

# JUICE PLUS+® PREVENTION *Plus*+®



## Juice Plus+® and Coronary Heart Disease

Can Juice Plus+® reduce risk factors associated with heart disease? A new clinical study from Australia suggests that the answer is “yes.”



Samir Samman, Ph.D.

According to the Centers for Disease Control and Prevention, heart disease is far and away the leading cause of death in the U.S. among both women and men, accounting for almost 30% of all deaths. And science has consistently demonstrated that eating more fruits and vegetables reduces the risk of heart disease. But some have theorized that this might be due as much to the fact that fruits and vegetables “displace” unhealthy foods in the diet as to the nutritional benefits of the fruits and vegetables themselves.

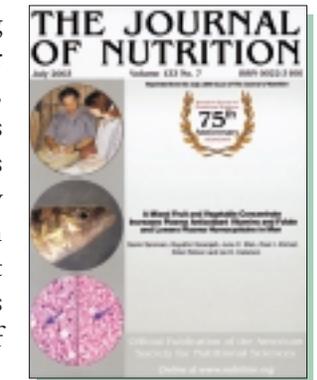
In a study published in the July 2003 issue of *The Journal of Nutrition*, researchers set out to determine whether taking Juice Plus+ Orchard Blend® and Garden Blend® capsules can in fact lower coronary heart disease (CHD) risk factors, consistent with increasing fruit and vegetable consumption, even in the absence of “dietary displacement” of less healthy foods.

To test their hypothesis, team leader Samir Samman, Ph.D. and his colleagues at the Human Nutrition Unit of the **University of Sydney’s School of Molecular and Microbial Biosciences** evaluated test subjects for two key risk factors associated with coronary heart disease. They drew blood samples on three occasions: once before sub-

jects started taking Juice Plus+® (or placebo) capsules, then 21 and 42 days later. Test subjects were specifically asked to maintain their regular diet and exercise patterns for the duration of the test.

The first risk factor they analyzed was the level of homocysteine in the bloodstream. Homocysteine is an amino acid produced by the body that can accumulate to unhealthy levels when people don’t eat as well as they should. Previous research has shown that elevated levels of homocysteine in the blood correlate to a significantly elevated risk of heart attack, stroke, venous thromboembolism (blood clots in the veins) and other forms of cardiovascular disease, as well as to a greater risk of Alzheimer’s disease. A reduction in homocysteine in the blood would thus suggest a corresponding reduction in the risk of coronary heart disease.

On this score, the **researchers stated conclusively: “Supplementation with a mixed fruit and vegetable concentrate [Juice Plus+®] lowers plasma homocysteine.”** They emphasized that this reduction “occurred in the absence of dietary displacement.”



### Inside...

*Fruits, vegetables and heart disease*

*Prevention Plus+ Profile: Doug Odom, M.D.*

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# The Whole Truth about Heart Disease

*Eating more fruits and vegetables clearly reduces the risk of heart disease . . .*

Several recent studies show that eating more fruits and vegetables reduces the risk of coronary heart disease (CHD).

In a study of fruit and vegetable consumption among 39,000 female health professionals, a group of Harvard researchers found that women who consumed from 4 to 10 or more servings of fruits and vegetables a day had a 20% to 30% lower risk of cardiovascular disease than those who ate an average of 2.5 servings a day. (*The American Journal of Clinical Nutrition*)

Harvard researchers also analyzed data from 45,000 men in the Health Professionals Follow-Up Study. After 8 years of study, the researchers reported that the men who followed a “prudent” diet pattern (high in fruits, vegetables, whole grains, fish, and poultry) were less likely than others in the study to develop heart disease. (*The American Journal of Clinical Nutrition*)

Researchers from the Harvard School of Public Health followed 15,220 men for 12 years, during which time there were 1,148 cases of coronary heart disease. The men were divided into five groups based on daily vegetable intake. Those in the highest intake group (who only averaged two and one-half servings of vegetables a day) had a 23% reduction in occurrence of CHD compared to the lowest intake group. (*International Journal of Epidemiology*)

Researchers from the Harvard School of Public Health also tracked some 42,000 men between the ages of 40 and 75 for 8 years, and more than 84,000 women between the ages of 34 and 59 for 14 years. They found that subjects who increased fruit and vegetable consumption by one additional serving per day reduced their risk for coronary heart disease by 4%.

Each additional serving of fruits and vegetables was associated with another 6% reduction in CHD risk; an incremental serving of green leafy vegetables was associated with a 23% risk reduction. Subjects who consumed 8 or more servings of fruits and vegetables a day had over a 20% reduced risk of CHD compared to those who consumed less than 3 servings a day. (*Annals of Internal Medicine*)

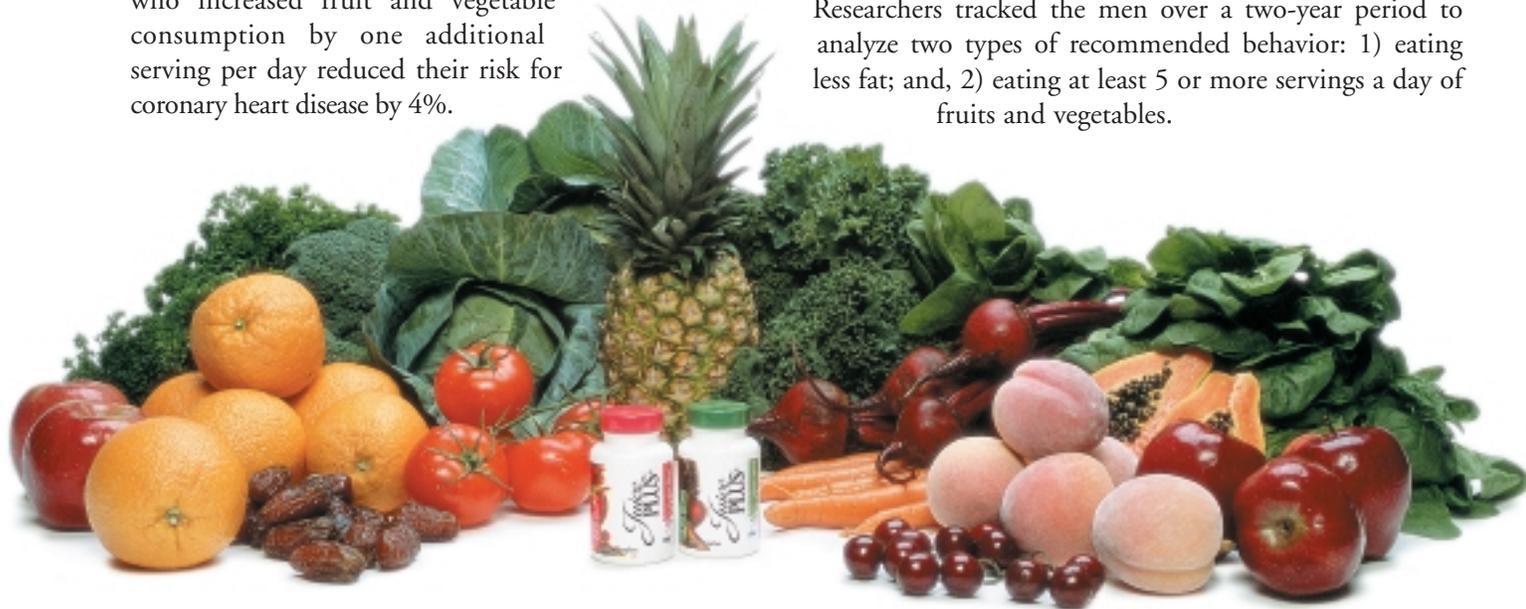
Kaumudi Joshipura, assistant professor of epidemiology at the Harvard School of Public Health, concluded: “Reducing the risk for coronary heart disease is as easy as going to the produce section of the grocery store.”

*. . . yet people still won't do it.*

A study appearing in the July/August 2003 issue of the *American Journal of Health Promotion* shows just how difficult it can be to get people to eat more fruits and vegetables – even those who have recently had a heart attack and/or heart-bypass surgery.

The study followed 118 overweight men enrolled in a 12-week cardiac rehabilitation program. A dietitian worked individually with each man to develop a heart-healthy diet plan. The men also attended a group education session for one hour each week. There they learned about reducing fat, salt, and sugar in the diet; increasing dietary fiber, and fruits and vegetables; using herbs and spices to make food taste better; and, making better food choices when dining out.

Researchers tracked the men over a two-year period to analyze two types of recommended behavior: 1) eating less fat; and, 2) eating at least 5 or more servings a day of fruits and vegetables.





## Prevention Plus+ Profile: Doug Odom, M.D.

**Home:** Jackson, Mississippi

**Specialty:** Obstetrics and Gynecology

**Education:** Graduated from University of Southern Mississippi in 1966. Graduated from University of Mississippi Medical School in 1969. Interned at St. Elizabeth Medical Center in Dayton, Ohio. Completed three-year OB/GYN residency at the University of Mississippi Medical Center in 1973.

**Current positions:** Assistant Clinical Professor, University of Mississippi Medical School. Private OB/GYN practice for over 30 years.

**Greatest accomplishments:** “Delivering thousands of babies” and “raising five healthy and happy sons with my lovely wife.”

**Hobbies:** Scuba diving, swimming, biking, hiking, teaching, traveling, and “coaching the boys.”

**Health advice:** “Better nutrition leads to healthier babies. It’s as simple as that.”

**On the challenges of being a physician:** “Being the best doctor you can be is extremely time-consuming; meeting my patients’ needs (oftentimes in the wee hours of the morning); always trying to stay on the ‘cutting edge’; keeping up with the very latest techniques.”

**Why he recommends Juice Plus+® to his patients:** “At first I recommended Juice Plus+® simply because I *believed* that better nutrition would lead to improved medical outcomes. Now I recommend Juice Plus+® because I *know* that it’s true. Because of Juice Plus+®, my patients experience fewer early deliveries, fewer C-sections, a lower incidence of pre-eclampsia, better birth weights, fewer admissions to neonatal intensive care, and a lower incidence of respiratory distress syndrome.”

*“Better  
nutrition  
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*Dr. Doug Odom is one of the many prominent health professionals speaking to audiences around the world as part of our Juice Plus+® Prevention Plus+ Health Education Series. If you'd like to attend a Prevention Plus+ Seminar in your area, ask your Juice Plus+® representative or call us at 1-877-JUICEPLUS (1-877-584-2375).*

Researchers found that the sobering effect of a heart attack or cardiac surgery jolted most of the men into reducing fat intake. By the end of the 12-week rehab, 81% were making an active effort to reduce fat in their diets. Two years later, almost 9 out of 10 had successfully reduced fat in their diets for at least six months.

However, these same men who made so much progress in cutting fat still failed to eat five servings of fruits and vegetables a day. After two years, only 23% had stuck with it for at least six months, while well over half (59%) did not care or had no intention of ever making the change.

Despite their medical history and the specific advice of a dietitian, “many patients perceived little or no relationship

between fruit and vegetable intake and cardiovascular health,” says C. Jeffrey Frame, Ph.D., R.D., an assistant professor of nutrition, dietetics, and food management at Murray State University in a news release about the study.

The American Heart Association’s 2002 Heart and Stroke Statistical Update indicates that overall only 19% of men and 26% of women consume at least 5 servings of fruits and vegetables a day.



## Juice Plus+® reduces key risk factors for coronary heart disease *(continued from front page)*

A second key risk factor the researchers tested was the resistance of LDL cholesterol (“bad” cholesterol) to oxidation. Most of us know that elevated levels of LDL cholesterol correlate to an elevated risk of heart disease. However LDL cholesterol is not really harmful until it reacts with oxygen in the body. It is this “oxidized” cholesterol that damages arterial walls and starts the build-up of plaques that can lead to CHD.

People thus try to lower the level of LDL cholesterol in the blood by eating fewer “unhealthy” foods, on the premise that the less LDL cholesterol there is to begin with, the less that can be oxidized. Pharmaceuticals also focus on lowering the amount of LDL cholesterol. Another way to attack the problem, however, is to increase the resistance of LDL cholesterol to oxidation by introducing more “antioxidants” from fruits and vegetables into the diet. Antioxidants help protect the body against all forms of oxidative stress, including the oxidation of LDL cholesterol.

In the Australian study, **researchers found increased resistance to the oxidation of LDL cholesterol among subjects taking Juice Plus+®**, again in the absence of dietary displacement.

“Elevated circulating homocysteine concentrations and the susceptibility of LDL cholesterol to oxidation are two very important risk factors associated with coronary heart disease,” explains Anita Boddie, Ph.D., Director of

Clinical Research for Juice Plus+®. “Both of these key risk factors were effectively reduced by taking Juice Plus+®.

“Of course, this doesn’t mean that we can all stop worrying about eating better,” Dr. Boddie adds. “Obviously, it’s always good to ‘displace’ less healthful foods in our diets with healthier alternatives, especially fruits and vegetables. But the Australian study demonstrates that even people who *don’t* make other changes in their diets and lifestyles still benefit significantly from taking Juice Plus+®.”

The University of Sydney study is the latest in a growing number of published third-party clinical studies involving Juice Plus+®. To date, these studies have shown that Juice Plus+® significantly raises the level of protective antioxidants in the bloodstream (*Current Therapeutic Research*); and, helps strengthen the immune system (*Integrative Medicine*), reduce damage to DNA (*Nutrition Research*), and improve circulation (*Journal of the American College of Cardiology*). Numerous other clinical research studies involving Juice Plus+® are currently underway.

The Journal of Nutrition is the official publication of the American Society for Nutritional Sciences, a professional organization “dedicated to improving the quality of life through the science of nutrition.” In circulation since 1928, The Journal publishes original, peer-reviewed research submitted by authors in over 30 countries.

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