

# Effects of exercise on meal-related gut hormone signals

July 12 2011

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Research to be presented at the upcoming annual meeting of the Society for the Study of Ingestive Behavior (SSIB), the foremost society for research into all aspects of eating and drinking behavior, finds that alterations of meal-related gut hormone signals may contribute to the overall effects of exercise to help manage body weight.

Regular exercise is important in maintaining low body weight and also is known to facilitate weight loss in obese subjects. Running exercise is known to increase sensitivity to leptin, a hormone released from [fat cells](#) that inhibits food intake. The authors' new study reveals additional mechanisms that contribute the beneficial effects of exercise.

Gut hormones are released before and after a meal to initiate and terminate food intake. The authors measured gut hormone release after a palatable tasty meal before and after rats exercised in running wheels. In rats with a lot of running wheel experience, consuming a tasty meal led to increased [blood levels](#) of an inhibitory feeding hormone, amylin. After the meal, the same rats showed a more rapid rebound of a stimulatory feeding hormone, ghrelin. The authors also demonstrated that compared to sedentary control rats, exercise-experienced rats decrease their food intake more robustly after treatment with CCK, a gut hormone that limits meal size.

Dr. Nu-Chu Liang reports, "Our new results indicate that the [beneficial effects](#) of exercise to control body weight might occur by altering the way in which meals release gut hormones that regulate food intake, and

also by changing the sensitivity of individuals to these gut hormone signals. Furthermore, these findings suggest that both body and brain mechanisms are involved in the effects of exercise to modulate [food intake](#)."

Provided by Society for the Study of Ingestive Behavior

Citation: Effects of exercise on meal-related gut hormone signals (2011, July 12) retrieved 21 November 2023 from

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