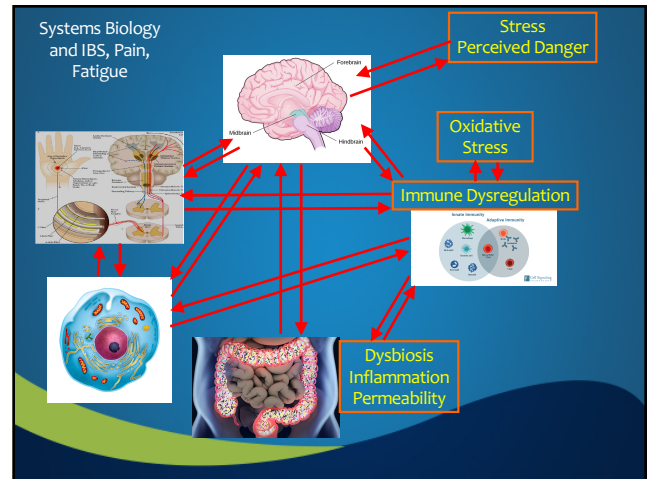


Robert's Case

- 40 years old
- Fatigue
- Abdominal pain
- Needs to stay near toilet
- Anxiety
- Insomnia
- Stuck in Life and Can't move forward

1



2

Functional Medicine: Systems Biology in Clinical Practice

- Antecedents--Foundational Principles That **Set The Stage**
- Triggers-- Transient Events That **Shift The System**
- Mediators-- Persistent Changes that **Keep You Sick**

3

Antecedents	Triggers	Mediators
<ul style="list-style-type: none"> <li>• Genetics?</li> <li>• Early Life Stress/Trauma</li> </ul>	<ul style="list-style-type: none"> <li>• Stressors</li> <li>• Infection?</li> </ul>	<ul style="list-style-type: none"> <li>• Adrenal dysregulation</li> <li>• Insomnia</li> <li>• Stress/Anxiety</li> <li>• Immune Dysregulation</li> <li>• IBS—(pain, dysbiosis malabsorption, inflammation)</li> <li>• Social Circumstance</li> </ul>

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**Antecedents**

- Genetics?
- Early Life Stress/Trauma

**Triggers**

- Stressors
- Infection?

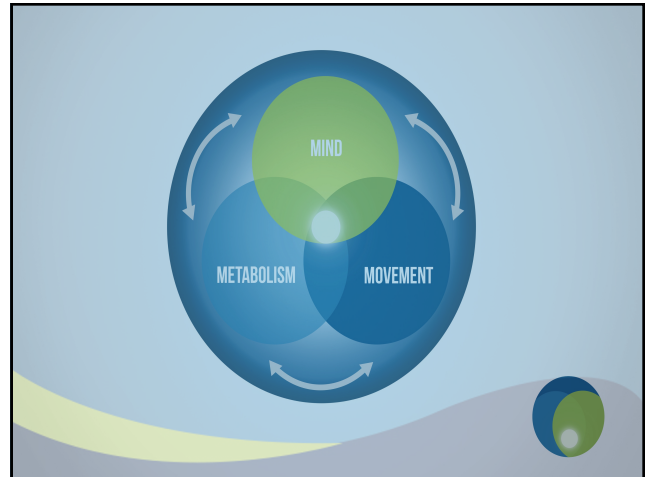
**Mediators**

- Adrenal dysregulation
- Insomnia
- Immune Dysregulation
- Stress/Anxiety
- IBS—(pain, malabsorption, inflammation)
- Life Stress

**Underlying Issues For Variety of Diagnoses**

- Chronic Pain/Fibro
- Abd pain
- Fatigue
- Depression/anxiety
- Migraine
- Neurodegenerative
- Neuropathy
- Dementia
- Autoimmune
- CFS/ME
- Etc.

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How Do We Help Robert?

**Metabolic/Biochemical**

- Diet—sensitivities, nutrients, low antigen high polyphenol
- Adrenal support-botanical
- LDN—IBS, inflammation, pain
- Stress—adaptogens, nutrients
- Dysbiosis—probiotic, prebiotic
- Leaky Gut—nutrients

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How Do We Help Robert?

**Movement/Mechanical**

- Movement is Medicine
  - Hormones
  - Inflammation
  - Sleep
  - Pain
  - Neurotransmitters
- Aerobic
- Stretching/Strength
- Mindful Movement

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How Do We Help Robert?

## MindBody Healing

- Relaxation
- Mindfulness
- Imagery
- Therapy

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How Do We Help Robert?

## MindBody Healing

- Relaxation
- Mindfulness
- Imagery
- Therapy

Vashist, S. K. and E. M. Schneider. "Depression: An Insight and Need for Personalized Psychological Stress Monitoring and Management." *Journal of Basic and Applied Sciences* 10 (2014): 177-182.

10

How Do We Help Robert?

## MindBody Healing

- Relaxation
- Mindfulness
- Imagery
- Therapy

Moloney RD et al. Stress and the Microbiota-Gut-Brain Axis In Visceral Pain: Relevance to Irritable Bowel Syndrome. *CNS Neurol Ther*. 2016;22(2):303-317

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How Do We Help Robert?

## MindBody Healing Don't Forget The Vagus Nerve

- Relaxation
- Mindfulness
- Imagery
- Therapy

Bonaz B, Bazin T, Pellissier S. The Vagus Nerve at the Interface of the Microbiota-Gut-Brain Axis. *Front Neurosci*. 2018 Feb 7;12:249.

12

How Do We Help Robert?

**MindBody Healing**

- Relaxation
- Mindfulness
- Imagery
- Therapy

**Vagus Nerve To The Rescue**

Bonaz B, Bazin T, Pellissier S. The Vagus Nerve at the Interface of the Microbiota-Gut-Brain Axis. Front Neurosci. 2018 Feb 7;12:49.

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How Do We Help Robert?

**MindBody Healing**

- Relaxation
- Mindfulness
- Imagery
- Therapy

**Vagal Parasympathetic Anti-Inflammatory Pathway**

Bonaz B, Sinniger V, Pellissier S. The Vagus Nerve in the Neuro-Immune Axis: Implications in the Pathology of the Gastrointestinal Tract. Front Immunol. 2017 Nov 28;8:1452.

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How Do We Help Robert?

**MindBody Healing**

- Relaxation
- Mindfulness
- Imagery
- Therapy

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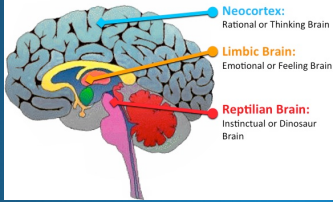
How Do We Help Robert?

**MindBody Healing**

- Relaxation
- Mindfulness
- Imagery
- Therapy

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## Healing Three Parts of Your Mind-Body



Neocortex:  
Rational or Thinking Brain

Limbic Brain:  
Emotional or Feeling Brain

Reptilian Brain:  
Instinctual or Dinosaur Brain

Three **Functions**—Not Anatomically Distinct

Processing At Three Levels

- Psychological
- Limbic
- Physiologic/Cellular

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## How Do We Help Robert? Is It Safe? Are You In Danger?



Life Stress

- Pain
- Trauma
- Immune Dysfunction
- Toxins
- Drugs
- Acute Illness
- Surgery
- Pandemic/Crisis

Danger Detector

- Consciousness
- Immune
- Structural
- Biochemical

Cellular Protective Response

- ↓ Energy Production
- ↓ Cellular Communication
- ↓ DNA/Protein Synthesis
- ↑ Hypervigilance
- ↑ Immune Activation

**Protective Mode Is The Problem**

- Psychological
- Limbic
- Physiologic/Cellular

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## How Do We Help Robert? Why Is MindBody Healing So Important

Protective Mode Is The Problem

- Psychological
- Limbic
- Cellular

### Turn Off The Danger Response

### Bathe The Body In Biochemistry of Healing

- Calm
- Safety
- Connection
- Positive Emotion

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## How Do We Help Robert? Turn Off The Danger Response

### 6 Steps MindBody Healing

1. Relaxation
2. Mindfulness
3. Body Awareness
4. Insight—Inner Map
5. Heart- and Soul-Power
6. Transformation

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How Do We Help Robert?

**6 Steps MindBody Healing**

1. Relaxation
2. Mindfulness
3. Body Awareness
4. Insight—Inner Map
5. Heart- and Soul-Power
6. Transformation

Therapy/Group Work is support and guidance for these steps of inner work

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“Science Is Finding All The Connections”

*Science Is Discovering the Fallacy of The Idea of Disconnection*

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