



# EFFECTS OF AVOCADO ON LDL-CHOLESTEROL LEVELS



## EVIDENCE FROM A SYSTEMATIC REVIEW

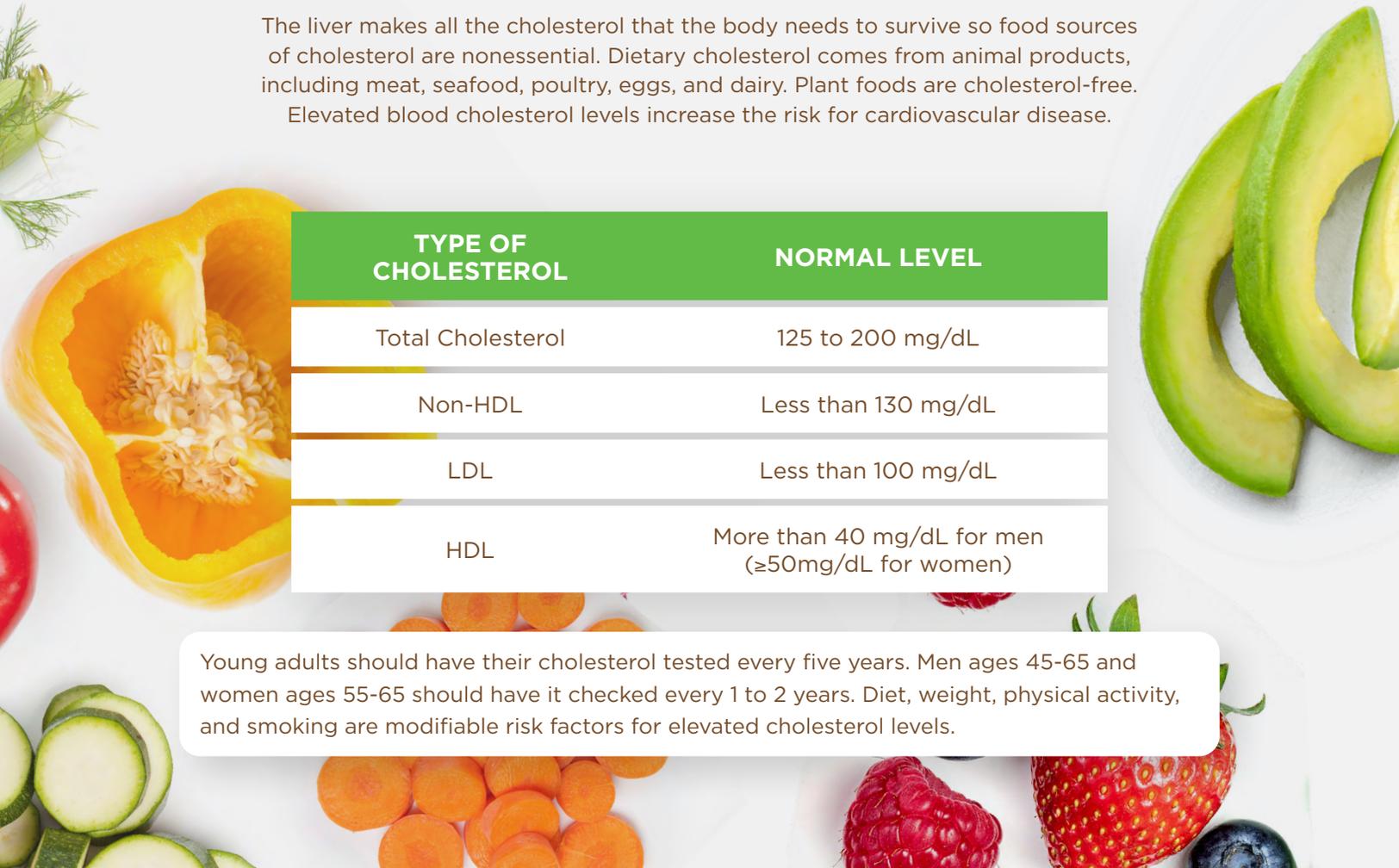
More than one-third of Americans have elevated cholesterol, putting them at risk for heart disease and stroke, two of the leading causes of death in the United States. Unfortunately, hypercholesterolemia has no apparent symptoms, so regular blood work is essential for detection.

## CHOLESTEROL REFRESHER

The liver makes all the cholesterol that the body needs to survive so food sources of cholesterol are nonessential. Dietary cholesterol comes from animal products, including meat, seafood, poultry, eggs, and dairy. Plant foods are cholesterol-free. Elevated blood cholesterol levels increase the risk for cardiovascular disease.

TYPE OF CHOLESTEROL	NORMAL LEVEL
Total Cholesterol	125 to 200 mg/dL
Non-HDL	Less than 130 mg/dL
LDL	Less than 100 mg/dL
HDL	More than 40 mg/dL for men (≥50mg/dL for women)

Young adults should have their cholesterol tested every five years. Men ages 45-65 and women ages 55-65 should have it checked every 1 to 2 years. Diet, weight, physical activity, and smoking are modifiable risk factors for elevated cholesterol levels.



# RESEARCH ON AVOCADOS AND LDL-CHOLESTEROL LEVELS

A systematic review and meta-analysis evaluated evidence from randomized controlled trials (RCTs) and systematic reviews for evidence of how foods impact LDL-cholesterol levels.

The risk of bias was assessed using a modified A MeaSurement Tool to Assess systematic Reviews (AMSTAR) tool, and manuscripts were evaluated by all authors. Grading of Recommendations Assessment, Development and Evaluation (GRADE) strength of evidence was established for each review.

***The impact of avocado intake on LDL-C was evaluated across 12 RCTs and 14 comparisons.***

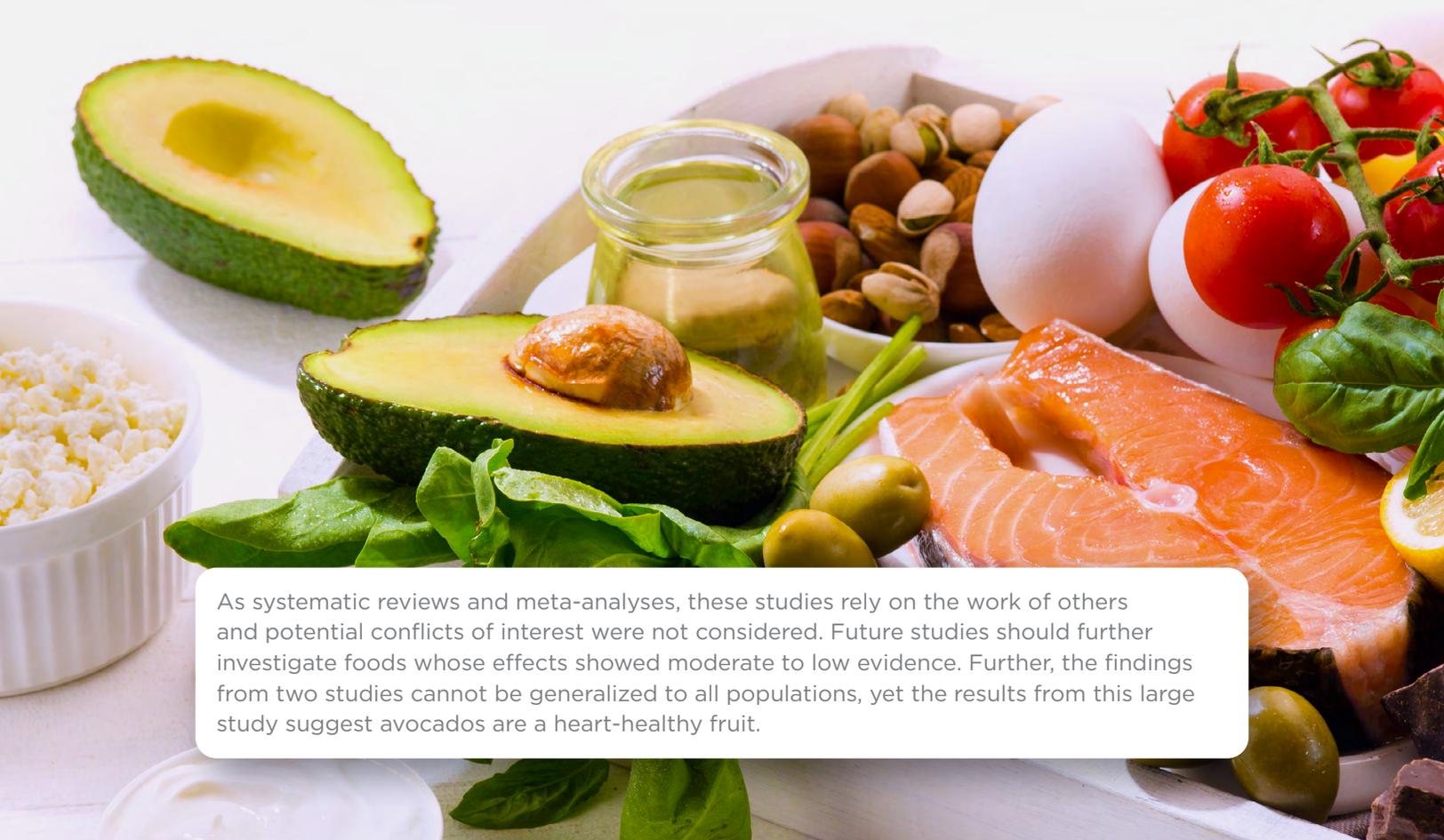


Ten studies substituted avocado for other fat sources, and two studies added avocado to the habitual diet. The mean intervention dose of avocado was 219 grams per day or 22.5% of energy. But due to the risk of bias and inconsistency, researchers concluded with moderate evidence that avocado intake has a medium-to-large impact on LDL-C.

Researchers identified a moderate-to-large effect of avocado on LDL-cholesterol.

In addition, another meta-analysis found that among 264 adults with high blood cholesterol, avocado consumption is associated with a reduction in LDL-cholesterol levels and does not negatively impact body weight. This analysis included eight clinical trials in which avocado dose ranged between 136 and 330 grams per day.

***The findings from these two analyses indicate that eating avocado favorably impacts LDL-cholesterol.***



As systematic reviews and meta-analyses, these studies rely on the work of others and potential conflicts of interest were not considered. Future studies should further investigate foods whose effects showed moderate to low evidence. Further, the findings from two studies cannot be generalized to all populations, yet the results from this large study suggest avocados are a heart-healthy fruit.

# HEART HEALTHY AVOCADOS

Monounsaturated fats can help lower LDL cholesterol. Keeping LDL levels low reduces risk for heart disease and stroke. ***Five grams of monounsaturated fat are naturally found in one-third of a medium avocado.***

As part of an overall healthy diet, dietary fiber from fruit helps reduce blood cholesterol levels and may lower the risk of heart disease.

***Avocados are a good source of fiber.***



***Avocados contribute phytosterols (38 milligrams of beta-sitosterol per 50-gram serving), which may help maintain healthy cholesterol levels.***

Sterols consumed twice daily as part of a low-in-saturated-fat-and-cholesterol diet help lower total and LDL cholesterol levels in the blood.

## Reference:

1. Schoeneck, et al. "The effects of foods on LDL cholesterol levels: A systematic review of the accumulated evidence from systematic reviews and meta-analyses of randomized controlled trials." *Nutrition, Metabolism, and Cardiovascular Diseases*. 2021.
2. James-Martin, et al. "Avocado consumption and cardiometabolic disease risk factors: a systematic review and meta-analysis." *Journal of the Academy of Nutrition and Dietetics*. 2022.

# SUPPORT YOUR CLIENTS IN CHOOSING HEART-HEALTHY AVOCADOS

Encourage your clients to try these **American Heart Association Certified recipes** throughout the day:

## BERRY AVOCADO BAKED OATS

Naturally sweetened with fruit, these baked oats fuel the whole family to kickstart the day.



## CUMIN LIME SHRIMP OVER CREAMY CAULIFLOWER RISOTTO

A quick and tasty dinner where avocado gives the dish a smooth, indulgent texture.



## AVOCADO BANANA "ICE CREAM"

A creamy and refreshing treat to boost dietary fiber.

