

## Leanest teens are biggest energy users and consumers

April 5 2007

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Teens who are most physically active and consume the most calories are the leanest, researchers say.

"The take-home message would be to encourage your child to do as much vigorous physical activity as possible, including at least one hour of moderate to vigorous physical activity on a daily basis," says Dr. Paule Barbeau, exercise physiologist at the Medical College of Georgia and corresponding author on the paper in the April issue of *The International Journal of Obesity*. "This allows your child to eat more calories, which encourages more healthy eating habits while remaining in energy balance." Unfortunately, even the leanest of the 661 healthy black and white Augusta teens didn't have great eating habits, researchers note.

In fact, researchers couldn't compare the diet quality of leaner and chubbier teens because overall, it was so poor, says Inger Stallmann-Jorgensen, research dietitian and the paper's first author.

"The majority of the kids did not have enough whole-grain food, they did not have enough low-fat dairy products, they did not have enough fruits and vegetables," Ms. Stallmann-Jorgensen says. Instead, most days were packed with starches, salty snacks, soft drinks and "fruit-ades" such as lemonade that didn't actually contain fruit juice.

"Eating habits formed during our youth tend to stay with us into adulthood, so this does not bode well for prevention of chronic diseases

such as diabetes and heart disease," Ms. Stallmann-Jorgensen notes.

Researchers queried participants about their physical activity and food intake over at least four 24-hour periods and calculated body fat percentages on all participants. They performed magnetic resonance imaging exams on 434 study participants to measure visceral adipose tissue. Visceral adiposity, found in and around organs in the abdominal cavity, is closely linked to general obesity but is considered the worst fat because it is more metabolically active, ramping up pro-inflammatory markers and dramatically increasing the risk of cardiovascular disease and type 2 diabetes, Ms. Stallmann-Jorgensen says.

"Eight- to 12-year-olds can have enough that it's more highly correlated with cardiovascular risk factors than overall percent body fat," says Dr. Barbeau. Even relatively thin children can have enough visceral fat to be a health problem, she says.

Interestingly they found teens who ate the most – again often the highest energy users – tended to have the least visceral body fat. The good news is that visceral fat is the easiest to lose, particularly for males, says Dr. Barbeau.

Also interestingly, some teens who ate the least – they also moved the least and tended to be female – had the highest percent body fat. "If you think about teenagers trying to restrict their energy intake, they usually are not going to be doing a lot of physical activity to stay at that energy balance because they will be tired," Ms. Stallmann-Jorgensen says. "We really expected the energy intake to be lower in kids who were leaner but when we started thinking about it we realized the leaner kids were at a different energy balance than the others," Dr. Barbeau notes.

On average, female study participants had 30 percent body fat (high for females) and males had a healthier 18 percent. Genetics also plays a role

in the body fat equation, researchers note.

About 36 percent of high-school students – 28 percent of females and 44 percent of males – meet recommendations for daily physical activity, according to the Centers for Disease Control and Prevention's 2005 National Youth Risk Behavior Survey. On school days, 21 percent of students play video or computer games or use a computer three or more hours daily for non-school related work and 37 percent watch three or more hours of television, the survey shows.

In the study, common teen activity included watching a movie or spending time with friends. The most physically active teens tended to be males who participated in activities such as weight lifting and organized sports as well as activities they could do alone or with a friend such as running and swimming.

Parents can help improve their children's habits by improving their own eating and physical activity habits, the researchers agree. "Children will follow examples set by parents and other caregivers," Ms. Stallmann-Jorgensen says.

Source: Medical College of Georgia

Citation: Leanest teens are biggest energy users and consumers (2007, April 5) retrieved 19 April 2024 from <https://medicalxpress.com/news/2007-04-leanest-teens-biggest-energy-users.html>

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