

How many extra calories add up to obesity for kids?

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Photo: U.S. Centers for Disease Control and Prevention

Study finds overweight children consume more excess calories daily than previously thought.

(HealthDay)—Overweight kids may be consuming far more calories than their doctors or parents realize, a new study suggests.

The study, which is published in the July 30 online issue of *The Lancet Diabetes & Endocrinology*, updates the mathematical model doctors use to calculate the daily calorie needs of children and adolescents.

The new model tries to more accurately estimate the energy requirements for growing girls and boys. It also accounts for [kids'](#) higher metabolisms, relative to adults, and takes into account the drop in physical activity that happens with age as frenetic toddlers turn into sluggish teens. And last, study authors factor in the increased energy

required to maintain a bigger body size with age.

In sum, the model predicts that it takes far more [calories](#) for children to gain weight than experts had realized.

For example, the old model estimates that for a girl who's a normal weight at age 5 to become 22 pounds overweight by the time she's 10, she'd need to eat around 40 extra calories a day—the equivalent of the calories in a small apple.

The new model predicts that she'd actually need to eat far more than that—about 400 extra calories a day, or the calories in a medium serving of fast-food french fries—to get the same result.

That's one case, but the number of calories it takes to gain weight is slightly different for boys and girls at every age.

"It's a bit of a moving target," admitted study author Kevin Hall, a senior investigator at the U.S. National Institute of Diabetes and Digestive and Kidney Diseases. "The point of these examples is that the excess calorie consumption is much larger than most folks would have suggested in the past."

Using historical data collected by the U.S. Centers for Disease Control and Prevention, Hall and his co-authors calculated that children today are an average of 13 pounds heavier than kids were in the late 1970s, before the start of the obesity epidemic. To gain those extra pounds, kids have consumed about 200 more calories a day.

At different ages, and depending on the amount of weight a child has gained, the differences can be even more stark.

For example, the model estimates than an 11-year-old boy who is about

18 pounds overweight has eaten roughly 320 more calories a day than his healthy-weight peers. Meanwhile, a girl who is the same age and also 18 pounds overweight has taken in an extra 301 daily calories.

Hall said the new numbers give parents and doctors a road map for "how we got here" with overweight and obese kids, but they aren't exactly the way back to a normal weight. Kids who cut calories by the amount their currently overeating may stop gaining, for example, but they'd likely need to cut even more to shed their extra pounds.

Dr. David Katz, director of the Yale Prevention Research Center, praised the new model, and said it clarifies energy intake levels needed to achieve public health goals.

"Importantly, given the rather large calorie excesses fueling childhood obesity, this model is a rebuttal to the food industry arguments that exercise alone can be the answer," said Katz, who is also editor of the journal *Childhood Obesity*.

"For our kids to achieve healthy weight, control of calories in, not just calories out, will have to be part of the formula," said Katz, who was not involved in the research.

But there's some good news in the new numbers, too. As [doctors](#) and [parents](#) have long suspected, some kids appear to be able to outgrow their extra pounds when they shoot up in height during puberty, though that feat may be easier for boys than girls, because boys gain more calorie-burning muscle during puberty than girls.

"If you haven't reached puberty and haven't yet reached that growth spurt, that might be the ideal time to institute a weight management intervention to harness the power of the growth to decrease fat mass and increase fat-free mass," said study author Hall.

More information: To learn more about childhood obesity, head to the [U.S. National Library of Medicine](#).

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