

Review suggests metformin associated with small height increase in children

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A review of the medical literature suggests the diabetes medication metformin may be associated with a small increase in height in children and adolescents in randomized clinical trials providing the largest cumulative metformin doses, according to an article published online by *JAMA Pediatrics*.

There has been increasing off-label use of metformin in children and [adolescents](#), often as part of the management of [polycystic ovary syndrome](#), but also for impaired glucose tolerance, nonalcoholic fatty liver disease and obesity.

Normand G. Boulé, Ph.D., of the University of Alberta, Canada, and coauthors included 10 studies with a total of 562 children and adolescents at baseline; 59 percent were female (n=330); the average age within the studies ranged from nearly 8 to 16; and the average body mass index (BMI) ranged from 18.4 to 41. Participants used metformin from three to 48 months.

Overall, height changes were not significantly different between metformin users and [control group](#) participants in the studies, the authors report. However, further analyses stratified according to the cumulative metformin dose (in milligrams per day times the number of days of treatment) showed about a one-centimeter increase in height with metformin use in the five studies providing the largest cumulative [metformin](#) doses but not in the five studies providing the lowest doses compared with the control group.

The authors note limitations to their study, which include their inability to obtain height data from many studies, even though this information had been collected for the reporting of BMI.

"While an approximate 1-cm increase in height may appear small, it is likely underestimated given that many studies were of short duration and included older adolescents, potentially after epiphyseal growth plate closure. ... Our results also suggest a need for additional longer-term studies in younger participants because preliminary evidence suggests that these individuals may experience greater increases in height compared with a control group," the study concludes.

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