

Juice PLUS+[®] PREVENTION Plus+⁺

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First Juice Plus+[®] Clinical Study on Children Published in *The Journal of Pediatrics*

It's no secret that Americans have a weight problem. Unfortunately, our children do, too.

Among other things, being overweight makes children more susceptible to Type II diabetes, in which the body becomes resistant to insulin, the hormone that regulates blood sugar. Children who are severely overweight are also more likely to develop metabolic syndrome, as well as a litany of health problems including cardiac, respiratory, gastro-intestinal, gynecologic, musculoskeletal, neurologic, and vascular disorders.¹

So it's welcome news that a new, independent clinical study – conducted by the Nemours Children's Clinic Division of Pediatric Endocrinology and Metabolism in Jacksonville, Florida and published in the prestigious *The Journal of Pediatrics* – found that overweight boys who took Juice Plus+[®] experienced increased levels of beta carotene, reduced abdominal fat, and improved insulin resistance compared to boys who received placebo.²

This study, funded entirely by the Nemours Research Program, marks the first time researchers have studied the effect of Juice Plus+[®] on children.

Details of the study

For the Nemours study, 30 boys between the ages of six and ten years old (9 lean and 21 overweight) were randomized to receive either one Juice Plus+[®] Orchard Blend and one Juice Plus+[®] Garden Blend capsule per day or two placebo capsules per day for six months. Researchers measured the boys' body composition and fat mass at the start and the end of the six-month period. The study was double-blind in design, which *(continued on next page)*



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Paul Stricker, M.D.

means that neither the researchers nor the boys knew which treatment the boys were receiving.

Study findings

- 1) **Beta carotene levels increased significantly among both the lean boys and the overweight boys who were given Juice Plus+®.** The body uses beta carotene to make vitamin A. Studies have shown that obese adults and children have reduced levels of beta carotene and vitamin A.
- 2) **Abdominal fat mass and triglycerides decreased significantly among the overweight boys who were given Juice Plus+®.** Triglycerides are a type of fat found in the blood and in fat tissue. Elevated triglycerides contribute to hardening of the arteries, leading to an increased risk of heart disease.
- 3) **Insulin sensitivity increased significantly among the overweight boys who were given Juice Plus+®.** Insulin resistance – the opposite of insulin sensitivity – is a risk factor for Type II diabetes and heart disease.

Why this study is so important

Just like our adult population, our children are too heavy. More than one in three children are overweight or obese.³ Childhood obesity has more than *tripled* over the past three decades.⁴ As a result, Type II diabetes is occurring at record rates. Thirty-three percent of males and 39% of females born in the United States in 2000 will develop diabetes sometime during their lifetime.⁵

Heart disease is not far behind. A recent study found that the arteries in the necks of obese children and teens had accumulated enough arterial plaque that they resembled those of 45-year-olds.⁶

Fruits and vegetables are key

Numerous studies have outlined the health benefits of eating fruits and vegetables, and that inadequate consumption of fruits and vegetables in the diet is correlated with an increased risk of obesity.

Unfortunately, it's difficult for adults to eat the 7 to 13 servings of fruits and vegetables recommended by the U.S. Department of Agriculture (USDA), which is why so few people do. In fact, even when the goal is reduced to just 5 servings per day (3 vegetable and 2 fruit) – as it was by the U.S. government-sponsored Healthy People 2010 initiative – only 11% of Americans manage to comply.⁷

Children fare no better. A report issued by the U.S. Centers for Disease Control (CDC) last year found that less than 10% of high school students manage to eat 5 servings or more of fruits and vegetables a day.⁸



A Growing Body of Clinical Research

As you've probably heard us say before, Juice Plus+® is the most thoroughly researched brand name nutritional product on the market today. More than 25 human clinical studies have been conducted on Juice Plus+® by researchers at leading hospitals and universities around the world.

We take pride in the fact that the vast majority of these clinical studies – and every clinical study on Juice Plus+® initiated in the last 10 years – meet the "gold standard" of scientific evidence in that they are randomized, double-blinded, placebo-controlled, and published in peer-reviewed scientific journals.

Obviously, whether or not we help to underwrite a particular study, the company has absolutely no control over the outcome. In fact, one of the primary reasons that articles submitted for publication to reputable scientific journals are "peer-reviewed" is to ensure that the results are untainted by bias of any kind. Nonetheless, we're very proud that Nemours Children's Clinic elected to fund the Juice Plus+® study highlighted in this newsletter. It's indicative of the growing interest in Juice Plus+® in the scientific community.



PREVENTION PLUS+ PROFILE:

Paul Stricker, M.D.

“Most children eat so poorly, it’s a wonder they can perform on the field or in the classroom at all.”

HOME: San Diego, California

MEDICAL SPECIALTY: Pediatrics and Sports Medicine

EDUCATION AND TRAINING: Received his medical degree from the University of Missouri School of Medicine in Columbia. Completed his pediatric internship and residency at Arkansas Children’s Hospital in Little Rock and his medical fellowship in Primary Care Sports Medicine at the University of California, Los Angeles (UCLA).

FACULTY APPOINTMENTS: Assistant Professor in the departments of Pediatrics and Orthopedics at Vanderbilt University Medical Center in Nashville, Tennessee. Associate Professor of Pediatrics at Rady Children’s Hospital, University of California-San Diego.

CURRENT POSITION: Private practice at Scripps Clinic, an internationally recognized multi-specialty medical group and clinical research institution.

PROFESSIONAL SERVICE: Charter member and past president of the American Medical Society for Sports Medicine. Member of the American Academy of Pediatrics Council on Sports Medicine and Fitness. Member of the editorial advisory board of *Healthy Children* magazine. Reviewer of manuscripts for the journal *Pediatrics*.

PUBLICATIONS: Author of the awarding-winning book *Sports Success Rx*, published in conjunction with the American Academy of Pediatrics.

KEY PERSONAL ACCOMPLISHMENTS: Selected by the U.S. Olympic Committee as team physician for the U.S. Olympic Team at the 2000 Sydney Olympics. Served as team physician for the Division 1A Vanderbilt University Commodores and the University of San Diego Toreros.

HEALTH ADVICE: “We need for our young people to have a positive experience with sports and exercise so they’ll keep doing it for the rest of their lives. Competition is healthy, but we need to take some of the stress and pressure out of kids’ sports and make it fun for everyone.”

WHY HE RECOMMENDS JUICE PLUS+®: “Stress isn’t the only problem kids face today. Most children eat so poorly it’s a wonder that they can perform on the field or in the classroom at all.

“That’s why I’m thrilled with Juice Plus+®. It’s such an easy way for children and their parents to get more of the good nutrition lacking in our diets today. After all, optimal nutrition is absolutely essential to both good health and optimal physical performance.”

The next best thing

We have always stressed that Juice Plus+® is not meant to be a substitute for eating fruits and vegetables, and we encourage everyone to eat a wide variety of fruits and vegetables every day. In fact, parents in the Juice Plus+® Children’s Health Study report that both they and their children actually eat more fruits and vegetables after continuing to take Juice Plus+®. (See back page.)

But we also recognize the reality that getting children to eat their fruits and vegetables can be a Herculean task. That’s why we call Juice Plus+® “the next best thing to fruits and vegetables.” Juice Plus+® helps both you and your children bridge the gap between what you should eat and what you do eat, every day.

References

- 1 Choudhar AK, et al. Diseases associated with childhood obesity. *AJR*. 2007 Apr; 188:1118-1120. <http://www.ajronline.org/content/188/4/1118.full.pdf>
- 2 Canas JA, et al. Insulin resistance and adiposity in relation to serum-carotene levels. *The Journal of Pediatrics*. 2012;161:58-64.
- 3 Childhood Obesity Facts. Centers for Disease Control and Prevention. Last reviewed June 7, 2012. <http://www.cdc.gov/healthyyouth/obesity/facts.htm>
- 4 Childhood Obesity Facts. Centers for Disease Control and Prevention. Last reviewed June 7, 2012. <http://www.cdc.gov/healthyyouth/obesity/facts.htm>
- 5 2007 National Diabetes Fact Sheet. Last reviewed May 20, 2011. <http://www.cdc.gov/diabetes/pubs/figuretext07.htm>
- 6 Obese kids’ artery plaque similar to middle-aged adults. *ScienceDaily*. Nov. 12, 2008. <http://www.sciencedaily.com/releases/2008/11/081111142558.htm>
- 7 Casagrande SS, et al. Have Americans increased their fruit and vegetable intake? The trends between 1988 and 2002. *Am J Prev Med*. 2007 Apr;(4):257-63.
- 8 The Associated Press. 9 in 10 teens short on fruits and veggies. <http://MSNBC.com>. Sept. 29, 2009.

Juice Plus+®: Improving Children's Health and Nutritional Habits

The recently published Nemours Children's Clinic study marks the first clinical study of the effect of Juice Plus+® on children's health. However, we already know a great deal about Juice Plus+® and its impact on children from the non-clinical Juice Plus+® Children's Health Study.

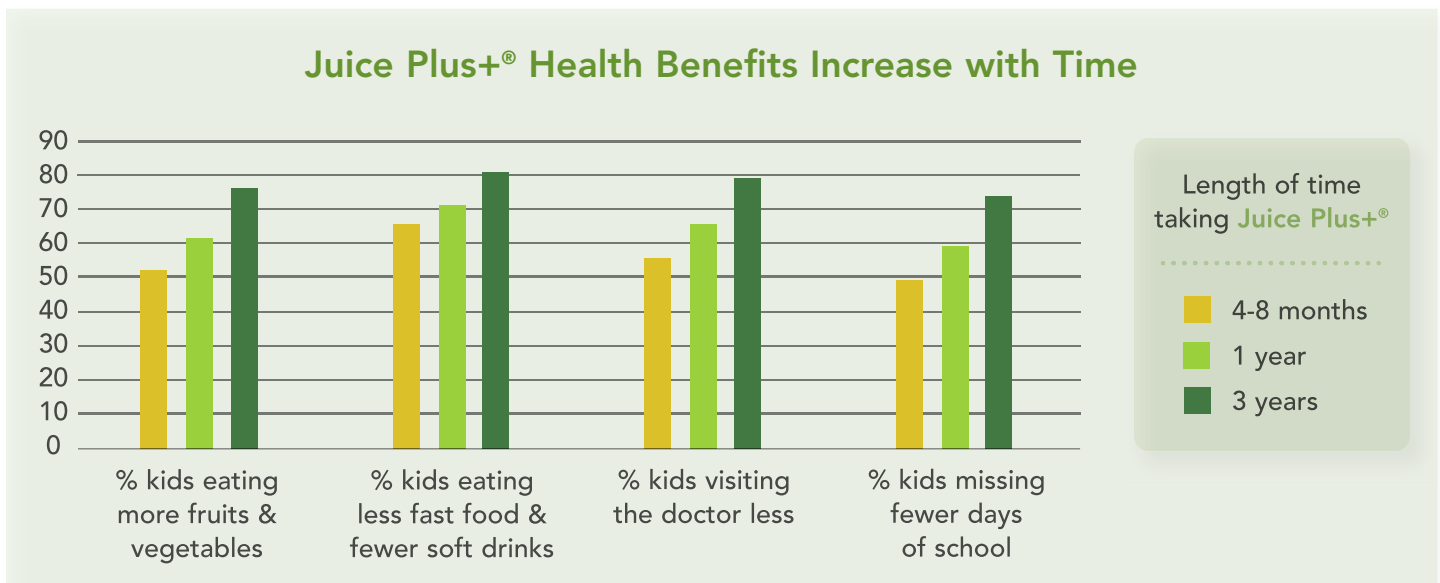
Established in 1999, the Juice Plus+® Children's Health Study is a large-scale, multi-year survey designed to formally document the many effects Juice Plus+® has on the health and wellbeing of children and families who take it.

While the Nemours researchers studied in a tightly-controlled clinical setting how Juice Plus+® affected a few specific parameters of children's health, the Children's Health Study helps us understand the real world benefits of taking Juice Plus+®. To date, we have compiled data from more than 150,000 families about what they experience over their first three years of Juice Plus+®.

They notice changes in their health and nutritional habits after only 4-8 months of taking Juice Plus+®.

- Over half of children and nearly two-thirds of adults are **eating more servings of fruits and vegetables every day**.
- Two-thirds of both children and adults are **eating less fast food and drinking fewer soft drinks every day**.
- Over half of children and 42% of adults are **visiting the doctor less**.
- Nearly half of children are **missing fewer days of school** and nearly half of adults are **missing fewer days of work**.
- The vast majority of people taking Juice Plus+® — 92% of children and 94% of adults — are reaping a **positive benefit of some kind**.

The study also shows that the longer you take Juice Plus+®, the more likely you are to see these benefits, as shown in the chart below.



For more information about the Juice Plus+® Children's Health Study – including summaries of all results for both children and adults – visit www.ChildrensHealthStudy.com.

