

## Girls on a high-calcium diet gain weight at the same rate as girls on a normal diet: A pilot study

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**Objective:** To determine whether pubertal girls assigned to calcium-rich diets or their usual calcium intakes differ significantly in weight gain.

**Design:** This is a pilot study conducted on data from an experimental research project.

**Subjects/Setting:** The sample included 59 girls, 9 years of age, from Omaha metropolitan communities.

**Intervention:** Participants were randomly assigned to a calcium-rich diet supplying at least 1,500 mg of calcium per day or their usual diet.

**Main outcome measure:** The outcome measure was change in weight during 2 years of study.

**Statistical analyses:** Data were analyzed using descriptive statistics, Mann-Whitney U, *t* tests of paired and independent samples, and analysis of covariance.

**Results:** The girls in the calcium-rich diet group had a mean ( $\pm$ standard deviation) calcium intake of 1,656 $\pm$ 191 mg/day, whereas the girls on their usual diets averaged 961 $\pm$ 268 mg/day. Although the participants in the treatment group consumed nearly twice as much dietary calcium—primarily from dairy foods—they did not have greater increases in body weight, body mass index, or fat or lean mass than the control group. These findings held when the data were grouped by tertile of calcium intake. Compared with girls on their usual diets, the girls who consumed the calcium-rich diet also significantly increased their intake of essential nutrients.

**Conclusion:** We conclude that calcium-rich diets do not cause excessive weight gain in pubertal girls but do contribute positively to overall nutrition. These findings provide support for programs to promote calcium-rich diets, which are critical for attaining peak bone mass.