Heart TALK

Heart-healthy and Stroke-free Living with Dr. Amy L. Doneen, DNP, ARNP

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What Your Mother's Health May Reveal About Your Genetic Risks

Thoughts from Dr. Amy

The genes you inherit from your mother's side of the family tree can have a powerful influence on your prospects for a long, healthy life. For example, a recent study found that women have a 25% greater likelihood of living past age 90 without developing any chronic disorders — such as heart disease, diabetes or cancer — if their mothers did. Learning as much as you can about your maternal health history can also help you and your healthcare provider more accurately assess your risk for certain diseases and use the best personalized treatments to protect against them. To start the conversation, share this article with your mom and discuss these questions about her health.

1. How's your heart health?

As discussed more fully in the BaleDoneen book, *Beat the Heart Attack Gene: The Revolutionary Plan to Prevent Heart Disease, Stroke, and Diabetes*, more than 50% of Americans carry genetic variants that greatly increase their risk for heart attacks and strokes, such as the 9P21 "heart attack" gene. Compared to noncarriers, people with the 9P21 gene have up to 400% higher risk for developing heart disease, often at an early age. Along with discussing your mother's heart health, also ask her if any of her relatives had a history of heart disease or stroke and if she has ever had a "mini-stroke" (also known as a transient ischemic attack or TIA).

The good news is that if you are at increased genetic risk for heart disease, there is a lot you can do to protect your arterial health. The BaleDoneen Method uses genetic testing both to identify people with high-risk genes and to guide their treatment, including a diet based on your DNA. A recent study of nearly 500,000 people found that keeping physically fit slashes risk for heart disease by about 50% in people who carry high-risk genes and also cuts risk for atrial fibrillation (a dangerous type of irregular heartbeat that raises risk for stroke) by 60%.

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Breaking ground with the Bale/Doneen Method

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Bale Doneen METHOD™

Simple Blood Test Reveals If You Are At Risk for Atrial Fibrillation

Up to 6.1 million Americans have atrial fibrillation (AF), an irregular heartbeat that can lead to blood clots, heart failure and increased risk for death from cardiovascular causes. Having AF quintuples risk for stroke and doubles it for heart attack or dementia. Although early detection and treatment can help save lives, this dangerous disorder often goes undiagnosed until the patient has suffered serious complications, such as a stroke.

AF, which is most common in older adults, is potentially preventable, often with simple lifestyle changes. Discuss your risk for AF with your medical provider and ask about a simple blood test that checks for a genetic variant that greatly increases the likelihood of developing AF.

What does the blood test check for?

Available at medical labs all over the U.S. if ordered by a medical provider, the blood test checks to see if you are a carrier of the 4q25 genetic variant. Compared to noncarriers of this gene, those who have it are at 140% higher risk for AF and 130% higher risk for strokes caused by blood clots originating in heart arteries (cardiothrombotic stroke). About one in three people carry the 4q25 genetic variant.

Who should get this genetic test?

Based on recent studies, the BaleDoneen Method recommends the test for patients with any of these red flags for increased risk of developing atrial fibrillation:

- Diabetes
- Obesity and/or poor cardiovascular fitness
- A resting heart rate above 84 beats per minute
- Obstructive sleep apnea
- High blood pressure
- Chronic obstructive pulmonary disease (COPD)
- Rheumatoid arthritis
- Low levels of magnesium and/or potassium
- Thyroid disorders
- Kidney disease
- A family history of AF
- Use of alendronate (a medication for osteoporosis sold under such brand names as Fosamax and Binosto)
- Having an ischemic (clot-caused) stroke, particularly if the cause was unclear
- Advanced age (AF is most common in people ages 65 and older)

What can I do to reduce my risk for getting atrial fibrillation?

The same strategies that help keep your heart healthy can also reduce your risk for AF, such as exercising regularly, maintaining a healthy weight, avoiding all nicotine use or exposure, and managing high blood pressure. Reducing your systolic reading (the top number) below 130 mmHG has been shown to cut risk for AF by 30%, compared to a reading above 142 mmHG. For people with particularly high risk for atrial fibrillation, medications may be advised, along with lifestyle modification.

In a recent study of older adults, those with the highest levels of Omega-3 fatty acids in their blood had a 39% lower rate of AF, compared to people the same age with the lowest levels. Omega-3 fatty acids are found in oily fish (such as salmon, tuna, lake trout, sardines and herring), nuts, flax seeds, vegetable oils and leafy green vegetables. If your levels of Omega-3 are low, ask your medical provider if a supplement is appropriate for you.

In another recent study of adults age 55 and older, those who followed a Mediterranean diet that included 50 grams (about 4 teaspoons) of extra-virgin olive oil daily

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Fresh Mango Tomato Salsa

May Recipe

Perfect for Mother's Day or any festive occasion, this zesty salsa is rich in antioxidants and heart-healthy nutrients. Studies show that a diet high in fresh fruits and vegetables reduces your risk for stroke and obesity and may help you maintain a healthy blood pressure. Both mangoes and tomatoes contain compounds that support eye health, protect against certain cancers and improve blood sugar levels in people with diabetes.

Easy and flavorful, this recipe is ready in just five minutes and is sure to become a family favorite! For a healthy alternative to chips, serve with roasted slices of jicama, sweet potatoes, zucchini, beets, apples or pears. This tangy salsa also pairs well with grilled fish, chicken or tofu. For a flavor variation, replace one tablespoon of lime juice with apple cider vinegar or substitute basil or parsley for the cilantro.

INGREDIENTS

2 cups assorted ripe tomatoes, diced
1½ cups diced mango
½ cup diced white or red onion
½ cup fresh cilantro, chopped
3 tablespoons lime juice, preferably fresh
1 serrano chile, seeded and thinly sliced
1 clove garlic, minced (optional)
2 tablespoons extra-virgin olive oil
Freshly ground black pepper
Kosher salt (optional)

PREPARATION

Combine all ingredients in a large bowl and season to taste with salt (if using) and pepper. Mix well, refrigerate for 60 minutes before serving and enjoy!

Adapted from Platedcravings.com and Allrecipes.com.

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had a 38% reduction in their rate of AF, compared to a control group. The BaleDoneen Method recommends a diet based on your DNA as one of the best ways to reduce your risk for heart attacks, strokes and other cardiovascular events.

Studies vary about the effects of drinking coffee, with most research finding that a daily intake of two to three cups is safe and either neutral or beneficial in protecting against AF and stroke. Coffee consumption is also linked to lower risk for diabetes, high blood pressure, obesity and depression in many studies.

However, some people carry a variant of the CYP1A2 gene that makes the body metabolize caffeine slowly. In this group, drinking coffee may be harmful to heart health. For example, a study of moderate and heavy drinkers of coffee found that the slow metabolizers were much more likely to develop high blood pressure than rapid metabolizers. A more recent study found that people with the "slow" version of the CYP1A2 gene who are moderate or heavy drinkers of coffee are more likely to develop elevated blood sugar than those with the "fast" version.

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2. Did you have any pregnancy problems?

In a recent study comparing people who had a heart attack before age 55 to healthy people of similar age, the young heart survivors were much more likely to have had a mother who had developed certain pregnancy complications, such as gestational diabetes and pre-eclampsia (high blood pressure and protein levels in the urine). Both of these complications also greatly increase a woman's own risk for developing heart disease or diabetes over the next decade, so let your healthcare provider know if you have a personal or family history of these conditions.

It's also crucial to share this history with your ob/gyn if you are pregnant or planning to conceive, so she can work with you to reduce your risk for complications. For example, she may recommend that you eat more fruits and vegetables; limit salt, sweets and fried foods; and increase your physical activity to help you maintain healthy blood pressure and blood sugar levels while you're expecting.

3. Do you ever get the blues or struggle with stress or anxiety?

Don't assume that your mom would tell you if she's had mental health issues. Many people are uncomfortable discussing emotional illness, but it's very important to find out because genes can play a role in your own risk. For example, having a parent with clinical depression triples the likelihood that you might develop it as well. And many other psychological conditions are more prevalent in people whose parents had them.

Any history of mood disorders, anxiety or other mental health issues is a major independent risk factor for heart disease. In one very large study, psychosocial factors, including emotional illness and severe stress, were bigger risk factors for a heart attack than high blood pressure, lack of exercise or obesity! The key takeaway is that social support — and the help of a therapist if you need it — are essential to protect both your emotional and arterial wellness.

4. Do you have polycystic ovary syndrome (PCOS) or diabetes?

PCOS is a hormone disorder that affects one in ten women of childbearing age, leading to such symptoms as missed or irregular periods, excessive facial hair, acne, thinning hair on the scalp, and weight gain. Women with PCOS are three times more likely to develop heart disease and are also at increased risk for obesity, insulin resistance or diabetes, and abnormal lipid levels.

Having a mother with PCOS raises a woman's risk for developing it themselves. The sons of a woman with this disorder face an increased threat of obesity and insulin resistance, which in turn puts them at higher risk for heart disease and type 2 diabetes. Diabetes can also have an inherited pattern and it starts with insulin resistance (IR), which, as we recently reported, is the root cause of about 70% of heart attacks. To find out if you have IR or type 2 diabetes, the BaleDoneen Method recommends being checked with the two-hour oral glucose tolerance test, which the American Diabetes Association calls the gold standard in testing.

5. Do you have an autoimmune or inflammatory disease?

About 23.5 million Americans have autoimmune diseases, a family of more than 100 conditions that includes lupus, psoriasis, rheumatoid arthritis and Crohn's disease. All of them result in the body turning on itself because the immune system mistakes healthy cells, tissues or organs for foreign invaders, unleashing normally protective reactions, such as inflammation, that never end. The chronic inflammation associated with these conditions magnifies risk for a heart attack or stroke.

While there is no proven way to prevent autoimmune diseases, which can have a genetic component, knowing that you might be at risk can help you be more vigilant in watching for potential symptoms. Not only can early diagnosis and treatment greatly improve your quality of life should you develop one of these conditions, but your healthcare provider can be more proactive in monitoring your heart health and levels of inflammation to help you avoid a heart attack or stroke.

6. How is your oral health?

About 50% of Americans over age 30 have periodontal disease (PD). Also known as gum disease, PD can cause red, swollen or tender gums, bleeding while brushing or flossing, receding gums, persistent bad breath and if untreated can lead to tooth loss. People with certain genes are more susceptible to this condition — and have a more intense inflammatory response. Moreover, living in a household with someone with PD can expose you to the bacteria that cause it.

A landmark BaleDoneen study was the first to identify oral bacteria from PD as a contributing cause of arterial disease. Earlier research has shown that people with infected gums are more than twice as likely to suffer heart attacks than those with healthy gums. This highlights the role of your dental provider as a potentially lifesaving member of your heart attack and stroke prevention team. To learn more, check out our easy four-step plan to optimize your oral health & prevent heart attacks.

7. What's your waist measurement?

Having a waistline greater than 35 inches more than doubles a woman's risk for developing heart disease and more than triples it for type 2 diabetes. A tendency to gain weight around the middle (an apple shape) as you age is closely tied to your genes. To help you beat the odds — and flatten your belly — the BaleDoneen Method and the American Heart Association advise combining aerobic exercise (such as brisk walking, jogging or cycling) with strength training, such as lifting weights or resistance training.

Aim for at least 30 minutes of aerobic exercise at least five days a week, plus at least two sessions of strength training per week. And here's some extra motivation to hit the gym: losing just two inches from your waist can significantly lower your blood pressure, cholesterol and other heart attack risks. Always check with your healthcare provider before starting a new fitness regimen to make sure it's right for you.