The Peanut Institute
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FOOD FOR THOUGHT

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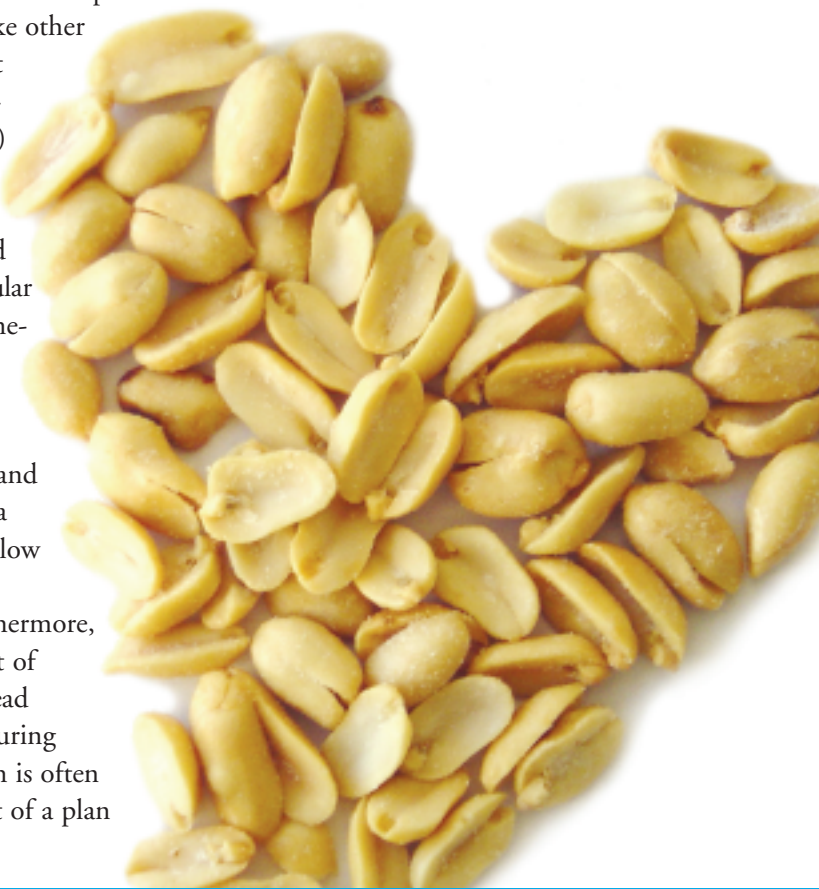
# Eating Peanuts & Peanut Butter to Improve Heart Disease Risk

While the "old" thinking was to exclude "bad" foods from the diet, the "new" thinking is to include beneficial foods to form an overall healthful dietary pattern. This new thinking is a result of research that points to an optimal diet combined with other positive lifestyle factors to prevent a myriad of chronic diseases, including cardiovascular disease (CVD).

A major meta-analysis conducted by Harvard University reveals compelling evidence for making the following top three dietary changes to prevent coronary heart disease (CHD):

- "Substitute non-hydrogenated unsaturated fats for saturated and trans fats;
- increase consumption of omega-3 fatty acids from…plant sources [such as nuts, fish, or fish oil]; and
- consume a diet high in fruits, vegetables, nuts, and whole grains and low in refined grain products (1)."

The study summarizes what previous clinical studies have shown—peanuts and peanut butter, like other foods with significant amounts of monounsaturated fat (MUFA) and polyunsaturated fat (PUFA), can help lower cholesterol, and thus lower cardiovascular disease risk. This benefit is most apparent when peanuts are substituted for foods high in saturated fat and consumed as part of a calorie-balanced diet low in saturated fat and cholesterol (2). Furthermore, eating peanuts as part of a balanced diet can lead to increased satiety during weight loss (3), which is often recommended as part of a plan to reduce CVD risk.



**Scientific evidence suggests** but does not prove that eating 1.5 ounces [or 42 grams] of most nuts, such as peanuts, as part of a diet low in saturated fat and cholesterol may reduce the risk of heart disease. See nutrition information for fat content – FDA Approved Qualified Health Claim, July 2003.

# "Peanut and Peanut Butter Diet" Lowers Heart Disease Risk

New research shows that a higher unsaturated-fat, lower-carb, peanut and peanut butter diet for weight loss reduces the risk of cardiovascular disease by 14% compared to baseline (4). This ground-breaking study proves that the way you lose weight is important for long-term health. According to the principal investigator and distinguished professor of nutrition at The Pennsylvania State University, Penny Kris-Etherton, PhD, RD, "The peanut-rich, higher unsaturated-fat diet resulted in favorable heart-health benefits. The low-fat group, in contrast, lowered the 'good' HDL cholesterol and showed a rebound in triglycerides during weight maintenance."

In fact, this is the first study to show that, even with weight loss, a low-fat diet did not improve triglyceride levels for the long term. Those on the higher unsaturated fat peanut and peanut butter diet lost the same amount of weight as those on the low-fat diet (2.5 pounds per week), but also had the added cardiovascular benefit of maintaining "good" high-density lipoprotein (HDL) cholesterol and lowering triglyceride levels. In addition, people who ate the moderate-fat diet were able to favorably affect certain cholesterol ratios, which are increasingly seen by health professionals as a more comprehensive assessment of heart disease risk. Thus, a balanced diet with peanuts and peanut butter can help with weight loss while improving heart health—and eating satisfaction! The key is to replace foods high in saturated fat with peanuts and peanut butter. A study from Harvard University emphasizes that nuts are an important addition to a heart-healthy diet, especially when they replace foods high in saturated fat (5). The review summarizes several large epidemiological studies, such as The Adventist Health Study, The Iowa Women's Health Study, and The Nurses' Health Study, that have shown an inverse relationship between frequency of nut consumption and risk of coronary heart disease (6-10). Population and clinical studies draw attention to the importance of distinguishing among different types of fat, with emphasis on including the "good" unsaturated fats such as those found in peanuts and peanut butter (11).

## Making Room for Peanuts and Peanut Butter

- Instead of jam or butter on bread or toast, spread on peanut butter.
- Use one tablespoon less oil when making stir-fry meals, adding a tablespoon of peanut butter for a creamy texture instead.
- For a snack, skip the sweets and grab a small package of peanuts or trail mix with peanuts.
- Forgo ice cream in favor of adding a spoonful of peanut butter to a banana smoothie.


## Nuts and Peanuts Health Claim

The US Food and Drug Administration (FDA) has approved a qualified health claim for nuts and peanuts. Food labels may state:

**"Scientific evidence suggests but does not prove that eating 1.5 ounces [or 42 grams] of most nuts, such as peanuts, as part of a diet low in saturated fat and cholesterol may reduce the risk of heart disease. See nutrition information for fat content"** (12).

One of the strongest studies presented to FDA in support of the qualified health claim was a six-month controlled study done at Pennsylvania State University. Subjects following a diet with peanuts and peanut butter daily lowered total cholesterol by 11% and lowered the bad low-density lipoprotein (LDL) cholesterol by 14%. Triglycerides were also lowered and the good high-density lipoprotein (HDL) cholesterol was maintained. Overall, the higher monounsaturated fat (MUFA) diet reduced the risk of heart disease by 21% as compared to a diet higher in saturated fat. In the same study, a low-fat diet reduced the risk by only 12% compared to the higher saturated fat diet. The researchers concluded, "Currently…the evidence available is sufficient to consider a high-MUFA, cholesterol-lowering diet that includes peanuts and nuts as an acceptable, and perhaps preferable, dietary approach for most favorably affecting CVD risk status" (2).

# Peanuts Are "Nutrient-Dense" Food in Line with Dietary Guidelines

Diet is one risk factor that can be modified to improve health. New guidelines from the American Heart Association (13) and the US National Cholesterol Education Program (NCEP) (14) reflect current research with liberalized recommendations for total fat, allowing 25 to 35% of total calories from fat (about 20% from monounsaturated fat and 7% from saturated fat). Since the recommendations suggest a higher percentage of fat, the guidelines recommend consuming a slightly lower percentage of carbohydrates. There is also emphasis on the quality of carbohydrate to increase fiber intake and whole-grain consumption.

Beyond "good" unsaturated fat, peanuts contain many other nutrients that are important for cardiovascular health. Peanuts contain many nutrients per calorie, which makes them a "nutrient-dense" food. Peanuts provide fiber and plant protein and are particularly rich in the amino acid arginine, a precursor to nitric oxide, which helps to dilate blood vessels and improve blood flow. Peanuts are also a good source of folate, potassium, magnesium, and vitamin E, all which are thought to be important for heart health.

Scientists are only beginning to understand the role that some micronutrients, such as magnesium, play in health and cardiovascular disease. For example, increased levels of blood magnesium help to prevent the formation and the movement of blood clots, known risk factors for heart disease. A recent study at Purdue University showed that subjects with low levels of magnesium in their blood were brought up into normal ranges when they ate peanuts every day (15). Eating peanuts on a regular basis may be an effective way to increase magnesium status and thereby reduce cardiovascular risk (15).

Scientists have also discovered certain components of foods called phytochemicals, which have been shown to be beneficial to heart health. Resveratrol, a phytochemical found in red wine and peanuts, has been associated with a reduced risk of cardiovascular disease, in part due to its role as an antioxidant (16). Other research has shown that resveratrol has positive effects beyond its antioxidant characteristics, such as preventing cells from sticking to artery walls (cell adhesion), thereby decreasing the risk of clogged arteries (17).

First steps toward improving heart health may be as simple as substituting peanuts and peanut butter in place of foods high in saturated fat.

Peanuts contain another phytochemical, a plant sterol known as beta-sitosterol (SIT). Phytosterols such as SIT have been shown to lower plasma cholesterol by decreasing absorption of cholesterol into the blood from the intestine (18). Accordingly, food companies have started adding different phytosterols to foods, such as margarines and salad dressings, to provide this health benefit (19). Advertisements encourage consumers to eat three servings per day of these fortified foods to lower cholesterol. Peanuts and peanut butter lower cholesterol as well as fortified margarines, although peanuts contain lower amounts of phytosterols than fortified margarines do (2,19,20).

## National Cholesterol Education Program Guidelines (14)

| | |
|---|---|
| Total Fat* | 25-35% |
| Saturated Fat* | <7% |
| Carbohydrate* | 50-60% |
| Protein* | ~15% |
| Body Weight and Exercise | Balance intake and expenditure to maintain weight |

*As percentage of total calories

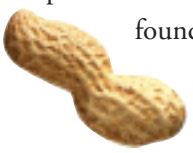
### Small Changes Lead to Big Rewards

Even small changes in dietary patterns positively affect heart health. Given that cardiovascular disease is the number one cause of death among men and women in the US, recommendations have been established to encourage these positive lifestyle changes. The good news is that some foods like peanuts and peanut butter offer a multitude of nutrients and potential health benefits. First steps toward improving your heart health may be as simple as substituting peanuts and peanut butter for foods high in saturated fat or refined carbohydrates.

# Update:

# Trans Fat Non-detectable in Commercial Peanut Butter

A report from the Institute of Medicine suggests limiting trans fat as much as possible (21). A USDA study analyzed 11 different commercial and natural brands of peanut butter, including Jif, Skippy, Peter Pan, and Smuckers, and found trans fat was non-detectable in all of the samples (22). All peanut butter jars can list zero grams of trans fat on the label according to trans fat labeling regulations (23). Therefore, there is no reason to choose natural peanut butter over commercial brands of peanut butter on the basis of trans fat.



**Go to www.peanut-institute.org for:**

- Peanut and peanut butter nutrition research
- Recipes
- Meal plans
- Educational materials

**The Peanut Institute** is a non-profit organization that supports nutrition research and develops educational programs to encourage healthy lifestyles.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weight-loss diet may be more beneficial than a low-fat diet for heart health. A clinical study showed that a moderate-fat diet with peanuts and peanut butter daily lowered total cholesterol by 11% and the ÒbadÓ low-density lipoprotein (LDL) cholesterol by 14%. Triglycerides were also lowered but the good HDL cholesterol was maintained. The higher monounsaturated-fat diet reduced the risk of heart disease by 21%, compared to the typical American diet. The low-fat diet reduced the risk by only 12% compared to the typical American diet (4).

n A USDA study found that trans fat was non-detectable in 11 types of both natural and commercial brands of peanut butter, including Skippy, Jif, Peter Pan, and Smuckers (5). All types of peanut butter can list zero grams of trans fat on the Nutrition Facts panel, according to trans fat labeling regulations that were approved in July 2003.

## Quick Facts about Peanuts & Peanut Butter

n Peanuts and peanut butter, like all plant foods, contain no cholesterol.
n Commercial peanut butter brands and natural brands both contain non-detectable levels of trans fat. Therefore, both labels list zero grams of trans fat.
n Peanuts contain phytochemicals such as beta-sitosterol and resveratrol, the same antioxidant found in red wine, both of which are beneficial for heart health.

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n A clinical study from Purdue University showed that eating about three ounces of peanuts daily significantly increased intake of magnesium, fiber, folate, vitamin E, copper, and arginine, all of which are important for heart health. The study also found that eating peanuts significantly increases blood levels of magnesium (6).

## Dietary Recommendations

n Current guidelines from both the National Academy of Science (NAS) and the National Cholesterol Education Program (NCEP) recommend a moderate-fat diet (25 to 35% of calories from fat), provided most of the fat is unsaturated (7,8).

n The National Academy of Science issued a report with recommendations to limit trans fat in the diet as much as possible (9).

n The American Heart Association allows for up to 35% of calories from fat and recommends foods with unsaturated fat such as vegetable oils, nuts, and fish (10).

## Replacing Foods High in Saturated Fat with Peanuts or Peanut Butter

n Spread peanut butter on a slice of whole-grain toast instead of an English muffin with butter.
n Add half of an ounce of peanuts to your salad in place of croutons.
n Dip celery in peanut butter instead of a cream cheese dip.
n For a change, replace the usual spaghetti and meatballs with a Thai-inspired, whole-wheat pasta dish with peanut butter sauce.
n Spread some chunky peanut butter on a half of a banana for a sweet, balanced evening snack.

[redacted] Maddox DH, [redacted], Kris-Etherton [redacted]-fat (from monounsaturated fat) and low-fat weight-loss diets on the serum lipid profile in overweight and obese men and women. American Journal of Clinical Nutrition. 2004;79:204-212.
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