Medicine of the Future:
A Personalized Lifestyle Approach

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Why doesn’t the old model work?
Because chronic disease is a food- and lifestyle-driven, environment- and genetics-influenced phenomenon.

- It won’t be conquered with drugs and surgery, however helpful those tools may be in managing *acute* signs and symptoms.
- It won’t be conquered by adding new or unconventional tools (e.g., botanical medicine, acupuncture) to a *failing model*.
• It won’t be conquered by pharmacogenomics (although advances in that discipline should help reduce deaths from appropriately prescribed medication—estimated to be the 4\textsuperscript{th} leading cause of hospital deaths).

• It CAN 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 chronic disease, which are rooted in lifestyle choices, environmental exposures, and genetic influences.
The Changing Paradigm

Old Model
- Differential diagnosis: reductionism
- Eliminating confounding variables
- Naming and blaming
- Confirmatory laboratory and imaging tests
- Symptom suppression

New Model
- Etiologic and causative evaluation: patterns and connections
- Including all variables
- New lenses and cognitive organization
- Testing: causes and mechanisms
- Removing causes and restoring normal function
Remember etiology—not just taxonomy!

- It’s not enough to name/blame/tame the disease.
- Achieving a systems-oriented approach to health care requires new concepts, tools, and interventions.
- We must integrate the science of medicine with the art of clinical practice:
  - Take what we know and make it what we do.
  - Learn to restore balance in the complex adaptive system that is a human being.
  - Develop effective therapeutic partnerships between practitioners and patients.
  - Identify the causes of and remedies for each individual’s unique expression of chronic disease.
Complex vs. complicated

- **An airplane is complicated.**
  - Tens of thousands of details are involved in planning and execution.
  - The outcomes are predictable, if the inputs are consistent.

- **Human beings—and their diseases—are complex.**
  - Many conditions may emerge from a single cause (e.g., the many varied signs and symptoms of gluten intolerance).
  - Individuals have their own pathways toward a diagnosis—one person’s asthma or diabetes or heart disease is not the same as another’s.
  - Outcomes are not predictable; what works for one person will not necessarily be effective with the next.
  - Everything is connected to, and can be influenced by, everything else—body, mind, and spirit.
Teaching and practicing functional medicine
The essential tools #1

The three-legged stool:

- The patient’s complete story emerges during the functional medicine intake, and facilitates the therapeutic partnership.

- Practitioner and patient together identify and address the challenges of the patient’s modifiable lifestyle factors.

- The clinician organizes the patient’s clinical imbalances by underlying causes of disease in a systems biology matrix framework.
Teaching and practicing functional medicine
The essential tools #2

The seven organizing systems where clinical imbalances develop:

- **Assimilation** (e.g., digestion, absorption, microbiota/gi, respiration)
- **Defense and repair** (e.g., immune, inflammation, infection/microbiota)
- **Energy** (e.g., energy regulation, mitochondrial function)
- **Biotransformation and elimination** (e.g., toxicity, detoxification)
- **Transport** (e.g., cardiovascular, lymphatic system)
- **Communication** (e.g., endocrine, neurotransmitters, immune messengers)
- **Structural integrity** (e.g., from subcellular membranes to musculoskeletal structure)
Personalized Lifestyle Medicine

- Determine the specific environment in which the patient exists – physical, emotional, social, spiritual
- Determine patient’s lifestyle practices and assist with changes as indicated and desired
- Use food, supplements and medications as indicated to support patient’s goals and situations
- A holistic view of health & wellbeing – beyond the typical “medical” perspective
Medicine of the Future:

- Change the “one drug for one disease” mentality
- Look for underlying reasons for illness
- Incorporate effective complementary therapies at the proper time
- Emphasize self care and self responsibility
- End of life care as important as cure and prevention
The Fundamental Organizing Systems and Core Clinical Imbalances

- Assimilation: Digestion, Absorption, Microbiota/GI, Respiration
- Defense and Repair: Immune system, Inflammatory processes, Infection and microbiota
- Energy: Energy regulation, Mitochondrial function, Biotransformation and Elimination, Toxicity, Detoxification
- Communication: Endocrine, Neurotransmitters, Immune messengers, Cognition
- Transport: Cardiovascular, Lymphatic systems, Structural integrity

Antecedents, Triggers, and Mediators
The Patient’s Story Retold

Physiology and Function: Organizing the Patient’s Clinical Imbalances

### Antecedents
- Energy
- Communication
- Defense & Repair
- Structural Integrity
- Assimilation

### Triggering Events
- Spiritual
- Stress & Resilience
- Transport
- Biotransformation & Elimination

### Mediators/Perpetuators
- Sleep & Relaxation
- Exercise & Movement
- Nutrition & Hydration
- Stress & Resilience
- Relationships & Networks

### Personalized Lifestyle Factors
- Sleep & Relaxation
- Exercise & Movement
- Nutrition & Hydration
- Stress & Resilience
- Relationships & Networks

Name: ___________________________ Date: _______________ CC: ___________________________
Antecedents
The Patient’s Story Retold

Physiology and Function: Organizing the Patient’s Clinical Imbalances

Antecedents (Predisposing Factors - Genetic/Environmental)

Triggering Events (Activators)

Mediators/Perpetuators (Contributors)

Assimilation (e.g., Digestion, Absorption, Microbiota/GI, Respiration)

Defense & Repair (e.g., Immune, Inflammation, Infection/Microbiota)

Biotransformation & Elimination (e.g., Toxicity, Detoxification)

Energy (e.g., Energy Regulation, Mitochondrial Function)

Spiritual

Mental

e.g., cognitive function, perceptual patterns

e.g., emotional regulation, grief, sadness, anger, etc.

e.g., meaning & purpose, relationship with something greater

Structural Integrity (e.g., from Subcellular Membranes to Musculoskeletal Structure)

Communication (e.g., Endocrine, Neurotransmitters, Immune messengers)

Transport (e.g., Cardiovascular, Lymphatic System)

Personalized Lifestyle Factors

Sleep & Relaxation | Exercise & Movement | Nutrition & Hydration | Stress & Resilience | Relationships & Networks

Name: ___________________________ Date: ___________ CC: ___________________________
Family history (genetic predisposition), trauma, toxicity, intrauterine history, sexual abuse, intestinal permeability, infection, dietary insufficiencies, drug use
Triggers
The Patient's Story Retold

Physiology and Function: Organizing the Patient's Clinical Imbalances

Antecedents (Predisposing Factors - Genetic/Environmental)

Triggering Events (Activators)

Triggers

Mediators/Perpetuators (Contributors)

Assimilation (e.g., Digestion, Absorption, Microbiota/GI, Respiration)

Biotransformation & Elimination (e.g., Toxicity, Detoxification)

Defense & Repair (e.g., Immune, Inflammation, Infection/Microbiota)

Energy (e.g., Energy Regulation, Mitochondrial Function)

Structural Integrity (e.g., from Subcellular Membranes to Musculoskeletal Structure)

Communication (e.g., Endocrine, Neurotransmitters, Immune messengers)

Spiritual

Mental

e.g., cognitive function, perceptual patterns

e.g., emotional regulation, grief, sadness, anger, etc.

e.g., meaning & purpose, relationship with something greater

Transport (e.g., Cardiovascular, Lymphatic System)

Emotional

Personalized Lifestyle Factors

Sleep & Relaxation  Exercise & Movement  Nutrition & Hydration  Stress & Resilience  Relationships & Networks

Name: __________________________  Date: ____________  CC: __________________________

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Physical or psychic trauma, microbes, toxins, memories, stressful event, surgery, infection.
The Patient's Story Retold

Antecedents
(Predisposing Factors: Genetic/Environmental)

Triggers or Triggering Events
(Activators)

Mediators/Perpetuators
(Contributors)

Antecedents

Triggers or Triggering Events

Signs, Symptoms or Diseases Reported

- Preconception
- Prenatal
- Birth
- Current Concerns
Personalizing Lifestyle Factors

Three Legs of the Stool
Patient’s Story Told with ATMs
Physiology and Function: Organizing the Patient’s Clinical Imbalances

<table>
<thead>
<tr>
<th>Antecedents (Predisposing Factors - Genetic/Environmental)</th>
<th>Assimilation (e.g., Digestion, Absorption, Microbiota/GI, Respiration)</th>
<th>Defense &amp; Repair (e.g., Immune, Inflammation, Infection/Microbiota)</th>
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</thead>
<tbody>
<tr>
<td>Triggering Events (Activators)</td>
<td>Structural Integrity (e.g., from Subcellular Membranes to Musculoskeletal Structure)</td>
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</tr>
<tr>
<td>Mediators/Perpetuators (Contributors)</td>
<td>Communication (e.g., Endocrine, Neurotransmitters, Immune messengers)</td>
<td>Biotransformation &amp; Elimination (e.g., Toxicity, Detoxification)</td>
</tr>
</tbody>
</table>

Transport (e.g., Cardiovascular, Lymphatic System)

Mental
- e.g., cognitive function, perceptual patterns
- e.g., meaning & purpose, relationship with something greater

Emotional
- e.g., emotional regulation, grief, sadness, anger, etc.

Spiritual
- e.g., relationship with something greater

Personalized Lifestyle Factors

Sleep & Relaxation
- Exercise & Movement
- Nutrition & Hydration
- Stress & Resilience
- Relationships & Networks

Name: ___________________________ Date: ___________ CC: ___________________________
Biotransformation & Elimination (e.g., Toxicity, Detoxification)

Energy (e.g., Energy Regulation, Mitochondrial Function)

Communication (e.g., Endocrine, Neurotransmitters, Immune messengers)

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Structural Integrity (e.g., from Subcellular Membranes to Musculoskeletal Structure)

Assimilation (e.g., Digestion, Absorption, Microbiota/GI, Respiration)

Antecedents (Predisposing Factors - Genetic/Environmental)

Triggering Events (Activators)

The Patient's Story Retold

Exercise & Movement

Personalized Lifestyle Factors

Sleep & Relaxation  |  Exercise & Movement  |  Nutrition & Hydration  |  Stress & Resilience  |  Relationships & Networks

Name: ___________________________  Date: _______________  CC: ___________________________
**The Patient’s Story Retold**

- **Antecedents** (Predisposing Factors - Genetic/Environmental)
- **Triggering Events** (Activators)
- **Mediators/Perpetuators** (Contributors)

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**Clinical Imbalances**

- **Transformation & Elimination** (e.g., Toxicity, Detoxification)
- **Energy** (e.g., Energy Regulation, Mitochondrial Function)

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**Personalized Lifestyle Factors**

- **Sleep & Relaxation**
- **Exercise & Movement**
- **Nutrition & Hydration**
- **Stress & Resilience**
- **Relationships & Networks**

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**The Patient’s Story Retold**

- **Exercise & Movement**
- **Personalized Lifestyle Factors**
- **Nutrition & Hydration**

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**The Patient’s Story Retold**

- **Sleep & Relaxation**
- **Nutrition & Hydration**
- **Stress & Resilience**

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**The Patient’s Story Retold**

- **Nutrition & Hydration**
- **Stress & Resilience**
- **Relationships & Networks**

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**The Patient’s Story Retold**

- **Stress & Resilience**
- **Relationships & Networks**

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**The Patient’s Story Retold**

- **Relationships & Networks**

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**The Patient’s Story Retold**

- **Name:______________ Date:__________ CC:______________
Functional Nutrition

Is the advanced practice of personalized nutrition assessment, diagnosis, intervention, and monitoring with the goal of promoting optimal health and preventing diet- and lifestyle-related disease.
Hydration
The Patient’s Story Retold

Physiology and Function: Organizing the Patient’s Clinical Imbalances

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Personalized Lifestyle Factors

Sleep & Relaxation
Exercise & Movement
Nutrition & Hydration

Stress & Resilience

Relationships & Networks

Name: ________________________ Date: __________ CC: ________________________
The Patient’s Story Retold

Physiology and Function: Organizing the Patient’s Clinical Imbalances

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Name:____________________________ Date:___________ CC:_____________________________________

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Healthy Relationships
The Seven
Clinical Imbalances
Defend and Repair Immune System

Inflammation

DNA Repair
The Patient's Story Retold

Physiology and Function: Organizing the Patient's Clinical Imbalances

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Personalized Lifestyle Factors

Sleep & Relaxation

Exercise & Movement

Nutrition & Hydration

Stress & Resilience

Relationships & Networks

Name: ______________________________ Date: ____________ CC: ________________________________

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Cellular Energy and Mitochondrial Function
Total Toxic Load
Detoxification and Elimination
The Patient’s Story Retold

Physiology and Function: Organizing the Patient’s Clinical Imbalances

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(Predisposing Factors—Genetic/Environmental)

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Creates the opportunity to offer truly “personalized medicine”

- Self care, lifestyle practices
- Supplements & nutritional recommendations
- Medications as needed
- Complementary therapies incorporated as appropriate
Personalized Lifestyle Factors Relevant for Most Chronic Illnesses

- Maximize circulation/transport
- Reduce inflammation
- Improve biotransformation & detoxification
- Balance neurotransmitters and hormones
- Optimize structural integrity
- Maximize energy
- Optimize assimilation of healthy food, air, water, thoughts
HOW??

- Personalized nutrition plan
- Personalized exercise/movement plan
- Stress management/mind-body plan
- Test for and reduce toxins
- Evaluate gut function and repair as indicated
- Optimize sleep rest, relaxation
- Care for personal relationships, including yourself
- Find spiritual peace, service
Start Where You Are