



LARGE PROSPECTIVE STUDY LINKS **AVOCADO INTAKE** AND **LOWER CARDIOVASCULAR DISEASE**

Heart disease is responsible for one in every four American deaths. It's the number one cause of death in the US and is a chief reason for disability. Modifying certain risk factors for cardiovascular diseases may help your clients live longer, healthier lives.

FIRST LARGE PROSPECTIVE STUDY LINKS AVOCADO INTAKE AND LOWER CARDIOVASCULAR DISEASE RISK

Research¹ published in the *Journal of the American Heart Association* by Harvard researchers found that **eating one or more avocados weekly was associated with reduced risk for cardiovascular diseases** in a large prospective study. Researchers followed 110,487 participants for 30 years while collecting dietary intake with food frequency questionnaires every four years. The data models were adjusted for cardiovascular risk factors and diet quality.

Researchers found that
study participants were:

16% & 21%

less likely to develop
cardiovascular disease

less likely to develop
coronary heart disease



**when they consumed at least
one avocado a week** compared
to those who never or rarely
ate avocados.

*No significant association was found for
avocado intake and stroke.*

The models demonstrated that **replacing half a serving daily of margarine, butter, egg, yogurt, cheese or processed meats with the same amount of avocado resulted in a 16% - 22% lower risk of cardiovascular disease**. Swapping avocado for foods that also contain unsaturated fats did not show additional benefit.



The study design does not show a direct cause and effect. The research was limited to self-reported dietary collection and participants were mostly white nurses and healthcare professionals. Yet, these research results further support avocados as a heart-healthy fruit.

RECOMMENDED **HEART-HEALTHY** HABITS FOR YOUR CLIENTS



Replace saturated and trans fats in the diet with healthier, unsaturated fats.



Eat fiber-rich foods.



Load meals and snacks with fresh fruits and vegetables and fewer processed foods.



Reduce intake of foods rich in cholesterol, added sugar, and sodium.



Maintain a healthy body weight, stay physically active, and avoid smoking.



Fiber + unsaturated fats = fresh heart healthy avocados.

Reference:

1. Pacheco, et al. "Avocado Consumption and Risk of Cardiovascular Disease in US Adults." Journal of the American Heart Association. 2022.

TASTY WAYS TO INCLUDE HEART-HEALTHY AVOCADOS IN MEALS

Avocados fit into *Dietary Guidelines for Americans* recommendations.

MyPlate recommends making half your plate fruits and vegetables.



One avocado counts as one cup of vegetables out of the 2-3 cups recommended daily for adults.

Following a healthy eating pattern across the lifespan, within an appropriate calorie level, can help people achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of chronic diseases such as cardiovascular disease.

MORE THAN

90% & **97%**
of women of men

in the United States **do not** meet recommended intakes for dietary fiber.

Encourage your clients to try these recipes to boost intake of fiber and unsaturated fats:

Heart-Healthy Baked Potato with Salsa Fresca and Avocado



Heart-Healthy Grilled Shrimp Avocado Veggie Skewers



Heart-Healthy Fettuccini AvoFredo



Find more flavorful ways to enjoy avocado at www.loveonetoday.com/recipes



EFFECTS OF AVOCADO ON LDL-CHOLESTEROL LEVELS

EVIDENCE FROM A SYSTEMATIC REVIEW

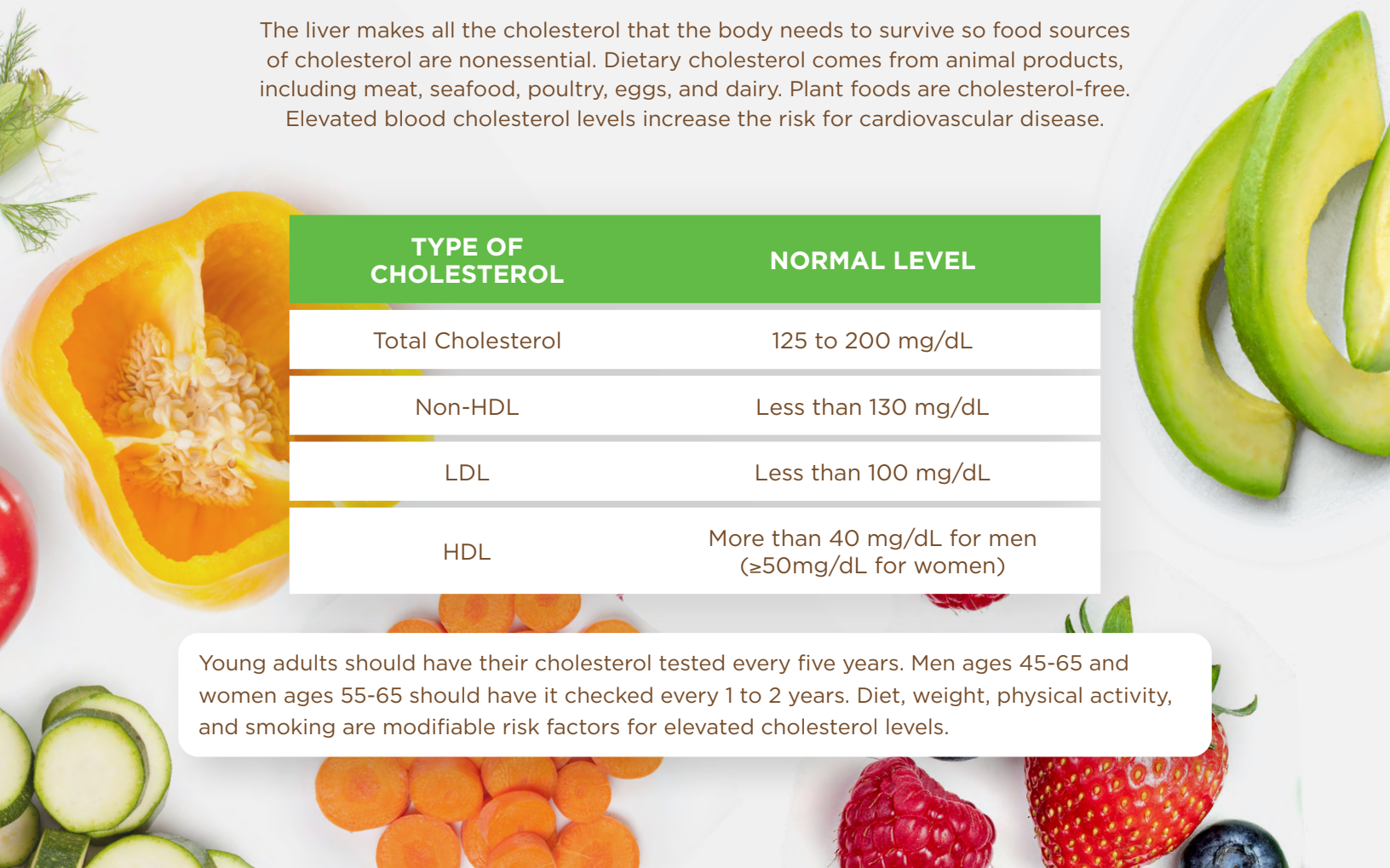
More than one-third of Americans have elevated cholesterol, putting them at risk for heart disease and stroke, two of the leading causes of death in the United States. Unfortunately, hypercholesterolemia has no apparent symptoms, so regular blood work is essential for detection.

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.





AVOCADOS, CHOLESTEROL, and YOU

Include delicious, heart-healthy avocados in everyday healthy eating plans to help increase fruit and vegetable intake and provide a whole food source of naturally good fats, fiber and other important nutrients. Avocados are also low in saturated fat, cholesterol-free, and sodium-free.



AVOCADOS CONTAIN GOOD MONOUNSATURATED FATS

Monounsaturated fats can help reduce bad cholesterol levels in your blood which can lower your risk of heart disease and stroke.

One third of a medium avocado contains 5 grams of good monounsaturated fat.



AVOCADOS ARE A GOOD SOURCE OF FIBER

Avocados are a great fresh fruit option to help boost fiber intake.

30% of the fiber in an avocado is soluble fiber which helps prevent your digestive tract from absorbing cholesterol. Diets rich in healthy foods containing fiber may reduce the risk of heart disease, obesity, and type 2 diabetes.



AVOCADOS CONTAIN PHYTOSTEROLS

Phytosterols are naturally occurring substances found in avocados and other plant foods that help to block the absorption of cholesterol in the body when consumed twice daily as part of a diet that is low in saturated fat and cholesterol. One-third of a medium avocado contains 38 milligrams of beta-sitosterol.



HOW CAN YOU EAT MORE HEART-HEALTHY AVOCADO?

It's simple! Just trade one food for a serving of avocado.

MyPlate recommends making half your plate fruits and vegetables. One avocado counts as one cup of vegetables out of the 2-3 cups recommended daily for adults.



Spread avocado on your toast or bagel instead of butter, margarine or regular cream cheese.



Replace regular sour cream dips with guacamole.



Replace one-half the oil or butter in your baked good recipe with equal amount of pureed avocado.



Add avocado chunks to chili, tacos, soups and burritos instead of regular fat cheese.



Use avocado spread as a condiment on your sandwich.



Need more fiber in your smoothie? Avocados help boost fiber intake.



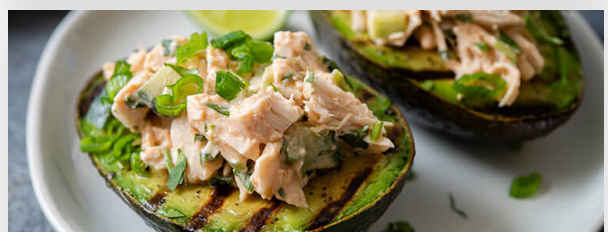
Bake an egg inside an avocado half and ditch the toast.



Use a homemade, creamy avocado dressing on your salad.



Whip up some creamy, homemade avocado ice cream.



Looking for a lower-carb power lunch? Top half of an avocado with tuna or chicken salad.



AVOCADO BAGEL SPREAD

INGREDIENTS

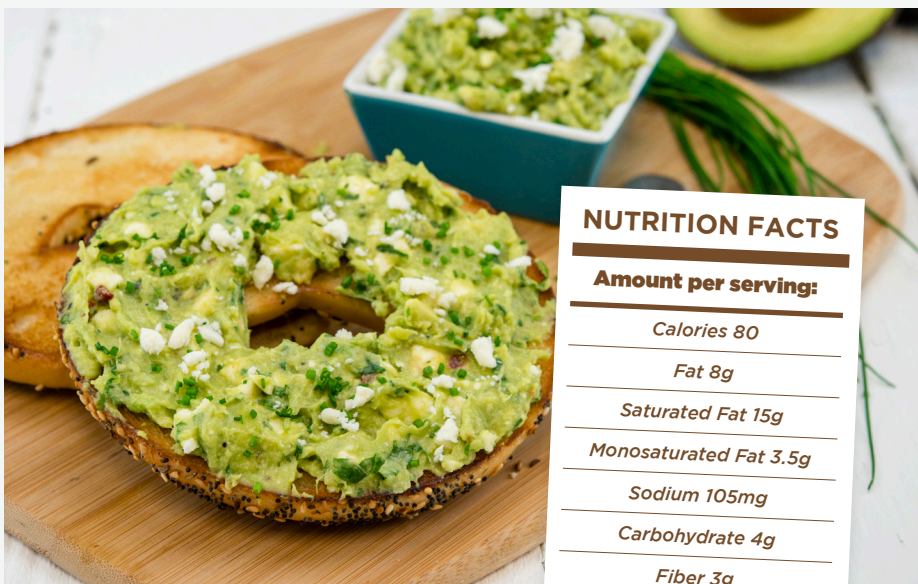
- 1 ripe, fresh avocado, halved, pitted and peeled
- 1 oz. Feta cheese
- 1/4 tsp. onion powder
- 1 1/2 Tbsp. chives or cilantro, chopped
- 1/8 tsp. ground black pepper
- Dash of cayenne pepper
- Sea salt (to taste)
- Red pepper flakes (to taste)
- 1 Tbsp. fresh squeezed Lemon juice

Alternative Seasoning Options:

- 1/4 tsp. Lemon pepper (in place of onion powder)

INSTRUCTIONS:

1. Combine avocado with goat cheese and mix until well blended.
2. Add remaining seasonings and mix well.
3. Adjust sea salt and red pepper flakes to taste.
4. Garnish with fresh lime slices and a sprig of cilantro.



NUTRITION FACTS

Amount per serving:

Calories 80

Fat 8g

Saturated Fat 15g

Monosaturated Fat 3.5g

Sodium 105mg

Carbohydrate 4g

Fiber 3g

Protein 2g



MEXICAN "HOT CHOCOLATE" SPICED AVOCADO MINI MUFFIN BITES



NUTRITION FACTS

Amount per muffin:

Calories 100

Fat 4g

Saturated Fat 1g

MUFA 2g

Sodium 60mg

Carbohydrate 14g

Fiber 1g

Protein 2g

INGREDIENTS

- 1 3/4 cups flour, sifted
- 1/2 cup unsweetened cocoa powder, sifted
- 1 1/2 tsp. baking powder
- 2 very ripe, fresh avocados, halved, peeled, pitted and mashed
- 1 1/2 tsp. ground cinnamon
- 1/2 tsp. salt
- 1/8 tsp. ground cayenne pepper
- 1/4 cup canola oil
- 1 cup sugar
- 1 cup low-fat milk or plain soymilk
- 2 eggs
- 1 1/2 tsp. vanilla
- 1/2 cup mini chocolate baking morsels

INSTRUCTIONS:

1. Preheat oven to 350° F. Line 36-count mini muffin tin with muffin cups.
2. Combine flour, cocoa, baking powder, cinnamon, salt and cayenne pepper.
3. With an electric mixer, beat mashed avocado, sugar and canola oil until smooth. Add milk, eggs and vanilla. Stir to combine. Add dry ingredients, mixing on low until combined. Stir in mini chocolate morsels.
4. Divide batter among 36 mini muffin cups. Bake until center resists light pressure, 10 to 12 minutes. Cool on a wire rack.

fresh avocados

LOVE
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heart-healthy • good source of fiber

Avocados are a nutrient-dense, versatile fruit that can be eaten alone or used in a variety of tasty recipes – from spreads to salads to baked goods – all of which can fit into a sensible eating plan.

For more recipes, visit www.LoveOneToday.com.

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