

## Estimates for Basal Metabolism Inaccurate for African American Girls

By [Judy McBride](#)

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The equations used to estimate the number of calories adolescent females burn while resting are inaccurate for African Americans, according to a study by the [Agricultural Research Service](#).

The finding at the agency's [Children's Nutrition Research Center](#) is important because the basal metabolic rate (BMR) accounts for between 50 and 70 percent of the calories we burn daily. Clinicians routinely use BMR to estimate the energy needs of patients. Government agencies use it to recommend calorie intakes.

Ethnic background should be included in future BMR measurements and in refining equations used to estimate it, the scientists concluded.

They had suspected that the equations now used do not reflect the energy needs of children and adolescents, particularly non-white youths, because these equations were derived from measurements done mostly on white adults. What's more, most of the measurements were done during the first half of the century when equipment and methods were less sophisticated.

Their suspicions were confirmed after careful measurements of 76 white females and 42 black females between 8 and 17 years old. Nine of the 10 equations they evaluated significantly overestimated BMR in the black girls, and half overestimated BMR in the white girls.

The ethnic differences became obvious when the two groups were matched for age, weight and sexual maturity. In six of the 10 equations, the overestimation was significantly greater for the black girls--averaging 77 calories daily--than for the white girls, averaging 25 calories daily. The black girls were heavier, had a higher body mass index than the white girls of the same age and were more sexually mature, a factor that increases overestimation, the scientists found.

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