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# Racial differences in skeletal calcium retention in adolescent girls with varied controlled calcium intakes<sup>1, 2, 3</sup>

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**Background:** Higher bone mass in blacks than in whites has been related to greater calcium utilization efficiency. Dietary calcium requirements for maximal skeletal calcium accretion during puberty may differ between the races.

**Objective:** This study compared the relation between calcium intake and calcium retention in black and white adolescent girls.

**Design:** A range of controlled calcium intakes (760–1981 mg Ca/d) were used in 3-wk controlled balance studies. Some subjects were studied more than once; a total of 182 observations from 55 black girls and 66 white girls were analyzed.

**Results:** Blacks had  $185 \pm 32$  mg/d greater mean skeletal calcium retention than did whites ( $P < 0.0001$ ) at all calcium intakes as a result of significantly greater net calcium absorption ( $P < 0.001$ ) and lower calcium excretion ( $P < 0.0001$ ).

**Conclusions:** Dietary calcium requirements did not differ with race. Higher calcium retention at all calcium intakes during adolescence may underlie the higher bone mineral content of adult blacks than of adult whites.

**Key Words:** Black persons • white persons • skeletal calcium • dietary calcium • adolescents

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