

STAYING POWER PUTS FUN BACK INTO FITNESS

Poor endurance can take all the fun out of physical activity for many children.

Children who are generally inactive can tire quickly when exercising. "Providing children don't have asthma or other medical conditions, tiring quickly means they're probably working too hard for their level of fitness," said Dr. Marta Fiorotto, a scientist at the USDA/ARS Children's Nutrition Research Center at Baylor College of Medicine.

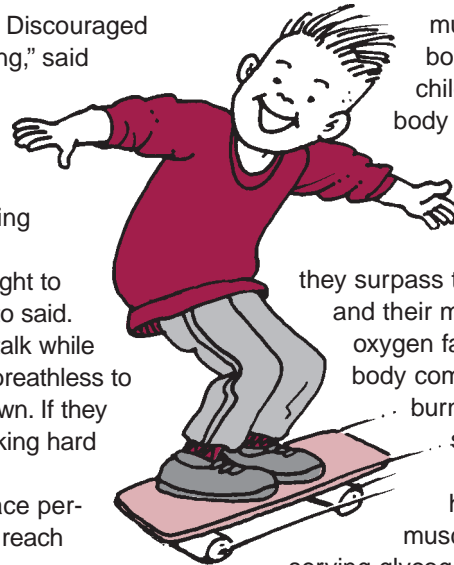
Fiorotto believes that overexertion can trigger a negative cycle. "Children who tire easily may not develop skills, and poor skills increase frustration and

lead to discouragement. Discouraged children usually quit trying," said Fiorotto, an assistant professor of pediatrics.

Children can be helped to reverse this cycle. The key is improving endurance.

"Children can be taught to pace themselves," Fiorotto said. "They should be able to talk while exercising. If they're too breathless to talk, they should slow down. If they can sing, they're not working hard enough," she said.

Keeping the right pace permits sufficient oxygen to reach



muscle cells to burn body fat as fuel. "Most children have enough body fat to fuel

prolonged periods of physical activity," said Fiorotto. "But if

they surpass their level of fitness and their muscles can't get oxygen fast enough, the body compensates by burning more of its supply of glycogen, a form of carbohydrate stored in muscle tissue." Pre-

servicing glycogen stores is key to delaying tiredness.

Children who don't tire quickly tend to exercise more, which leads to improved cardiovascular fitness and even greater endurance.

"There is little doubt that regular physical activity makes children healthier," Fiorotto said. "Exercise builds strong muscles, which promotes good posture and strong bones, and burns calories, which reduces body fat and improves both self-confidence and body image."

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PROPER NUTRITION SHOULD BE PART OF TRAINING YOUNG ATHLETES

Teaching young athletes about good nutrition should be as important as teaching them the skills of the game.

"Sometimes this important part of the training process is overlooked," said Becky Gorham, a registered dietitian and research nutritionist at the USDA/ARS Children's Nutrition Research Center. "It's up to parents and coaches to teach kids what is good for the body."

Knowing how much, what, and when to feed young athletes is important. A diet that is 55 to 60 percent carbohydrate, 10 to 15 percent protein, and 25 to 30 percent fat is recommended. Dietary

carbohydrates provide energy and replenish glycogen, a form of carbohydrate stored in muscles and needed for quick starts. "Snacks are a great way to provide the extra carbohydrates young athletes need," said Gorham.



Weight-bearing exercises can strengthen bones, but only if there is enough calcium in the diet. Gorham suggests that young athletes eat at least four servings a day of calcium-rich foods such as milk, cheese, and yogurt.

Few things hamper performance faster than dehydration. "Thirst is not an accurate measure of hydration," said Gorham, "so children must be taught to drink even if not thirsty." She

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VOLUNTEERS

Houston-area volunteers are needed to participate in the following studies.

Transportation/parking is available. Call the study coordinators for more information. NOTE: All area codes are 713.

NEW - Project: Healthy Bones

9 to 13-year-old healthy African-American and Caucasian girls are needed for a new calcium study. Two stays of either seven or 14 days at the CNRC required. Physical exam/nutrition consultation/stipend are provided. Dee Dee Powledge, 798-7085.

NEW - Breastfeeding Study

Expectant mothers in their last three months of pregnancy who are planning to breast feed for at least three months, or women who are currently breast feeding infants between ages 2 weeks and 3 months, are needed for a breast-feeding study. Transportation /stipend is provided. Leah Mitchell 798-7083.

Mini-Studies

Healthy 5 to 8-year-old girls are needed for several short studies. Barbara Kertz, 798-7195.

Glucose Study

Mexican-American diabetic and non-diabetic adults between 35 and 55 years of age are needed for glucose study. Marilyn Navarrete, 798-7002.

Planning a Pregnancy?

Women planning to become pregnant within a year are needed for a study examining weight changes, strength and physical fitness, energy expenditure, and physical activity throughout the reproductive cycle. Marilyn Navarrete, 798-7002.

Glutathione Study

Diabetic and non-diabetic adults, 18 years and older, are needed for glutathione and diabetes study. Marilyn Navarrete, 798-7002.

Project: Healthy Girls

Normal weight, healthy 8-year-old girls are needed for a study determining what factors help girls maintain a healthy weight as they grow. Barbara Kertz, 798-7195.

Soy Protein Study

Healthy, active, post-menopausal women, between the ages of 50 and 65, are needed for a soy protein study aimed at lowering blood cholesterol levels and preventing bone loss. Marilyn Navarrete, 798-7002.

Be a Scientist!

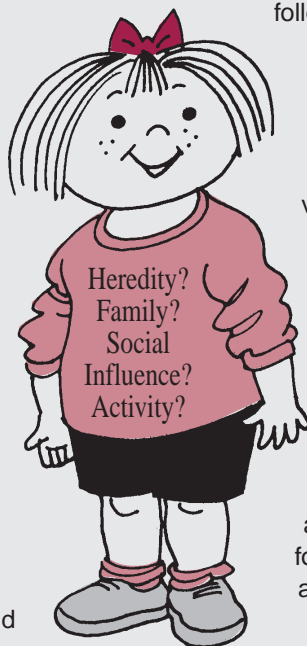
Children and teens, ages 6 to 9 and 13 to 16, are needed for a study that examines the impact of low-fat diets. Leah Mitchell, 798-7083 or Marilyn Navarrete, 798-7002. ❖

FACTORS TO IDENTIFY KIDS AT RISK FOR WEIGHT PROBLEMS STUDIED

Being able to identify children "at risk" for weight problems may enable health professionals to intervene long before excess pounds start adding up.

"There has been a dramatic increase in the number of overweight children in America over the past decade," said Dr. Margarita Treuth, a scientist at the USDA/ARS Children's Nutrition Research Center at Baylor College of Medicine. According to the latest national statistics, almost one in four children is considered overweight.

"While much has been written about children who are already overweight," said Treuth, an assistant professor of pediatrics, "less is known about why some children begin to gain excess weight as fat in the first place."



Treuth hopes to change that with a study designed to pinpoint factors involved in weight gain. She is following 100 normal weight 8-year-old girls over a period of two years, noting changes in weight and height as well as specific factors thought to be involved in weight gain. The body composition of the girls' parents is also determined.

The reasons behind excess weight gain are complex. Heredity, family and social influences, the child's tendency to be active or sedentary, and food choices all may play a role.

Children of overweight parents appear to have a 25 to 40 percent chance of becoming overweight adults according

(Continued on page 5)

New Publications Available to Help Parents of Overweight Children

- **If My Child is Overweight, What Should I Do About It?** by Joanne Ikeda, M.A., R.D., University of California, Berkeley. Call: 1(800)-994-8849 or e-mail: danrcs@ucdavis.edu.
- **Childhood and Adolescent Obesity in America: What's a Parent to Do?** by Betty Holmes, M.S., R.D., University of Wyoming. Accessible on line via <http://west.uwyo.edu/food/> or order from: University of Wyoming, Bulletin Room, P.O. Box 3313, Laramie, WY 82071. Cost is \$2. ❖

THE kid's ACTIVITY PYRAMID

Each week you can have fun and be active by trying the following things . . .

With Friends

- Dance to music
- Play games like tag and hopscotch
- Join a sports team at school or the park

With Family

- Go on a walk together
- Play at the park
- Turn off the TV for a day

By Yourself

- Fly a kite
- Do cartwheels, somersaults, or jumping jacks
- Practice sports skills

Have more fun by thinking up your own activities!



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Nutrition News at Noon Set for October

The next **Nutrition News at Noon** lecture is set for October 5, 1998, from noon to 1 p.m. in Room M112 at Baylor College of Medicine, One Baylor Plaza, in the Texas Medical Center.

Topic: Nutrition & The Athlete
presented by Marta Fiorotto, Ph.D., and Becky Gorham, M.S., R.D.

Continuing education credit for nurses and dietitians has been requested.

For information, call: (713) 798-7017. ♦

Young Athletes (Continued from page 1)

advises young athletes to drink three to eight ounces of water every 15 to 20 minutes during practice and another six to eight ounces once practice is over.

Contrary to popular belief, vitamin supplements will not provide energy. "If a child is following the guidelines from the USDA Food Guide Pyramid, vitamins are not necessary," she said.

"Providing young athletes with healthy food choices is key to helping them reach their full athletic potential," said Gorham. "In most cases, these healthy food habits will stay with them for the rest of their lives." ♦

High-carbohydrate snacks

- Whole-grain cereal with low-fat milk
- Peanut butter on whole wheat toast and an apple
- Graham or animal crackers and a box of raisins
- Oatmeal cookie and skim milk
- Bagel and 100% apple juice
- Low-fat, fruit-flavored yogurt
- Lean meat on pita with 100% orange juice
- Low-fat, frozen yogurt with granola
- Low-fat pudding

USING THE GROWTH AND BODY MASS INDEX (BMI) CHARTS*

No matter where your child is on these charts, the advice is the same.

See *Helping Kids Eat Right And Get Fit* on page 5 of this issue.

These charts are for adolescents between the ages of 10 and 16. Use them to help children develop a realistic picture of their growth and body weight changes over time.

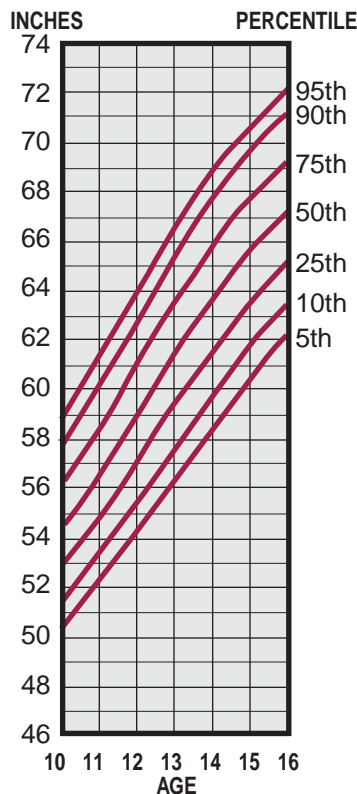
Before you use the BMI, keep in mind:

- Use BMI values only as a guideline. It does not measure bone, fat or muscle.
- BMI values considered “appropriate” increase with age. Plot BMI several times a year to see trends.
- No one BMI is “right” for any single child at any age. Don’t compare BMI values between children.
- A high or a low BMI is not always cause for concern. See a physician if you have questions about your child’s body size.

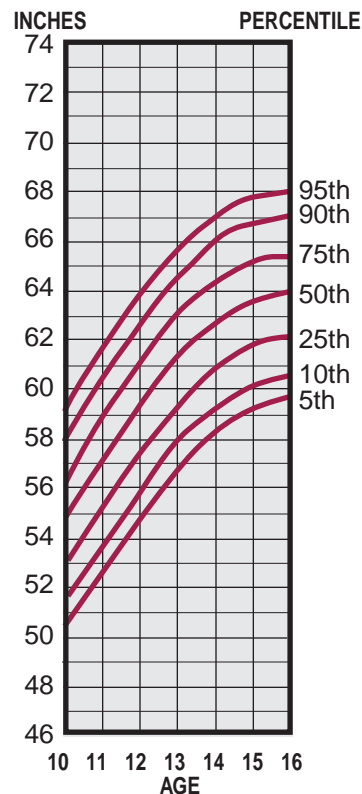
Height Charts

- Find your child’s height in inches along the left side of the chart and their age along the bottom.
- Put a dot on the chart where their age and height cross. If you know their height last year and the year before, plot those, too. By connecting the dots you can “watch your child grow” and even anticipate how tall he or she might be as an adult.
- Use the chart to help children anticipating growth and relieve concerns they may have over weight gain that normally occurs before growth spurts.

Boy’s Height Chart

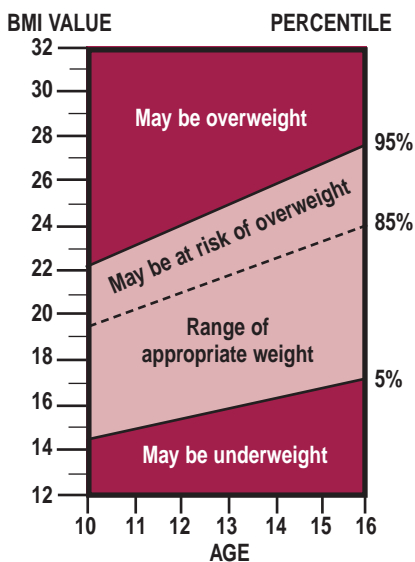


Girl’s Height Chart

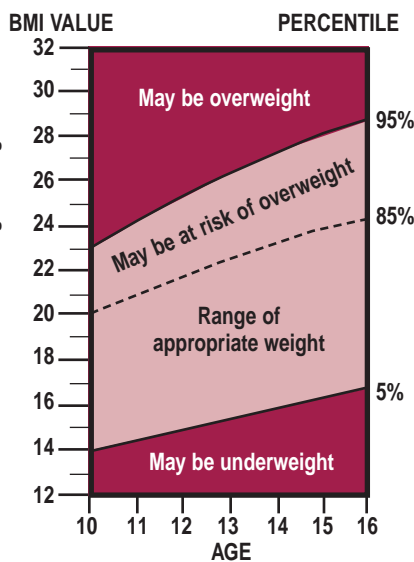


NCHS/CDC Growth Charts (Revised 1998)

Boy’s BMI Chart



Girl’s BMI Chart



NCHS/CDC Growth Charts (Revised 1998)

BMI Charts

To calculate your child’s BMI, you must know their height (no shoes) and weight (in light clothing).

1. Change your child’s weight to kilograms (kg).
 $\text{___ lb.} \div 2.2 \text{ kg} = \text{___} \text{ weight in kg.}$
2. Change your child’s height to meters (m).
 $\text{___ in.} \div 39.37 \text{ m} = \text{___} \text{ height in m.}$
3. Square height in meters.
 $\text{___} \times \text{___} = \text{___} \text{ height in m}^2$
4. Now figure your child’s BMI.
 $\text{___} \div \text{___} = \text{BMI value } \text{___}$
(rounded)
5. Find your child’s age at the bottom of the BMI Chart, and their BMI value along the left side.

*Adapted from the USDA *yourSELF* program. Additional age-related growth and BMI charts are expected to be available this year.

USDA OFFERS SCHOOL PROGRAM TO HELP ADOLESCENTS

The increasing number of adolescents with weight and body image problems is addressed by the USDA through a positive message program called *yourSELF*.

Aimed at 11- to 14-year-old adolescents, the goal of the *yourSELF* program is to help adolescents learn to be their best as their bodies grow and change.

Every school in the nation with a 7th and 8th grade is being mailed a complete *yourSELF* kit. The "Using the Growth and Body Mass Index (BMI) Charts" featured on page 4 was adapted from *yourSELF* materials.

Dr. Dennis Bier, director of the USDA/ARS Children's Nutrition Research Center, was an advisor on the *yourSELF* project. ❖

HELPING KIDS EAT RIGHT AND GET FIT

The following tips from nutritionists at the CNRC can help get your child on the road to good health.

■ **Think habits, not diets.** Encourage kids to eat at least the minimum number of servings from the Food Guide Pyramid every day to ensure they get the nutrition they need. Discourage dieting.

■ **Be a good role model.** Eat right and stay active, and your kids probably will too.

■ **Encourage kids to do physical activities every day.** Use the *Kid's Activity Pyramid* to center free-time and family-time around physical activity.

■ **Make lifestyle changes without fanfare.** Prepare low-fat and lower calorie meals the whole family will enjoy. Stock the fridge with individual bottles of water, juice, and healthy snacks like non-fat yogurt.

■ **Get involved.** Work to improve physical education at your child's school. Find after-school activities and programs that boost your child's confidence in her physical ability.

■ **Limit unnecessary sitting time.** Set a kitchen timer for 30 minutes to limit non-school related sitting activities such as watching TV and playing computer and video games.

■ **Be aware of peer pressure.** Get children into programs at school and in the community that involve physically active groups of children.

■ **Be positive.** Involve your kids in decision making. Avoid words like "you should," "you can't," and "don't." Keep family time active and enjoyable. Show your kids you love them.

Always talk to your physician if you have concerns over your child's health, growth, or weight.



Staying Power

(Continued from page 1)

Active children who stay active and control their weight as adults also have less risk of diabetes, hypertension, cardiovascular disease, and some cancers.

Fiorotto recommends that children do some type of vigorous activity such as swimming, biking, in-line skating, or running, three to five times a week. It's important for children to get their heart rate up for at least 20 minutes to improve cardiovascular fitness.

"Once children don't tire as quickly, they can concentrate on learning basic skills and having fun," said Fiorotto. By teaching children to pace themselves and encouraging them to play outdoors or participate in sports, parents may see "I can't" attitudes change to "I can." ❖

High Risk (Continued from page 2)

to some geneticists. "Heredity is important to a point, yet recent increases in childhood obesity cannot be totally attributed to genetic makeup," Treuth said.

Overweight children are often less physically active. Data from the Third National Health and Nutrition Examination Survey showed children who watched four or more hours of television per day were more overweight and had a significantly greater amount of body fat.

Food choices may also play a role. Obese children have been found to consume a significantly greater proportion of their calories from fat.

"Overweight children face many social, psychological, and health problems," said Treuth, "and if they remain overweight they are much more likely to experience weight-related illnesses as they get older."

According to Treuth, some of the girls in her study thus far have gained more weight than expected for normal growth. She believes that by analyzing profiles developed at the beginning of the study, she will find predictive factors that can be used to identify children at risk for excessive weight gain. This information could then be used to design intervention programs. ❖

Nutrition & Your Child

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NUTRITION TIDBITS

Q

My 14-year-old daughter thinks she's too fat and wants to diet. Should I let her?

A

First, it's important to determine if your daughter is actually overweight, advises Dr. Debby Demory-Luce, nutritionist with the CNRC. Normal weight adolescent girls often develop unrealistic ideas of how their bodies should look, which can lead to dissatisfaction. If this is the case with your daughter, building self-confidence and a positive self-image will do most for her happiness, health, and personal development.

Even if your daughter is overweight, it is wise for her to forget dieting. At 14, your daughter is still growing. Dieting can jeopardize her intake of calories, vitamins, and minerals needed for proper growth and

development. Instead, encourage her to focus on staying physically active and adopting healthy eating habits. These are good habits that can help keep her fit for life.

Parents can also help teens get into good habits by being good role models. Studies have shown that children of parents who eat right and exercise are more likely to do the same themselves. ❖

Editor's Note:

In this special edition of *Nutrition & Your Child* CNRC experts share their ongoing research and provide helpful advice regarding nutrition, body size, and physical activity in children.

Send comments or questions to the addresses listed on the right. ❖

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Comments or changes of address information should be sent to Nutrition Information Service, Children's Nutrition Research Center, 1100 Bates St., Houston, Texas 77030-2600, (713) 798-7017.

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