

# Diet when young affects future food responses

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A high protein diet during development primes the body to react unhealthily to future food binges. A study on juvenile rats, published in BioMed Central's open access journal *Nutrition and Metabolism*, suggests that lasting changes result from altering the composition of the first solid food that is consumed throughout growth into early adulthood.

Raylene Reimer worked with a team of researchers from the University of Calgary, Canada, to carry out the weaning experiments in 18 litters of rats. Six litters were placed on each of three diets: high prebiotic fiber, high protein and normal control. They consumed these diets until they were 14 weeks old, when they were switched to a high fat, high sugar diet for a further six weeks. Reimer said, "After a weaning diet high in protein, the rats demonstrated an increase in body weight and fat mass in response to the high energy diet. They also showed higher [energy intake](#) than the fiber-diet rats".

This is the first study to investigate the long-term effects of high protein or fiber diets during development on the response to future [food intake](#). Speaking about the results, Reimer said, "Overall, it appears that a long-term diet high in protein, when mismatched with a high energy challenge, has negative effects on body mass and hormones and genes involved in glucose and [lipid metabolism](#). However, a fiber-enriched diet may provide some protection".

**More information:** Consumption of diets high in prebiotic fiber or protein during growth influences the response to a high fat and sucrose

diet in adulthood in rats, Alannah D Maurer, Lindsay K Eller, Megan C Hallam, Kim Taylor and Raylene A Reimer, *Nutrition & Metabolism* (in press) [www.nutritionandmetabolism.com/](http://www.nutritionandmetabolism.com/)

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