

## Juice plus: 16 Years of Clinical Evidence

JUICE PLUS+® is the most thoroughly researched brand name nutritional product on the market today. Since 1<sup>st</sup> clinical research study involving JUICE PLUS+® was published in 1996, >20 clinical studies were conducted on JUICE PLUS+® by researchers at leading hospitals & universities, & were published in many peer-reviewed journals focused on nutrition science, exercise physiology, cardiology & other disciplines. Even more clinical studies on JUICE PLUS+® are underway.

### Oxidative Stress Reduction

**Background:** **Free radicals** are everywhere in the body. Each cell is bombarded by ~10,000 free radical "hits" per day. It's a problem, since free radicals are proven contributors to premature aging & ch. dis. including cancer, heart dis. & stroke. As long as we have enough antioxidants to neutralize free radicals, it's fine. But when antioxidant capacity is overwhelmed by free radicals, it enters a state of **oxidative stress**. Since free radicals are generated constantly, reg daily intake of **antioxidants** from variety of fruits & vegetables is critical. Juice Plus+® contains antioxidants & other phytonutrients from variety of fruits & vegetables.

**Clinical Studies:** Multiple clinical studies 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 & DNA.

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

### Absorption

**Background:** Just because a nutritional product contains antioxidants doesn't mean they'll be used. In order to prove that a product provides antioxidant protection, antioxidants must be shown to be present in bloodstream

**Clinical Studies:** Multiple clinical studies investigated **bioavailability** of antioxidants contained in Juice Plus+®. They documented sig increases in blood levels of various antioxidants & other phytonutrients including vitamin C, vitamin E, folate, & beta-carotene.

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

### Immune Health

**Background:** Immune system is responsible for keeping the body from harm— especially from germs & pathogens. But average adult isn't immune to cold, wet mo. of winter. In fact, feeling under the weather is part of it

**Clinical Studies:** Few clinical studies researched 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 U. Med Centre in Berlin**, studied healthcare professionals with direct patient contact in cold winter season. Subjects taking Juice Plus+® had sig 20% ↓ in days with mod.-severe upper respiratory symptoms.

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

### DNA Protection

**Background:** DNA contains genetic code that allows the body to create new cells. When exposed to oxidative stress, DNA can be damaged, potentially altering instructions used for cell replication. DNA damage is theorized as 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:** CV system is made of the heart & network of blood vessels that transport blood through the body. Blood vessels that carry blood to the heart are veins. Those that carry it away from the heart are arteries. Capillaries that connect the 2 are where nutrients & O<sub>2</sub> are dropped off & CO<sub>2</sub> & waste are picked up.

**Clinical Studies:** Multiple clinical studies researched how Juice Plus+® affects dif indicators of CV wellness. A recently published study on smokers at **U. of Milan** in Italy found ↓oxidized LDL, sig marker for development of clogged blood vessels. Studies looking at **homocysteine** found that Juice Plus+® ↓blood levels of this potentially harmful AA. Study conducted by researchers at **Vanderbilt U. School of Med** noted improvements in **BP** after taking Juice Plus+®. Another study, by researchers at **U. of Maryland School of Med**, showed that Juice Plus+® helped maintain elasticity of arteries, even after a high-fat meal.

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

### Reduction of Systemic Inflammation

**Background:** Inflammation is usually characterized by 4 phenomena: pain, heat, redness & swelling. There're 2 types of inflammation: acute/localized, as in reaction to injury or infection, & chronic/systemic, as is often observed in unhealthy circumstances such as obesity or smoking. Whereas acute/localized inflammation can be seen & felt, chronic/systemic inflammation is invisible & often painless. Emerging science suggests that systemic inflammation is associated with poor health outcomes.

**Clinical Studies:** Researchers at **U. South Carolina** tested if Juice Plus+® can help mitigate systemic inflammation. After only 2 months, Juice Plus+® sig ↓few key biomarkers of inflammation, while ↑sig marker for bodily self-defense called superoxide dismutase

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

### Skin Health

**Background:** Proper circulation is important for healthy skin, since it ensures delivery of nutrients & O<sub>2</sub> to skin tissue, giving it a healthy glow

**Clinical studies:** In a study of healthy middle-aged women, researchers at U. of Witten-Herdecke, Germany, found that JUICE PLUS+® ↑skin circulation in capillaries by 39%. JUICE PLUS+® also boosted skin hydration, thickness & density. Women who took a placebo had ↓circulation by the end of the 12-week study.

**Conclusion:** JUICE PLUS+® supports healthy skin.

## **Gum Health**

**Background:** Healthy gums are sig to protect the tooth root & underlying bone from destruction, & ultimately, tooth loss. Healthy gums also provide sig barrier between germs that live in the mouth & the rest of the body.

**Clinical studies:** Study of nutritionally replete (not malnourished) adults with ch. periodontitis at U. Birmingham, UK, found that JUICE PLUS+®- when added to STD "deep leaning" Tx- ↓depth of gum pockets & ↓gum bleeding & plaque accumulation above & beyond the effects of cleaning alone.

**Conclusion:** Juice Plus+® supports healthy gums.

**Free Radical:** A highly reactive molecule that causes damage to fats, proteins, & DNA; also known as an "oxidant"

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

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

**Bioavailability:** Availability of nutrients in the bloodstream where the body can utilize them

**Homocysteine:** AA formed by the body during normal metabolism that may negatively affect cardiovascular health

**Blood Pressure:** mount of force exerted against the blood vessels as blood is pumped through them

## **Gold STD of Scientific Evidence**

It's impressive that **Juice Plus+®** was subject to >20 published research papers. But what stands out is their quality. In medical research, certain types of studies are considered "Gold STD" of scientific evidence, producing results that are untainted by bias. These studies are characterized by the following 5 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 effects of active pill or intervention vs. identical "dummy pill".
- 3. Double-blind:** When neither the researchers nor the participants know who is receiving the active pill or intervention & who is receiving the placebo, the study is called "double-blind".
- 4. Randomized:** In a randomized study, subjects are randomly assigned to 1 of few study groups, which help ensure the resulting groups have similar characteristics.
- 5. Peer-reviewed:** A professional or scientific journal in which every article was 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 most of them are placebo-controlled, double-blind, and randomized. All have been published in peer-reviewed professional and scientific journals.

## **Recently published research at MD Anderson shows Juice Plus+® help "bridge the gap" in cancer survivors**

Population studies showed that higher consumption of fruits & vegetables is associated with an improved prognosis in cancer survivors. But few people, including cancer survivors, actually meet current guidelines for fruit & vegetable consumption. Therefore, researchers at U. 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 1 of 2 diet intervention groups. 1<sup>st</sup> group was told to follow Women's healthy Eating & Living (WHEL) diet, which includes 10 serving of fruits & vegetables a day. The other group was told to eat 5 servings of fruits/vegetables a day, but also took **Juice Plus+®** Orchard & Garden Blend capsules as well as **Juice Plus+ Complete®** drink mix. Since it was a dietary intervention, no placebo was possible with this study design.

After 6 mo., results showed 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 key markers of cellular health, and both diets maintained the "healthy-related QOL status" of the participants. In addition, subjects following the "5-a-day" diet with **Juice Plus+®** products had better protein status than those following the "10-a-day" diet. Study also shows that soy is a safe protein source for ovarian cancer survivors.

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

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

Academic Centre of Dentistry, Amsterdam, Netherlands; Brigham Young U.; Charité U. Med Centre, Berlin, Germany; Georgetown U.; King's College, London, England; Med U. of Graz, Austria; Med U. of Vienna; Tokyo Women's Medical U., Japan; U. Arizona; U. Birmingham, UK; UCLA; U. of Florida; U. Maryland, School of Med; U. Milan, Italy; U. Mississippi Med Center; U. of North Carolina-Greensboro; U. South Carolina; U. Sydney, Australia; U. Texas Health Science Center; U. Texas/MD Anderson; U. Toronto, Canada; U. Witten-Herdecke; U. Würzburg, Germany; Vanderbilt U. School of Med; Wake Forest U. (with NCI-National Institutes of Health); Yale U.- Griffin Hospital Prevention Research Center