

Preservation of C-peptide secretion examined in youth with type 1 diabetes

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Intensive glucose control for 24 months does not slow the decline in

residual C-peptide secretion among youth with new-onset type 1 diabetes, according to a study published in the Sept. 8 issue of the *New England Journal of Medicine*.

Charlotte K. Boughton, Ph.D., from the Wolfson Diabetes and Endocrine Clinic at the University of Cambridge in the United Kingdom, and colleagues conducted a randomized trial involving youth aged 10.0 to 16.9 years within 21 days of type 1 [diabetes diagnosis](#). Ninety-seven participants were randomly assigned to receive 24 months of hybrid closed-loop [therapy](#) or standard insulin therapy (51 and 46 participants, respectively). The area under the curve (AUC) for the plasma C-peptide level (after a mixed-meal tolerance test) at 12 months after diagnosis was assessed as the primary end point.

The researchers observed no significant difference between the groups in the AUC for the C-peptide level at 12 months (geometric mean, 0.35 and 0.46 pmol/mL with closed-loop and control therapy, respectively). At 24 months, there was also no substantial difference in the AUC for the C-peptide level (geometric mean, 0.18 and 0.24 pmol/mL, respectively). The arithmetic mean glycated hemoglobin level was 4 and 11 mmol per mole lower in the closed-loop versus the [control group](#) at 12 and 24 months, respectively.

"A sustained period of hybrid closed-loop glucose control after diagnosis of type 1 diabetes in children and adolescents did not appear to prevent the decline in residual C-peptide secretion," the authors write.

More information: Charlotte K. Boughton et al, Closed-Loop Therapy and Preservation of C-Peptide Secretion in Type 1 Diabetes, *New England Journal of Medicine* (2022). [DOI: 10.1056/NEJMoa2203496](https://doi.org/10.1056/NEJMoa2203496)

Jan Bolinder, CLOuDs Disperse—Top-Notch Glucose Control and Residual C-Peptide Secretion, *New England Journal of Medicine* (2022).

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