

## Study: Sleep linked with diabetes risk in children

August 15, 2017

Melissa Jenco, News Content Editor

Article type: [News](#)

Topics: [Diabetes Mellitus](#), [Sleep Medicine](#)

---

Children who get more sleep have fewer risk factors for type 2 diabetes (T2D), according to a new study.

However, more research is needed to determine if there is a causal relationship, researchers said in the study “Sleep Duration and Risk of Type 2 Diabetes” (Rudnicka AR, et al. *Pediatrics*. Aug. 15, 2017, <https://doi.org/10.1542/peds.2017-0338>).

For adults, getting too much or not enough sleep both have been linked with adiposity and T2D. In children, more sleep has been tied to lower levels of obesity, but research about T2D risk factors has been scarce.

To explore possible connections, researchers studied 4,525 children ages 9-10 from the Child Heart and Health Study in England. Research nurses took fasting blood samples and physical measurements from the children, and participants reported their typical bedtime and waking time on school days. For some, the sleep times were validated with accelerometers.

Researchers found children slept 10.5 hours per school night on average. The longer they slept, the lower their insulin, insulin resistance and glucose levels, according to the study. Insulin went down about 3% for every extra hour of sleep. The association was similar for insulin resistance and smaller for glucose.

Confirming previous studies, children who slept longer also had lower measures of adiposity, including weight, fat free mass and skinfold thickness. An extra hour of sleep was associated with 0.19 kg/m<sup>2</sup> lower body mass index in adjusted models.

After adjusting for adiposity markers, the inverse associations between sleep and T2D risk factors remained.

Researchers did not find associations between sleep and glycated hemoglobin, lipids or blood pressure. The lack of ties to the latter two suggests “that sleep duration does not alter other cardiovascular risk in early life, other than by increased obesity and metabolic risks which, if sustained or accentuated, take time to accelerate cardiovascular risks,” authors wrote.

They said more research is needed to determine whether less sleep causes T2D risk factors so doctors can advise patients accordingly.

“Levels of insulin resistance in childhood have been shown to impact on T2D risk over a 10 year period and may magnify with increasing age,” authors wrote. “Hence, reducing levels, even by modest amounts in childhood, may have longer-term implications for reduced T2D in later life.”

For a related commentary, visit <http://pediatrics.aappublications.org/content/early/2017/08/11/peds.2017-2015>.

### Resources

- [AAP policy "School Start Times for Adolescents"](#)
- [AAP technical report "Insufficient Sleep in Adolescents and Young Adults: An Update on Causes and Consequences"](#)
- [Healthy People 2020 and sleep health](#)
- [AAP News article "AAP endorses new recommendations on sleep times"](#)

