

# Higher calorie diets increase weight gain, shorten hospital stays for teens with anorexia

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Higher calorie diets produce twice the rate of weight gain compared to the lower calorie diets that currently are recommended for adolescents hospitalized with anorexia nervosa, according to a study by researchers at UCSF Benioff Children's Hospital.

The findings will be published in the November issue of the *Journal of Adolescent Health* along with an accompanying editorial and two supporting studies, challenging the current conservative approach to feeding adolescents with anorexia nervosa during hospitalization for [malnutrition](#).

"These findings are crucial to develop evidence-based guidelines for the treatment of young people suffering from malnutrition related to anorexia nervosa," said Andrea Garber, PhD, RD, associate professor of pediatrics in the Division of Adolescent Medicine at UCSF Benioff Children's Hospital.

"This is the first study to follow patients in the hospital on a more aggressive feeding protocol and it's clear that we're seeing better results as compared to the traditional approach," said Garber, who led the research with colleagues in the UCSF Adolescent Eating Disorders Program.

The American Psychiatric Association, American Dietetic Association and others recommend starting with about 1,200 calories per day and advancing slowly by 200 calories every other day. This "start low and go

slow" approach is intended to avoid refeeding syndrome – a potentially fatal condition resulting from rapid [electrolyte](#) shifts, a well-known risk when starting [nutrition therapy](#) in a starving patient.

In 2011, Garber and her colleagues published a study that was the first to show that adolescents on these lower-calorie diets had poor outcomes, including initial weight loss followed by poor weight gain and long hospital stays.

"That study showed that the lower-calorie diets were contributing to the so-called 'underfeeding syndrome' and are just too conservative for most of the adolescents that we hospitalize," said Garber. "Now we've compared a higher-calorie approach and found that it dramatically increases the rate of weight gain and shortens hospital stay."

In the new study, researchers evaluated 56 adolescent patients who were placed on higher-calorie diets starting at 1800 calories per day and advanced by about 120 calories per day, versus those starting on 1100 calories a day and advanced at a slower rate of 100 [calories per day](#).

Study participants were adolescents with [anorexia nervosa](#) who required hospitalization for malnutrition indicated by low body temperature, blood pressure, heart rate and body mass index. The primarily white female adolescent patients were fed three meals and three snacks each day and their vital signs were monitored closely, with their heart rates measured continuously and electrolytes checked twice a day.

When comparing the two groups, the rate of weight gain was almost double on higher- versus lower-calorie diets, and patients receiving more calories were hospitalized for an average of seven fewer days, without an increased risk of refeeding syndrome.

"This higher calorie approach is a major shift in treatment that looks

really promising – not only from a clinical perspective of better weight gain, but from the perspective of these young people who want to get better quickly and get back to their 'real' lives," Garber said.

Since 2008, the UCSF Adolescent Eating Disorders Program has been starting patients on a higher calorie approach in response to the emerging research from Garber and her colleagues.

Provided by University of California, San Francisco

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