What doctors want patients to know about high cholesterol

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AT A GLANCE: High cholesterol often has no symptoms, but it can raise the risk of heart attack, stroke and other cardiovascular problems. Here are five things you will learn about high cholesterol from Chase Noel, DO, a family physician with Baptist Health Medical Group, in this article:

- Low-density lipoprotein (LDL) can contribute to plaque buildup in the arteries, while high-density lipoprotein (HDL) helps transport cholesterol back to the liver.
- Genetics strongly influence cholesterol levels, and some people may have high LDL despite following a healthy diet and staying active.
- Physicians assess cholesterol alongside factors such as blood pressure, diabetes, kidney health, smoking history and family history to estimate cardiovascular risk.
- Sustainable habits—including eating more unsaturated fats, exercising regularly, avoiding tobacco and limiting alcohol—can lower overall cardiovascular risk.
- Statins and other cholesterol-lowering medications may be recommended for people at higher risk, but treatment should be tailored through a patient-physician discussion.

High cholesterol is a common health condition in the U.S. Nearly 94 million adults 20 or older have what could be considered borderline high cholesterol, according to the Centers for Disease Control and Prevention. Yet because this condition often presents without symptoms, many are not aware they have high cholesterol until they visit their doctor.

The AMA's What Doctors Want Patients to Know™ series gives physicians a platform to share what they want patients to understand about today's health care headlines.

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In this installment, Chase Noel, DO, a family physician at Baptist Health Medical Group, shared what he wants patients to know about high cholesterol and how to lower levels.

Baptist Health Medical Group is a member of the AMA Health System Program provides enterprise solutions to equip leadership, physicians and care teams with resources to help drive the future of medicine.

There's good and bad cholesterol

"When patients hear good and bad cholesterol, they're usually hearing about the particles that transport cholesterol throughout our bloodstream," Dr. Noel said. "So, LDL, or low-density lipoprotein, is commonly called the bad cholesterol because LDL particles can enter the arterial wall and contribute to atherosclerotic plaque over many years. That plaque is what can cause a heart attack, stroke or peripheral arterial disease."

"HDL, or high-density lipoprotein, is called good cholesterol because it participates in transporting cholesterol away from your tissues and back to the liver," he said. "A high HDL does not cancel out the risk associated with a high LDL."

Triglycerides are closely related to cholesterol

"The way to think about triglycerides is they're the main way our body stores excess energy," said Dr. Noel. "When we consume more calories than we immediately need—like from refined carbohydrates, added sugars or alcohol—the liver converts some of that energy into triglycerides."

"Triglycerides and cholesterol are transported together in lipoprotein particles, so they are measured on the same lipid panel," he explained. "Elevated triglycerides are common with obesity, insulin resistance, diabetes, fatty liver disease and excess alcohol intake."

"Moderately elevated triglycerides can be a marker of increased cardiovascular risk," he added, noting that "at very high levels, it can cause pancreatitis and some other problems."

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Your body naturally makes cholesterol

“Cholesterol is a substance the body produces, primarily in the liver. We do consume it, but our body also makes some,” explained Dr. Noel. “It’s a waxy substance that we use to build cell membranes, produce hormones, and make bile acids, which help digest fats.”

“It's made in the hormone pathway, and your body can consistently produce cholesterol based on a genetic profile,” he said.

Dietary cholesterol is not the dominant risk factor

“The body produces most of your circulating cholesterol in your bloodstream, primarily in the liver,” Dr. Noel said. “Dietary cholesterol can affect blood cholesterol, but for most people it’s not the dominant risk factor.”

“Saturated fats have a more consistent effect on LDL cholesterol than dietary cholesterol itself, but genetics, body weight, insulin resistance, diabetes, thyroid disease, kidney disease and overall dietary pattern can also have major effects,” he explained. “One patient may eat carefully and still have markedly elevated LDL while another may have a less healthy diet and relatively ordinary cholesterol panel.”

“Diet still matters, but I encourage patients to focus less on isolated food and more on the overall pattern—vegetables, fruits, beans, whole grains, nuts, seeds, unsaturated fats and lean proteins while limiting saturated fats, refined carbohydrates and heavily processed foods,” Dr. Noel said. “Changing your diet is a good thing overall, but it doesn’t have a huge effect on your circulating cholesterol.”

The focus isn’t on specific cholesterol levels

“When you look at the cholesterol panel, we’re not trying to say you have good cholesterol or you have bad cholesterol,” said Dr. Noel. “We’re trying to determine what your cardiovascular risk is and whether you need treatment.”

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“You should never be told that your cholesterol is high, so we’re going to start you on a medicine. We focus much more on what is your cardiovascular risk? What’s the chance you’re going to have a heart attack in 10 years and in 30 years?” he said. “New guidelines from the American Heart Association came out with Predicting Risk of Cardiovascular Disease EVENTs, or PREVENT, equations.

“PREVENT is race-free and was developed using more recent and much larger data sets. It estimates 10-year risk in adults 30 through 79 and can also estimate your 30-year risk for patients who are between the ages of 30 and 59,” he said. “Rather than using race as a proxy for risk, PREVENT incorporates cardiovascular, metabolic and kidney health more directly.”

High cholesterol runs in the family

“We’re really starting to recognize genetics are a major driver of cholesterol levels, particularly LDL, but cardiovascular risk is multifactorial,” Dr. Noel said, noting “the main condition we look for is familial hypercholesterolemia. It’s an inherited condition where your body cannot clear LDL efficiently.”

“Primarily, your cholesterol profile is genetic. Diet and lifestyle usually produce a modest reduction in LDL than medication, but can significantly reduce overall cardiovascular risk,” he said. “It cannot significantly change your cholesterol profile. Cholesterol profile is really genetically controlled.”

“Patients may have an LDL of 190. Less than 100 would be considered normal, and these people have 190 or 220 of LDL and their arteries have been exposed to this LDL since childhood,” Dr. Noel said. “So, it matters if you have a first-degree relative that’s had a heart attack or a stroke, especially at a younger age of 30s or 40s.”

There are no warning signs of high cholesterol

With high cholesterol, there are typically no warning signs. For the most part, the only way to know your cholesterol levels and how they might play into your risk for heart attack and

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stroke is to be evaluated by your physician.

“There are some rare, outward skin findings where you can have some cholesterol deposits under your eyelids and things like that,” Dr. Noel said. “Those don't necessarily correlate to a cholesterol panel. So, somebody may have those and also not have elevated cholesterol.”

“Usually, we check a cholesterol profile on somebody in their 30s and we don't really need to check one again until they're 40 because we understand their cholesterol profile in their risk profile and it's going to be consistent because of their genetics,” he added.

Have your cholesterol levels tested

As for how often a person should have their cholesterol levels tested, “this is very individualized for patients, but the short answer is we over test cholesterol,” Dr. Noel said. “For adults without a known cardiovascular disease or major risk factor, screening every five years is appropriate.”

“Although this should be individualized for each patient, testing should be more frequent in people with diabetes, chronic kidney disease, especially if they have established cardiovascular disease, a strong family history, very high LDL or triglycerides or those receiving cholesterol lowering therapy,” he explained. “When they start therapy, if they start lipid lowering therapy, physicians usually repeat the lipid panel within weeks to months to confirm the response. Once the patient is stable, it can be less frequent, usually every one to three years.”

“We also have guidelines on when we do their first cholesterol panel,” Dr. Noel said, noting that “universal lipid screening around ages 9 to 11, with earlier screening when there is concern for familial hypercholesterolemia or premature cardiovascular disease.”

Ultimately, though, “screening generally starts in young adulthood and can be repeated about every five years in low-risk patients, with more frequent testing when clinically indicated,” Dr. Noel explained. Lipoprotein(a), or “Lp(a), should be checked at least once in adulthood. ApoB and coronary calcium scoring can also be helpful in selected patients

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when risk is unclear."

"Now, if we're treating or we're looking for specific goals, we may repeat it sooner," he added.

Don't rely on behavioral changes alone to lower cholesterol

"You can lower your LDL based on dietary habits by about 10%. The most effective approach is doing something that's sustainable," Dr. Noel said. "So, replacing saturated fats with unsaturated fats. For example, choosing olive oil, nuts, seeds and fish more often while limiting butter, fatty processed meats and heavily processed foods."

"Regular aerobic activity and resistance training improve overall metabolic health and cardiovascular health," he said. "For patients with excess weight, even modest weight loss can improve triglycerides, blood pressure, glucose and fatty liver disease."

"Of course, avoiding tobacco is essential and so is adequate sleep and treatment of sleep apnea also matters majorly because of cardiovascular risk," Dr. Noel said, emphasizing that "lifestyle's fundamental for reducing your cardiovascular risk."

"If you're talking to your doctor, you're wondering whether or not you should treat your cholesterol, you really should look at it from a cardiovascular risk standpoint," he said. "If you have high cholesterol with a low cardiovascular risk, you don't necessarily need to reduce your cholesterol."

Start taking a statin medication for high cholesterol

For most people who are at moderate-to-high risk for heart attacks and strokes, the best way to impact their cholesterol levels and overall risk is to start a statin medication.

"Statins inhibit an enzyme in the liver called HMG-CoA reductase, which reduces cholesterol synthesis. In response, the liver places more LDL receptors on its surface and removes LDL particles from the bloodstream," explained Dr. Noel. "The result is lower LDL

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exposure within the arteries and a lower risk of heart attack, ischemic strokes and atherosclerotic events."

"For some reason, statins have gotten a bad rep in the community. I'm not really sure where that came from," Dr. Noel said, emphasizing that "statins are one of the most well studied, most well tolerated medications that exist."

"The big benefits we get is it reduces your inflammation in your coronary and your cerebral arteries," he said. "Think of statins as an ibuprofen for your coronary arteries, reducing that inflammation or reducing your coronary artery disease as well as reducing your cholesterol. But the big, main effect is prevention of cardiovascular disease."

Adjustments to cholesterol medication dosage may be needed

"When we're talking about primary prevention, the newer guideline brings LDL goals back, generally less than 100 for borderline or intermediate risk and less than 70 for high risk," Dr. Noel said. "You'll get a percentage risk—low <3%, borderline 3–<5%, intermediate 5–<10%, high ?10%."

For a risk of "7.5% to 19%, we really think they need a medicine, and we'll try to recommend that. And a 20% risk is they really need to go on a statin medication," he said, noting that for 20% risk, "we consider moderate to high moderate intensity statins. We recommend a 40% reduction in LDL. High intensity statins, we're looking for a 50% reduction in LDL."

"Then as a secondary prevention goal, we're always looking for your LDL to be less than 55 for very high-risk atherosclerotic cardiovascular disease [ASCVD] and less than 70 for other ASCVD patients, so you may need some medications in addition to a statin to reduce your cholesterol further," Dr. Noel said. With medication, "there has been some evidence that shows that starting low and going slow is the way to go.

"I usually start a statin at a specific dose. If a patient develops statin-induced myopathies, the first thing I'll do is try to reduce the dose to the lowest dose of the statin that I have and

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then titrate them up," he added. "Studies show that about 70% of patients who get medication that way, do well and can tolerate the statin after that."

"Switching up a statin is an option as well. Again, starting at a low dose and titrating up in somebody who has a history of statin induced myopathies," Dr. Noel said.

Antiplatelet therapy may be used for secondary prevention

"Primary prevention is not having a heart attack and trying to prevent your first event—whether a heart attack, stroke or peripheral vascular disease," Dr. Noel said. "There is an entire other category that we look at, which is secondary prevention and that is after a person has had such an event and statins already have been prescribed to prevent secondary events."

"Aspirin, Plavix, Brilinta—those medicines are recommended for secondary prevention," he said, noting "for a long time, baby aspirin was recommended for men 55 to 65 years old for primary prevention. Recent evidence has shown that is not as effective as we once thought it was.

"So, aspirin is not routinely recommended for primary prevention and should be individualized in selected patients, but aspirin and Plavix and those can be recommended for secondary prevention," Dr. Noel added.

Cholesterol and high BP run together

It is important to note that high cholesterol and high blood pressure "share many underlying drivers like aging, genetics, obesity, insulin resistance, poor diet, inactivity and kidney disease," Dr. Noel said. "More importantly, though, their risks compound one another. So, elevated blood pressure injures the arterial wall and will give opportunity for the LDL particles to contribute to plaque formation within that wall."

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“A person with mildly elevated cholesterol and mildly elevated blood pressure may have considerably more overall risk than either number suggests by itself,” he said. “That’s why the modern cardiovascular prevention uses integrated risk assessment rather than treating each number in isolation.”

Watch your alcohol consumption

“Alcohol can raise your triglycerides, worsen blood pressure, add a lot of calories, contribute to atrial fibrillation and damage your liver,” Dr. Noel said. “For patients with elevated triglycerides, reducing or eliminating alcohol can produce a significant improvement.”

Additionally, there’s a popular belief that alcohol—especially red wine—may be good for the heart, but “we don’t recommend nondrinkers begin drinking alcohol for cardiovascular protection,” he said. “Any potential observational association with heart health must be balanced against well-established risk with alcohol.”

“In recent years, we’ve noticed that alcohol is a known carcinogen and increases the risk of several types of cancer,” Dr. Noel said. “Does it maybe have some cardiovascular benefits? Possibly. But the increased risk of cancer and liver disease, the benefits don’t outweigh the risk in that case.”

Skip red yeast rice supplements

“I hear less now about red yeast rice supplements. There are some people who may mention it,” Dr. Noel said, noting that red yeast rice supplements can reduce your cholesterol to some degree. One of the chemicals in it is identical to a drug called lovastatin, but the problem is that active dose can vary substantially between products.”

In fact, “some preparations may contain contaminants, and patients can still develop the muscle or liver adverse effects,” he said, noting that red yeast rice supplements don’t have “the manufacturer consistency, dosing accuracy and clinical outcome evidence that accompany prescription medication.”

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“If a patient needs a statin-like drug, I would rather prescribe the medication at a known dose, monitor the response, and make evidence-based adjustments,” Dr. Noel said, emphasizing that “natural does not necessarily mean safer.”

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