

Children with type 1 diabetes may have a less desirable gut bacteria composition

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Children with type 1 diabetes have a less desirable gut microbiome composition which may play a role in the development of the disease, according to new research published in the Endocrine Society's *Journal*

of Clinical Endocrinology & Metabolism.

Type 1 diabetes most often occurs in children and adolescents and is a disease in which a person's pancreas produces little or no insulin. The prevalence of type 1 diabetes in children is related not only to [genetic predisposition](#), but also to [environmental factors](#) such as gut health and gut-microbiota composition. The [gut microbiome](#) is a community of bacteria within the [gastrointestinal tract](#) that have a major influence on metabolism, body weight, the development of disease and the immune system.

"We found a particular gut microbiota composition that is associated with poorer blood sugar measures in a group of children and adolescents with newly-diagnosed type 1 diabetes," said the study's corresponding author, Giuseppe d'Annunzio, M.D., of the Istituto Giannina Gaslini in Genoa, Italy. "We used a form of artificial intelligence called machine learning to do a more thorough and robust genetic analysis."

The researchers studied the microbiomes of 31 children with type 1 diabetes and 25 children who did not have diabetes. They used machine learning analysis and [genetic analysis](#) and found patients with type 1 diabetes had a significantly higher amount of gut bacteria linked to the onset of diabetes.

"Gut microbiota composition deserves attention as a new topic of research in the development of several diseases," d'Annunzio said.

More information: Roberto Biassoni et al. Gut Microbiota in T1DM-Onset Pediatric Patients: Machine Learning Algorithms to Classify Microorganisms Disease-Linked, *The Journal of Clinical Endocrinology & Metabolism* (2020). [DOI: 10.1210/clinem/dgaa407](https://doi.org/10.1210/clinem/dgaa407)

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