Explore your treatment options
P. 5

Dance your way to a healthier heart
P. 22

Health Monitor Living

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"I'm changing my family's heart health history!"

High Cholesterol

Growing up, Mackenzie Ames heard about "the curse" that was causing members of her family to die of heart attacks at a young age. Today, she dedicates her career to raising awareness about familial hypercholesterolemia.

Contents

Health Monitor Living **High Cholesterol**

8
"I'm changing my family's heart health history!"
Growing up, Mackenzie Ames heard about "the curse" that was causing members of her family to die of heart attacks at a young age. Today, she dedicates her career to raising awareness about familial hypercholesterolemia.

THE BASICS

3
Don't let high cholesterol take you by surprise!
High cholesterol puts you at a higher risk for heart attack and stroke, but today's treatments can help increase your odds of living a long, healthy life!

YOU & YOUR CARE TEAM

7
The pros on your side
These medical professionals can help protect your heart health

12
What's your heart health profile?
Fill in the answers to find out

20
Q&A
Expert answers to your top questions about high cholesterol

TRUE INSPIRATION

17
"I'm a survivor!"
After experiencing three heart attacks in a little over a week, 50-year-old Dina Pinelli learned the consequences of living with chronically high cholesterol. Today, she's finally getting the treatment she needs.

TAKE CHARGE

21
The 4-1-1 on fats
Find out which fats to eat and which to avoid

22
Dance your way to fit
Sneak in your aerobic exercise—and have fun doing it!

SPECIAL THANKS TO OUR MEDICAL REVIEWER

Roger S. Blumenthal, MD, Kenneth Jay Pollin Professor of Cardiology, director of The Ciccarone Center for the Prevention of Heart Disease

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PES24

Cover photo by Light Breeze Photography

Don't let high cholesterol take *you* by surprise!

If you're one of the millions of Americans living with high cholesterol, you are at higher risk for heart attack and stroke. Luckily, today's treatments can help improve even the most stubborn cases and increase your odds of enjoying a long and healthy life!

There was a time Greg B. didn't own a couch for two years.

"I didn't need one," laughs the 52-year-old Delaware resident. "I'm not one for sitting down!"

Among his daily two-mile runs, weekly cycling sessions, hiking excursions and kayaking trips, Greg likes to get in a round of golf now and then.

His commitment to being active began in high school, after losing his dad to a heart attack. Greg's uncle and grandfather had also passed away from heart-related issues, which prompted Greg's mom to make an appointment to get him a full health workup done, including a blood panel. Despite only being a teen, Greg's LDL (aka "bad") cholesterol was more than 320 mg/dL (normal levels are 100 mg/dL or less).

"My doctor said my condition was likely hereditary, but there wasn't much to offer me beyond a statin and telling me to lead a healthy life."

Continued on next page ►

However, even with the medication, intense exercise and a low-fat diet, Greg's numbers never made it down to goal range. And they remained high for nearly 30 years.

"Right before my 50th birthday I started noticing my workouts were getting more difficult—I had no energy and couldn't breathe," Greg recalls. "It began to seem like more than just 'aging' so I made an appointment with my doctor."

After several tests, it was discovered that two of Greg's main arteries to his heart were nearly 90% blocked. He was immediately sent for surgery to have stents placed.

"It was when I was in recovery that I first heard the term 'familial hypercholesterolemia' [FH]—the nurse who was caring for me mentioned it when I was telling her my family history."

Once home from the hospital, Greg got researching and discovered there might be better treatment options out there that could help his genetically induced high cholesterol.

Discussing his options with his cardiologist, they agreed to try a PCSK9 inhibitor along with his statin. The results? Greg's cholesterol is the lowest it's ever been in his life.

"It went down so quickly, even my doctor was shocked!" Greg laughs. "Finding out what was causing my high cholesterol and finally getting my numbers in line has felt like this incredible weight has been lifted from my shoulders!"

If you've been struggling to get your numbers down, talk to your healthcare provider. Today's treatment options can help *you* gain control over high cholesterol. Read on for more.

HIGH CHOLESTEROL FAST FACTS

46%

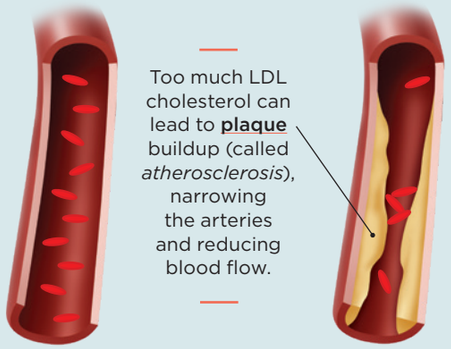
The number of people who could benefit from cholesterol medicine who aren't currently taking one

7%

THE PERCENTAGE OF MINORS AGES 6 TO 19 IN THE U.S. WHO HAVE HIGH TOTAL CHOLESTEROL

Source: Centers for Disease Control and Prevention.

Why you must keep your cholesterol in check



Source: American College of Cardiology (*cardiosmart.org*).

What to know about cholesterol

A waxy substance, cholesterol is primarily made in the liver and plays a vital role in the manufacture of cells, hormones and vitamin D, among other functions. However, your body makes all the cholesterol it needs, so any extra you get through your diet is just that—extra.

Cholesterol travels through the bloodstream in fatty packages called lipoproteins. There are two main types:

- ***LDL (low-density) lipoproteins.*** This is known as the bad cholesterol because if you have too much of it, it tends to build up on artery walls, causing them to get stiff and narrow. High levels of LDL raise your risk for heart disease.
- ***HDL (high-density) lipoproteins.*** This type carries excess cholesterol from the blood to the liver, so it can be flushed from the body. Low HDL is associated with an increased risk for heart disease.

The problem with LDLs

Since the body makes all the cholesterol it needs, any excess can increase LDL levels. This extra amount builds up within artery walls and hardens into plaque, stiffening vessels and impairing blood flow—a condition known as atherosclerosis. When plaque affects the arteries supplying blood to the heart, it can lead to coronary artery disease (CAD) and over time can trigger a heart attack, stroke, heart failure, peripheral artery disease and more. That's why treatment for high cholesterol targets LDL. By lowering those levels, you can fend off other heart problems and maybe even reverse or stabilize the plaque buildup in your arteries.

How treatments help

First-line treatment

- ***Statins:*** These oral medications help decrease the liver's production of cholesterol, lowering LDL and triglyceride levels. If a statin isn't enough, other treatments may be added on to lower your LDL levels.

Add-on treatments

- ***Ezetimibe:*** This oral drug prevents your intestines from absorbing cholesterol from the food you eat and even the cholesterol made by the body itself.
- ***Inclisiran and PCSK9 inhibitors:*** These injections boost your body's ability to remove LDL from the blood. They ramp up LDL receptors in your liver, which trap LDL particles and take them out of circulation. In patients already on a statin, they may cut LDL levels by up to half. They can be especially useful in people with a genetic predisposition to high cholesterol.
- ***MTP inhibitors:*** These oral medications inactivate a protein that triggers the body's production of LDLs.
- ***Bempedoic acid:*** This oral med blocks an enzyme in the liver that helps produce cholesterol; it's useful in people with a genetic predisposition to high cholesterol.
- ***Bile acid sequestrants:*** These oral medications cause the liver to increase bile production, resulting in less cholesterol in the bloodstream.
- ***Omega-3 fatty acids (prescription strength):*** These oral medications help lower triglycerides; icosapent ethyl may reduce the risk of heart attack or stroke in certain high-risk people with triglyceride levels of 150 mg/dL or higher.
- ***Fibrates:*** These oral medications help lower triglycerides in certain people with triglyceride levels of 500 mg/dL or higher.

Taking charge

It's true that you can't control certain risk factors that raise cholesterol. For example, some people are born with a genetic predisposition to high cholesterol known as familial hypercholesterolemia (FH). For others, age (those aged 20 to 60 tend to see rising levels) and sex (men younger than 50 and

women post-menopause tend to have higher cholesterol) may bring a higher risk. However, there's a lot you can do to control your levels. In addition to taking any medication exactly as prescribed, always attend scheduled checkups—regular exams and blood tests are the best way to ensure your treatment is on track. And be sure to discuss the following with your doctor:

- ***Eating plan:*** Aim for a low saturated-fat, high-fiber diet rich in whole grains, lean protein and fruits and vegetables. Avoid saturated fat and trans fat, found in animal products and processed and store-bought baked foods.
- ***Physical activity:*** Aim for 150 minutes a week of exercise, such as walking, dancing, weight training, etc.
- ***Healthy weight:*** Carrying extra pounds is linked to high cholesterol. However, losing just 5% to 10% of your weight can improve your levels.
- ***Quitting smoking:*** Research suggests that smoking can lower HDL levels and damage arteries.
- ***Other conditions:*** Diabetes and high triglycerides are both linked with higher LDLs. Getting those numbers in line can improve your cholesterol.

The bottom line

If your cholesterol numbers aren't where they should be, take a cue from Greg: Work with your healthcare team, explore your treatment options, share your family history and learn all you can about how cholesterol affects your heart and blood vessels. You, too, can find the approach that brings results.

HIGH CHOLESTEROL FAST FACT

10%

THE PERCENTAGE OF ADULTS AGE 20 OR OLDER WHOSE TOTAL CHOLESTEROL LEVELS ARE ABOVE 240 MG/DL

Source: Centers for Disease Control and Prevention.

Do you know your cholesterol levels?

A blood test called a lipoprotein profile measures levels of total, LDL and HDL cholesterol. Review this chart to see where you stand.

TOTAL CHOLESTEROL	
Less than 200 mg/dL	Desirable
200-239 mg/dL	Borderline high
240 mg/dL and above	High

LDL CHOLESTEROL	
Less than 100 mg/dL	Optimal
100-129 mg/dL	Near optimal/above optimal
130-159 mg/dL	Borderline high
160-189 mg/dL	High
190 mg/dL and above	Very high

HDL CHOLESTEROL	
Less than 40 mg/dL	Major heart disease risk factor
60 mg/dL and above	Gives some protection against heart disease

MEET YOUR HEALTHCARE TEAM

Primary care provider (PCP): A medical professional specializing in internal or family medicine, this healthcare provider may diagnose and treat your high cholesterol.

Cardiologist: This doctor specializes in heart disease. Your primary care provider may refer you to a cardiologist for tests and procedures, such as an angiogram.

Endocrinologist: This doctor specializes in disease related to hormones and organs of the endocrine system, such as the liver.

Nurse practitioner/ Physician associate: These healthcare professionals can monitor your cholesterol levels and provide ongoing care for high cholesterol.

Registered dietitian: This nutrition expert can help you develop a heart-healthy eating program that is low in saturated and trans fats and high in produce and lean protein.

COVER STORY

"I *finally* solved the family mystery!"

Growing up, Mackenzie Ames heard about "the curse" that was causing members of her family to die of heart attacks at a young age. Today, she dedicates her career to raising awareness about familial hypercholesterolemia.

—BY AMY CAPETTA

CONTINUED ON NEXT PAGE

"Now that my cholesterol numbers are in the safe zone, I can concentrate on the important things in life—like my upcoming wedding to Justin!"

"Learning about familial hypercholesterolemia didn't just benefit me—it changed the game for my mom's health, too!" says Mackenzie.

"Fulfilling" may be the best way to describe Mackenzie Ames's life. When the 37-year-old from Cary, NC, isn't enjoying time with friends and family or planning her upcoming wedding to her fiancé, Justin, she can likely be found working as the content manager for the Family Heart Foundation (*familyheart.org*)—an organization that is pioneering research, advocacy and education to help prevent heart attacks and strokes caused by two inherited lipid disorders: familial hypercholesterolemia (FH), and elevated lipoprotein(a).

"I started volunteering in 2015, so it's coming up on 10 years of being involved with them," she says. "At times I've been the person behind the camera interviewing someone telling their personal story. I feel that I bring a level of understanding that makes others feel more comfortable about being vulnerable."

That understanding results from the fact that Mackenzie has been living with FH her whole life. In fact, to understand her health journey, you need to go back to before she was even born. Her grandfather died of a heart attack at the age of 30. A few of her great uncles died of heart attacks, as well—all under the age of 33.

"They came from a small town in Western New York where everybody knew everybody," she explains. "People in town would say they were dying from the family curse."

Her grandmother was the first widow in the family who asked for an autopsy. The medical examiner revealed Mackenzie's grandfather had the clogged, hardened arteries normally not seen in someone under 80 years old. "My grandmother then took her three children to have their cholesterol levels checked and their numbers were all unexpectedly high. So she tried to change their diet to cut out eggs and whole-fat milk, but there wasn't anything else to do back then. My mother, along with several of her relatives, grew up believing they just weren't going to live very long."

"I had no idea what the diagnosis meant"

Worried about the "curse" continuing, Mackenzie's mother took *her* to get her cholesterol checked when she was 9 years old—and her number was hovering around 400 mg/dL (a normal total cholesterol level should be below 200 mg/dL).

"My mom cried," Mackenzie recalls. "Then she kept saying we'd never escape whatever was running in our family." The doctor told Mackenzie to exercise and watch her diet, but she was not able to get on a statin until she was 16.

"Even then, I found myself on and off the medication at times when there were gaps in my insurance coverage," she recalls. After graduating from college, she was hired to work on a cruise ship and needed to undergo a physical examination to be declared fit for duty. So she met with a random doctor who was doing rounds at the local hospital.

"He looked at my chart, asked about my family history and said, 'You have familial hypercholesterolemia!' I was given a stronger statin dosage, but I had no idea what this condition meant. Since I was 22 and otherwise healthy, I sailed off on the cruise ship and basically ignored the diagnosis without going for follow-ups to see if my numbers came down at all."

"I am finally in the safe zone!"

Once she returned home from working on the ship in her late 20s, Mackenzie had bloodwork done again. Despite the stronger statin dosage, her cholesterol levels were still high. She couldn't help thinking about the fact that 30 was right around the corner—which was the age her grandfather died. Being a natural storyteller, she wrote a blog about living with FH.

"I posted it on Twitter, tagged the Family Heart Foundation and someone from the organization called me that afternoon about becoming an advocate. And then my whole world opened."

Mackenzie went through a training program and learned everything she could about FH. "I'd call my mom every night to share the updates. I finally solved the family mystery!" She also met with a lipid specialist who prescribed a different statin, plus a PCSK9 inhibitor—a drug used for the treatment of high LDL cholesterol that can be especially effective for people with FH.

And the results have been phenomenal: Today her LDL levels are in the 70s. "I'm on medicines my grandfather never had, and medicines my mother didn't have for years. The amount of stress and anxiety that has disappeared knowing I am in the safe zone—it's amazing!"

Her number one message for others living with FH is to be hopeful about the future. "Once you start taking the right medicine, it isn't hard," she states. "Some people deal with side effects, but there are so many options to pick from today—you *are* going to find the one that works for you!"

Photos by Light Breeze Photography

MACKENZIE'S TOP TICKER-TAMING TIPS

Here, Mackenzie shares more of the heart-healthy advice she has learned as both a patient and advocate.

COMMUNICATE WITH YOUR HEALTHCARE TEAM.

Even if your physician specializes in FH, it's still imperative to contribute to the dialogue during appointments. "I adore my primary care physician, but most doctors just don't have the time to go over everything about the condition, so I start conversations based on information I have read or been told through the Family Heart Foundation," she explains. "I'm not walking into appointments acting like Dr. Google, but I do ask questions." Mackenzie, who can be found on Instagram *@mames25*, was the one who brought up trying one of the medications she is taking today. "I'm lucky to have a doctor who listens to me."

MAKE FUN A PRIORITY.

Since research indicates that stress can influence lipids, Mackenzie has turned to cross stitching. "I noticed I'd be doom scrolling on my phone at night while watching movies or documentaries," she explains. "Cross stitching helped put something else in my hands to calm my anxiety."

NAVIGATE YOUR COVERAGE.

Figuring out how to work with your health insurance carrier can overwhelm even the most knowledgeable individuals. Mackenzie was quoted in a 2018 article published in *The New York Times* about the challenges she experienced when trying to get a prescription drug covered by her plan. "I discussed the massive rejections I went through before being approved for a PCSK9 inhibitor," she says. "I am a textbook case for someone who needs this drug, and I could not get it. It was my lipid specialist who helped me, since he was on the board who wrote the requirements for patients who needed the medicine." Mackenzie also recalls the time she sobbed after spending six hours on the phone with her insurance company. "I was crying from frustration, but I was also crying for those who work on their feet all day and cannot be on the phone. I figured out what other patients eventually do—they give up and end up having a heart attack. The system is designed to put you on hold and transfer you to multiple people where everyone has a different answer. The best advice I can offer is to never, ever give up on your health."

What's your heart health profile?

Fill out this worksheet, then review with your doctor to learn more about your cholesterol levels and how they may be affecting your overall heart health.

KNOW YOUR NUMBERS

Total cholesterol:	LDL cholesterol:	HDL cholesterol:	Triglyceride level:

MORE ABOUT YOU & YOUR HEART HEALTH

Age: Birth gender:

1. Has a grandparent, parent or sibling had a heart attack or other cardiovascular event, such as stroke, especially before age 65? ☐ yes ☐ no
   If yes, please explain _____
2. Do you smoke? ☐ yes ☐ no
   If you quit, describe your smoking history and note your quit date: _____
3. Do you have diabetes? ☐ yes ☐ no
   If yes, are you on medication? ☐ yes ☐ no
4. Do you have high blood pressure? ☐ yes ☐ no
   If yes, are you on medication? ☐ yes ☐ no
5. Check any of the following cardiovascular events you have had:
   ☐ heart attack ☐ TIA ☐ stroke ☐ angina
   ☐ other _____
6. Check any of the following symptoms you have had:
   ☐ shortness of breath ☐ chest pain
   ☐ difficulty/pain when walking ☐ fatigue
7. Do you have sleep apnea or any other sleeping disorders? ☐ yes ☐ no
   If yes, explain: _____
8. Check any of the following conditions or procedures you have had:
   ☐ coronary bypass surgery
   ☐ a stent procedure
   ☐ surgery for circulation problems in the legs
   ☐ peripheral artery disease
   ☐ carotid artery disease

TELL YOUR CARE TEAM...

1. What prescription medications you're taking.
2. What OTC medications or supplements you take regularly.
3. How often you exercise, and for how long.
4. How often you eat out, get takeaway or eat fast food.
5. If you've experienced any major life changes recently, such as a new job, marriage, divorce, a move, a new pet, etc.

IT'S POSSIBLE TO

GO FROM STRUGGLE TO CHOLESTEROL SUCCESS WITH LEQVIO®

For adults who, along with diet and a statin, need help lowering their bad cholesterol (LDL-C).

PROVEN TO LOWER BAD CHOLESTEROL BY 50% AND KEEP IT LOW*

2 DOSES A YEAR AFTER 2 INITIAL DOSES

*People given LEQVIO lowered their bad cholesterol (LDL-C) more and kept it low during each 6-month dosing interval vs placebo (a substance that doesn't contain any medication).

ASK YOUR DOCTOR ABOUT LEQVIO

LOWER. LONGER.

LEQVIO (inclisiran) injection 284 mg/1.5 mL

WHAT IS LEQVIO?

LEQVIO (inclisiran) is an injectable prescription medicine used along with diet and other cholesterol-lowering medicines in adults with high blood cholesterol levels called primary hyperlipidemia (including a type of high cholesterol called heterozygous familial hypercholesterolemia [HeFH]) to reduce low-density lipoprotein (LDL-C) or "bad" cholesterol.

IMPORTANT SAFETY INFORMATION

Do not use if you have had an allergic reaction to LEQVIO or any of its ingredients.
The most common side effects of LEQVIO were: injection site reaction (including pain, redness, and rash), joint pain, and chest cold.

These are not all the possible side effects of LEQVIO. Ask your health care provider for medical advice about side effects. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.

Brief Summary of Prescribing Information on adjacent page.

$0 CO-PAY†

†For commercially insured patients. Limitations apply.

Scan this QR code or go to: LEQVIO.com/cost to see how you can afford LEQVIO.

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BRIEF SUMMARY OF FULL PRESCRIBING INFORMATION
LEQVIO® (INCLISIRAN) INJECTION, FOR SUBCUTANEOUS USE

What is LEQVIO?

LEQVIO is an injectable prescription medicine used along with diet and other cholesterol-lowering medicines in adults with high blood cholesterol levels called primary hyperlipidemia (including a type of high cholesterol called heterozygous familial hypercholesterolemia [HeFH]) to reduce low-density lipoprotein (LDL-C) or "bad" cholesterol.

It is not known if LEQVIO is safe and effective in children under 18 years of age.

Who Should Not Use LEQVIO:

Do not use if you have had an allergic reaction to LEQVIO or to any of its ingredients. See the end of this leaflet for a complete list of ingredients in LEQVIO.

Before you start taking LEQVIO, tell your health care provider about all your medical conditions, including if you:

- are pregnant. Tell your health care provider right away if you become pregnant while taking LEQVIO. You and your health care provider will decide if you should take LEQVIO while you are pregnant.
- are breastfeeding or plan to breastfeed. It is not known if LEQVIO passes into your breast milk. You and your health care provider should decide if you will take LEQVIO or breastfeed.

Tell your health care provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

Know the medicines you take. Keep a list of them to show your health care provider and pharmacist when you get a new medicine.

How should I take LEQVIO?

LEQVIO is an injection under the skin (subcutaneous), given by your health care provider, initially, again at 3 months, and then every 6 months (twice yearly).

What are possible side effects of LEQVIO?

The most common side effects of LEQVIO include injection site reaction (including pain, redness, and rash), joint pain, and chest cold.

These are not all the possible side effects of LEQVIO. **Call your health care provider for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.**

General information about the safe and effective use of LEQVIO.

Medicines are sometimes prescribed for purposes other than indicated. Do not use LEQVIO for a condition for which it was not prescribed.

This Patient Information leaflet summarizes the most important information about LEQVIO. If you would like more information, talk with your doctor. You can ask your doctor or pharmacist for information about LEQVIO that is written for health professionals.

For more information, go to www.LEQVIO.com or call 1-833-LEQVIO2 (1-833-537-8462).

What are the ingredients in LEQVIO?

- **active ingredient:** inclisiran sodium
- **inactive ingredients:** water for injection, sodium hydroxide and/or phosphoric acid

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LEQVIO® (inclisiran) injection 284 mg/1.5 mL

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TRUE INSPIRATION

"I'm a survivor!"

After experiencing three heart attacks in a little over a week, 50-year-old Dina Pinelli learned the consequences of living with chronically high cholesterol. Today, she's finally getting the treatment she needs—and is advocating for other women to take better charge of their heart health.
—BY MARISSA PURDY

During the pandemic, more than 23 million American households adopted a pet, according to the ASPCA. Long Island resident Dina Pinelli was among them–adopting a puppy she named Ananda, the yoga word for bliss. It was a decision that would turn out to save her life.

That's because, on the night of June 6, 2020, Dina was awakened at 1:45 AM by Ananda–whom she'd only owned for two months–frantically nudging and licking her. Once up, Dina realized something wasn't right.

"It felt like I had been punched in the chest by Mike Tyson," recalls the elementary school teacher. "My elbow and wrist hurt, too. I also couldn't catch my breath and was sweating profusely."

Despite the chest pain, Dina didn't recognize the symptoms–in fact, she'd been struggling with breathlessness, extreme fatigue and excessive sweating for weeks, but had excused it all away as perimenopause, allergies and anxiety. Fortunately, however, she did take an aspirin to help with the pain that night. Had she not been awake to do so, she may never have woken up again. But when the pain subsided, she decided to just go back to sleep and deal with it in the morning.

"It ran in our family!"

To understand the extent of Dina's story, you have to go back 20 years to 2004, when her father was rushed to the hospital after suffering his own widow-maker heart attack. At the hospital he learned he had dangerously high cholesterol, two fully clogged arteries and

needed surgery to have two stents placed. Within a couple years, both of Dina's uncles on her dad's side also experienced heart attacks and were diagnosed with high cholesterol—prompting Dina and her siblings to all get their own levels checked.

"I won the family lottery!" she laughs. "My siblings were fine, but my LDL (i.e., the "bad" cholesterol) numbers were way over the normal amount," she recalls. "I don't remember them making a big deal about it, though. I was given a prescription for a statin, told to watch my diet and basically sent home."

"You can't outrun genetics"

Despite the lack of guidance, Dina did not take the diagnosis sitting down.

"I cut processed junk foods out of my diet and started shopping along the perimeter of the grocery store," she recalls. "I hired a personal trainer, started lifting weights, doing regular cardio and got really into yoga and daily meditation. I also took my statin as directed." Through those changes, Dina managed to drop more than 100 lbs., and her cholesterol levels regulated—and stayed at the normal range for years, although she did need at least one dosage increase of her statin over the next decade. Then, about six months before her first heart attack, her numbers suddenly started to climb again—in retrospect, doctors believe this may have been a result of her entering perimenopause.

"I thought I was doing everything to keep myself safe, but sometimes you just can't outrun genetics."

The morning after her undiagnosed heart attack, Dina made a doctor's appointment "just to be safe." It was Monday and they couldn't get her in until Thursday. In the meantime, she set herself a goal: She wanted to run a 5K on the treadmill every day for as long as she could keep the streak going. That did not go as planned.

"I immediately knew running was out of the question—I was just trying to walk at 1 mph and I couldn't do it."

Thursday morning, before her appointment, she tried again and this time the sweating and breathlessness was overwhelming.

"I wound up standing with my feet on both sides of the treadmill, just watching the belt slowly roll by and unable to move for 40 minutes." She was having heart attack number two.

"They didn't take it seriously"

Dina made it to her doctor appointment and expected to be told she'd had a panic attack, but after giving her an electrocardiogram, a test that monitors heart rhythm, they immediately urged her to go to the hospital. When she arrived, she was greeted at the emergency door.

Doctors there discovered a 100% blockage of her LAD (left anterior descending artery) and Dina was sent for surgery to have a stent placed. She stayed in the hospital for two days before being released. "They called what I'd experienced a 'cardiac event,' so I didn't even realize until the next morning when I looked up what a 'blocked LAD' meant that I'd even had a heart attack—and it was a 'widow-maker.' "

Dina feels they also still underestimated the severity of her condition, due to her youth and fitness levels.

"Clearly the statin hadn't been doing enough—they increased the dosage again, but the cholesterol had caused me to have two heart attacks in a week in my 40s. That's not something to shrug off!"

Five days after returning home, Dina was walking Ananda when she felt the same telltale symptoms returning. Attuned to what they meant now, she immediately rushed to the hospital, where they confirmed heart attack number three and sent her for a second stent surgery.

"I'm going to be okay!"

Dina's third—and hopefully final—heart attack finally triggered doctors to rethink her medication and treatment plan and take her stubbornly high cholesterol more seriously.

"They gave me a new add-on therapy to boost the effectiveness of the statin—a medication specifically for people with genetically high cholesterol," says Dina, who is also on other medications, including blood thinners and ones to lower her blood pressure. "I'm finally reaching my goal numbers and protecting myself from future heart events."

Despite her improved blood work, it took Dina more than 18 months after her final heart attack to get back on the treadmill.

"I think I had PTSD—I was terrified to raise my heart rate even a little," she recalls. Eventually, with the support of her doctor and a therapist, she slowly began running again. At the end of 2023, she completed her first-ever 10K race.

"This is my comeback story. I've been given a second chance, and decided I would use my voice to raise awareness of how serious heart conditions can be for women. This includes knowing what they can look like and when to see a doctor," says Dina, who posts inspirational women's health and survivor stories on her Instagram pages: *@_dinalucillep_* and *@a.story.of.survival*. "I've learned to trust my body again and I take the signals it sends me seriously. Most important, I've learned that you can make all the healthy choices possible, but you just can't change what's predetermined by your genetics. That's where medicine needs to step in to help."

Know the signs!

Dina knew she had high cholesterol, had seen family members go through heart attacks and even had the telltale chest pain symptom—but still didn't recognize she was having a heart attack. "I was unaware of the other signs, so with the sweating and breathlessness, I assumed it was asthma or a panic attack. And the fact that I was young, eating right and working out—I thought that meant I was protecting myself. But the fact is, if your cholesterol levels are high, you're at risk!"

Not recognizing the symptoms of a heart attack is one reason 1 in 2 people die within the first hour of symptoms. And for women, who are more likely to experience unusual symptoms, this is even more true. See below for the symptoms to keep an eye out for—if you suspect you are having a heart attack, call 9-1-1 immediately.

GENERAL SIGNS:

- Pain or heaviness in the chest
- Difficulty breathing
- Discomfort or tingling in arms, back, neck, shoulder or jaw

SIGNS MORE COMMON IN WOMEN:

- Sudden dizziness
- A heartburn-like feeling
- Cold sweat
- Unusual fatigue
- Nausea or vomiting

Health Monitor

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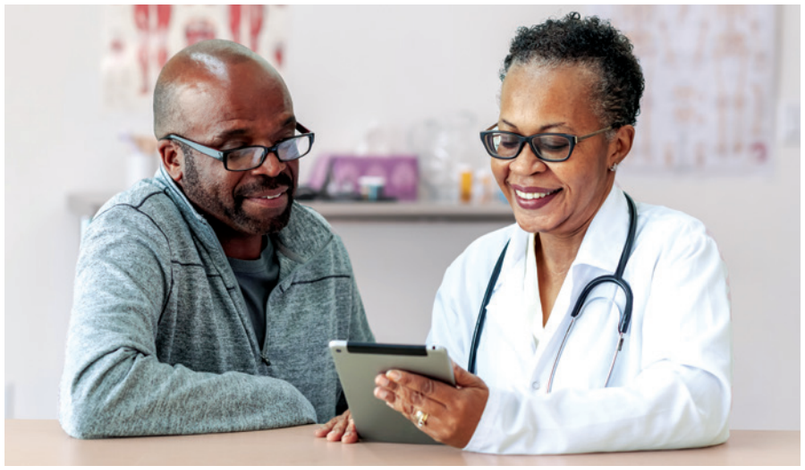


Finding a balance After being diagnosed with high cholesterol, my doctor suggested I change my diet, which I admitted was not the best. The problem is, I love going out to restaurants and trying new and interesting foods—I consider it one of my hobbies. Is there a way I can keep being an adventurous eater but lower my LDLs?

Q

A

Answers to your questions about high cholesterol

A: You can absolutely do both! While meals made in restaurants tend to be higher in calories, fat, sugar and sodium, there are ways to navigate around that. One way is to plan ahead by reviewing online menus for places you're considering eating at and seeing if they offer heart-healthy menu options. For instance, look for dishes that are grilled, baked or steamed rather than fried or sauteed. Choose leaner proteins like chicken, turkey, fish or plant-based options like beans and tofu. Ask for dressings and sauces on the side and to avoid overeating, be mindful of the portion sizes, share dishes or take leftovers home. And try incorporating a walk or other physical activity on nights you eat out, since exercise is another important component to keeping your cholesterol levels down.

New medications

Q: *My doctor recently prescribed a medication to treat my high cholesterol. He said my levels were "dangerously high." The problem is, the medication upsets my stomach and before I took it, I felt totally fine. If high cholesterol is so dangerous, shouldn't it make me feel bad? Do I really need this medication?*

A: High cholesterol, and more specifically high levels of LDL, can lead to major risk factors in cardiovascular diseases such as heart attacks or stroke. You likely felt fine before taking this medication because high cholesterol is considered a "silent killer" as it doesn't cause any symptoms until major complications arise. Your doctor prescribed medication to treat your high cholesterol because it can lead to a condition known as atherosclerosis, which is the buildup of fatty deposits (plaques) in your arteries. These plaques can significantly narrow the arteries over time, reducing blood flow and increasing the risk of blood clots, which can cause serious cardiovascular events.

It is not uncommon for cholesterol-lowering medications to cause occasional minor side effects, so it's important to address this with your doctor. This will allow them to adjust your dosage, suggest more optimal ways to take your medication, switch you to a different medication altogether, or provide additional treatments to help manage your side effects.

OUR EXPERT:
Roger S. Blumenthal, MD
Kenneth Jay Pollin Professor of Cardiology, director of The Ciccarone Center for the Prevention of Heart Disease

— TAKE CHARGE —

The *4-1-1* on fats

Between all the diet plans being touted today and ever-shifting nutritional advice, it's no wonder many of us are confused when it comes to which fats to eat and which to avoid. For clarity on the different types, how they can impact your cholesterol levels and how you can make them part of your heart-healthy eating plan, read on!
—BY CAITLIN BEALE, MS, RDN

What is fat? This macronutrient makes up one of the three core parts of a healthy diet along with carbohydrates and proteins. Consider that fat provides energy to your cells, supports healthy brain function and helps the body absorb vitamins A, D, E and K. And if you exclude it from your diet, it can disrupt digestion, dry out skin and hair, throw your hormones out of whack and more.

NOT ALL FATS ARE CREATED EQUAL!

There are three main types—and each affects the body differently.

UNSATURATED FATS

Unsaturated fats are found primarily in plant foods and fish. Both types—monounsaturated fatty acids (MUFAs) and polyunsaturated fatty acids (PUFAs)—can improve cholesterol levels by causing the liver to produce ketones for energy rather than LDLs, which can clog arteries. PUFAs may help your liver create more HDLs, which helps the body flush excess LDLs.

Top sources: vegetable oils, olives, nuts, avocados and seeds, and fish such as salmon, tuna, anchovies and sardines.

How much: Aim for 20% to 35% of your total daily calories to come from unsaturated fats—for someone who eats 2,000 calories a day, that's about 65 grams—according to the Dietary Guidelines for Americans.

SATURATED FATS

Unlike unsaturated fat, saturated fats are solid at room temperature (think butter or the fat in a steak). What's more, they prompt your liver to produce more artery-clogging LDL cholesterol and triglycerides.

Top sources: butter, cheese, ice cream and meat, as well as some plant-based foods like coconut and palm oil.

How much: Aim for no more than 5% to 6% of daily calories from saturated fat, or 13 grams for someone eating a 2,000-calorie diet, according to the American Heart Association.

TRANS FATS

Once widely used in processed foods like cakes, cookies, chips, frozen pizza and margarine, the FDA banned trans fats in 2018. Trans fat raises LDL levels while lowering HDL cholesterol levels, making it the worst type of fat for heart health.

Though the ban has been effective, trace amounts can still be found in some processed foods. Since there is no recommended "safe" amount to eat, trans fats are best eliminated. To see if a food might contain some, check the ingredient list—if you see "partially hydrogenated" anywhere, it's best avoided.

Top sources: any processed food that contains "partially hydrogenated" ingredients.

How much: None!

Dance your way to *fit*!

You already know that staying active is a key way to keep your ticker strong. But if the word "exercise" triggers a sense of dread, rest assured you can get in your recommended 150 minutes of aerobic exercise a week and have fun while doing it. One method? Dance!
—BY SARA ROTONDI

Dance is an "aerobic" exercise, meaning it increases your heart rate and sends a surge of oxygen to your body's cells. And that's not all: If you have high cholesterol, you'll be interested to hear that aerobic exercise also encourages your liver and small intestines to make more HDL cholesterol (i.e., the "good" kind that sweeps "bad" LDL cholesterol from your body). Aerobic exercise is so effective at this, in fact, that a review of studies found that people who performed it at a moderate intensity for at least 150 minutes a week for 12 weeks increased their HDL levels by 4.6% and lowered their LDLs by 5%.

NEED EVEN MORE REASON TO GET YOUR TOES TAPPING?

Consider that dance also...

- **Boosts your mood.**
  Aerobic exercise boosts the body's production of dopamine and endorphins—hormones that make you feel happier—and decreases production of cortisol, the so-called stress hormone. Add your favorite dance music to that mix, and the impact is even greater, since listening to just 12 minutes of upbeat music was shown to significantly improve mood and happiness levels, according to a study in the *Journal of Positive Psychology*.

- **Builds muscle.**
  The heart isn't the only muscle getting a workout when you dance—it also benefits the large muscle groups all over your body, including your legs, arms and core. And research in the *Journal of Sports Medicine* found that just three 45- to 50-minute muscle-building sessions a week led to a significant decrease in LDL levels in study subjects.

- **Keeps you connected.**
  Dance *can* be done alone, but it's also an ideal form of exercise to do with a partner or group. And working out with others has been proven to increase social connectedness, social support and peer bonding, according to research in the *International Journal of Behavioral Nutrition and Physical Activity*. It can also have a cultural impact—joining a salsa, samba or African dance class can connect people within communities, a benefit that has been shown to improve all aspects of health. Finding classes can be simple—just Google "dance classes near me" or "dance studios near me," or check your local community center or YMCA.

READY TO GET... *on your feet?*

For help getting started, we've asked cardio dance expert Kelly Peckholdt, owner and director of Positions Dance Studio in Babylon, NY, for her top tips.

Start slow

For someone who was previously sedentary or someone recovering from a major cardiac event, lower intensity dance—think tango, soul stepping or jazz dance—can be the way to go at first. "Listen to your body and build slowly toward faster, more intense dance styles," Peckholdt suggests.

Choose your tunes

"When people dance to music they enjoy, it helps to further reduce their stress and anxiety, and research has shown it also encourages them to keep moving for longer," says Peckholdt. So, while more upbeat music lends itself to a more aerobic dance session, the genre is entirely up to you!

Consider lessons

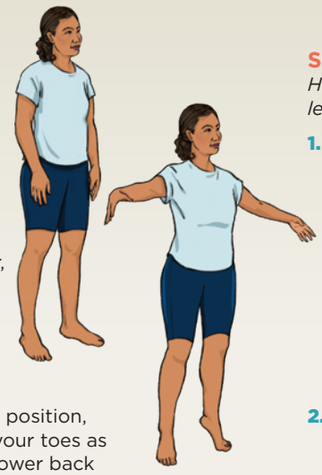
As a beginner, worrying about your coordination and flexibility is understandable, but don't feel discouraged. "Dancing truly is for everyone," assures Peckholdt. If you don't feel comfortable in a class right away, private lessons can be a great option. "It's all about building your confidence—even one lesson to learn the basics can be the bridge you need to join a class and keep the movement going." If private lessons aren't in the budget, YouTube and TikTok are two sources for free online dance tutorials to try at home.

BALLET MOVES PERFECT FOR BEGINNERS!

These are two of Peckholdt's favorites for dancers who are just starting out. Give them a try!

Relevé

Helps to improve your sense of balance.



1. Position your feet in one of three ways, depending on which feels the most comfortable: parallel to each other, heels together in a V-shape or shoulder width apart with your toes pointed sightly outward.
2. Once your feet are in position, raise yourself up on your toes as far as you can, then lower back down on your heels.
3. Raise your arms out to your sides until they are parallel with your shoulders and raise and lower them in sync with your toes. Repeat 8-12 times.

Second-position plié

Helps to build & strengthen leg and core muscles.

1. Spread your feet shoulder distance apart with your toes pointed slightly outward. Your knees should also be pointing in the same direction as your middle toes and your back should be completely straight.
2. Squat until your knees bend out over your toes. Try to go as deep as you can without your hips tilting backward.
3. If you need to, feel free to use the back of a chair for support. Hold for 2 seconds then raise back up. Repeat 8-12 times.

Illustrations by Juhee Kim

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"I hope that I can help. I am sure I'm not the only one living with this."

— DONNA M., PATIENT ADVOCATE

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 Printed in USA 8/24 FA-11233412