicine, healing depends not only on doing the right things but doing them in the right order. The shift from linear reductionism to biographic thinking is essential to understand the nuanced collage that is the story of a patient's illness. From that story, the right place to push or pull on the web of biologic dysfunction emerges, along with the right order of pushing and pulling to restore balance.

Medical education teaches us to funnel clinical information gathered from medical history, physical exam, laboratory, and imaging into a disease label and matching ICD-9 code. As William of Occam said in 1290, "What can be done with fewer assumptions is done in vain with more." Unfortunately, medicine in the 21st century is bleeding as a result of Occam's razor. The complex web of physiology and patterns that link apparently disparate biologic systems are increasingly more relevant in formulating notions of health and disease. It is the lens through which we can understand the whole story of a patient's illnesses without discarding facts or findings that seem unrelated. The inevitable conclusion of systems medicine is that everything is related, and we ignore any detail at our peril. Functional medicine is an evolved clinical map that uses scientific tools for understanding this web.

Illness is never simply one discrete process or dysfunction. It is a bundle—a patient's whole life, from genetics to beliefs and how those influences are layered to create the thing we call disease. Sorting out the proximal causes from the downstream effects and determining how the illness is woven into a patient's story and biology helps the practitioner know where to start and which layer to peel away in the web of physiologic dysfunction. Doing the right things in the wrong order often will result in

a failure to treat or exacerbation of the illness. There are often many things to do, and it is difficult to choose which to do first. But after years of thinking, writing, trying, failing, and sometimes succeeding, a few things seem apparent. And fortunately, though human biology is infinitely complex and beyond anyone's capacity to fully grasp, there are some principles and well-traveled routes to leading that are accessible to primary care practitioners.

BEFORE YOU BEGIN

The practitioner's first task is to ascertain the cause (or causes) of the illness. There are essentially 5 proximal causes of all illness: infections, allergens, toxins, stress (physical or psychological), and poor diet.

The second task is to identify the 7 "ingredients" needed for optimal biologic function—real food, nutrients, and hormones; a healthy environment (water, air, light); deep relaxation; rhythm (including sleep); movement; and love, community, meaning, and purpose. We must also become experts in assessing deficiency of these "ingredients" and helping to provide the conditions for thriving.

The presence of any of the 5 etiologic factors and the absence of any of the 7 essential ingredients creates imbalance in the basic biologic systems and processes—hormonal/neurochemical, immune, digestive, detoxification, energy metabolism, structural, and mind/body. And imbalances in any one or combination of these systems result in the manifestation of disease. With this map and process of thinking, the names of the diseases we see become increasingly less important.

When faced with multiple causes—toxins, infections, allergens, poor diet, and stress—which often occur together in varying patterns and degrees, the question is what to do first. The simplicity of this clinical approach before the underlying biological complexity. Fortunately, the body knows how to heal if we remove the impediments and provide the proper conditions.

WHAT IS THE RIGHT ORDER?

Start With Food

Start with whole, real foods. As Michael Pollan writes in his 2008 book, *The Omnivore's Dilemma* (Penguin Press), "Eat food. Not too much. Mostly plants." A refinement is what I have termed the "nutrigenomic index" (Table). Food is by far the most powerful clinical intervention in chronic disease. Learn to apply it, and use it skillfully.

18 ALTERNATIVE THERAPIES, MAR/APR 2009, VOL. 15, NO. 2 Peeling the Onion of Chronic Disease

Hyman, MA., 2009. The right order of things: peeling the onion of chronic disease. *Alternative Therapies*, 15(2), pp.18-20

FM Knowledge and Skills Audit

Optional Activity (30 minutes)

- Complete the attached Skills Audit questionnaire to consider your current level of FM knowledge and skills
- Identify any development issues that you would like to add to your PDP
- Identify actions to address these development issues during this module



Functional Medicine and the Healthcare System

Important Additional Benefits

- Functional Medicine creates a level playing field among practitioners
- The Functional Medicine model makes readily apparent that there is a need for many different approaches to helping people become and stay well
- Functional Medicine helps to create and disseminate a shared set of concepts and a common language
- Ultimately, Functional Medicine can contribute greatly to our ability to create an integrated healthcare system



Video Conference Preparation Goal Setting and Evaluation of Current Practice Mandatory Activity (30 minutes)

- How am I using the FM approach/FM principles?
- How am I currently using EIP in my work with patients?
- How do I see my role as an advanced scholar practitioner in influencing approaches to healthcare for the future?
- How can I use this module to develop my role and my current practice with regard to EIP and/or FM and/or advanced scholarly practice? (See also results of your Skills Audit)



Bring your thoughts to the video conference for discussion

Additional Resources

- Jones, D., Hofman, L. and Quinn, S., 2009. *21st Century Medicine: A New Model for Medical Education and Practice*. Gig Harbor, WA: Institute for Functional Medicine
- Sult, T.A., 2013. *Just Be Well: A Book for Seekers of Vibrant Health*. Highland Park (Illinois): Writers of the Round Table Press
- www.functionalforum.com – “the world’s largest integrative medicine conference. On the first Monday of every month, this new concept in practitioner education, ‘medutainment’, brings together the latest health news, functional medicine research, practice development and health technology in an upbeat, entertaining way”

