

ENERGY RECOMMENDATIONS FOR KIDS REVISED

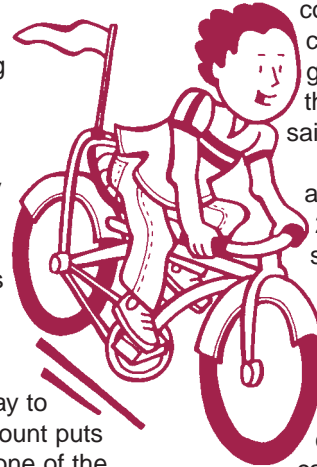
New energy recommendations recently released by the Food and Nutrition Board of the Institutes of Medicine could help in the fight against childhood obesity.

"The new recommendations will affect programs ranging from food labeling laws to school breakfast and lunch programs, to nutrition therapies designed to help overweight children," said CNRC energy expert Dr. Nancy Butte. Butte, a Professor of Pediatrics at Baylor College of Medicine, helped develop the new recommendations.

According to Butte, improved research methods enabled scientists to tie the energy recommendations to children's activity levels for the first time. Hundreds of measurements of total

energy expenditure, including many collected at the CNRC, provided key information about how many calories children actually burn while going about their daily lives.

Although the new guidelines allow for four levels of physical activity—sedentary, moderate, active or vigorous—Butte said the guidelines also recommend that children accumulate at least 60 minutes of physical activity every day to promote health. This amount puts children in the "active" zone of the energy recommendations.



"Linking children's energy needs to their activity level is essential because, contrary to popular belief, a child's energy needs for growth are small compared to those for physical activity," she said.

Research shows that through age 9, children need a mere 20 extra calories per day to support growth. Children 9 to 18 need an additional 25 calories per day. In contrast, a 9-year-old who is physically active for an hour a day burns a total of about 2000 calories per day, or about 250 calories more than his "couch-potato" peers.

"This difference suggests that an inactive 9-year-old who habitually consumes the same number of calories as an active peer could gain nearly 26 pounds in one year -- far more than the six to eight pound gain generally considered healthy for that age," she said.

Butte believes that understanding a child's energy needs could also help parents and kids better match their caloric intake to their level of physical activity.

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WINNERS OF KIDS' COMPUTER GAME TAKE HOME BETTER DIET

Sitting in front of a computer, fourth-graders battled snakes and moles to save the kingdom – and improved their diets in the process.

A multimedia game developed by CNRC behavioral nutrition researchers successfully increased the fruit and vegetable consumption of elementary school students.

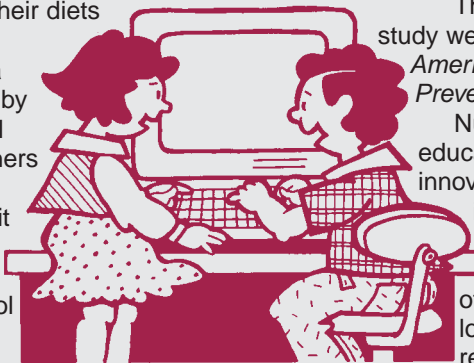
"Students who played Squire's Quest! were eating an extra serving a day of fruit, juice or vegetables after five weeks," said Dr. Thomas Baranowski, the study's lead author and a Professor of Pediatrics at Baylor College of

Medicine. "This interactive game helped educate kids about nutrition needs in a fun way."

The results of the study were published in the *American Journal of Preventive Medicine*.

Nutrition experts and educators need innovative programs to increase the fruit, juice and vegetable intake of children, which is lower than the recommended five servings a day, Baranowski said.

In Squire's Quest!, the kingdom of 5ALot is invaded by snakes and moles attempting to destroy the fruit and vegetable crops. The king and queen enlist the help of squires who



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VOLUNTEERS

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

Transportation/parking available. For more information, visit the CNRC website: www.bcm.tmc.edu/cnrc/

New!! Baby Cereal Study

Toddlers, 15 to 18 months of age, are needed for a study on iron absorption using fortified rice cereal. Stipend. Call Cynthia, 713-770-8820.

New!! Beef Study: Beef Eating Enhances Fe (Iron)

Children, 4 to 8 years of age, are needed for a new study investigating how soy and beef proteins affect iron and zinc absorption in the body. In order to participate, children should like to eat Frito chili pie. Stipend. Call Keli, 713-798-7085.

New!! Breast Engorgement Study

New mothers are needed for a study of breast engorgement. The study is designed to compare different breast pumps and strategies used to treat engorgement. Mothers may enroll before or after delivery. Call Cynthia, 713-798-7005.

Osteoporosis Prevention Using Soy (OPUS)

Normal weight, post-menopausal women between the ages of 40 and 60 are needed for a two-year study designed to evaluate the benefits of soy isoflavones in the prevention of bone loss. Call (713) 798-6783.

Hypertension Prevention Using Soy

Normal weight, post-menopausal women between the ages of 40 and 60 with high-normal blood pressure to stage 1 hypertension and not on any hypertensive medication are needed for a 6-week study to evaluate the benefits of soy isoflavones in the prevention of hypertension. Call 713-798-6783.

Babies First Study

Breast-fed and bottle-fed infants, 2 to 11 months of age, and their mothers are needed for a study on infant eating patterns, food preferences, and growth. Stipend. Call the BabiesFirst hotline at (713) 798-6740.

Metabolism Studies

Normal-weight children, ages 6 to 9 and 13 to 17, overweight teens ages 13 to 16, and normal-weight, healthy adults, ages 18 to 35, are needed for metabolism studies. Stipend. Call Andrea, (713) 798-7083.

Boy Scout Achievement Badge Programs

Boy Scouts, ages 11 to 14, and their troops are invited to participate in two new internet-based badge programs that focus on healthy eating and physical activity. Contact Mary, (713) 798-6737, Andrea (713) 798-0509, or Ariella, (713) 798-7140.

Bonemax

Boys and girls, ages 9 to 12, are needed for a one-year calcium-metabolism study. Stipend. Contact Keli, 713-798-7085, or Holly, 713-798-7166.

Viva La Familia

Hispanic families with children 4 to 18 years of age are needed for a study aimed at understanding the factors causing childhood obesity. Stipend. Contact Marilyn, 713-798-7002.

Breast-Feeding Study

Pregnant women in their last trimester who plan to breast-feed for at least three months and new mothers currently breast-feeding infants between 2 weeks and 2 months of age are needed for a study of breast-milk sugar production. Stipend. Call Andrea, 713-798-7083.

Biological Diversity of Growth

Children who have previously participated in any CNRC studies involving body composition measurements and are presently less than 22 years old, as well as Hispanic, African-American, and Caucasian young adults, 19 to 22 years of age, are needed for this study. Stipend. Call Marilyn, 713-798-7002. ♦

RECOMMENDATIONS

(Continued from page 1)

How many calories does your child need?

Find out using the CNRC's new interactive Children's Energy Needs Calculator. The Calculator, based on the new IOM energy recommendations, is available on the CNRC website: www.bcm.tmc.edu/cnrc/ ♦

COMPUTER GAME (Continued from page 1)

face challenges related to eating more fruits, juice and vegetables.

The student 'squires' gained points by preparing recipes in a virtual kitchen. At the end of the session, the students set goals of making that recipe at home, eating another serving of fruit, juice or vegetables at a meal or snack, or asking for a favorite fruit, juice or vegetable to be more available at home.

In the next session of the game, the child was rewarded with points if the goal was met.

"Children need to be exposed to the five-a-day message in multiple ways, and the message must be repeated several times throughout childhood," Baranowski said.

The study involved 1,578 students, divided into a participating group and a control group. Four days of dietary intake were assessed before and after the start of the ten-session game.

"It appears that the fun aspect of the program kept the attention of the students and led to the change in eating habits," Baranowski said.

BMI CALCULATOR HELPS PARENTS TRACK KIDS' GAINS

CNRC researchers have developed a new interactive tool to help parents keep their growing children's weight on track.

Based on the revised growth charts from the Centers for Disease Control (CDC), the internet-based Children's Body Mass Index (BMI) Calculator provides a "snapshot" of a child's weight and height for age, including BMI and BMI Percentile. It also plots the child's BMI Percentile on a growth chart, giving parents an important visual cue for changes in their child's weight status.

"Parents who use the calculator to track a child's BMI should watch for significant "drifting," either up or down, in their child's BMI Percentile over time," said Roman Shypailo, a CNRC body composition expert and Instructor with Baylor College of Medicine who developed project.



For example, a boy with a BMI that puts him at the 65th percentile at age 5 would be expected to gain weight at a rate that keeps his BMI "tracking" along the 65th percentile as he grows.

On the other hand, weight gains that shift the child's BMI percentile up, perhaps to the 70th percentile at age 6 and the 75th at age 7, are a "red flag," alerting parents to a potential problem that should be discussed with their child's pediatrician.

"Monitoring a child's BMI percentile could help parents catch potentially unhealthy changes in a child's weight at an early age, when making changes in diet and exercise to correct the problem are easier," Shypailo said.

The Children's BMI Calculator, is available on the CNRC website <http://www.bcm.tmc.edu/cnrc>. ♦

CNRC SCIENTISTS DEVELOP BONE-DENSITY DATABASE

Physicians working with ill children have a new resource for monitoring the bone health of their young patients, thanks to CNRC body composition expert Dr. Kenneth Ellis.

Ellis, the Director of the CNRC's Body Composition laboratory, and his team have developed a website that gives physicians access to the laboratory's extensive database of bone-density measurements.

"Our laboratory has collected whole-body bone-density measurements on over 1500 healthy children of different ages, genders, heights, weights, and ethnic groups," said Ellis, a Professor of Pediatrics at Baylor College of Medicine. "As a result, we have assembled the most complete pediatric bone-density database in the country, which can serve as a reference population to assist in interpreting the bone scans of children with diseases that may affect bone health."

Ellis and his team found that normal bone-density values of healthy children can vary significantly depending on their age, sex, body size, and ethnicity, which is why they felt it was important to give physicians access to the CNRC's well-characterized reference population.

"A pediatrician who orders a bone scan of an ill 9-year-old African-American boy, for example, can go to our website and enter information about the child's bone-density test results. These are compared with the appropriately matched references from the CNRC database and the relative status of the child's bone mineral density is immediately provided," Ellis said.

Access to the website database is limited to physicians and scientists. Those wishing to have access to this free service should send an E-mail to: kellis@bcm.tmc.edu ♦

BRING THE MAP, FORGET THE SNACKS FOR FAMILY ROAD TRIPS

When packing up for a family road trip, consider leaving the snacks at home, says a CNRC registered dietitian.

"Using food to keep your kids occupied encourages them to eat when not hungry, a habit that can contribute to weight problems later in life," said Joan Clark, an Instructor of Pediatrics at Baylor College of Medicine. "Don't think of food as entertainment."

Many times parents pack snacks and offer them to youngsters when they begin complaining of boredom, she said. These practices can give the wrong message that snacking is something to do to keep yourself occupied.

Clark said on trips less than two hours, water is the only thing you need in the car. On longer trips, she recommends stopping every few hours for 10 to 15 minute "snack and play" breaks. "Find a park or rest stop where there's a place to eat a snack and run around for a few minutes," she said. "Bring a Frisbee or football as a quick activity. Get the kids moving a little bit and let them burn off some energy."

Books, games, maps and other activities can provide children with something to help the time pass more quickly during the drive, she said.

On trips where a roadside stop isn't feasible, Clark suggests packing bite-size sandwiches, trail mix, sliced fruit, bottled water and string cheese for snacks. She cautions against any kind of food that could choke a child in an accident or quick use of the brakes.

"It might seem harmless to give a child hard candy or peanuts, but it can present a serious problem if the driver has to slam on the brakes," Clark said. "An easy rule is if you wouldn't let a kid run with it in his mouth, don't let him eat it in the car." ♦

Nutrition & Your Child

Baylor College of Medicine
USDA/ARS Children's Nutrition Research Center
Office of Public Affairs
One Baylor Plaza, Room 176B
Houston, Texas 77030

Non-Profit Org.
U.S. Postage
PAID
Houston, Texas
Permit 1492

NUTRITION TIDBITS

Q What foods present a choking risk?

A Foods that are hard, round or difficult to chew can sometimes lodge in small airways, causing a child to choke. To be on the safe side, consider the following advice on finger foods for children less than 3 years of age: Avoid giving hard or difficult-to-chew foods such as raw carrots and other crunchy vegetables, hard candy, lollipops, peanuts and popcorn.

Modify the shape and texture of firm foods. Cut grapes into quarters, hot dogs into fine sticks rather than round slices,

chop apples and firm fruits into very small pieces, and cook carrots and hard vegetables until soft, then cut into small pieces.

Keep an eye on small children when they are eating. Small children may eat in a hurry, stuff too much food in their mouths or chew their food inadequately. To avoid accidents, children should not be allowed to run or play with food while chewing. Feed small children only when they are sitting down and are in a relaxed atmosphere. Train toddlers to chew their food thoroughly before swallowing. ❖



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Send comments or change of address information to Joan Clark, RD/LD, MBA, Children's Nutrition Research Center, 1100 Bates Street, Houston, TX 77030-2600.

E-mail: cnrc@bcm.tmc.edu
URL: <http://www.bcm.tmc.edu/cnrc/>

Center Director

Dennis M. Bier, M.D.

Newsletter Advisors

Judy M. Hopkinson, Ph.D.
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Janice Baranowski, M.P.H., R.D.

Editor

Joan Carter Clark, M.B.A., R.D., L.D.



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Find hundreds of articles on topics ranging from breastfeeding to vegetarian teens, links to great food and nutrition web sites and back issues of

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<http://www.bcm.tmc.edu/cnrc/>