

JUICE PLUS+®

PREVENTION PLUS+



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Prevention Plus+ Profile:
Frank Eggleston, D.D.S.

Clinical research
currently in progress

Scientists continue to study the health benefits of Juice Plus+®

Investigators associated with hospitals and universities on three different continents are currently studying the effects of Juice Plus+® on everything from the immune systems of college students to the periodontal health of smokers.

"It's an extension of earlier clinical research on Juice Plus+®," according to John Blair, Vice President of Product Development and Research for NSA.

Over the past several years, Juice Plus+® clinical studies have been conducted by investigators from such institutions as the University of Maryland, the University of Arizona, and the University of Sydney (Australia) and published in a number of peer-reviewed scientific journals, including the *Journal of Nutrition*, the *Journal of the American College of Cardiology*, and *Nutrition Research*.

Blair suggests that the current wave of new Juice Plus+® clinical studies flows logically from these earlier studies.

For example, a study by researchers at the University of Arizona, published in 1999 in *Integrative Medicine*, showed that taking Juice Plus+® significantly improved several key markers of immune system function in an elderly population. Now, researchers at the University of Florida are studying markers of immune function in healthy young adults.

"The earlier research showed that Juice Plus+® had a positive impact on the immune system in elderly people, who tend to have more impaired immune function," Blair elaborates. "If the new study shows that Juice Plus+® can have a similar impact on younger people with naturally more robust immune systems – well, that obviously says even more about the benefits of taking our product."

Six previous studies demonstrated that subjects taking Juice Plus+® consistently show increases in key phytonutrients in the bloodstream – including beta-carotene, vitamin E, vitamin C, folate, lycopene, and other carotenoids – in as little as 28 days on the product. Investigators refer to this as "bioavailability" – "that it gets into the bloodstream where it can do some good," Blair explains.

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John Blair

Today, researchers from Georgetown University and UCLA are investigating the bioavailability of Juice Plus+® in an overweight population, while investigators at Tokyo Women's Medical University in Japan are analyzing the bioavailability of Juice Plus+® in an Asian population.

"This is the nature of scientific investigation – to build upon previous research," Blair reinforces.

Juice Plus+® and oxidative stress

Previous research demonstrating the impact of Juice Plus+® on oxidative stress has led to a new study by investigators at the University of North Carolina-Greensboro. Oxidative stress is believed to be a precursor to many degenerative diseases, such as heart disease, stroke, and cancer. "Antioxidants" from fruits and vegetables help to combat it.

The original Juice Plus+® bioavailability study – published in *Current Therapeutic Research* in 1996 – showed that Juice Plus+® reduced lipid peroxides in the blood plasma of test subjects overall by an average of 75%, and reduced them to undetectable levels in a third of the subjects. "Lipid peroxides are a product of oxidative stress," Blair explains. "Fewer lipid peroxides in the bloodstream means that Juice Plus+® effectively reduced oxidative stress."

Another study – conducted at King's College in London and published in the *Journal of Human Nutrition & Dietetics* in 2000 – showed improvement in another general indicator of oxidative stress, plasma malondialdehyde, among subjects taking Juice Plus+®. A more recent study at the University of Sydney – published in the *Journal of Nutrition* in 2003 – showed an improvement in total plasma antioxidant capacity among subjects taking Juice Plus+®. Greater antioxidant capacity means less oxidative stress.

The North Carolina-Greensboro investigators are concentrating on the effect of Juice Plus+® on exercise-induced oxidative stress. "Moderate exercise is an important part of a healthy lifestyle, but exercise contributes to oxidative stress," Blair warns. "Getting a wide array of naturally occurring antioxidants from a wide variety of fruits and vegetables is key to offsetting this."

Juice Plus+® and cardiovascular wellness

One of the most promising areas of clinical investigation has been the impact of Juice Plus+® on cardiovascular wellness. Cardiovascular disease is the leading cause of non-accidental

death in the United States, killing approximately one million Americans every year – almost twice as many as cancer. Previous research has demonstrated that Juice Plus+® promotes cardiovascular health in two ways: by reducing the levels of homocysteine in the bloodstream, and by helping maintain normal blood flow after eating a high fat meal.

"Homocysteine is an amino acid produced by the body that is a proven risk factor in cardiovascular disease," says Blair. "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."

In a study at the University of Sydney – published in 2003 in the *Journal of Nutrition* – relatively healthy subjects who started out with acceptable levels of homocysteine still experienced an 8.4% reduction after taking Juice Plus+® for six weeks. In a similar study conducted in Foggia, Italy – published in *Nutrition Research* in 2003 – subjects who started out with much higher levels of homocysteine experienced a 37% reduction after taking Juice Plus+® for only four weeks.

"Most experts agree that adults should have a plasma homocysteine level of less than 10 micromoles (µM) per liter," Blair explains. "In both of these studies, subjects taking Juice Plus+® reduced their homocysteine to an average of less than 8 µM."

In a study conducted by researchers at the University of Maryland – published in the *Journal of the American College of Cardiology* in 2003 – subjects who consumed Juice Plus+® were better able to maintain the elasticity of arteries, even after a high fat meal.

The Yale-Griffin Study

Previous research on Juice Plus+® and heart health caught the attention of David Katz, M.D., Executive Director of the Yale University-Griffin Hospital Prevention Research Center in Connecticut. Recognizing that two out of three people with diabetes die from heart disease and stroke, Dr. Katz wanted to test the cardiac effects of Juice Plus+® on insulin-resistant adults. People who have insulin resistance often develop Type 2 adult onset diabetes.

Dr. Katz notes that many clinical studies have shown that nutrients have diminished effects when taken in isolation, as with traditional vitamin supplements. He views Juice Plus+® as a way to test whether a much greater array of nutrients from whole food sources working in tandem can improve cardiac health. "[Juice Plus+®] preserves just about everything and distills it in a few capsules. Our basic hypothesis is we believe there will be a benefit from taking plant-based nutrients together."

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Prevention Plus+ Profile: Frank Eggleston, D.D.S.

Home Houston, Texas.

Specialty Restorative and Operative Dentistry.

Education Graduated from Texas Christian University, 1965. Received DDS, Baylor University College of Dentistry, 1970.

Current position Private practice in Houston since 1972.

Professional History Served on the American Dental Association Board of Trustees, and as President of the Texas Dental Association. Public speaker for getting sugar out of the diet and for wellness and prevention.

Honors and Accomplishments Named Dentist of the Year by the Texas Academy of General Dentistry, 1995. Recipient of Texas Dental Association Distinguished Service Award, 1996; and, the TDA Gold Medal for Distinguished Service, 2004.

Community Service Volunteer at San Jose Clinic. Member of the Board of Trustees for the Retina Research Foundation and for the University Area Rotary Club. Teaches conflict resolution.

Health Advice “We need to step up and say that our nutrition as a country is very bad and work to correct it. We have to start talking to moms and dads about their kids and about nutrition and getting off sugar. I don’t want to see children with cavities, of course, but I also don’t want their bodies to be affected. I mean, when I see a lot of cavities in a patient’s mouth I know that equally bad things are occurring in their overall health.”

How he uses Juice Plus+® in his practice “I see a lot of people with bleeding gums. We do a cleaning, and they’re gushing blood.

“Back in the 80s, I’d say start taking 1,500 milligrams of vitamin C, that sort of thing, because that’s all we knew about nutrition back then. Now of course, I put them on Juice Plus+®.”

“When I see a lot of cavities in a patient’s mouth, I know that equally bad things are occurring in their overall health.”

Dr. Frank Eggleston is one of the many 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 our Juice Plus+® information line at 1-877-JUICEPLUS (1-877-584-2375).



David Katz, M.D.

The Yale-Griffin study began earlier this year and will test roughly 40 subjects over a 12-month period, according to Katz. “We’ll look at the effects of the capsule on an adult population that meets the criterion of having insulin resistance,” he explains.

Dr. Katz stresses that the health benefits of a diet rich in fruits and vegetables have been proven beyond any doubt.

“Diets rich in fiber and complex carbohydrates, found in fruits, vegetables, beans, and whole grains, have been shown in a wide array of studies to be associated with longevity, lasting weight control, reduced risk of cancer, reduced risk of cardio-

vascular disease, reduced risk of diabetes, reduced risk of gastrointestinal disorders, and overall health promotion.” But, he notes out that the majority of Americans’ intake of fruits and vegetables falls short of the recommended levels.

“That, of course, is why there’s Juice Plus+® – to support the all-important fruit and vegetable food group,” Blair observes.

Blair points out that researchers such as Dr. Katz like to use Juice Plus+® in their studies for a very simple reason. “It’s an easy and convenient way for them to test the health benefits of whole food nutrition from a wide variety of fruits and vegetables, just as it’s an easy way for consumers to enjoy those benefits every day.”

The Science of Juice Plus+®: Clinical Research in Progress

Researchers at leading hospitals and universities around the world continue to evaluate a wide range of health and nutritional benefits associated with taking Juice Plus+®.

Investigator(s) from	are studying
University of Florida	the effect of Juice Plus+® on markers of immune function in healthy young adults
Georgetown University and UCLA	the bioavailability of Juice Plus+® in an overweight population
University of North Carolina at Greensboro	the impact of Juice Plus+® on exercise-induced oxidative stress
Vanderbilt University Medical School	the effect of Juice Plus+® on parameters of vascular wellness
University of Würzburg, Germany	the effect of Juice Plus+® on the outcome of periodontal treatment in smokers with poor gum health
Wake Forest University, funded by the National Cancer Institute of the National Institutes of Health	the effect of Juice Plus+® on nutritional status and various markers of cell health in people who have survived head and neck tumor treatment
University of Texas/MD Anderson Cancer Center	the effect of Juice Plus+® capsules and Complete compared to diet modification alone on the nutritional status and quality of life of ovarian tumor survivors
Tokyo Women's Medical University	the bioavailability of Juice Plus+® in an Asian population
Yale University-Griffin Hospital Prevention Research Center	the effect of Juice Plus+® on endothelial function in insulin-resistant adults
University of Mississippi Medical Center	the effects of Juice Plus+® on pregnancy health

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