

# Juice PLUS+<sup>®</sup> PREVENTION Plus+<sup>+</sup>

THE HEALTH & WELLNESS NEWSLETTER FROM JUICE PLUS+<sup>®</sup> • 2012 SPECIAL RESEARCH EDITION



## THE RESEARCH ISSUE 16 Years of Clinical Evidence

### INSIDE...

More about Juice Plus+<sup>®</sup>  
and:

- Oxidative Stress
- Absorption of nutrients
- Immune system health
- DNA protection
- Cardiovascular wellness
- Systemic inflammation
- Skin health
- Gum health

We've said it before, and we'll say it again: Juice Plus+<sup>®</sup> is the most thoroughly researched brand name nutritional product on the market today.

Since the first clinical research study involving Juice Plus+<sup>®</sup> was published in 1996, more than 20 clinical studies have been conducted on Juice Plus+<sup>®</sup> by researchers at leading hospitals and universities around the world. These studies have been published in numerous peer-reviewed journals focused on nutrition science, exercise physiology, cardiology, and other disciplines. Even more clinical studies involving Juice Plus+<sup>®</sup> are now underway.

## + Oxidative Stress Reduction

### Background

**Free radicals** are everywhere in your body. Each one of your cells is bombarded by approximately 10,000 free radical “hits” per day. That’s a problem, since free radicals are proven contributors to premature aging and to chronic diseases including cancer, heart disease, and stroke. As long as the body has enough antioxidants to neutralize these free radicals, everything is fine. However, when the body’s antioxidant capacity is overwhelmed by free radicals, it enters a state of **oxidative stress**.

Because free radicals are generated constantly, regular daily intake of lots of **antioxidants** from a wide variety of fruits and vegetables is critical. Juice Plus+® contains antioxidants and other phytonutrients from a wide variety of fruits and vegetables.

### Clinical Studies

Multiple clinical studies have researched the effect of Juice Plus+® on various markers of oxidative stress. They have shown that Juice Plus+® significantly reduces the oxidation of proteins, fats, and DNA.

### Conclusion

**Juice Plus+® reduces oxidative stress.**

**free rad-i-cal** – *n*

*A highly reactive molecule that causes damage to fats, proteins, and DNA; also known as an “oxidant”*

**ox-i-da-tive stress** – *n*

*Physiological stress caused by the cumulative damage done by free radicals (oxidants) inadequately neutralized by antioxidants*

**an-ti-ox-i-dant** – *n*

*A substance, such as vitamin E, vitamin C, or beta carotene, that protects cells from the damaging effects of oxidative stress*

## + Absorption

### Background

Just because a nutritional product *contains* antioxidants doesn’t mean they will be *utilized*. In order to prove that a product provides antioxidant protection, antioxidants must be shown to actually be present in the bloodstream.

### Clinical Studies

Multiple clinical studies have investigated the **bioavailability** of antioxidants contained in Juice Plus+®. They have documented significant increases in blood levels of various antioxidants and other phytonutrients including vitamin C, vitamin E, folate, and beta-carotene.

### Conclusion

**Juice Plus+® delivers key antioxidants and other phytonutrients that are absorbed by the body.**

### Clinical research on Juice Plus+® has been conducted at:

Academic Centre of Dentistry  
Amsterdam, The Netherlands

Brigham Young University

Charité University Medical  
Centre, Berlin, Germany

Georgetown University

King’s College,  
London, England

Medical University  
of Graz, Austria

Medical University of Vienna

Tokyo Women’s Medical  
University, Japan

University of Arizona

University of Birmingham,  
England

University of California,  
Los Angeles

University of Florida

University of Maryland  
School of Medicine

University of Milan, Italy

University of Mississippi  
Medical Center

University of North Carolina-  
Greensboro

University of South Carolina

University of Sydney, Australia

University of Texas  
Health Science Center

University of Texas/  
MD Anderson

University of Toronto, Canada

University of Witten-Herdecke

University of Würzburg,  
Germany

Vanderbilt University  
School of Medicine

Wake Forest University  
(with the NCI-National  
Institutes of Health)

Yale University-Griffin Hospital  
Prevention Research Center

bi-o-a-vail-a-bil-i-ty – n

*The availability of nutrients in the bloodstream where the body can utilize them*

## + Immune Health

### Background

The immune system is responsible for keeping the body from harm – especially from germs and pathogens. Unfortunately, the average adult is not immune to the cold, wet months of winter. In fact, feeling under the weather is par for the course.

### Clinical Studies

Several clinical studies have researched the effect of Juice Plus+® on immune health. All of them found that Juice Plus+® supports several key measures of immune function. One recent study, conducted by researchers at **Charité University Medical Centre in Berlin**, studied healthcare professionals with direct patient contact during the cold winter season. Subjects taking Juice Plus+® had a significant 20 percent reduction in days with moderate to severe upper respiratory symptoms.

### Conclusion

***Juice Plus+® supports a healthy immune system.***

## + DNA Protection

### Background

DNA contains the genetic code that allows the body to create new cells. When exposed to oxidative stress, DNA can become damaged, potentially altering the instructions used for cell replication. DNA damage is theorized to be a major reason why we age.

### Clinical Studies

A recent study at the **University of South Carolina** found that Juice Plus+® protected the DNA of healthy adults, as had previously been observed by researchers at **Brigham Young University** in an elderly population and by researchers at the **University of Florida** in young adults.

### Conclusion

***Juice Plus+® helps protect DNA.***

## + Cardiovascular Wellness

### Background

The cardiovascular system is made up of the heart and a network of blood vessels, whose job is to transport blood throughout the body. Blood vessels that carry blood to the heart are called veins. Those that carry it away from the heart are called arteries. The capillaries that connect the two are where nutrients and oxygen are dropped off and carbon dioxide and waste are picked up.

### Clinical studies on Juice Plus+® have been published in:

*Asia Pacific Journal of Clinical Nutrition*  
*British Journal of Nutrition*  
*Clinical Chemistry and Laboratory Medicine*  
*Current Therapeutic Research*  
*Evidence-Based Complementary & Alternative Medicine (eCAM)*  
*Integrative Medicine*  
*International Journal of Food Sciences and Nutrition*  
*Journal of the American College of Cardiology*  
*Journal of the American College of Nutrition*  
*Journal of Clinical Periodontology*  
*Journal of Human Nutrition and Dietetics*  
*Journal of Nutrition*  
*Medicine & Science in Sports & Exercise*  
*Molecular Nutrition & Food Research*  
*Nutrition Journal*  
*Nutrition Research*  
*Skin Pharmacology and Physiology*

More clinical studies involving Juice Plus+® are currently underway.

### Clinical Studies

Multiple clinical studies have researched how Juice Plus+® affects various indicators of cardiovascular wellness.

A recently published study on smokers at the **University of Milan** in Italy found a reduction in oxidized LDL cholesterol, an emerging marker for development of clogged blood vessels. Studies looking at **homocysteine** found that Juice Plus+® decreased blood levels of this potentially harmful amino acid. A study conducted by researchers at **Vanderbilt University School of Medicine** noted improvements in **blood pressure** after taking Juice Plus+®. Another study, performed by researchers at the **University of Maryland School of Medicine**, showed that Juice Plus+® helped maintain the elasticity of the arteries, even after a high-fat meal.

### Conclusion

**Juice Plus+® supports cardiovascular wellness.**

**ho-mo-cys-teine – n**

*an amino acid formed by the body during normal metabolism that may negatively affect cardiovascular health*

**blood press-ure – n**

*the amount of force exerted against the blood vessels as blood is pumped through them*

## + Reduction of Systemic Inflammation

### Background

Inflammation is usually characterized by four phenomena: pain, heat, redness, and swelling. There are two types of inflammation: acute/localized, as in reaction to an injury or infection, and chronic/systemic, as is often observed in unhealthy circumstances such as obesity or smoking. Whereas acute/localized inflammation can be seen and felt, chronic/systemic inflammation is invisible and often painless. Emerging science suggests that systemic inflammation is associated with poor health outcomes.

### Clinical Studies

Researchers at the **University of South Carolina** set out to discover if Juice Plus+® could help mitigate systemic inflammation. After only two months, Juice Plus+® significantly decreased levels of several key biomarkers of inflammation, while increasing an important marker for bodily self-defense called superoxide dismutase.

### Conclusion

**Juice Plus+® reduces biomarkers of systemic inflammation.**

*“Juice Plus+® is the most thoroughly researched brand name nutritional product on the market today.”*



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## + Skin Health

### Background

Proper circulation is important for healthy skin, because it ensures the delivery of nutrients and oxygen to skin tissue, giving it a healthy glow.

### Clinical Studies

In a study of healthy middle-aged women, researchers at the University of **Witten-Herdecke** in Germany found that Juice Plus+® increased skin circulation in the capillaries by 39 percent. Juice Plus+® also boosted skin hydration, skin thickness, and skin density. Women who took a placebo, on the other hand, actually experienced decreased skin circulation by the end of the 12-week study.

### Conclusion

*Juice Plus+® supports healthy skin.*

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## + Gum Health

### Background

Healthy gums are important to protect the tooth root and the underlying bone from destruction and, ultimately, tooth loss. Healthy gums also provide an important barrier between germs that live in the mouth and the rest of the body.

### Clinical Studies

A study of nutritionally replete (i.e. not malnourished) adults with chronic periodontitis at the **University of Birmingham**, England found that Juice Plus+® – when added to standard “deep-cleaning” treatment – reduced the depth of gum pockets and decreased gum bleeding and plaque accumulation above and beyond the effects of the cleaning alone.

### Conclusion

*Juice Plus+® supports healthy gums.*

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## The “Gold Standard” of Scientific Evidence

It is impressive that Juice Plus+® has been the subject of more than 20 published research papers. But what really stands out is the quality of those studies.

In medical research, certain types of studies are considered the “gold standard” of scientific evidence, producing results that are untainted by bias. These studies are characterized by the following five traits:

**1. Clinical**

A clinical study is performed in humans, as opposed to animals, cells, or test tubes.

**2. Placebo-controlled**

A placebo-controlled study tests the effects of an active pill or intervention versus an identical “dummy pill.”

**3. Double-blind**

When neither the researchers nor the study participants know who is receiving the active pill or intervention and who

is receiving the placebo, the study is called “double-blind.”

**4. Randomized**

In a randomized study, subjects are randomly assigned to one of several study groups, which help ensure the resulting groups have similar characteristics.

**5. Peer-reviewed**

A professional or scientific journal in which every article has been reviewed by other experts in the field, allowing them to evaluate the validity of a study before it is published, is known as “peer-reviewed.”

All of the 20+ studies conducted on Juice Plus+® are human clinical studies, and the vast majority are placebo-controlled, double-blind, and randomized.

All have been published in peer-reviewed professional and scientific journals.

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## Recently published research at M.D. Anderson shows Juice Plus+® helps “bridge the gap” for cancer survivors

Population studies have shown that higher consumption of fruits and vegetables is associated with an improved prognosis in cancer survivors. However, few people – including cancer survivors – actually meet current guidelines for fruit and vegetable consumption. Therefore, researchers at the **University of Texas M.D. Anderson Cancer Center** theorized that Juice Plus+® might help to “bridge the gap” between what cancer survivors should eat and what they actually eat.

In this study, ovarian cancer survivors were randomly assigned to one of two diet intervention groups. The first group was told to follow the Women’s Healthy Eating and Living (WHEL) diet, which includes 10 servings of fruits and vegetables a day. The other group was told to eat 5 servings of fruits/vegetables a day, but to also take Juice Plus+® Orchard and Garden Blend capsules as well as Juice Plus+ Complete® drink mix. Because this was a dietary intervention, no placebo was possible with this study design.

After six months, the results showed that the “5-a-day” diet that also included Juice Plus+® was basically equivalent to the WHEL “10-a-day” diet by various measures assessed. For example, both diets increased blood levels of key antioxidants and phytonutrients; both diets maintained similar levels of a key marker of cellular health; and both diets maintained the “health-related quality of life status” of the participants. In addition, subjects following the “5-a-day” diet with the Juice Plus+® products had better protein status than those following the “10-a-day” diet. The study also shows that soy is a safe protein source for ovarian cancer survivors.

Just as we have always advocated, the researchers concluded that Juice Plus+® is not meant to replace fruit and vegetable consumption, but to complement it. For these women who had difficulty eating 10 servings of fruits and vegetables every day, Juice Plus+® really did help “bridge the gap.”

