



Healthy Hearts

how to monitor fat and cholesterol

Heart Disease Starts in Childhood

1 The health habits children learn can reduce their risk for heart disease later in life.

2 Heart disease is the number one killer of lowans, claiming 22 lives every day. Fatty streaks in arterial walls have been found in some children as young as five years old.

3 During the transition into adulthood, fatty streaks in arterial walls can become cholesterol-rich plaques that lead to heart disease.

4 Genetics, weight gain, smoking, and consuming too much fat and not enough fiber can all accelerate the progression of heart disease.

Fat guidelines for children

Fat consumption affects many health aspects and is closely related to blood cholesterol levels. However, only children over the age of two should limit their fat intake. Infants need cholesterol and fat for growth and brain development. Two- and three-year-olds are in a transition stage where they can gradually assume the eating habits of the rest of the family.

Percentage of Average Daily Calories from Fat*

Recommended for ages 2 and over

Total fat 25 to 35%
Saturated fat Equal to or less than 7%

Monounsaturated fat 10 to 15%
Polyunsaturated fat Up to 10%

Compare with chart below to convert total and saturated fat percentages to number of grams for the appropriate age group.

Applying the Guidelines to Calorie Recommendations

Age	Total Calories ¹	Grams of Fat ²	Grams of Saturated Fat ³
2-3			
Boys	1000-1400	28-54	8-11
Girls	1000-1200	28-47	8-9
4-8			
Boys	1200-1600	33-62	9-12
Girls	1200-1600	33-62	9-12
9-13			
Boys	1600-2200	44-86	12-17
Girls	1400-2000	39-78	11-16
14-18			
Boys	2000-2800	56-109	16-22
Girls	1800-2000	50-78	14-16

¹ Calorie ranges reflect sedentary and moderate activity according to the energy levels for proposed MyPyramid food intake patterns.

² Grams of fat based on 2006 American Heart Association Diet and Lifestyle Recommendations and reflect 25 to 35 percent of total calories from fat.

³ Grams of saturated fat based on 2006 American Heart Association Diet and Lifestyle Recommendations and reflect seven percent of total calories from saturated fat.

* Source: American Heart Association 2007 Diet and Lifestyle Recommendations: <http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.106.176158>

Cholesterol guidelines for children

In an effort to help parents and medical professionals, the National Cholesterol Education Program issued separate cholesterol guidelines for children.

Children and adolescents should be screened for high cholesterol if:

- A parent, grandparent, or first-degree aunt or uncle had heart disease at or before age 55.
- A parent, grandparent, or first-degree aunt or uncle suffered a heart attack, or showed other signs of artery disease at or before age 55.
- A parent has a blood cholesterol level over 240 mg/dL.

Cholesterol values for children ages 2 to 19*

Total Cholesterol (mg/dL)	LDL Cholesterol (mg/dL)	Risk	Action
Less than 170 mg/dL	Less than 110 mg/dL	acceptable	eat a healthy diet and be physically active
170 – 199	110 – 129	borderline	eat a healthy diet and be physically active
200 or more	130 or more	high	eat a healthy diet, be physically active, and consider drug treatment

* Source: American Heart Association: www.americanheart.org/presenter.jhtml?identifier=4499

Tips for reducing cholesterol and fat

- Monitor cholesterol intake with a goal of less than 300 mg per day.
- Encourage 5 servings of vegetables and fruits daily.
- Encourage 6-11 servings of whole grain and other grain food daily.
- Encourage consumption of adequate amounts of fiber.
- Substitute foods high in saturated fat with foods high in mono- and polyunsaturated fats.

Types of Fats:

Choosing foods low in saturated fat helps reduce total and LDL (bad) cholesterol levels. Most saturated fat comes from animal sources and is usually solid at room temperature. While no more than 30 percent of total calories should come from all fats, no more than 10 percent should be from saturated fat.

Trans fats are formed by hydrogenation — turning liquid fats into solid fats at room temperature. Hydrogenation helps increase the shelf life of a product, but too many *trans* fats in the diet can increase cholesterol levels. Limit products with high *trans* fatty acids such as crackers, fried foods, cookies, bakery items, candy, and other snack foods.

Polyunsaturated fats are considered heart healthy because they help lower cholesterol. Cooking oils such as soybean, corn, safflower, and sunflower are all polyunsaturated fats and are recommended over saturated and *trans* fats.

Monounsaturated fats are heart healthy too because they lower cholesterol, particularly the LDL (bad) cholesterol. Olive, canola, peanut, almond, and walnut oils are all types of monounsaturated fats and are recommended over the other fats.

Check these Resources

Iowa State University

Additional information about nutrition for children and adults is available at the ISU Extension nutrition Web site at <http://www.extension.iastate.edu/nutrition/>.

Copies of the following publications are available from ISU Extension county offices and from ISU Extension's Online Store at www.extension.iastate.edu/store.

Fiber Content of Kid-appeal Foods (N 3360)

Food for 'ME TOO'—Nutrition for the toddler and preschooler (PM 1257)

Guide to Healthy Kids—What parents can do (NCR 374)

Overweight Kids—What communities can do (PM 1884)

Pyramids of Health (PM 1950)

Say "YES" to Family Meals (PM 1842)

Snacks for Healthy Kids (PM 1264)

Steps to a Healthier Family (PM 2005)

What Schools Can Do to Promote Healthier Eating (PM 2039)

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