



The Forbes Longevity Series #5

## Eating for Longevity


Transitioning to a *more* plant-based diet


the long game  
Jim Lobley, MA, CPT

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### The Forbes 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


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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)
- Sleep, Stress, and Recovery Coach (in process)
- Precision Nutrition, Level 1
- High School Science Teacher (Physics and Chemistry)

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### What I do...



- Teach movement classes
- 1:1 training
- Lectures
- Founder/Director of The Long Game, a learning and training center for longevity



thelonggame.coach

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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.

We can change our biology by changing what we eat, with beneficial effects showing up in days and weeks, not months and years.



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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 basic elements of food

- Macronutrients
  - Carbohydrates
  - Protein
  - Fat
- Micronutrients
- Phytonutrients and Myconutrients
- Zoonutrients

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### Carbohydrates



- Break down into **sugars** (mono-, oligo- and polysaccharides)
- **Glucose** is the simplest form
- **Major source of energy** for cellular metabolism
- On average, we move about **20g** of glucose through our blood **every hour**
- Pancreas secretes **insulin**, which triggers the uptake of glucose by cells
- Excess glucose stored in muscle cells and liver, and as triglycerides in fat cells

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### Simple vs. complex carbs

- Sugar, honey, maple syrup
- Absorbed directly into bloodstream without having to be broken down
- Tend to spike blood glucose levels

- Starches and fiber
- Potatoes, yams, whole grains, etc.
- Have to be broken down into simple sugars to be used as energy or stored as fat
- Keep blood glucose levels more even



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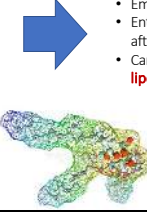

### Metabolic health

How efficiently our cells convert food (esp. glucose) into cellular energy.




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### Fats

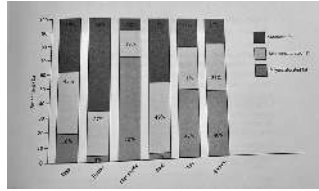




- Saturated, unsaturated, trans fats
- Break down into **fatty acids**
- Emulsified in the small intestine
- Enters blood stream several hours after consumption
- Carried through blood stream in **lipoproteins** (HDL & LDL)

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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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### Saturated fats

CCCCCCCC

Saturated Fat




- Solid at room temp
- Harder for the body to break down
- Raises LDL levels by:
  - **Reducing LDL receptor activity:** LDL receptors remove cholesterol from the blood and into the liver for breakdown. When saturated fat is consumed, the receptors stop working well, causing cholesterol to build up in the blood.
  - **Increasing LDL production:** Saturated fat blocks liver receptors that recognize cholesterol, causing the liver to synthesize too much cholesterol.

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### Unsaturated fats

CCCC=CCCC

Polyunsaturated Fat



- Liquid at room temp
- Easier for the body to break down
- Considered beneficial fats because they can
  - Lower LDL levels while raising HDL blood cholesterol levels
  - ease inflammation
  - stabilize heart rhythms
  - help prevent insulin resistance

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### Why are plant-based fats better for us than animal fats?

Plant fats have a nutritional advantage over animal fats because they contain a **higher portion of unsaturated fatty acids**. Plant-based fats and oils can have many health benefits, including:




- Improved heart health
- Improved brain function
- Reduced inflammation
- Improved digestion
- Weight management
- Improved nutrient absorption
- Improved control of blood sugar levels

Plant foods also provide other nutrients along with their fat content, such as:

- Antioxidants like vitamin E in olive oil
- Carotenoids in avocados
- Fiber in nuts and seeds

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## Proteins

- 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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## How much protein do we need?




Source	Recommendation
US RDA	0.8 g/kg of body weight (185 lbs - 65g)
Peter Attia	1.6 g/kg/day - minimum (133g) Or 1g+/lb/day - (185g)
Kelly & Juliet Starrett	<ul style="list-style-type: none"> <li>• Mostly sedentary - 7g/lb body weight</li> <li>• Moderate exerciser - 8-9g/lb body weight</li> <li>• Over 65, athlete, losing muscle mass - 1g/lb body weight</li> </ul>
Precision Nutrition	~180g
Dr. Michael Greger	0.6 - 0.8g/kg (ideal body weight x 4, divided by 10)

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## Micronutrients

cooking matters






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## Phytonutrients & Myconutrients


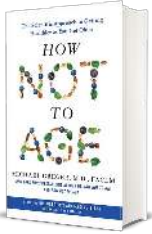




- Antioxidants
- Influence hormonal function
- Help with DNA repair
- Fight bacteria, viruses, other bacteria
- Lower inflammation
- Lower blood clotting and coagulation
- Inhibit fat synthesis and storage
- Over 10,000 known

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## The many benefits of a plant-based diet, 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

Ordoician 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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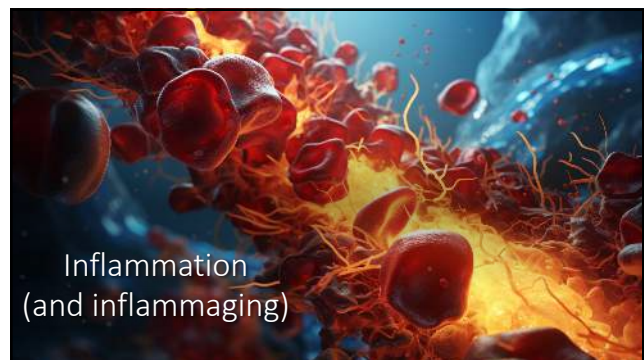


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### 11 Pathways of Aging

- 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 DI!
- 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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## Mediterranean Diet

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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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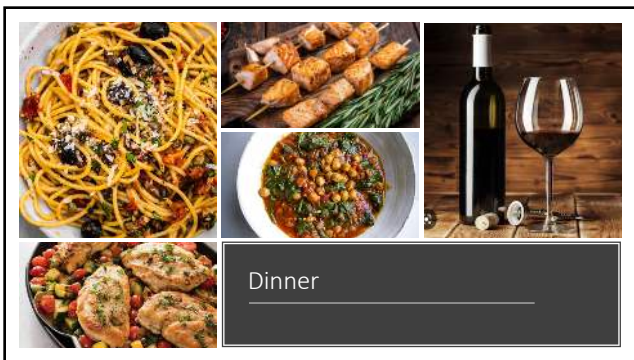
Breakfast

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Lunch

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Dinner

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### Dr. Greger's Daily Dozen

Beans	Berries	Other Fruits	Cruciferous Veggies
<ul style="list-style-type: none"> <li>• 5 servings/day                             <ul style="list-style-type: none"> <li>• ¼ cup hummus, bean dip</li> <li>• ½ cup cooked beans, lentils, tofu, etc.</li> <li>• 1 cup fresh peas, sprouted lentils</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 1 serving/day                             <ul style="list-style-type: none"> <li>• ½ cup fresh or frozen</li> <li>• ¼ cup dried</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 5 servings/day                             <ul style="list-style-type: none"> <li>• 1 medium-sized fruit</li> <li>• 1 cup cut-up fruit</li> <li>• ¼ cup dried fruit</li> </ul> </li> </ul>	

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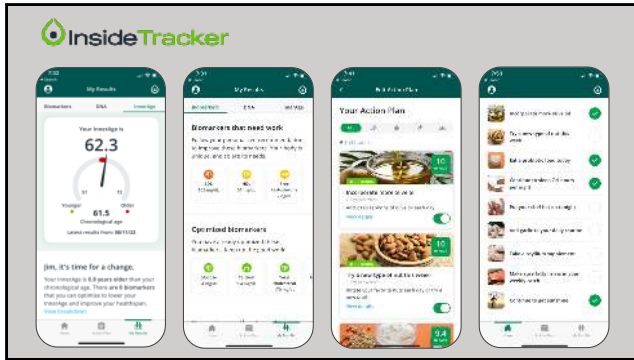
### Dr. Greger's Daily Dozen

Greens	Other Veggies	Flaxseeds	Nuts
Whole Grains	Spices	Beverages	Exercise

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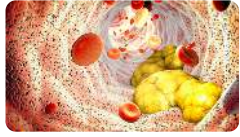
## Targeted nutrition

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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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### 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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### Common sources of saturated fats




- butter, ghee, suet, lard, coconut oil and palm oil
- cakes
- biscuits
- fatty cuts of meat
- sausages
- bacon
- cured meats like salami, chorizo and pancetta
- cheese
- pastries, such as pies, quiches, sausage rolls and croissants
- cream, crème fraiche and sour cream
- ice cream
- coconut milk and coconut cream
- milkshakes
- chocolate and chocolate spreads

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### Common sources of dietary cholesterol



- Dietary cholesterol is a steroid only found in animal-based foods. It's a form of lipid, similar to fats, but unlike fats, cholesterol can't be burned, sweated, or consumed for energy.
  - Eggs (#1 source)
  - Chicken (#2 source)
  - Beef
  - Dairy
  - Pork

Fruits, veggies, grains, and all other plant foods have no cholesterol.

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### What about olive oil?



Yes, olive oil can lower LDL cholesterol. A 2019 analysis found that olive oil can lower LDL, triglycerides, and total cholesterol, while increasing HDL. Olive oil has the highest percentage of monounsaturated fat among edible plant oils, which can lower LDL and increase HDL.

According to olivecenter.ucdavis.edu, using at least 1.5 tablespoons of olive oil every day for at least six weeks can lower LDL by 10% or more.

**Other benefits of olive oil include:**

- Lowers blood pressure
- Contains compounds with anti-inflammatory and antioxidant properties
- Helps maintain healthy blood flow
- Clears debris from arteries

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### Protecting my knees

- Getting ample fiber – feeds good gut bacteria which then produce/release butyrate into bloodstream, a broad anti-inflammatory
- Sesame seeds
- Applying olive and flax seed oil topically
- Work on lowering cholesterol ("Exposing human cartilage to cholesterol has been shown to worsen the inflammatory degeneration." pg. 349)
- Broccoli (shown to protect cartilage, lower C-reactive protein levels)
- Ginger powder
- Turmeric

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### Building nutritional habits

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### Atomic Habits by James Clear

The Habit Loop

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The Habit Loop

"a neurological feedback loop"

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### Creating new (dietary) habits

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

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

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1<sup>st</sup> Law: Make it Obvious

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### Delivery systems for a healthy diet: Oatmeal

1/4 cup apple cider/water mix

Cook on low, covered, for about 30 mins

1/4 cup steel cut oats

1/4 tsp Cinnamon (Ceylon), Cardamom

1 tbsip peanut butter

1/2 cup appleauce and yogurt

Cranberries  
Goji berries  
Barberries  
Dried apricot

1/2 cup flax seeds  
Wheat germ  
Sunflower seeds  
Pumpkin seeds  
Walnuts

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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...

Nutrition

Sleep

Cognition

Movement

Purpose & Connection

The 5 elements of longevity

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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](https://thelonggame.coach/schedule)

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Text me your name and email address:

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Or log on to the website

[www.thelonggame.coach](http://www.thelonggame.coach)

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