

These tests can reliably identify early signs of cardiovascular disease before the disease leads up to a heart attack or stroke. Knowing your cardiovascular health status, knowing your insulin use and glucose metabolism and knowing your genetics will give you the tools to treat any signs of cardiovascular disease RIGHT NOW. Early recognition, and reversal of disease, reversal of insulin resistance and pre-diabetes, prevention of heart attacks, prevention of strokes, prevention of diabetes and ALL of the dangerous, expensive, life limiting effects of these diseases is in your hands now. You must take responsibility for your own health. It takes a decade or even longer for medical societies to update guidelines for patient care, an average health care provider is lagging far behind what is on the cutting-edge of evidence-based medicine. The biggest loser in the current system is you; when the early detection you will benefit from in immeasurable ways is overlooked and a personalized risk profile is not created. Take charge of your health, advocate for yourself and do not become a statistic.

Tests to measure your cardiovascular health right now!

BLOOD

1) F2 Isoprostanes:

A biomarker of oxidative stress, this test measures a marker of free radical damage to lipids. OS is an imbalance between formation of free radicals and protective antioxidant defenses.

Normal is less than 0.86ng/L, OPTIMAL result is less than 0.25ng/L

- Extreme fitness may cause increased oxidation due the high physical demands.

2) Fibrinogen:

The sticky, fibrous protein produced by the liver to clot blood. It is elevated in patients with IR and significantly increases stroke and heart attack risks.

Normal is less than 500mg/dL

3) High Sensitivity C-Reactive Protein (hsCRP):

hsCRP is produced by the liver and rises in the bloodstream when there is inflammation throughout the body.

Normal is less than 1.0mg/L, OPTIMAL is 0.5mg/L

- Infections, injury, fever or other inflammatory disorder increases hsCRP, this test alone is not conclusive of arterial inflammation.

4) Lipoprotein-Associated Phospholipase A-2 (Lp-PLA2):

This measures a specific enzyme mainly attached to LDL cholesterol. Levels rise when arterial walls become inflamed, and plaque is more likely to rupture, leading to heart attack and stroke. This enzyme is also a direct player in the atherosclerotic disease process.

Normal is less than 200ng/mL, goal less than 180ng/ml

5) Lipoprotein(a) or Lp(a). This test looks for the “**mass murderer**” that raises heart attack and stroke risk by *three times* when elevated. Remember this lipoprotein level is mostly **genetically driven**, so if you’ve checked it and it’s normal, there is not much indication to check it again, your genes do not change. If it is high, widely available and often OTC remedies are available to bring it down to a safe range, talk to your physician about niacin (Vitamin B3). Keep an eye on it and have it checked annually or more often if elevated.

Normal is less than 30mg/dL or 75 nmol/L and for those with elevated Lp(a), you want your LDL to be at or below 70mg/dL rather than the 130mg/dL goal for others.

6) Myeloperoxidase (MPO):

MPO is an enzyme that the immune system uses to fight infections. If it is systemically elevated it produces numerous oxidants that make all cholesterol compounds more inflammatory. MPO interacts with H₂O₂ in the body to make hypochlorous acid (bleach) in the arteries. Reduces the body’s production of Nitric Oxide.

Less than 420 pmol/L is ideal, normal range no greater than 470pmol/L

7) 2 hour oral glucose tolerance test (OGTT)*

Normal is: One-hour blood sugar: Less than 125mg/dL

Two-hour blood sugar: less than 120mg/dL

AT LEAST have an **A1C** Drawn for a 3-month average blood glucose snapshot.

Normal is: below 6%.

*This test is extremely accurate for measuring glucose metabolism, and is modestly time consuming. IDEAL for persons suspected of being insulin resistant or presenting with symptoms and signs of metabolic syndrome. Everyone should at least have an A1C taken annually if not drawing OGTT. The inability to metabolize glucose is extremely hazardous to your cardiovascular health!

URINE

Microalbumin/Creatinine Urine Ratio (MACR):

Detects albumin, a blood protein, in the urine. Tests for a biomarker of endothelial dysfunction as an indication of vascular disease. An abnormal MACR is a warning sign of CV danger, even if hsCRP and fibrinogen is normal.

Normal is less than 7.5 for women, 4.0 for men.

IMAGING

Carotid artery intimal thickness ultrasound

(cIMT neck ultrasound) of carotid arteries

Calcium deposits, resulting in a thickness in the carotid arteries indicate an increased likelihood for a heart attack or stroke. A cIMT illuminates how well blood is flowing to vital organs. An unobstructed blood flow is imperative to long-term heart health. Learn your arterial age!

Computed Tomography of coronary arteries

Obtain a coronary artery calcium score; this is “knowing your arterial age”.

A zero (0) is the best score here! Any amount of calcium found in the coronary arteries is indicative of cardiovascular disease.

GENETIC

DO THESE ONCE, YOUR GENES DO NOT CHANGE.
ONCE YOU KNOW, YOU KNOW!

These tests will help you; your family and your physician personalize a PREVENTION plan.

- ✓ **9P21 –The Heart Attack Gene:** 25% of us are homozygous (2 copies, 1 from each parent) for the heart attack gene, that means over a 100% increased risk of developing severe heart disease and having a heart attack at a young age (under 50). A 56% overall risk for heart disease and a 400% increased risk for CAD (coronary artery disease) and heart attack after age 50, and a 75% increased risk for aortic abdominal aneurysm.

50% of us carry one copy of this gene, and are at a 50% higher risk of developing heart disease and having a heart attack at a young age (under 50) and are at a calculated half of the above risk for those that are homozygous for 9P21. 25% of us do not have any copies of this gene and have the lowest additional relative risk.

- ✓ **Apolipoprotein E (Apo E)**

3 variants (E2, E3, E4) result in six possible genotypes: Apo E 2/2, Apo E 2/3, Apo E 2/4, Apo E 3/3, Apo E 3/4, Apo E 4/4

25% of us carry the Apo E 3/4 and 4/4 genotypes. These two are linked to the highest lifetime risk for CVD, and there is an association of dementia and Alzheimer's risk with the E4 carrier types.

Carriers of the Apo E 3/4 and 4/4 genotypes have been shown in several studies to be at an increased risk for dementia. Although dementia occurs in people with other genotypes, and not all Apo E 4 carriers develop dementia or Alzheimer's disease, there is shown to be a higher correlation between the two factors than in the other 4 genotypes.

✓ **K1F6**

K1F6 makes a protein that facilitates intracellular transport of many substances to the inside of our cells. 60% carry the K1F6 variant Trp719Arg (one or two copies of it) and are untreated have a 55% higher risk for heart attacks, strokes and death from CVD, BUT these same carriers show excellent response to 'statin' cholesterol medications to lower LDL and squash inflammation in the arteries. HOWEVER that also means the 40% that do not carry this variant have little to ANY cardiovascular protection from statin medications and are best served by other options, including Niacin (Vitamin B3). You need to know your genes if you are taking medication for cholesterol in order to know you are taking the right kind for *your genotype*. Don't waste your time, your money and risk your life over population averages, you are YOU! Tailor your treatment to your DNA. Carrying this variant has a bigger impact on raising CVD risk than being over 55, abnormal LDL and HDL or having hypertension. Only smoking and diabetes trump a K1F6 Trp719Arg mutation for raising disease risk even higher.

✓ **Interleukin-1 gene (IL-1A and IL-1B)**

The interleukin-1 families of cytokines are chemical carriers that get involved with immune and inflammatory responses. Carriers of the IL-A and IL-1B variants have a heightened response to inflammation, injuries and infections. These genes are among the first to be activated during the body's initial inflammatory response, they start the chain-reaction to release other inflammatory chemicals; therefore these chemicals are released at a higher-than-normal level that further escalates and even sustains the inflammation. As a result, carries of IL-1A and IL-1B have a more intense, acute response to ANY type of inflammation, and are more prone to chronic inflammation.

Carriers of these two variants have a lifetime cardiovascular disease risk of a smoker!

Carriers of these two variants are FOUR TIMES more likely to develop periodontal disease.

Look for a provider in your area that has been trained in the understanding of the importance of these and other cardiovascular tests and is committed EARLY DETECTION and disease reversal! This website will assist you in your search: <https://baldoneen.com/provider-search/>

Contact Cleveland Heart labs: <http://www.clevelandheartlab.com/> and find a provider where you live that orders their inflammatory cardiovascular biomarker blood panels.

5 heart attack warning signs, especially for **WOMEN** that cannot be ignored!

- 1.** Shortness of breath, in many cases in the days or weeks before the attack. Over half of women report panting or the inability to even carry a conversation.
- 2.** Non-chest pain, pain in the neck, jaw, upper back, shoulders or EITHER ARM.
- 3.** Unusual fatigue. Nearly 3 out of 4 women report flu-like symptoms and unusual fatigue in the weeks before their heart attacks. Fatigue so extreme they were too tired to do basic tasks, lift anything or take a walk, wash dishes etc.
- 4.** Heavy sweating. Becoming suddenly drenched with sweat for no apparent reason, complexion being pale/ashen.
- 5.** Nausea & Dizziness. Weeks and days before their attack, survivors report a sudden, unexplained fall or collapse from fainting or dizziness.

**REGARDLESS OF YOUR AGE, IF YOU ARE EXPERIENCEING THESE SYMPTOMS, OR
“TRADITIONAL” ONES, DEMAND A THOROUGH CARDIAC WORKUP.**

Recommended Reading

Peer Reviewed Research and Publishing

Bacterial Signatures in Thrombus Aspirates of Patients With Myocardial Infarction

Pessi, T., Karhunen, V., et al. *Circulation*. March 2013, Vol. 127, pp 1219-1228.

Circulation is available at <http://circ.ahajournals.org> use this link for free download:

<https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.112.001254>

**The American Journal of Cardiology and Journal of Periodontology Editors' Consensus:
Periodontitis and Atherosclerotic Cardiovascular Disease**

Friedewald, V., Kornman, K., et al. *Journal of Periodontology*, July 2009. Vol 80, No 7.
pp 1021-1032. Published simultaneously in The American Journal of Cardiology.
doi: 10.1902/jop.2009.097001.

Download here: <https://onlinelibrary.wiley.com/doi/full/10.1902/jop.2009.097001>

Books (for you and your patients!)

"Beat the Heart Attack Gene"

Authors Bradley Bale MD and Amy Doneen, ARNP

Wiley Press

"Your Mouth-Your Life" The connection of oral health to whole body health.

Author Jean-Max Jean-Pierre DDS, MDS

JMJP Consulting

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If you happen to find out that you are in the “Twenty-Five percenters” club with a high Lipoprotein (a) or Lp(a), you are not alone! But remember it is this particular small cholesterol particle that causes a lot of problems for those of us who have it from our heredity and when it is and STAYS elevated we have a whopping 70% higher risk of developing heart disease and is nearly always present in a high amount in those that suffer a heart attack or stroke at a young age (under 50!), so don’t let this mass-murderer get you, or scare you either! Here are several tried and true, peer-reviewed and published ways to put the Lp(a) back to a normal level which is less than 30mg/dL. Remember that in some patients, taking a “statin” drug can actually raise Lp(a) in patients that are high, especially women! You want to take the right medication for your genetic type, it is important to know your K1F6 genetic type, those that have K1F6 Trp719Arg mutation are at a 55% higher risk for cardiovascular disease BUT respond well to statin drugs, and the rest of us do not.

By FAR the most powerful and proven effective winner against Lp(a) is Niacin, which is Vitamin B3! It is inexpensive and widely available in very pure forms. Many persons experience a flushing sensation and appearance when they take a large dose of Niacin (at or over 500mg at once), this is totally normal if you experience it and not enduring. The reason why we flush is that Niacin causes the very smallest blood vessels in our skin (and throughout our body) dilate and more blood rushes through. Niacin improves HDL levels too (the “good” cholesterol). For hyperglycemic or diabetic patients please note that in the first 3-6 months of Niacin can elevate blood glucose, so monitor closely and be sure you have supervision ongoing with your physician, in most cases, blood glucose returns to baseline after a few months, if it increased at all.

The supplements listed below *do not constitute a comprehensive medical examination and their use cannot be construed as medications intended to diagnose, treat, cure or prevent any disease. Consult your prescriber or pharmacist if you are taking any prescription medications before adding supplements.* Use the tools above to find a provider in your area to create the perfect plan for your health!

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www.DeCoEducation.com, ARiley@DeCoEducation.com

- **Niacin 1000-2000mg a day**
- **Vitamin C 2000-4000mg a day**
- **Co-Enzyme Q-10 120mg a day**
- **DHA 1000-2000mg a day** (a great source of docosahexaenoic acid and omega-3 fat is high purity fish oil-check the label for the mg of DHA per serving).
- **L-lysine 500-1000mg** (an amino acid)
- **L-proline 500-1000mg** (an amino acid)
- **L-carnitine 1000-2000mg a day ONLY IF YOU ARE VEGAN.** Meat and dairy eaters should not take this amino acid supplement. Carnivores and dairy eaters produce gut bacteria that convert L-carnitine into trimethylamine N-oxide (TMAO), which is an oxidant, and oxidants raise cardiovascular risk.
- **Policosanal 5-20mg a day**

Recheck your Lp(a) in 90-120 days to monitor your progress. You may find yourself able to wean down multiple supplements to just a few once you have your Lp(a) down around 30 again-and you've put the mass-murdered behind bars!

Be patient, be empowered and be PROUD OF YOURSELF for taking the control back over your health!

BE WELL!

Amber