More Information on
Questions About 100% Juice

Q: *Does juice have nutritional value?*
A: Juice is a healthy, nutrient-dense beverage with no added sugar which delivers significant nutrients to the diets of children and adults. One hundred percent juice is nutritionally similar to the fruit or vegetable it is squeezed from. It delivers key nutrients like vitamin C, vitamin A, potassium, folate and thiamin (vitamin B1), and in fortified juices, calcium and vitamin D, to the diet.[1]

In addition, 100% juices contain beneficial plant compounds known as bioactives. This is what gives juice it's unique color, flavor, taste and aroma. Fruit bioactives include carotenoids, polyphenols such as flavonoids and more. Studies show bioactives found in fruit and fruit juice may have the potential to positively impact human health in a number of ways including by protecting heart health, preserving cognitive function and preventing urinary tract infection.[2,3,4]

Q: *Is it better to avoid juice and just eat whole fruit?*
A: There's no question that eating fruit is important to overall health, however, fruit consumption remains surprising low, with more than 80% of Americans not getting enough.[5] Research shows people who eat a wide variety of fruits in different forms (fresh, frozen, canned, dried and 100% juice) eat more fruits (and vegetables) than those that just eat one type or form of produce.[6]

Increasing fruit intake with whole fruit only, increases dietary fiber, but the combination of juice and fruit shows not only greater intakes but a greater beneficial effect on vitamin C, potassium and calcium than just whole fruit alone. This demonstrates that the combination of fruit and juice has a better nutrient profile than just fruit.[7]

Q: *How does juice drinking impact diet?*
A: Research shows drinking juice is associated with better diet quality and higher intakes of total whole fruit overall, in both adults and children, compared to those who don't drink juice. This suggests juice complements rather than competes with fruit in the diet.[8]

Two new studies from Boston University reinforce this data. The first study from Boston University published on-line at *BMC Nutrition* by Lynn L. Moore and colleagues, found that drinking 100% fruit juice early in life was associated with healthier dietary patterns in later childhood without adversely impacting weight gain. The study showed that consumption of 100% fruit juice during the preschool years was associated with higher intakes of whole fruit and total fruit as well as better diet quality through childhood and into middle adolescence. The

study tracked preschoolers over a 10-year period and found those who consumed more fruit juice in the early years of childhood in this study also consumed more whole fruit at the same time and continued to consume more whole fruit into adolescence. They were also more likely to meet Dietary Guidelines than those who don't drink 100% juice.

A second biracial study also from Boston University and published in *Beverages* found, pre-teen girls who drink 100% fruit juice throughout their adolescence have lower body mass indexes (BMI's), better quality diets and higher intakes of whole fruits and total fruit than those who did not drink juice, regardless of race.

Q: *Is drinking juice harmful to your health?*
A: Drinking 100% juice does not increase risk of chronic illness, nor does it increase risk for obesity. A 2018 study systematically reviewed the current evidence associated with 100% fruit juice consumption and various chronic health conditions in children and adults. The study found no significant associations between juice and weight gain in children or adults and concluded that no adverse health effects were found to be associated with 100% juice consumption related to diabetes, cardiovascular disease, glucose homeostasis, lipid levels, liver enzymes and blood pressure. The study also found no significant associations between juice and weight gain in children or adults.[9,10] In fact, the majority of the science on obesity in children and adults, overwhelmingly shows no association between drinking 100% juice and trends in weight gain when consumed in appropriate amounts.

Related to oral health, despite recommendations by dental professionals to avoid juice consumption in order to prevent dental caries in young children, there is no scientific evidence that drinking juice in appropriate amounts causes dental caries more than any other food. A recent 2019 literature search of almost 2,000 studies revealed that only eight publications representing seven different studies on five independent cohorts in children and adolescents included fruit juice and a relevant dental health outcome.[11]

Of these eight, three studies reported on erosion and juice and five studies reported on caries and juice. The results: all three erosion-juice studies, representing more than 2,600 children and adolescents found no association between juice and tooth erosion. The other five studies on caries and/or mineralization, representing data from over 1,250 children, (age 2 to 13 y), reported either no association or an inverse association between intakes of 100% fruit juice and the incidence of dental caries.

Q: *Do children drink too much juice?*
A: One hundred percent juice is not overconsumed by children. According to the 2020 Dietary Guidelines Scientific Report children eat more fruit than juice, with intakes of about two-thirds whole fruit consumption to one-third juice, [12] and research shows for juice drinkers this pattern continues throughout adolescence. In fact, including 100% juice in the meal pattern of children

can not only help increase overall diet quality it may also help increase fruit consumption overall.

Q: *Can 100% juice help with health equity and cultural diversity?*
A: One hundred percent juice is well-liked, convenient, affordable, shelf stable, easily accessible and available. For people on limited food budgets, 100% fruit juice may be the only viable source of fruit in some rural and urban food deserts. Culturally, juice may be preferred by some Latino cultures, and particularly for those groups that are lactose intolerant.

Q: Is 100% juice good for hydration?
A: Yes, 100% juice on average contains about 85% water and has been shown to be equal to other beverages in its ability to hydrate. Furthermore, 100% juice has the added benefit of supplying valuable vitamins, minerals, and electrolytes. This is particularly important for the very young and the elderly, which are at higher risk of dehydration.[13,14,15,16]

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