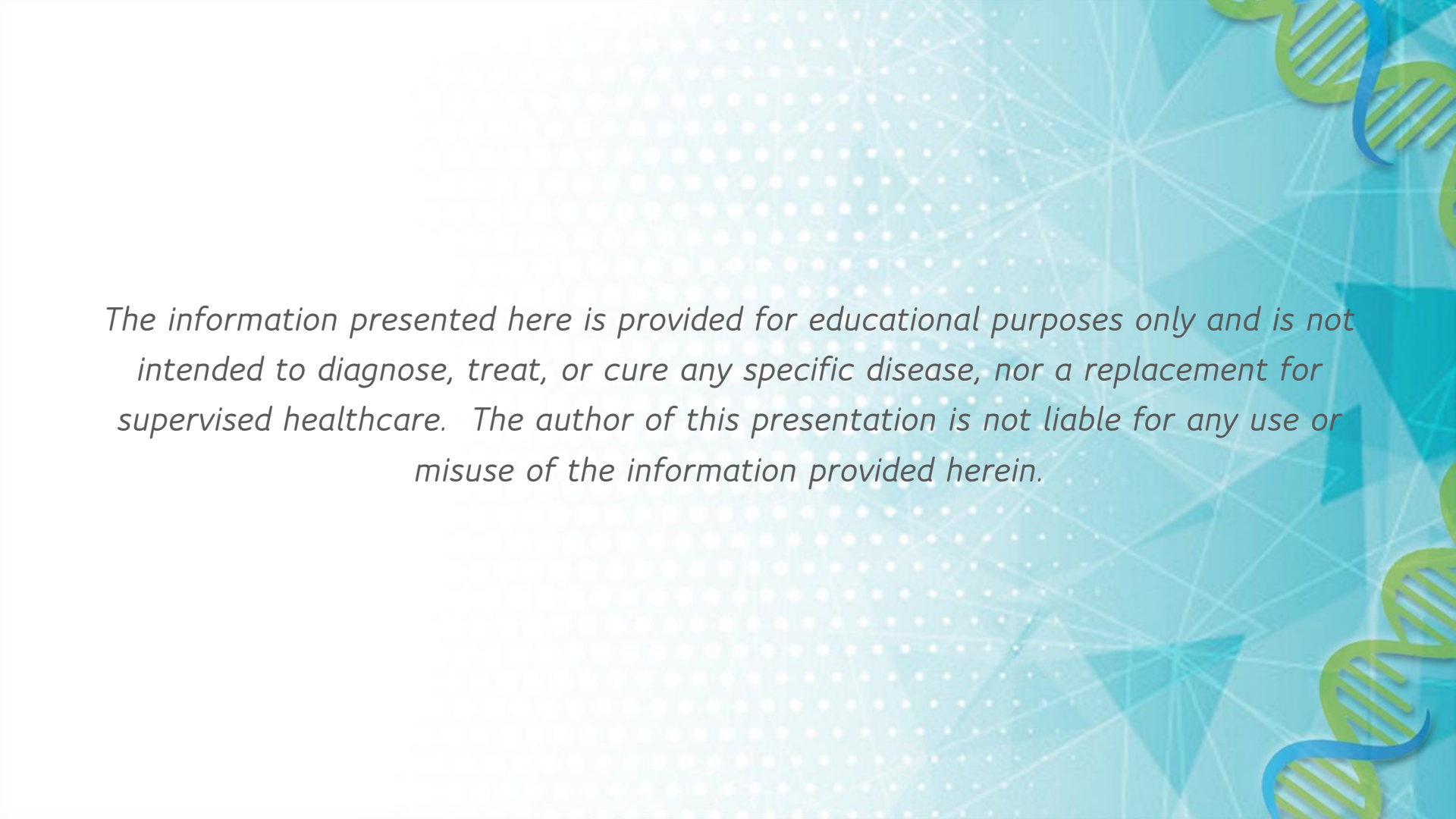


# Fasting for Performance and Longevity



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# Meet Brendan, Your Functional Friend

- CEO, Metabolic Solutions LLC
- Founder/Owner, Metabolic Solutions Institute
- Host/Owner, Holistic Savage Podcast
- Board Advisor and Scientific Officer for numerous Corporations
- Mental and Metabolic Health Researcher
- Keynote Speaker and Educator



*"I believe the greatest treatment is prevention  
and the greatest medicine of all is to teach  
people how to not need it."*



# A Candid intro to Fasting

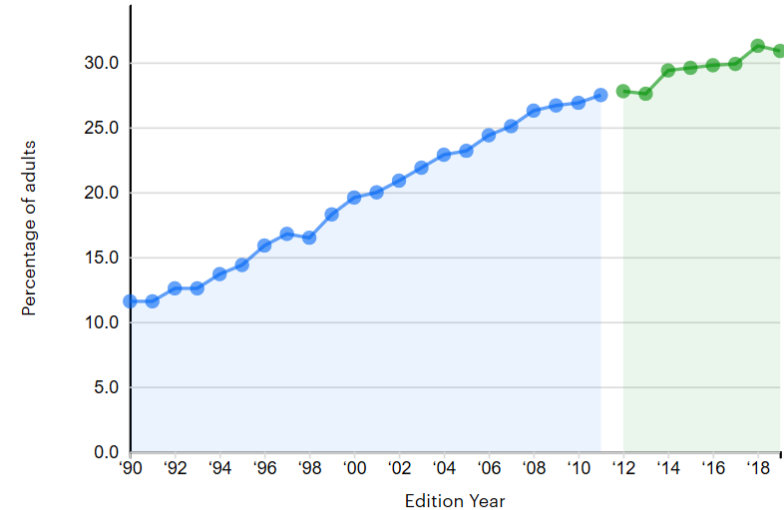
- Fasting has become the new diet craze with millions of people across the world jumping on the bandwagon.
- Fasting has many established health benefits that are now starting to become more and more clear.
- Fasting IS our natural way. We evolved to be capable of fasting for lengthy periods of time.
- How we were ever convinced we need to eat '3 square meals a day' is the real brain buster.



# The State of the Nation

- 88% of Americans are Metabolically Ill
- 70% of Americans are Overweight or Obese
- 43% of Americans are Pre-diabetic or Diabetic
- Suicide is a leading cause of death in Americans
- Metformin was the 4<sup>th</sup> most prescribed drug in 2018 with 83 million prescriptions
- More than 35 million Americans take statin drugs

Trend: Obesity, United States

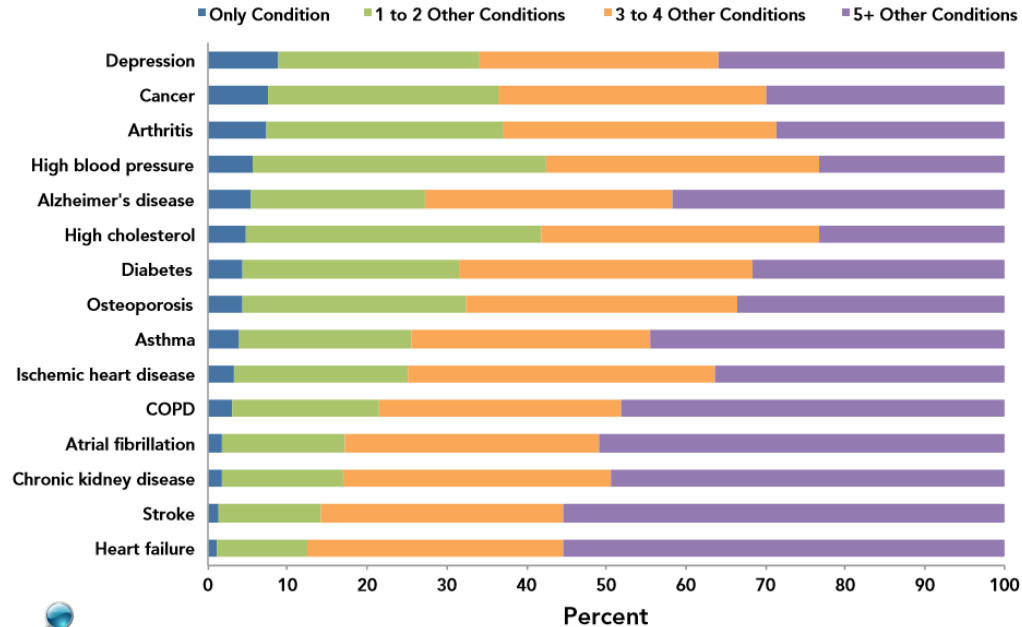


Source:

• CDC, Behavioral Risk Factor Surveillance System

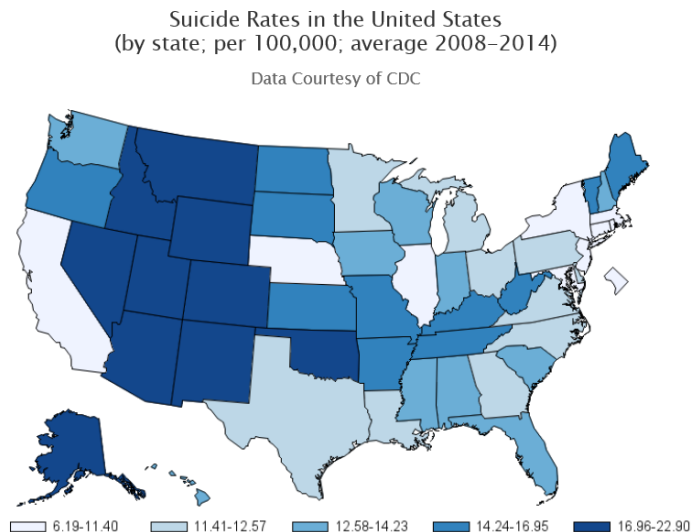
# Mental Health and Chronic Disease Co-Morbidity

**Figure 4.1** Co-morbidity among Chronic Conditions for Medicare FFS Beneficiaries: 2010



# The Mental/Metabolic Health Pandemic

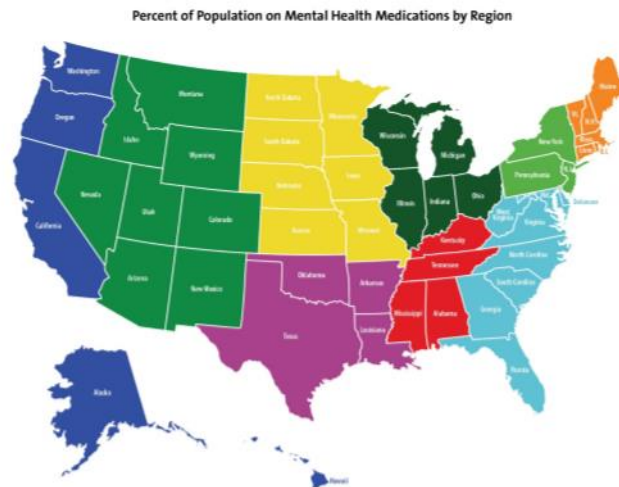
Figure 4



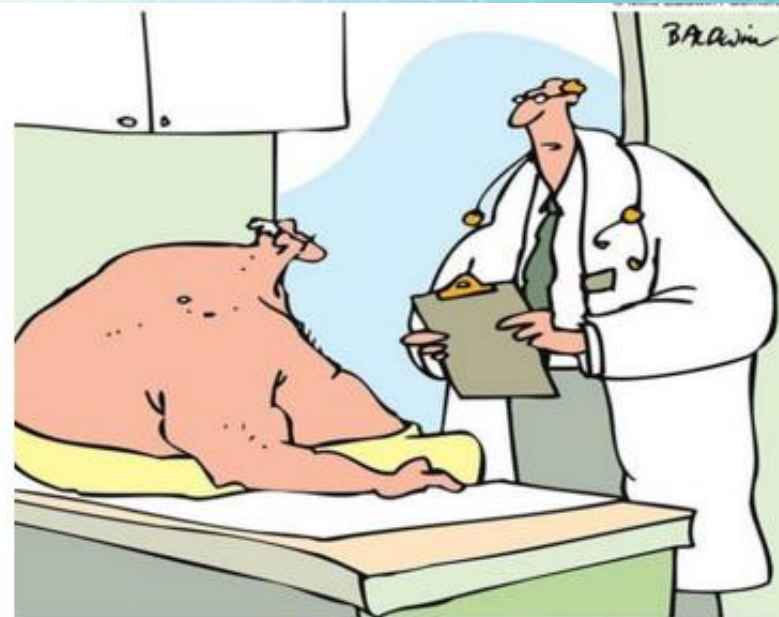
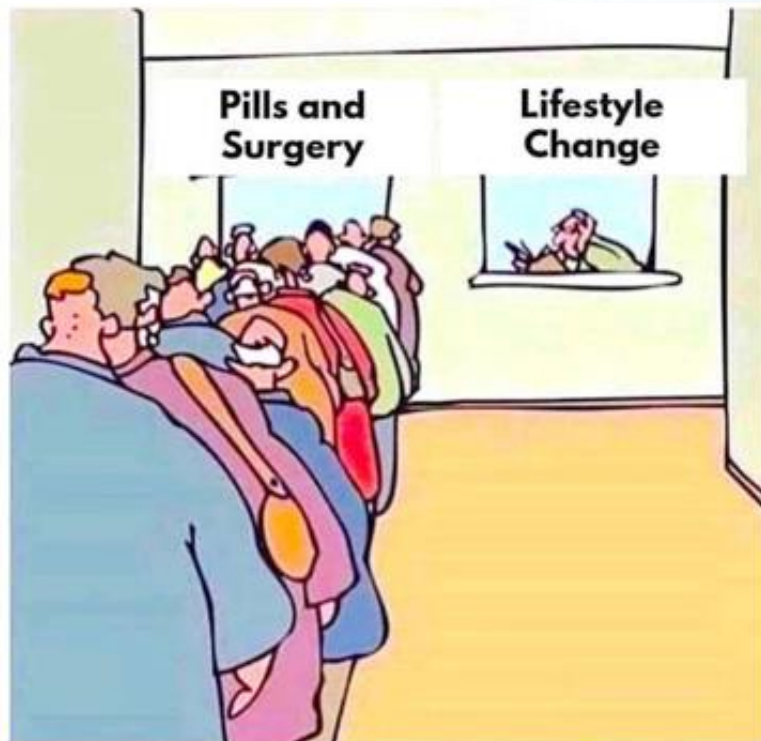
## The State of the States

An examination of utilization among different regions of the United States found that the highest prevalence of mental health medication use (23 percent) was in the east south central region of the U.S., a section of the country known as the “Diabetes Belt” which includes Kentucky, Tennessee, Mississippi, and Alabama. Studies have shown higher levels of depression and anxiety disorders among people with diabetes which could account for the greater utilization of these medications in this geographic area.

The region with the fewest users of mental health medications (15 percent) is in the east north central section of the U.S. which includes Indiana, Ohio, Wisconsin and Michigan.







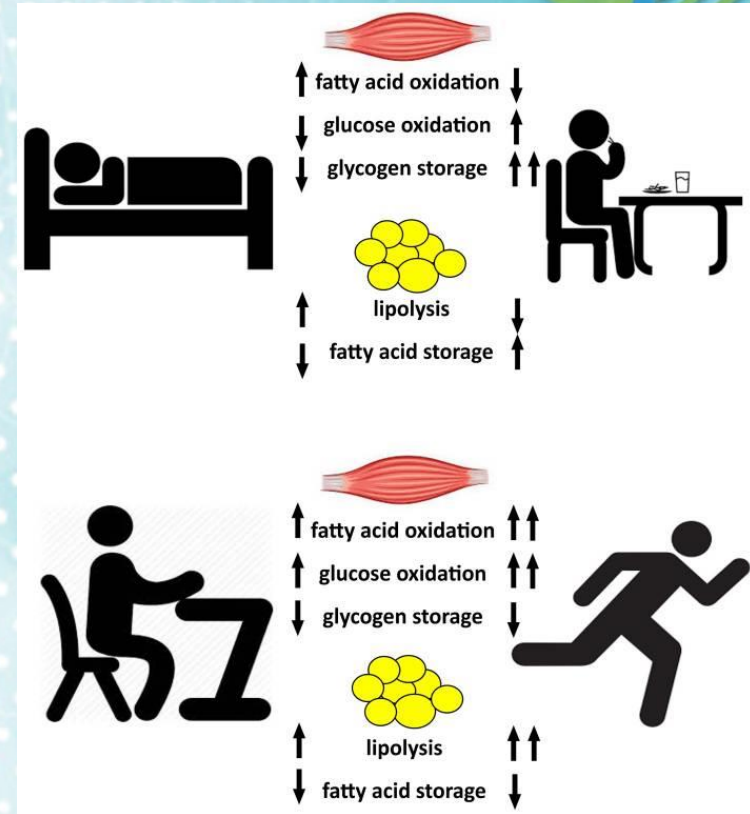
"You've got six months, but with aggressive treatment we can help make that seem much longer."

# America has lost its Metabolic Fitness and Flexibility

- The Standard American Lifestyle and Diet has destroyed American Metabolic Fitness and Flexibility.
- The human form is intended to be lean, adaptable, and resilient.
- Lifestyle Intervention and Behavior Modification are our most readily available and cost-effective tools to combat the Chronic Disease Pandemic.
- Fitness and Nutrition Professionals are the front-line boots on the ground.
- I believe the Functional Fitness movement has done more for public health than Functional Medicine.

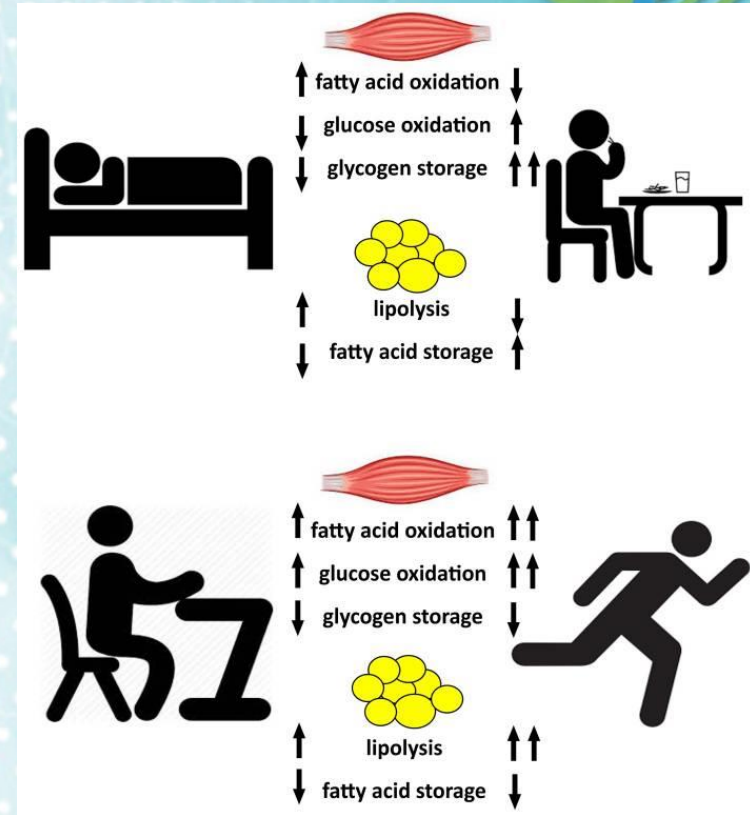
# Metabolic Flexibility

- Metabolic Flexibility refers to the metabolic capacity to maintain homeostatic efficiency through varying environments and nutritional availabilities that are in constant flux.
- We are designed to primarily rely on body fat for fuel (fat adapted), but many are now excessively reliant on glucose (sugar adapted).
- This can be assessed using respiratory quotient testing. (1.0 = 'pure sugar burning'. .7 = 'pure fat burning'.)



# Metabolic Flexibility Training

- I feel this concept is getting grossly over-complicated.
- Helping guide clients to move well and often, shift to eating more real food, sleeping better, stressing less, and altering eating frequency will create the specific adaptation to imposed demand that results in increased Metabolic Flexibility.
- We need to ease damaged metabolisms into this process slowly to ensure their metabolic machinery can adapt one step at a time.





# Benefits of Intermittent Fasting

- Longevity
- Performance
- Hormone Balance
- Microbiome Modulation
- Glucose Disposal
- Immune Resilience
- Reduced Chronic Disease Progression
- Mental Health and Neuroplasticity

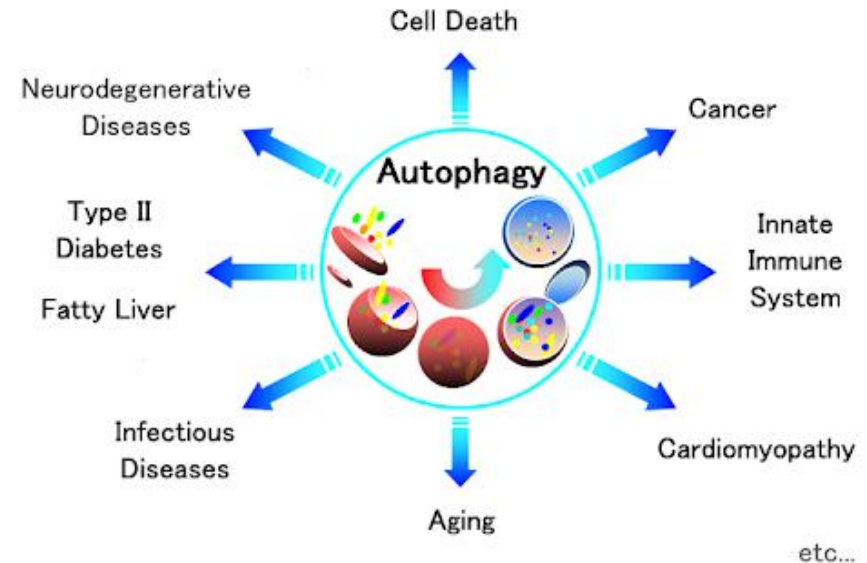


# Autophagy

- Autophagy is the main mechanism of interest regarding fasting.
- Autophagy is simply 'cellular recycling' and clean up.
- Autophagy Dysfunction is associated with many chronic conditions.
- Autophagy is upregulated by fasting.
- Autophagy is being studied extensively for pharmaceutical modulation purposes.



## Pathological and Physiological Functions of Autophagy



# Microbiome and Gut Health

- The 'Garden of Life' in our gut impacts virtually every aspect of our metabolic health and function.
- The Standard American Lifestyle and Diet leads to the Standard American Gut that is leaky, dysbiotic, and inflamed.
- A 'primal' lifestyle helps the Gut Heal and creates a more diverse and abundant microbiome.



# Neuroplasticity and BDNF

- “Thoughts become proteins”
- BDNF is a crucial molecule that directly impacts neurogenesis and neural network formation.
- We shape our neural networks by modifying input signals.
- “Neurons that fire together, wire together.”





# Harnessing the Power of BDNF!

BDNF ↓

Stress/Cortisol

Inflammation

Aging

Excess Sugar

Isolation

Infections/Toxins

BDNF ↑

Exercise

Sunlight

Sleep

Yoga/Meditation/Breath Work

Polyphenols

Fasting

Psychedelics

# Ketosis

- The Ketogenic Diet has become the most popular diet craze in America and is often combined with Intermittent Fasting Protocols.
- A Ketogenic Diet requires a high degree of 'nutrition skill', metabolic flexibility, and mindfulness.
- It has definitively established benefits regarding Metabolic Health and Neural Health.
- Ketosis is a spectrum that should be adjusted to fit the metabolic profile of each individual.



# Where to begin with Fasting?

- There are many suggested 'fasting protocols' that manipulate the feeding and fasting windows and duration.
- I think this over-complicates it dramatically and fasting is something that needs to be intuitively coached.
- The point of fasting is to give us more freedom from food, not drive neurotic and orthorexic behavior.
- Basic nutritional foundations and mindfulness should be mastered first.
- There is debate of varying benefits associated with varying fasting durations.







## Learn More by Connecting with us:

- Instagram: @the\_holistic\_savage
- Facebook Public: Metabolic Solutions LLC
- Private FB Community for Professionals: Metabolic Solutions Institute
- Website: [www.metabolicsolutionsllc.com](http://www.metabolicsolutionsllc.com)
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