

JULY 2013 • MEMBERS

## Heart Health Starts in Childhood

Most children don't have heart disease. Usually only older adults have problems with their heart. But researchers have learned that what happens during childhood affects heart disease risk in adulthood. So it's never too early to help your child take care of his/her heart.

### What happens in childhood

During childhood, fat can begin to build up in the blood vessels leading from the heart (arteries). Over the years, the fat forms fatty deposits called fatty plaques. When a plaque gets big enough, it can block the artery and cause a heart attack or stroke. When lots of plaque builds up during childhood, the heart attack or stroke happens when the person is fairly young. And this can lead to early death.

### The good news

Doctors can spot children at risk of building up lots of plaque by looking for heart disease risk factors. If a child has one or more of these risk factors, the doctor can work with the child and parents to decrease or get rid of them. Such action can delay or prevent heart disease in adulthood.

So it's important to identify risk factors in children and help them reduce or get rid of those risk factors as soon as possible. That way they'll build up less plaque and lower their risk of heart disease.

### Children at risk of plaque buildup

All children are at risk, but some children have a higher risk. Children with a higher risk include those who:

- Have a family history of heart disease
- Are overweight or obese
- Have abnormal amounts of fat in their blood
- Have high blood pressure
- Don't get enough exercise
- Have diabetes
- Smoke tobacco or are exposed to secondhand smoke



### Helpful tests

Experts recommend these tests to identify heart disease risk factors in children<sup>1</sup>:

- A **BMI**, or body mass index, can be used to see if a child is overweight or obese. It is based on the child's age, sex, height, and weight. All children should be screened for BMI beginning at age 2 years.
- A **fasting lipid profile** is used to find out how much fat is in the blood. All children should be tested when they are 9 to 11 years old. They should be tested again when they are 17 to 21 years old. A **nonfasting HDL cholesterol** test can be used instead of the fasting lipid profile.
- All children should have their **blood pressure** taken once a year starting at age 3.
- There are 2 tests that can be used to check for diabetes. One is the **fasting plasma glucose** test. The other is the **hemoglobin A1c** test. Only 1 of these tests is needed. All children should be tested every 2 years, beginning at age 10. The test should be done before the child is 10 years old if puberty happens earlier.

## What to do if risk factors are present

Take action now! Adopting a healthy lifestyle is often the only thing that is needed. This means eating a healthy diet and getting plenty of exercise. These 2 things can help with 5 of the 7 heart disease risk factors. They can decrease weight, decrease the amount of bad fats and increase the amount of good fat, reduce blood pressure, and decrease the heart disease risk associated with diabetes. If these things don't help enough, your child's doctor can add a medicine.

The other thing to do is to teach your children not to smoke. Smoking increases risk not only for heart disease but for lung disease and many cancers too. And don't forget about secondhand smoke—it's just as dangerous. As much as possible, keep your children away from people who are smoking.

## Roadmap to a healthy heart

Here are some specific things that will help *reduce* heart disease risk factors. They will also help *prevent* heart disease risk factors. So, they are good for all children.

### Exercise<sup>1</sup>

- Starting at age 5 years, get at least 1 hour of moderate to vigorous exercise each day.
- Limit sedentary time to less than 2 hours per day.

### Diet and nutrition<sup>1</sup>

- Until 6 months of age, feed babies with mother's milk only.
- 6 to 12 months of age: continue mother's milk but gradually add solid foods; give no more than 4 ounces of 100% fruit juice.
- 12 to 24 months of age: consider changing from whole milk to 2% or fat-free milk; change to table food.
- 2 to 21 years:
  - Beverages: give fat-free, unflavored milk and water; limit juice to ≤4 – 6 ounces (no added sugar); avoid sugar-sweetened beverages.
  - Eat fiber-rich foods like fruit, vegetables, and whole grains.
  - Eat lean meat, poultry, and fish.
  - Eat fat-free or low-fat cheese, cottage cheese, and yogurt.
  - Avoid trans fat (hydrogenated oils) and foods high in saturated fat.
  - Limit refined carbohydrates (sugar, white rice, white bread).
  - Limit fast food.
  - Limit salt to <1500 mg/day; these foods are often high in salt because of the ways they are processed: breads, cold cuts and cured meats, pizza, chicken, soup, sandwiches.

Experts recommend all infants and children get a daily pill with 400 IU of vitamin D. They don't recommend any other vitamin or mineral pills for children.<sup>1</sup>

## Additional information

- Heart disease risk factors: [http://www.texasheartinstitute.org/HIC/Topics/HSmart/children\\_risk\\_factors.cfm](http://www.texasheartinstitute.org/HIC/Topics/HSmart/children_risk_factors.cfm)
- Dietary guidelines and nutrition:
  - <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/DG2010Brochure.pdf>
  - <http://www.eatright.org/Public/landing.aspx?TaxID=6442451979>

## Reference

1. Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents: summary report. *Pediatrics*. 2011;128:S213-S256.