Nearly Half of This Age Group Have Cardiovascular Disease

Analysis by Dr. Joseph Mercola ✓ Fact Checked | April 11, 2022

STORY AT-A-GLANCE

> According to statistics by the American Heart Association (AHA), 48% of American adults have cardiovascular disease (CVD) — a classification that includes high blood pressure, coronary heart disease, heart failure and stroke

> The rise in CVD prevalence is primarily driven by updated blood pressure guidelines, which identify a blood pressure over 130/80 mm Hg as hypertensive; previously the cutoff was 140/90 mm Hg

> Deaths from CVD are again on the rise, after decades of being on the decline. In 2016, there were 840,678 recorded deaths from CVD in the U.S., up from 836,546 the year before

> High cholesterol is not a risk factor for cardiovascular disease. Three factors that have a far greater influence on your CVD risk are iron overload, insulin resistance and chronic inflammation

> Two tests that are important for assessing your CVD risk are the serum ferritin and gamma-glutamyl transpeptidase (GGT) tests

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According to statistics[1] by the American Heart Association (AHA), nearly half (48%) of all American adults have some form of cardiovascular disease (CVD) — a classification

that includes high blood pressure, coronary heart disease, heart failure and stroke — and deaths from CVD are again on the rise, after decades of being on the decline.

In 2016, there were 840,678 recorded deaths from CVD in the U.S., up from 836,546 the year before. In 2019 the number rose even further,[2] to 874,613. The rise in prevalence of CVD, however, is primarily driven by updated blood pressure guidelines, which as of 2017 identify a blood pressure over 130/80 mm Hg as hypertensive; previously the cutoff was 140/90 mm Hg.

According to the AHA, about 80% of CVD cases could be prevented by maintaining a healthy lifestyle, which includes lowering high blood pressure and high cholesterol, controlling Type 2 diabetes, avoiding smoking, exercising and maintaining a healthy weight.

To this, the AHA has now also added the recommendation to get a minimum of seven hours of sleep each night. Blood pressure remains a primary focus, however. As Dr. Ivor J. Benjamin, a past president of the AHA said in a press release:[3]

> *"As one of the most common and dangerous risk factors for heart disease and stroke, this overwhelming presence of high blood pressure can't be dismissed from the equation in our fight against cardiovascular disease.*
>
> *Research has shown that eliminating high blood pressure could have a larger impact on CVD deaths than the elimination of all other risk factors among women and all except smoking among men."*

Cholesterol Is Not a Culprit in CVD

While I agree with four of the AHA's suggestions, high cholesterol has repeatedly been found not to be a risk factor for cardiovascular disease. Additionally, higher cholesterol may actually be healthier than lower levels. Three factors interrelated to some degree that have a far greater influence on your cardiovascular health are:

- High iron[4]

- Insulin resistance
- Chronic inflammation

Elevated iron levels will significantly contribute to inflammation, but even if your iron is normal, chronic inflammation can be caused by a wide range of factors, starting with your diet. Your diet is also the key factor at play when it comes to your insulin level, and can worsen the effects of iron overload.

High Iron Significantly Raises Your Risk of CVD

Most people, including doctors, fail to recognize that excess iron causes significant biological harm. When iron reacts with hydrogen peroxide, which is produced as a normal part of energy production in your mitochondria, hydroxyl free radicals are formed. These are among the most damaging free radicals known, causing severe mitochondrial dysfunction, which in turn is at the heart of most chronic degenerative diseases.

Importantly, elevated ferritin has been linked to dysfunctional glucose metabolism,[5] raising the risk of diabetes fivefold in men and fourfold in women, a magnitude of correlation similar to that of obesity.[6] High ferritin also doubles your risk of metabolic syndrome,[7] a condition associated with an increased risk of high blood pressure and heart disease.

If you eat excessive processed foods and net carbs (total carbs minus fiber) the situation is further exacerbated, as burning carbs as your primary fuel can add another 30 to 40% more reactive oxygen species on top of the hydroxyl free radicals generated by the presence of high iron.

A meta-analysis[8] published in 2013 found that 27 of 55 published studies demonstrated a positive relationship between iron and CVD, with higher iron levels being linked to higher risk of disease. Twenty of the studies found no significant relationship, and only eight reported a negative relationship, with higher iron levels being associated with lower risk of disease.

For example, a Scandinavian study found elevated ferritin levels raised men's risk of heart attack two- to threefold. In another, people with high ferritin were five times more likely to suffer a heart attack than those with normal levels.

A third found elevated ferritin doubled the risk of heart attack. Importantly, in this study they found that each 1% increase in ferritin raised the risk of heart attack by 4%, and the only risk factor that weighed heavier than ferritin was smoking.

Canadian scientists have also evaluated the link between serum iron (opposed to serum ferritin) to heart attack risk, as ferritin is not a perfect marker for iron status. They too found that higher iron raised the risk of heart attack in men twofold, and fivefold in women.

Two Tests Reveal More About Your CVD Risk Than Cholesterol

Rather than focusing on cholesterol, two tests that are far more important for assessing your CVD risk are the serum ferritin and gamma-glutamyl transpeptidase (GGT) tests. The GGT test can be used as a screening marker for excess free iron and is a great indicator of your sudden cardiac death risk. The recommended, ideal levels, of ferritin and GGT are as follows:

- **Ferritin** — Adult men and non-menstruating women: 30 to 40 nanograms per milliliter (ng/mL) or 75 to 100 nanomoles per liter (nmol/L[9]).

  The most commonly used threshold for iron deficiency in clinical studies is 12 to 15 ng/mL (30 to 37 nmol/L).[10] You do not want to be below 20 ng/mL (50 nmol/L) or above 80 ng/mL (200 nmol/L). High iron during pregnancy is also problematic; having a level of 60 or 70 ng/mL (150 or 175 nmol/L) is associated with greater odds of poor pregnancy outcomes.

- **GGT** — Below 16 units per liter (U/L) for men and below 9 U/L for women. Above 25 U/L for men and 18 U/L for women, your risk of chronic disease increases significantly.

Ferritin and GGT are interactive, and low GGT tends to be protective against higher ferritin. So, if your GGT is low, you're largely protected even if your ferritin is a bit higher than ideal. Still, it would still be wise to take steps to lower your ferritin to a more ideal level. On the other hand, even if your ferritin is low, having elevated GGT levels is cause for concern and needs to be addressed.

Other tests that can help you evaluate your CVD risk include an NMR LipoProfile, high-sensitivity C-reactive protein, fasting insulin, fasting blood sugar, your HDL/cholesterol ratio and triglyceride/HDL ratio. For more information about these tests, "Cholesterol Does Not Cause Heart Disease."

How to Lower Your Iron and GGT

If your iron level is too high, the easiest way to lower it is to donate blood two or three times a year. If you have severe overload you may need to do more regular phlebotomies. Regular sauna use, which is an effective form of detoxification, is also helpful, as is avoiding red meat.

To lower your GGT, you'll need to implement strategies that boost glutathione, as GGT is inversely related to glutathione. As your GGT level rises, your glutathione goes down. The amino acid cysteine, found in whey protein, poultry and eggs, plays an important role in your body's production of glutathione. Red meat, which does not contain cysteine, will tend to raise GGT, as will alcohol, so both should be avoided.[11]

Research also suggests eating at least 10 servings of fruits and vegetables rich in vitamin C, fiber, beta-carotene, anthocyanins and folate per week can help reduce GGT.[12]

General detoxification is another important component if your GGT is high, as your liver's job is to remove toxins from your body. The fact that your GGT is elevated means your liver is under stress. For additional tips on how to lower chronic inflammation, see "Cholesterol Isn't the Problem in Heart Disease; Inflammation Is."

The Role Insulin Plays in Heart Disease

According to Dr. Thomas Dayspring, a lipidologist (expert on cholesterol), most heart attacks are due to insulin resistance. In the video above, biochemical engineer Ivor Cummins explains the role insulin resistance plays in heart disease, and why cholesterol is not the problem.[13]

In simple layman's terms Cummins demonstrates the connection between the metabolic functionality of adipose fat — which actually acts as a signaling organ — and insulin sensitivity, and how and why:

- A metabolically healthy normal weight (MHNW) person who has good insulin sensitivity has a low risk level for cardiovascular disease (CVD)

- A metabolically obese yet normal weight (MONW) individual who is insulin resistant has a high risk

- A metabolically unhealthy obese (MUO) individual who is insulin resistant also has a high risk

- But a metabolically healthy obese (MHO) individual who has good insulin sensitivity is at low risk for CVD

In other words, there's healthy body fat and unhealthy body fat, or put another way, fat that protects your health and fat that promotes disease. The key difference is the presence or absence of insulin sensitivity. The higher your insulin resistance, the worse markers such as fasting insulin, triglyceride-HDL ratio and HbA1c will be, suggesting you're at increased risk for diseases such as diabetes and heart disease.

Recent research has shown that two specific metrics — circulating adiponectin and macrophages — can with near 100% accuracy predict your obese phenotype, meaning whether you're obese insulin sensitive or obese insulin resistant. But what makes one person insulin sensitive and another insulin resistant? This is where your diet comes into play.

More often than not, excessive amounts of glucose from net carbs (total carbohydrates minus fiber) are what set the disease process into motion by causing your insulin level

to spike. When repeated over time, your adipose fat tissue begins to lose its systemic signaling capabilities, precipitating insulin resistance.

Eventually, the high sugar load will cause your pancreas to diminish its production of insulin, and the hyperinsulinemia that prevented lipolysis of triglycerides in your fat cells will cease. Subsequently, your liver will begin to output glucose even when you're not eating, and this is when your blood glucose finally begins to skyrocket.

Prior to this, the elevated insulin actually kept the blood glucose in check. But as insulin production drops, there's nothing to prevent the blood glucose from rising anymore.

80% of Americans Are Insulin Resistant to Some Degree

The late Dr. Joseph Kraft, former chairman of the department of clinical pathology and nuclear medicine at St. Joseph's Hospital in Chicago, wrote the book, "Diabetes Epidemic and You: Should Everyone Be Tested?" In it, he presents data that suggest 80% of Americans are in fact insulin resistant, or have "diabetes in situ."

Based on data from 14,000 patients,[14] Kraft developed a powerful predictive test for diabetes.[15] He would have the patient drink 75 grams of glucose, and then measure their insulin response over time, at half-hour intervals for up to five hours.

He noticed five distinctive patterns suggesting that a vast majority of people were already diabetic, even though their fasting glucose was normal. Only 20% of patients had healthy post-prandial insulin sensitivity and low diabetes risk. According to Kraft, "Those with cardiovascular disease not identified with diabetes … are simply undiagnosed."

One of the take-home messages here is that insulin resistance and hyperinsulinemia (a condition marked by excess insulin in your blood relative to your level of glucose) are two sides of the same coin, as they drive and promote each other. In other words, if you have hyperinsulinemia, you are essentially insulin resistant and on your way toward developing Type 2 diabetes.

In summary, both insulin resistance and hyperinsulinemia promote fatty liver and high blood glucose, and both of those in turn promote atherosclerosis. High blood pressure is another side effect of insulin resistance that drives atherosclerosis by placing stress on your arteries. As noted by Cummins, most idiopathic hypertension (high blood pressure with no known cause) is now thought to be caused by hyperinsulinemia.

Hyperinsulinemia/insulin resistance promotes inflammation, causing your visceral fat to release inflammatory cytokines and systemic signaling molecules. Over time, your visceral fat becomes increasingly resistant as well, causing the systemic signaling to falter. Taken as a whole, this cascade of events drives atherogenic dyslipidemia, characterized by the now familiar culprits: high LDL cholesterol, oxidized LDL and triglycerides, and low HDL.

According to Cummins, while high LDL is a very erratic marker for heart disease risk, an elevated LDL "particle count" is actually a very good marker for insulin resistance. Thus, the LDL metrics should be more thought of as indicative of inflammatory issues, and not as the LDL itself being the problem. In their entirety, all of these factors are what flag the development of heart disease.

Three Underlying Causes of Heart Attacks

High cholesterol and blocked arteries are also the conventional explanation for why heart attacks occur.

Alas, there's plenty of evidence refuting these notions. In his 2004 book, "The Etiopathogenesis of Coronary Heart Disease,"[16] the late Dr. Giorgio Baroldi wrote that the largest study done on heart attack incidence revealed only 41% of people who have a heart attack actually have a blocked artery and, of those, 50% of the blockages occur after the heart attack, not prior to it.

This means at least 80% of heart attacks are not associated with blocked arteries at all. According to Dr. Thomas Cowan, founding board member of the Weston A. Price

Foundation and author of "Human Heart, Cosmic Heart," three of the core, underlying issues that cause heart attacks are:

1. **Decreased parasympathetic tone followed by sympathetic nervous system activation** — Common causes for this include chronic stress, poor sleep, high blood pressure, diabetes, a high-sugar, low-fat type of diet, smoking and factors that contribute to low mitochondrial function. (In my book, "**Fat for Fuel**," I address a number of factors that suppress mitochondrial function, thereby leading to low sympathetic tone.)

2. **Collateral circulation failure (lack of microcirculation to the heart)** — To understand how the blood flows to and through your heart, check out the Riddle's Solution section on **heartattacknew.com's FAQ page**.[17] There, you'll find detailed images of what the actual blood flow looks like.

   Contrary to popular belief, blood flow is not restricted to just two, three or four coronary arteries (opinions differ on the actual number). Rather, you have a multitude of smaller blood vessels — capillaries — feeding blood into your heart, and if one or more of your main arteries get blocked, your body will automatically sprout new blood vessels to make up for the reduced flow.

   In other words, your body performs its own bypass. According to Cowan, your body is "perfectly capable of bringing the blood to whatever area of the heart it needs, and as long as your capillary network is intact, you will be protected from having a heart attack."

   Not surprisingly, the same factors that cause low sympathetic tone also lead to loss of microcirculation. For example, smoking has a corrosive effect on microcirculation, not just in your extremities but also your heart. A high-sugar, low-fat diet, prediabetes and diabetes, and chronic inflammation also reduce microcirculation.

   One of the most effective ways to encourage and improve microcirculation is physical movement, so chronic inactivity will also deteriorate your body's ability to

maintain healthy microcirculation.

Another highly effective and noninvasive treatment option that will help improve microcirculation to your heart is enhanced external counterpulsation (EECP). It's a Medicare insurance-approved therapy, and studies show EECP alone can relieve about 80% of angina. EECP works by inflating compression cuffs on your thighs and calves that are synchronized with your EKG.

When your heart is in diastole (relaxed), the balloons inflate, forcing blood toward your heart, thereby forcing the growth of new capillaries. It's a really powerful and safe alternative to coronary bypass surgery for most people. Rather than bypassing one or two large arteries, you create thousands of new capillary beds that supply even more blood than the bypassed vessels. To find a provider, visit EECP.com.[18]

3. **Lactic acid buildup in the heart muscle due to impaired mitochondrial function** — In essence, angina is a symptom of poor mitochondrial function, causing a buildup of lactic acid that triggers cramps and pain. When this pain and cramping occurs in your heart, it's called angina. The lactic acid buildup also restricts blood flow and makes the tissue more toxic.

   Eventually, as the lactic acid continues to build up, it eventually starts interfering with the ability of calcium to get into the heart muscle. This in turn renders your heart unable to contract, which is exactly what you see on a stress echo or a nuclear thallium scan.

Statins Do More Harm Than Good for Your Heart

Unfortunately, we're wasting tens of billions of dollars on ineffective treatments and surgical procedures for heart disease in the U.S. Among them are statin drugs to lower cholesterol.

While these drugs may decrease the frequency of mild heart attacks, they will not necessarily lower your risk of heart disease or death from a major heart attack because of the damage they cause to your muscles, including your heart muscle.

Importantly, statins deplete your body of CoQ10, vitamin K2, dolichol and selenium, thereby threatening your heart and overall health even further. Statins' ability to lower the risk of minor heart attacks may actually be related to their ability to lower C-reactive protein, far more so than the lowering of cholesterol.

However, according to Dr. Duane Graveline, who himself was a victim of statin side effects and ultimately died from complications related to statin use, you only need one-tenth of the dosage, say 2 milligrams (mg) rather than 20 mg to get this anti-inflammatory benefit, and there are far safer and more effective ways to lower inflammation than taking a statin, even at a low dosage.

Statistics Reveal Stents Are Poor Solutions for CVD

Stents, a commonly performed surgical procedure used to remediate damage from coronary artery disease, are another often ill-advised "remedy" for heart disease. Three studies[19,20,21] published in 2017 and 2018 reveal just how ineffective this procedure is. There are a number of parameters that are crucial for evaluating the efficacy of a treatment for heart disease, including:

- Mortality — Will the patient actually live longer as a result of that intervention?

- The risk of heart attack as a result of the intervention

- Alleviation of angina (chest pain)

Earlier research had already dismissed the use of percutaneous interventions (PCI) for most of these parameters, showing the use of stents had no impact on long-term rates of death, nonfatal myocardial infarctions (MI) or hospitalization rates for acute coronary syndrome.

The sole indication left for the use of stents was angina, as some of the findings showed it helped reduce prevalence of chest pain. Alas, these studies show even this parameter is unaffected by stent placement.

In one of these studies,[22] 200 participants with severe single vessel blockage were selected. During the initial six weeks, all patients underwent an exercise test followed by intensive medical treatment, after which they were randomly assigned to two groups.

The first underwent a PCI during which coronary angioplasty was performed and a stent was placed. The second group also underwent a PCI procedure with an angiogram but without a balloon angioplasty or stent placement. At the conclusion of the six weeks, patients again underwent an exercise test and were questioned about their symptoms.

Lo and behold, there was no difference in chest pain (angina) between the treatment group and the sham group. Both groups experienced nearly identical improvements in exercise tolerance and no difference in reported improvements of their symptoms.

How to Protect Yourself Against CVD

In summary, to protect yourself against CVD, you'll want to implement strategies that:

1. Lower your insulin resistance and restore your insulin sensitivity

2. Increase your parasympathetic tone and deactivate your sympathetic nervous system

3. Improve microcirculation to your heart

4. Improve your mitochondrial function

Here are a number of suggestions that can help you accomplish these things:

Avoid environmental pollutants and toxins, including smoking, vaping, heavy metals, herbicides and pesticides, especially glyphosate.

Minimize your exposure to electromagnetic fields and wireless radiation from cellphones, Wi-Fi, routers, smart meters and more, as this kind of radiation has been shown to cause serious free radical damage and mitochondrial dysfunction.

Eat an unprocessed whole food-based diet low in net carbs and high in healthy fats.

A ketogenic diet — which is very low in net carbohydrates and high in healthy fats — is key for boosting mitochondrial function.

When your body is able to burn fat for fuel, your liver creates water-soluble fats called ketones that burn far more efficiently than carbs, thereby creating fewer reactive oxygen species and secondary free radicals. Ketones also decrease inflammation and improve glucose metabolism.[23]

Eat nitrate-rich foods to help normalize your blood pressure. Good sources include arugula, cilantro, rhubarb, butter leaf lettuce, mesclun mixed greens, beet greens, fresh beet juice, kvass (fermented beet juice) and fermented beet powder.

Get plenty of nonexercise movement each day; walk more and incorporate higher intensity exercise as your health allows.

Intermittently fast. After you've become accustomed to intermittently fasting for 16 to 18 hours, you can try a stricter fast once or twice a week, when you eat a 300- to 800-calorie meal loaded with detox supporting nutrients, followed by a 24-hour fast. So, in essence, you're then only eating one 300- to 800-calorie meal in 42 hours.

If you have heart disease, consider EECP. To find a provider, see EECP.com.[24]

If you have heart disease, you may also consider taking g-strophanthin, an adrenal hormone that helps create more parasympathetic nervous system neurotransmitters, thereby supporting your parasympathetic nervous system. It also helps flush out lactic acid. Strophanthus is the name of the plant, the active ingredient of which is called g-strophanthin in Europe, and ouabain in the United States.

Get sensible sun exposure to optimize your vitamin D status and/or take an oral vitamin D3 supplement with magnesium and vitamin K2.

Implement heart-based wellness practices such as connecting with loved ones and

Some of these strategies are also part of Dr. Dean Ornish's book, "Program for Reversing Heart Disease" — a lifestyle-based program that can be boiled down to "Eat well, move more, stress less and love more." This highly effective program is approved for reimbursement under Medicare's intensive cardiac rehabilitation program and many insurance companies.

Ornish details the program in another book, "Undo It! How Simple Lifestyle Changes Can Reverse Most Chronic Diseases." If you would like further guidance, you can find a listing of all the sites that have been trained and certified to teach the program on Ornish.com, along with support groups you can attend free of charge. At present, there are facilities offering the program in 18 states.

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