



The Chilmark Longevity Series #5

Eating for Longevity

the long game
Jim Loble, MA, CPT

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The Chilmark Series on Longevity



#1: Longevity: A Start-up Guide



#2: Mobility: Priming the Body for Movement



#3: How to Train Your Balance



#4: Smart Body - Healthy Brain: Movement for brain health



#5: Eating for Longevity



#6: Cracking the Stress/Sleep Code

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My background and training...

- MA in Dance/Movement Therapy, NYU
- Certified Personal Trainer, National Academy of Sports Medicine (NASM)
- Certified Brain Health Trainer, Functional Aging Institute
- Corrective Exercise Specialist (NASM)
- Athletic Performance Training Specialist (NASM)
- High School Science Teacher (Physics and Chemistry)
- Precision Nutrition, Level 1


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Before we begin...

1. Scientific consensus about nutrition is constantly shifting and evolving.
2. Our bodies respond quite differently to different foods.
3. Food habits are deeply ingrained.
4. The most important thing is to have a healthy relationship to food.
5. Nutrition is just part of the picture. Exercise, sleep, emotional health, all interact with and affect all these systems.

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The body is a dynamic place



The avg. human body is composed of about 37 trillion cells.

About a billion biochemical reactions occur in our cells every second.

About 330 billion cells are replaced daily, equivalent to about 1 percent of all our cells. In 80 to 100 days, 30 trillion will have replenished—the equivalent of a new you.

A pro-inflammatory meal can cause C-reactive protein levels to rise significantly within 24-48 hours.

"Switching men and women from a high-protein diet of 138 g per day down to a more adequate 67 g multiplied fibroblast growth factor (FGF21) levels in the blood sixfold, but within just 4 days." (pg 568)

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My food beliefs

What I believe	Why I believe it	Actually...
We need more protein as we age.	Peter Attia, Kelly Starrett, idea that we don't process protein as well as we age	Science doesn't bear this out; multiple negative effects of too much protein
Saturated fats are "good" fats (i.e., butter).	Blowback on margarine; fats are high-energy;	Saturated fats are likely my highest source of dietary cholesterol.
White meat (chicken) is better than red meat.	Years of hearing this.	In some ways it is, but in others it's not.
Eggs are good for me (source of protein and choline).	Nutrition workshop at Kripalu in 2018.	Eggs are high in cholesterol, and choline has been linked to increased risk of aggressive prostate cancer.
It doesn't really matter what I eat as long as it's generally healthy, and I exercise.	Peter Attia and others	It does!

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Eating to prevent disease

- Heart disease (#1 cause of mortality in US)
- Lung disease
- Cancer (digestive, blood, breast, prostate)
- Brain disease (stroke, Alzheimer's)
- Infections
- Diabetes (metabolic syndrome)
- High blood pressure
- Liver diseases
- Kidney disease
- Suicidal depression
- Parkinson's



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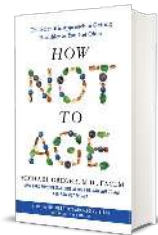
Eating to promote health

- Eating barberries to activate enzymes like AMPK (AMP-activated protein kinase) that control the burning of fat, induce autophagy (cellular recycling), promote mitochondrial biogenesis.
- Consuming turmeric as an anti-inflammatory.
- Eating apples (whole, sauce, cider) for the quercetin, a flavonol, to reduce cellular senescence.
- Eating beans for the fiber, which good gut bacteria break down, and in the process release butyrate into the bloodstream, a broad anti-inflammatory.



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The World, according to Dr. Michael Greger



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Why are plants so good for us?



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"The majority of known health benefits of edible plants may be attributable to the pharmacologically active substances of plants' sophisticated stress responses, off which we can then piggyback." (pg 510)

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Plants and mammals co-evolved

Ordovician period (485-443 mya)	Miocene (23-5 mya)	Quaternary (2 mya)
470 million years ago First land plants	450 million years ago First animals on land	20 million years ago Proconsul, most primitive ape, lived in Africa, moved on all fours, fruit-eater
		2.6 million years ago Early hominins begin incorporating meat and marrow into their diet

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We are not singular organisms

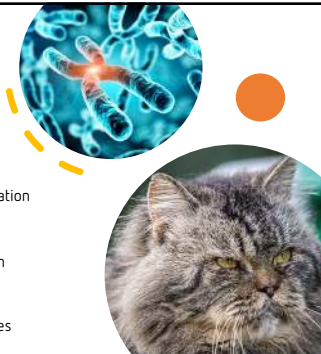
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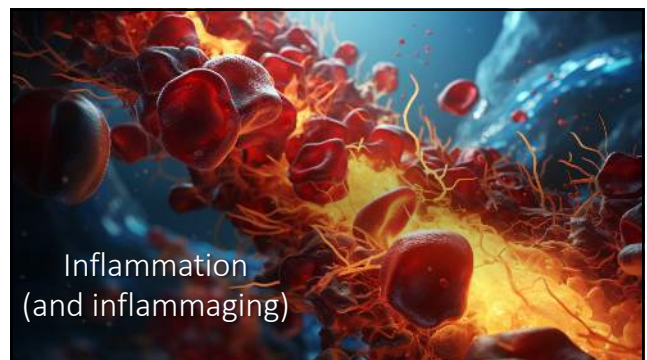
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- AMPK
- Autophagy
- Cellular Senescence
- Epigenetics
- Glycation
- IGF-1
- Inflammation
- mTOR
- Oxidation
- Sirtuins
- Telomeres



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Inflammation and inflammaging

What is it?

- Acute vs. Chronic
- Chronic inflammation, also called metabolic inflammation, is systemic, persistent, and nonspecific, and appears to perpetuate disease
- The aging and inflammation paradox

How is it measured?

- Blood test: C-reactive protein (CRP)
- Ideal levels: < 1 mg/L


Pro-inflammatory foods

- Generally, components of animal products and processed foods
- Saturated and trans fat (top 5 sources of saturated fats in US: cheese, desserts, chicken dishes, pork, burgers); also, sodium (salt)
- Endotoxins: sloughed off of bacteria, pass through and damage the intestinal lining


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Anti-inflammatory foods

- Beverage: tea (green or black)
- Best food components:
 - Fiber (most highly concentrated in whole grains and legumes – chickpeas, beans, lentils, split peas)
 - Flavones (plant compounds concentrated in fruits, herbs and vegetables)
 - Apples, oranges, parsley, celery & bell peppers
 - Chamomile tea
 - Anthocyanins found in berries (blueberries, strawberries) and pomegranates
- Flax seeds
- Cruciferous veggies (kale, collard greens, broccoli, including sprouts)



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Anti-inflammatory spices

- Turmeric – highest anti-inflammatory food in the DII
- Ginger (powder)
 - Used to treat rheumatoid and osteoarthritis
- Garlic (powder)
- Cloves, rosemary, dill, cinnamon (Ceylon), cocoa
- Spices containing significant amts of salicylic acid (aspirin):
 - Cumin (#1), dried basil, chili powder, coriander, dried oregano, paprika, turmeric

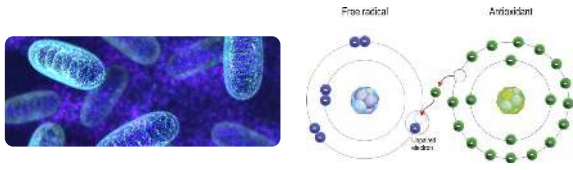
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Oxidation (and oxidative stress)



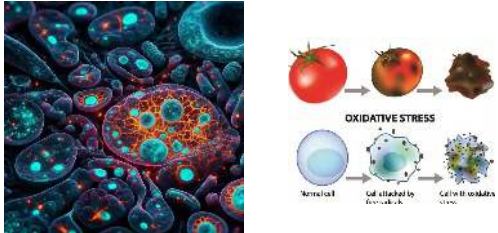
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The production of free radicals



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Cellular oxidation



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1–2 years 200+ years

Age discrepancies in organisms

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Boosting mitochondrial efficiency


By decreasing our intake of the amino acid methionine

Animal proteins are the densest source of methionine

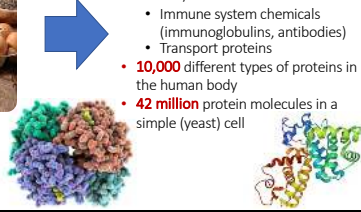


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Proteins



Sources



- Break down into 20 **amino acids**
- Used in the synthesis of:
 - Muscle proteins
 - Skeletal and connective tissue (bones, fascia)
 - Neurotransmitters
 - Enzymes
 - Immune system chemicals (immunoglobulins, antibodies)
 - Transport proteins
- **10,000** different types of proteins in the human body
- **42 million** protein molecules in a simple (yeast) cell


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Health benefits

- Live longer
- Less heart disease
- Promotes healthy blood sugar levels
- Improves cognitive function
- Improved body mass index
- Lower cholesterol
- Lower blood pressure
- May help prevent diseases like Alzheimer's and certain forms of cancer



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The Mediterranean Diet:

- Whole, minimally-processed ingredients
- Complex carbs
- Ample protein
- Lots of veggies & herbs
- Healthy fats
- Lots of fiber
- Lots of EVOO
- Not a lot of sugar
- Not a lot of meat







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Dr. Greger's Daily Dozen

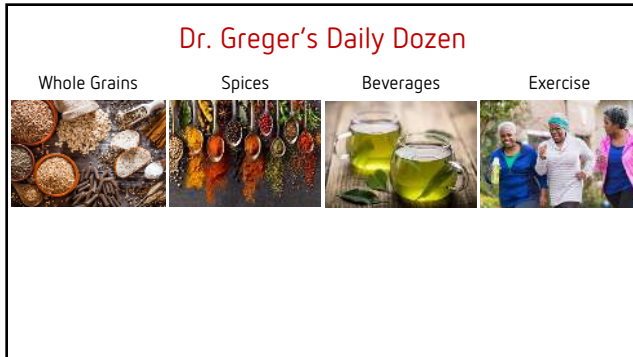
Beans	Berries	Other Fruits	Cruciferous Veggies
			
<ul style="list-style-type: none"> • Great source of fiber and protein, iron, zinc • Feeds microbiome • Includes soy beans, miso, tofu, etc. • Legumes consistently associated with longer lifespan 	<ul style="list-style-type: none"> • Terrific anti-oxidants (esp. blackberries) • Protect against cancer • Boost immune system • Support liver and brain health • Includes Goji and barberries 	<ul style="list-style-type: none"> • Great source of fiber and protein, iron, zinc • Feeds microbiome • Includes soy beans, miso, tofu, etc. • Legumes consistently associated with longer lifespan 	<ul style="list-style-type: none"> • Great source of fiber and protein, iron, zinc • Feeds microbiome • Includes soy beans, miso, tofu, etc. • Legumes consistently associated with longer lifespan

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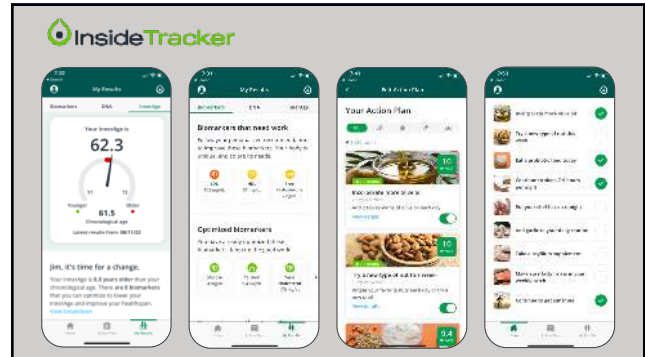
Dr. Greger's Daily Dozen

Greens	Other Veggies	Flaxseeds	Nuts
			

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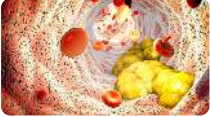


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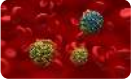
Lowering my LDL cholesterol (currently, 123mg/dL)



- What are optimal (vs "normal") LDL levels?
 - < 130 mg/dL is considered normal
 - At this level, most people show atherosclerotic plaque buildup in their arteries
 - No plaque found in individuals with LDL levels around 50 – 60 mg/dL
 - This is the level most adults had before the advent of our contemporary diet
 - Optimal range would be 30 – 70 mg/dL
 - Our bodies are designed for levels less than half of what is considered "normal"

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Fats

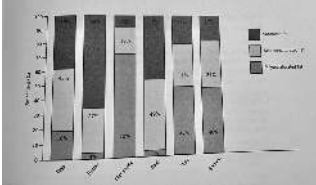
- Break down into **fatty acids**
- **Saturated fats** tend to be solid at room temp
- **Unsaturated fats** tend to be liquid at room temp
- Emulsified in the small intestine
- Enters blood stream several hours after consumption
- Carried through blood stream in **lipoproteins** (HDL & LDL)

Sources

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What does dietary fat do for us?

- Provides us with energy (**most energy-dense macronutrient**)
- Helps make and balance **hormones** (particularly steroid hormones)
- Forms our cell membranes
- Forms our brains and nervous system
- Helps transport fat-soluble vitamins A, D, E, & K
- Gives us 2 fatty acids our bodies can't make
 - Linoleic acid (omega-6)
 - Linolenic acid (omega-3)



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Lowering my LDL cholesterol



- To drastically lower LDL cholesterol, I need to drastically reduce consumption of the three components that raise it:
 - Trans fats
 - Saturated fats
 - Dietary cholesterol

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Atomic Habits
by James Clear

The Habit Loop diagram consists of a central circle divided into four quadrants labeled 1, 2, 3, and 4. Arrows indicate a clockwise cycle: 1 (CUE) to 2 (CRAVING), 2 to 3 (RESPONSE), 3 to 4 (REWARD), and 4 back to 1.

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The Habit Loop

The Habit Loop diagram is identical to slide 43. To its right is a photograph of a latte in a glass cup. Below the photo is the text "a neurological feedback loop".

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Creating new (dietary) habits

	How to create a good habit
1 st law (Cue)	Make it obvious
2 nd law (Craving)	Make it attractive
3 rd law (Response/Behavior)	Make it easy
4 th law (Reward)	Make it satisfying

Inversions / Opposite:	How to break a bad habit
1 st law (Cue)	Make it invisible
2 nd law (Craving)	Make it unattractive
3 rd law (Response/Behavior)	Make it difficult
4 th law (Reward)	Make it unsatisfying

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1st Law: Make it Obvious

The slide features a central black circle with the text "1st Law: Make it Obvious". To the right are two photographs: one of a living room with a blue sofa and a guitar, and another of a kitchen shelf filled with jars of spices.

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Delivery systems for a healthy diet: Oatmeal

The slide shows a bowl of oatmeal with various toppings. Callout boxes list the ingredients and instructions:

- Grd flax seeds
- Wheat germ
- Sunflower seeds
- Pumpkin seeds
- Walnuts
- 1 cup apple cider/water mix
- Cook on low, covered, for about 30 mins
- 1 tbslp peanut butter
- 1/4 cup steel cut oats
- 1/4 tsp Cinnamon (Ceylon), Cardamon
- Cranberries
- Goji berries
- Barberries
- Dried apricot
- Serve with 1/4 cup applesauce and yogurt

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Delivery system for beans: Bean salad

- 4 types of beans
 - Navy beans
 - Adzuki
 - Edamame
 - Kidney
 - Red onion
 - Celery
 - Orange bell pepper
 - Parsley
- Dressing:
 - Cider vinegar
 - Olive oil
 - Honey
 - Salt and pepper

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Lunch

- Blue corn chips and guac
- Mix of bean salad, chopped salad, and sprouts
- Leftover coconut curry dahl w/ cilantro
- Ciabatta toast w/ EVOO
- 1/2 episode of Slow Horses

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Sprouting

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Green smoothie

- Banana
- Plant-based protein powder
- Greens
- Blueberries
- Cocoa powder
- Ground flax seed
- Oatmilk & water

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Supplements I'm taking:

- Athletic Greens
- Resveratrol (from grapes) activates sirtuins - cellular repair
- Quercetin (flavonoid; green tea, apples, berries, onions) - cancer prevention, boosts immune system
- Black seed oil - general immunity and brain health
- Pumpkin seed oil - prostate
- Quinol (turmeric/curcumin; liquid) - anti-inflammatory

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And don't forget...

The 5 elements of longevity

- Nutrition
- Sleep
- Movement
- Cognition
- Purpose & Connection


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Webinar with Dr. Michael Greger, MD

Webinar Series
How Not to Age Book Club
hosted by Michael Greger, M.D. FACLM

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Next month's lecture:




The Chilmark Longevity Series #6
Stress, Sleep, and Recovery

Wednesday, Feb 7

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Dynamic Flow - Full body mobility and balance practice - online

- Intro Level, Tues & Thurs mornings
- Ongoing, Wed & Fri mornings
- 8 - 8:30 am
- Register online at: thelonggame.coach/schedule



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Contact me to be on mailing list

Text me your name and email address:
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Or log on to the website
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