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## Does High Sugar Intake Lead to Obesity?

Over the last 30 years, the prevalence of obesity has increased dramatically in the United States. Several investigators have shown that the increased obesity incidence is associated with increased consumption of sugar-sweetened beverages. I used mice as a model system to determine whether increased intake of sugar solutions necessarily leads to obesity. To this end, I examined the effects of ad libitum access to sucrose (10% and 34% solution) or fructose (10% and 34% solution) on adipogenesis in four strains of mice (129P3, C57BL/6, FVBN and AKR). All mice were given ad libitum access to chow diet and water during the exposure period. I observed large strain differences in (a) daily intake of the sugar solutions, and (b) weight gain over the 40-day experiment. However, there was no clear relationship between daily intake and weight gain across the strains. For instance, the strain that consumed the most sugar solution (FVB) failed to gain any weight, whereas the strain that consumed the least sugar solution (AKR) gained the most weight. Such results point to a complex relationship between sugar intake and obesity.