



# An Apple A Day

A Quarterly Health Education Newsletter from the U.S. Apple Association

## HEALTH RESEARCH NEWS

### Apples: fruit offers prenatal protection against childhood asthma and wheeze

New research suggests that mothers who eat apples during pregnancy may protect their children from developing asthma later in life.

The study, which tracked the dietary intake of more than 1200 pregnant women, examined the effects of the maternal diet on airway development in their children at the age of 5. Researchers concluded that the children of mothers who ate apples had a significantly reduced risk of asthma and related symptoms such as wheezing.

Of all the foods evaluated in this research no other consistent associations were found between prenatal consumption and asthma. The study, recently published in *Thorax* online, suggests that there are “beneficial associations between maternal apple intake during pregnancy and wheeze and asthma at age five years.” While the association is not yet fully understood, the protective benefits appear to be apple

specific, possibly because the apple’s flavonoid content has positive effects on airway and immune development.

The researchers, who hail from The Netherlands and Scotland, noted that “if these results are confirmed, recommendations on dietary modification during pregnancy may help to prevent

childhood asthma and allergy.”

This is not the first time apples have been linked to lung health. Previous findings that have indicated consumers of apples have better lung function and lower risk of respira-

tory disease than non-consumers. The fruit’s high fiber content and flavonoids, which contain powerful antioxidant properties, may be the source of this lung protection as well.

In 2004, the National Institutes of Health reported that eating fiber rich foods and flavonoids may reduce chronic coughs and



*An apple a day: the reduced risk of childhood asthma gives physicians one more reason to recommend expectant mothers eat apples. (iStockphoto)*

## CONSUMER HEALTH NEWS

### More apples *do* matter

While research indicates that more than 50 percent of adult consumers know they need to eat five or more servings of fruits and vegetables per day, more than 90 percent of all Americans do not eat the recommended amount.<sup>1</sup> In the world of drive-thru convenience it can be a daunting task for some to eat a variety of fruits and vegetables each day, but ultimately eating more fruits and veggies *does matter* when it comes to maintaining a healthy weight and protecting oneself from chronic disease.

Fruits & Veggies—More Matters™, a new national public health initiative developed by Produce for Better Health Foundation (PBH) and the Centers for Disease Control and Prevention (CDC), encourages Americans to eat more fruits and veggies —fresh, frozen, canned, dried and 100% juice — and to get active.

“This new call for a healthier America is attainable and easy for people to understand. The message is intentionally simple: to increase consumption, eat more fruits and veggies at every eating occasion,” said Elizabeth Pivonka, Produce for Better Health Foundation president. “Fruits & Veggies—More Matter, with an interactive consumer-targeted Web site, is designed to give Americans the tools and information they need to help them make better food choices.”



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**SEE MORE MATTERS , page 2**

## Prenatal apple consumption protects child's lungs

**ASTHMA (from page 1)**

other respiratory ailments. Among other related studies linking apples to lung health, Australian researchers suggested that apples may protect against asthma in adults.

Until now, there has been little data related to the maternal diet during pregnancy and childhood asthma, although the National Institutes of Health ranks asthma among the most common chronic diseases in the U.S. The same study also linked fish consumption to a reduced risk of eczema in children.

In 2004, the National Center for Health Statistics reported that 9 million U.S. children have been diagnosed with asthma at one point in their lives and 4 million children suffered from asthma attacks that year. Others suffer from "hidden asthma" – undetected or undiagnosed asthma – according to the American Lung Association.

In addition to lung benefits, the apple's unique nutrient composition has been linked to a reduced risk of developing other chronic diseases, including heart disease, cancer, stroke and type-2 diabetes. Apples and apple products have also been shown to promote brain health and protect against brain cell damage that contributes to Alzheimer's and Parkinson's disease.

To Learn More:

**Maternal food consumption during pregnancy and asthma, respiratory and atopic symptoms in 5-year-old children**, Mar 2007, *Thorax*; <<http://thorax.bmj.com/cgi/content/abstract/thx.2006.074187>>.

## Fruits & Veggies—More Matters

**MORE MATTERS (from p. 1)**

Pivonka added.

While the message is consistent with the *Dietary Guidelines for Americans*, the new brand strives to help consumers overcome such challenges to eating healthy as time, money and old habits. It is attainable and easy for people to understand; it is simply to eat more fruits and veggies at every eating occasion. When it comes to apples, fresh, frozen, canned, dried and sliced apples all count, as does 100% juice, cider and applesauce.

Fruits & Veggies—More Matters has taken an integrative approach to increasing fruit and veggie consumption - consumers will see the initiative in stores, online, at home and on packaging. A new consumer Web site offers recipes, tips, serving ideas and shopping advice. Additionally, a special *Mom2Mom* section gives consumers the opportunity to "Ask the Expert" related ques-

tions and post their own easy and fun serving ideas on a message board. The site also includes activities and tips for getting children involved and exploring the different varieties of fruits and veggies that the whole family loves to eat.

U.S. Apple Association supports the Partnership's efforts to encourage behavior change and incorporate more fruits and veggies in to the American diet. To make apples and apple products a part of your healthy diet, visit [www.USApple.org](http://www.USApple.org)

for recipes, research and apple nutrition facts.

To Learn More:

Fruits & Veggies—More Matters, [www.fruitsandveggiesmorematters.org](http://www.fruitsandveggiesmorematters.org)

**Source:**

<sup>1</sup> Produce for Better Health Foundation survey conducted by NPD Foodworld.

### APPLE FACTS

*The Dietary Guidelines for Americans suggest that at least 2 of the recommended 3 ½ to 6 ½ cups of fruits and veggies are fruit.*

#### What equals one cup of apples?

- 1 small apple
- ½ large apple
- 1 cup sliced, raw or cooked apples
- ½ cup of dried apples
- 1 cup of 100% apple juice or cider
- 1 cup of applesauce

### APPLE RECIPE BOX

#### HOT POTATO SALAD

3 Cups cubed potatoes	10 slices bacon
1 ½ cups chopped apples	½ cup chopped onion
½ cup chopped celery	1 ½ tablespoons flour
¾ cup Martinelli's Cider or Apple Juice	1/3 cup vinegar
1/3 cup sugar	

In skillet, cook bacon. Remove and drain. Pour off all but 3 tablespoons bacon fat, add onion and celery and stir-fry for 1 to 2 minutes. Blend in flour. Add Cider and vinegar, stirring mixture until it thickens. Add sugar. Preheat oven to 350°. Place potatoes, apples and crumbled bacon in greased 1 1/2 quart casserole. Add skillet mixture, mixing lightly.

Cover and bake 30 minutes.

*Courtesy of Martinelli's (S. Martinelli & Company)*

## Here's to good health: reasons to drink apple juice and cider!

Think apple juice is just for kids? Think again! Apple juice is a healthy and refreshing way to cool off this summer for kids and adults alike.

Apple juice and cider contain potassium, boron and many of the same phytonutrients (which act as powerful antioxidants) that may help in the prevention of chronic disease. In fact, researchers in the UK reported "no evidence that pure fruit and vegetable juices are less beneficial than whole fruit and vegetables" in preventing cancer and coronary artery diseases.

Studies performed at the University of California-Davis suggest that apple and apple juice consumption may protect against cardiovascular disease by reducing oxidation of the "bad" (LDL) cholesterol. More recently, it has

been shown that drinking 2-8 oz glasses of 100% apple juice (or 2-3 fresh apples a day) may also reduce memory loss.

100% apple juice fits into any



diet, especially those who are looking to consume more fruit. 1 cup of apple juice or cider is equivalent to 1 small apple. The USDA's *2005 Dietary Guidelines for Americans* recommends that adults consume at least 2 cups of fruit each day. Apple juice and cider can be served chilled, over ice, as a frozen fruit pop - it can also be added to a fruit smoothie or fresh brewed iced tea.

The American Academy of Pediatrics also recognizes the benefits of apple juice consumption in the childhood years. It recommends children ages 1-6 drink 4-6 oz each day, while older children will benefit from 8-12 oz per day.

### To Learn More:

Visit the Consumer and Education sections of the USApple website, [www.USApple.org](http://www.USApple.org).

### APPLE JUICE RECIPES

#### SUMMER DAY APPLEBERRY PUNCH

- 1qt. (4 c.) ripe raspberries
- 2 qt. (8 c.) apple juice
- 3 tbsp. lemon juice
- crushed ice

Place raspberries in a bowl. Sprinkle with lemon juice. Add apple juice. Chill. Add crushed ice just before serving.

Makes 8 servings.

*Courtesy of Apple Products Research and Education Council*

#### APPLE-GRAPE SALAD

- 1 envelope unflavored gelatin (1 T)
- 1/4 C water
- 1 1/2 C apple juice
- 1 C apple, unpared, diced
- 1/2 C red grapes, halved seeded
- 1/4 C chopped celery

Soften gelatin in water for 5 minutes. Heat gelatin over low heat, stirring constantly, until dissolved. Add apple juice. Chill until mixture begins to thicken. Stir in fruit and celery. Pour into 3-cup mold. Chill until set.

Makes 4 servings.



*This is an official 5 A Day recipe!*

### *What's the difference between apple cider and apple juice?*

Have you ever wondered about the difference between apple cider and apple juice? Nutritionally, both apple cider and juice are alike - 100% juices full of antioxidants, as well as boron and potassium. The difference is in the variety of apples used and how juice and cider are processed.

*Apple cider* is made by crushing a blend of apples and pressing the juice from the fruit. Apple solids floating in the juice turn color when exposed to air, giving cider a caramel color and opaque look. Most cider has been pasteurized; cider that has not undergone treatment must carry a label.

*Apple juice* is made from a sweeter blend of apples that has been crushed and juiced. The juice is then filtered and heat-treated to be shelf stable, leaving a sparkling clear juice. Some apple juice is also fortified with calcium and vitamin C for an extra boost of nutrition.

Though often associated with the fall, cider has expanded into a year-round business. Like apple juice, ice cold cider is a refreshing way to cool off during the summer heat!

## Food for thought...

Consumer studies indicate that apples are the second most popular fruit among those surveyed.


How are consumers eating apples?


- As a snack 94%
- As an ingredient 37%
- As a dessert 34%
- As a salad 19%
- As a side dish 13%
- As an appetizer 11%
- As a main dish 4%
- Not sure 1%




Source: Fresh Trends 2007 Report, *The Packer*

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## Recent news in apple research

Apples have long been known as a source of good nutrition and studies continue to show that an apple a day does, in fact, help to keep the doctor away. The following briefs are among the latest headlines in apple research:

### Apples top the list of flavonoid-rich foods

Flavonoid-rich apples were found to be among the few foods associated with a decreased risk of mortality for both coronary heart disease (CHD) and cardiovascular disease (CVD). The research specifically evaluated the dietary intake of 34,000 postmenopausal women. Using a government database to assess the flavonoid content in food, researchers concluded that intake of flavonoid-rich foods may be inversely related to mortality from CHD and CVD in this group.

Source: Flavonoid intake and cardiovascular disease mortality: a prospective study in postmenopausal women, *American Journal of Clinical Nutrition*, March 2007.

### Mediterranean diet protects against asthma Symptoms

The dietary habits of 700 children living in, Crete, were assessed in relation to lung health. Researchers concluded that a "Mediterranean diet" - a daily diet including foods like apples, nuts, oranges, grapes and tomatoes - protected against wheezing and allergic rhinitis.

Source: Protective effect of fruits, vegetables and the Mediterranean diet on asthma and allergies among children in Crete, *Thorax*, April 2007.

### Apples may inhibit colon cancer cell growth

Colorectal tumor risks may be reduced by polyphenol-rich diets that inhibit cell growth. In this study, performed by researchers in Germany, apple polyphenols were studied for effects on the survival of colon adenoma and carcinoma-derived cell lines.

Source: Apple polyphenols and products formed in the gut differently inhibit survival of human cell lines derived from colon adenoma (LT97) and carcinoma (HT29), *Journal of Agriculture and Food Chemistry*, April 2007.

### Spring Time!



Apple trees blossom in Pennsylvania.



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