

Your 5-pillar guide to aging well

Stay active, energized and relevant by
understanding the aging process



*Learn the
Secrets of the
Blue Zone*

Redefining how Americans age

Aging doesn't have to be a gradual decline toward the end. In fact, studies of 'Blue Zones' – places where residents live longer than anywhere else in the world – have shown that people can live full, rich and healthy lives well into their 90s and beyond.

This GUIDE will explain:

1. How to find out how well you're aging; and
2. Which areas or lifestyle choices to focus on that will have the biggest impact on your health.

Understanding the five pillars of aging well will help you prevent disease, increase your energy levels and boost your metabolism, *so you can enjoy a full life right into your golden years.*



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Forward by Dr. Alan Hopkins, MD

How can we be better at aging?

Up until now, we've seen aging as a slow, gradual decline over time. But we can stay active, energized and relevant by increasing our understanding of the aging process and making different lifestyle choices, now.

Through my work providing preventative medicine and health optimization screenings for executives around the country, I've uncovered five areas (or pillars) of the body's function that are critical to aging well:

1. INFLAMMATION
2. METABOLISM
3. NUTRITION
4. HORMONES/STRESS
5. HEALTHY BLOOD VESSELS

Based on these five pillars, my wife, Amy Beth Hopkins MPT, and I are working to redefine aging. We want you to be able to leverage the latest in scientific research, lab testing and proactive lifestyle choices, so you can live a vibrant and meaningful life as you age.

So, let's get started...



The 1st Pillar: INFLAMMATION



Chronic inflammation is the cause of a host of conditions that often happen later in life, including cardiovascular disease (heart attack and stroke), cancer, autoimmune diseases and Alzheimer's disease, to mention a few. So, it follows that lowering your inflammatory markers will lower your risk factors for these conditions. Decreasing inflammation also leads to healthier blood vessels, a healthier gut, a healthier thyroid and healthier skin – which all help to slow down the aging process.

Wouldn't it be great to know if inflammation was prematurely aging your body?

Screening your baseline inflammation is extremely useful. We've found that many of the metabolic causes of inflammation are reversible, particularly if they're addressed at an early stage.

It's important to note that some inflammation can be caused by the foods you eat and this means it can be reversed with the right strategy. It's recommended that you check your inflammatory markers annually, or more frequently if you have significant joint, muscle or bone pain.

Inflammation Biomarkers to Watch

1. **CRP** is an inflammatory marker that when elevated is associated with heart disease, stroke and cancer. Along with bad cholesterol, this type of inflammation will age your blood vessels and organs.
2. **Homocysteine** is an inflammatory marker that's been associated with poor brain health and dementia. It's elevated in individuals with poor methylation (often those with autoimmune conditions) and can be reduced with diet and supplements.
3. **Thyroid Peroxidase Antibodies** are inflammatory markers found in the thyroid gland when it's under attack from your immune system. It takes around five years from when these antibodies appear to when traditional testing will show a problem, so discovering them now gives you time to make some changes and avoid more serious thyroid conditions.
4. **Creatine Kinase and Uric Acid** are inflammatory markers that can be induced by over-exercising and a poor diet.

Lifestyle Choices to Reduce Inflammation

Eat a low-sugar, plant-based diet
Reduce processed foods
Use anti-inflammatory spices like turmeric (curcumin)
Lower your exposure to toxic chemicals
Increase Omega-3s such as fish, algae oil, flax seeds and walnuts





The 2nd Pillar: METABOLISM

Having an efficient metabolism can prevent stress on your body and slow the aging process. One key indicator of stress on your body is the hormone insulin. Insulin is our body's way of moving blood sugar from the bloodstream into storage in our cells. Insulin plays a key role in converting sugar to fat. In other words, it's a 'fat fertilizer'. As you can imagine, when your body's full of insulin from a diet routinely high in sugar, the cells go on strike. This condition is also known as insulin resistance.

Having a humming metabolism means having lower amounts of insulin coursing through your veins and a body that's set to burn energy rather than store energy.

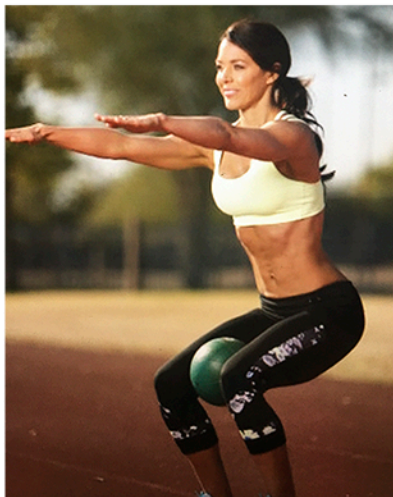
And, we can't talk about a healthy metabolism without addressing the thyroid gland. Unfortunately, about 30% of all thyroid issues go undiagnosed because of inadequate testing. Take a look at the following biomarkers for what to check.

Metabolism Biomarkers to Watch

1. **Fasting insulin** is one of the best biomarkers to track to ensure a healthy lifestyle. Normal insulin levels fall between 3 and 5. We recommend keeping yours below 3 to achieve optimal health.
2. **An A1C test** is helpful to determine your average blood glucose levels over a three-month period. As we mentioned above, elevated levels of blood sugar lead to accelerated aging. In a process known as glycation, excess blood sugar can attach to collagen and result in more wrinkles on your skin.
3. **TSH, T3, T4 and Reverse T3** will give an overview at just how well your thyroid gland is functioning. T3 is the main action player and is responsible for running the metabolism in your cells.

Lifestyle Choices to Reduce Metabolism

- ➔ Less than 25 grams of processed sugar per day
- ➔ Eat a high-fiber, plant-based diet
- ➔ Drink plenty of water (8 glasses a day)
- ➔ Get regular exercise
- ➔ Avoid yo-yo dieting and calorie-restricted diets





The 3rd Pillar: NUTRITION

Nutritional Biomarkers to Watch

Vitamin D: We need vitamin D for strong bones, muscles and overall health. However, Vitamin D deficiency is a global health problem. *Over a billion people worldwide are vitamin D deficient or insufficient*, which can lead to bone and muscle pain, and softening of the bones.

Vitamin B12: Vitamin B12 helps us produce healthy red blood cells in our bone marrow. *Vitamin B12 is only available in animal foods (meat and dairy products) or yeast extracts (such as brewer's yeast)*. Vitamin B12 deficiency is defined by low levels of stored B12 in the body that can result in anemia, a lower-than-normal number of red blood cells and elevated homocysteine (an inflammatory marker).

Magnesium: Magnesium: More than half of all Americans are magnesium deficient. *Modern life depletes magnesium through too much coffee, alcohol, antibiotic use, drugs and over-exercise*. Magnesium deficiencies are linked to increased inflammatory markers such as CRP, poor sleep, muscle spasms, eye twitches and insomnia.

Iron: According to the World Health Organization, an estimated 30% of the world's population has an iron status that is considered below normal. *20–80 ng/ml is considered normal, with optimal ranges being from 40–60 ng/ml*. Low iron levels can result in fatigue, pale complexion and increased anxiety. You can test your levels with a serum ferritin test.

Omega 6:3 ratio: About 90% of Americans have low concentrations of the Omega-3 fats EPA and DHA. *Omega-3s are anti-inflammatory in nature and can help raise HDL cholesterol (the good cholesterol that helps decrease the bad cholesterol in our blood vessels)*. The problem is that most Americans eat too many inflammatory Omega-6 fats (think processed vegetable oils) and too few anti-inflammatory Omega-3s, which sets the stage for a number of health problems, including cardiovascular disease, cancer, depression, Alzheimer's disease, rheumatoid arthritis and diabetes, just to name a few.

Micronutrients: Zinc and selenium help to support your immune system and testosterone production, and maintain a healthy thyroid function.

We are overfed and undernourished. That's hard to believe in this day and age, but studies are showing it's never been more true.

Processed foods, depleted soil, lack of sun and exposure to toxins are just a few of the reasons our bodies are lacking key nutrients.

Even if you have an extremely 'clean' or healthy diet, you should test for the following nutrients to ensure optimal body function as you age.

Sources of Vitamin D:

Sunshine (5-30 minutes between 10am and 3pm, at least twice a week), egg yolks, sardines, mushrooms.

Sources of Vitamin B12:

Yogurt, Swiss cheese, nutritional yeast, beef, tuna, trout.

If you are supplementing, taking a methylated form of B12 is generally more effective (also known as methylcobalamin).

Sources of Magnesium:

Epsom salt baths, spinach, almonds, black beans, edamame, dark chocolate.

Sources of Iron:

Dark green leafy vegetables, beans, lentils, cashews, red meat, pumpkin seeds.

Sources of Omega-3s:

Walnuts, flax seeds, chia seeds, salmon, halibut, algae oil.

Sources of Zinc:

Lean meats, eggs, hemp seeds, pumpkins seeds, sesame seeds.



The 4th Pillar: HORMONES

It's no secret that stress impacts our health, but did you know that it can affect a range of hormones that control everything from your energy levels to your sex drive? Cortisol is our body's response to stress and puts us into a 'fight or flight' mode.

It's thought that our modern lifestyle of prolonged stress has altered normal healthy cortisol levels.

Cortisol levels tend to be highest earlier in the day, and your morning cortisol level is one of the key biomarkers associated with longevity. Higher-than-normal levels usually indicate acute stress, while below-normal levels are linked to fatigue, depression and anxiety.

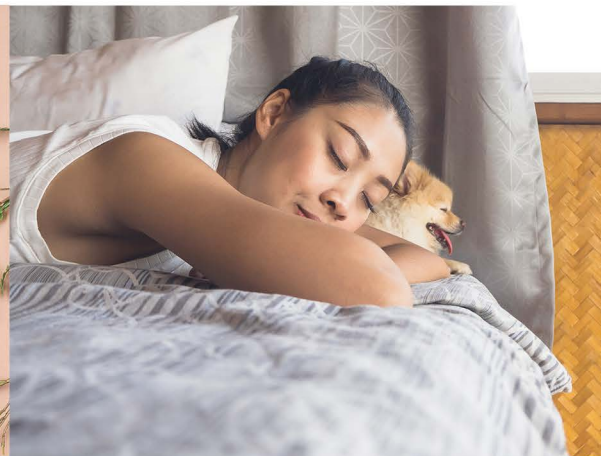
Stress can also upset your sex hormones. When your sex hormones are out of balance, it can lead to issues like Polycystic Ovarian Syndrome (PCOS), estrogen dominance, moodiness, weight gain, insomnia and fatigue. Also, low testosterone in women can lead to difficulty with strength and lack of libido.

Hormones Biomarkers to Watch

1. Cortisol
2. TSH, T3, T4
3. Testosterone
4. Estradiol
5. FSH
6. Progesterone
7. Sex Hormone Binding Globulin

Lifestyle choices to decrease stress and improve hormone balance

- ➔ Try an Adrenal Reset Diet (Protein AM, Carb cycling PM)
- ➔ Use adaptogenic herbs such as ashwagandha (Indian ginseng), rhodiola, holy basil, and tulsi
- ➔ Take adrenal supplements
- ➔ Control stress with gentle movement
- ➔ Reduce exercise intensity
- ➔ Meditate
- ➔ Reduce sugar in your diet
- ➔ Determine your nutrient deficiencies
- ➔ Guard your sleep – get 8 hours a night





The 5th Pillar: HEALTHY BLOOD VESSELS

Blood vessel health is literally the lifeblood to aging well. Keeping your blood vessels free and clear to carry all the vital nutrients and oxygen to your organs will help keep you feeling (and looking) young and healthy.

Recent advances in science have shown there is so much more to know about blood vessel health than a basic cholesterol screening can offer.

To know exactly where you stand, you'll want to know your LDL (low-density lipoprotein) sub-particle testing results. This is because LDL can be either light and fluffy or small and dense. You want your particles to be light and fluffy, as these are less dangerous to your blood vessel walls.

There is also a genetic marker called Lipoprotein(a) that we feel every person should be tested for at least once in their life – regardless of their diet or lifestyle habits.

Lp(a) is responsible for 8% of all cardiac deaths with no other risk factors present

Blood Vessel Biomarkers to Watch


1. LDL particle number, peak size, pattern
2. Lipoprotein(a)
3. Triglycerides
4. Cholesterol/HDL Ratio
5. Inflammatory markers: CRP and Homocysteine

Lifestyle choices to improve blood vessel health

- Exercise to help raise your HDL (good cholesterol)
- Eat foods high in Omega-3s
- Reduce alcohol, refined carbohydrates and excess sugar
- Talk to your physician about CoQ10, red yeast rice, and fish oil, niacin and garlic. All of these work to improve your HDL to LDL ratio.

Looking at your levels of CRP and homocysteine (explained in Pillar 1) can give insight into the stress on your vascular or blood vessel wall.





Now you have the five pillars of aging well,
are you ready to take the next step?



Find out about Optimal You Advanced Biomarker Testing
so you can live your best life well into your golden years.

Your**lab**work

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