

# Q&A: Dietary cholesterol and how it fits in with a healthy diet

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For more than half a century, scientists have debated the role of dietary cholesterol in a healthy diet. Because it was often associated with saturated fat, limiting dietary cholesterol—especially by restricting egg

consumption—seemed to benefit heart-health efforts.

More recently, accumulating data has caused researchers to broaden their thinking about how dietary cholesterol—and eggs—fit into a healthy eating pattern. "We've advanced considerably," said professor Linda Van Horn, chief of the nutrition division in the department of preventive medicine at Northwestern University's Feinberg School of Medicine in Chicago. "And we proceed on these issues as we learn more."

Change can be confusing. So here are answers to a few common questions.

## **Are dietary cholesterol and blood cholesterol the same thing?**

No. Dietary cholesterol is found in food. Blood cholesterol—which includes HDL ("good") and LDL ("bad")—is one of eight essential measures of heart health identified by the American Heart Association. A diet high in saturated fat can lead to high LDL cholesterol levels and further lead to plaque buildup in the walls of your arteries. This restricts [blood flow](#) and can lead to a heart attack or stroke.

Your doctor can check your [blood cholesterol](#) levels with a blood test.

## **What is dietary cholesterol, then?**

Dietary cholesterol comes from animal-based foods. According to a 2019 AHA science advisory on dietary cholesterol and cardiovascular risk—which Van Horn helped write—high-fat meat, eggs, butter and full-fat dairy products are major sources. It's especially abundant in processed meats—"sausages, burgers, hot dogs or similar foods," Van

Horn said.

Dietary cholesterol also can be found in baked goods made with eggs, butter or cream.

Although dietary cholesterol was once singled out as a contributor to heart disease, the 2019 science advisory said studies have not generally supported an association between dietary cholesterol and cardiovascular risk.

## **How much dietary cholesterol can I eat?**

[Federal dietary guidelines](#) recommend keeping dietary cholesterol consumption "as low as possible without compromising the nutritional adequacy of the diet."

The good news is, that leaves room for flexibility. But it is not a free pass to eat all the dietary cholesterol you want.

"The general recommendation is to eat less than 300 milligrams of dietary cholesterol per day," Van Horn said.

But focusing on that number, or the lack of evidence linking dietary cholesterol to health risks, could be a misstep, she said. That's because foods high in dietary cholesterol also tend to be high in saturated fat. The exception is shellfish, such as shrimp and lobster. Despite being high in dietary cholesterol, shellfish is relatively healthy when not fried.

Overall, Van Horn said, "research has shown that you really cannot isolate dietary cholesterol from that total fat intake." And eating too much saturated fat—along with too much sugar and sodium, and too little fiber—raises the risk of heart disease.

Instead of thinking about how much dietary cholesterol you can get away with, try thinking about eating an all-around [healthy diet](#), with lots of fruits and vegetables, whole grains, healthy sources of protein and low-fat or fat-free dairy products, Van Horn said.

Put another way: If you're eating a healthy diet, Van Horn said, a little butter now and then (and its 31 mg of dietary cholesterol per tablespoon) on your toast should not pose a major risk.

While cholesterol-rich foods are not recommended, she said, "they are better tolerated as a food source when they are the exception and not the rule."

## **Does that mean I can eat eggs?**

First, go back and read the part about the importance of an all-around healthy diet.

One large, whole egg contains around 200 mg of dietary cholesterol. Because of that, Van Horn said it once was considered wise to eat no more than two or three yolks per week. Egg whites are not high in dietary cholesterol.

But research regarding the effects of eggs was complicated by the fact that eggs often are eaten with high-fat foods such as bacon, sausage and butter. These days, Van Horn said, if your LDL cholesterol level is low, a few eggs per week are considered tolerable, depending on the overall content of the diet.

The 2019 science advisory says healthy people can include up to a whole egg or the equivalent in their diets each day; given the nutritional benefits and convenience, [older people](#) with healthy cholesterol levels can have two.

## What if I have high blood cholesterol?

Anyone with a high LDL cholesterol level should consider reducing sources of both saturated fat and dietary cholesterol, Van Horn said, because together they are considered more likely to contribute to arterial plaque. This is especially a concern among people with overweight, obesity or other risk factors.

Some people are genetically predisposed to high blood cholesterol levels. Health care professionals often advise such patients to pay extra attention to what they eat, control their weight and increase their level of physical activity, Van Horn said.

People with healthy blood cholesterol levels should recognize that as they age, their risk increases and tolerance for less-healthy foods can change, she said.

So, it's best to keep the emphasis on "more plant-based eating, including [whole grains](#), fresh fruits and vegetables, along with more fish combined calorie-conscious eating and regular physical activity," Van Horn said.

## Why has dietary cholesterol advice changed over the years?

Scientists learn stuff.

Decades ago, nutrition research was focused on an isolated nutrient or a specific food, Van Horn said. "Nutrition research has shifted that focus to the broader totality of eating patterns and food frequency," she said. "Since nobody eats a nutrient or a food in isolation, the overall dietary intake over the day, the week or the year influences biological factors. These include blood cholesterol, blood pressure, blood glucose—all the

risk factors that are examined, evaluated and studied to prevent heart disease."

While dietary cholesterol remains important to researchers, it's of less concern now, Van Horn said. That's because the average American's blood cholesterol level has gone down in recent decades, and some of that is thanks to statin medications and a better understanding of diet, she said.

"Now, the resounding benefit of a diet higher in plant-based foods continues," she said. "Typically, those are not high sources of dietary cholesterol."

Put another way, the foods once shunned due to their high dietary [cholesterol](#) content only come from animal products, and they should still not be the focus of your [diet](#).

## **But it's settled now, right?**

Diet and [dietary cholesterol](#) remain important topics of [nutrition research](#). Van Horn pointed out that the Nutrition for Precision Health study promises to unlock relationships between what we eat, the microbiome inside our bodies and biomarkers for assessing health status that have "never before been studied as comprehensively and systematically as they are now," Van Horn said.

The study's overarching goal is to identify preventive ways to tailor nutrition recommendations to each person's genetic, lifestyle and environmental needs to achieve better health over the life span.

"So stay tuned," she said.

Provided by American Heart Association

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