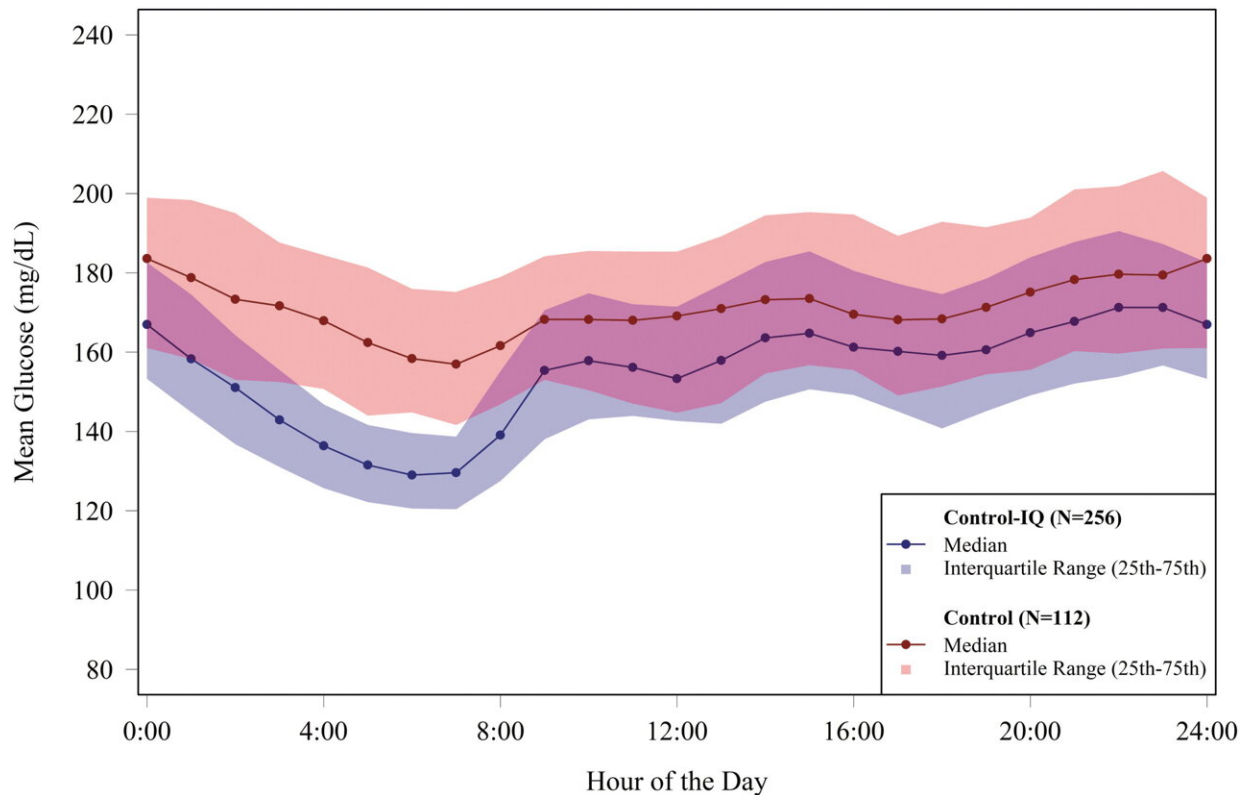


A meta-analysis of hybrid-closed loop control-IQ technology

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Mean glucose levels by time of day during follow up. The figure shows an envelope plot of the glucose level as measured by CGM over follow-up, according to the time of day. Solid circles denote the hourly median values and the shaded regions are defined by the 25th and 75th percentiles, with the Control-IQ group represented by blue symbols and blue shading and the Control group represented by red symbols and red shading. CGM, continuous glucose monitoring. Credit: *Diabetes Technology & Therapeutics* (2023). DOI: 10.1089/dia.2022.0558

A new study evaluated the effect of hybrid-closed loop Control-IQ technology in the pooled data from three randomized controlled trials, comparing Control-IQ to a control group using continuous glucose monitoring in people with type 1 diabetes. The study, which examined subgroup based on baseline characteristics such as race/ethnicity, socioeconomic status, pre-study insulin delivery modality, and baseline glycemic control, is published in *Diabetes Technology & Therapeutics*.

Roy W. Beck, MD, Ph.D., from the JAEB Center for Health Research, and coauthors, reported that time in range (70-180 mg/dL) in the Control-IQ group increased from $57\% \pm 17\%$ at baseline to $70\% \pm 11\%$ during follow up. In the [control group](#) the time in range was $56\% \pm 15\%$ and $57\% \pm 14\%$, respectively. This represents an increase of 2.8 hours per day on average.

"Significant reductions in mean glucose, hyperglycemia metrics, hypoglycemic metrics and HbA1c also were observed," stated the investigators. "The greatest benefit was observed in participants with the worst baseline [glycemic control](#) in whom the auto-bolus feature of the Control-IQ algorithm appears to have substantial impact," they concluded.

Editor-in-Chief of *Diabetes Technology & Therapeutics* Satish Garg, MD, from the University of Colorado Denver, Barbara Davis Center for Childhood Diabetes, states, "Increasing improvements in [diabetes](#) technologies has improved glucose control as measured by Time-in-Range with a significant reduction in hypoglycemia as shown above."

More information: Roy W. Beck et al, A Meta-Analysis of Randomized Trial Outcomes for the t:slim X2 Insulin Pump with Control-IQ Technology in Youth and Adults from Age 2 to 72, *Diabetes*

Technology & Therapeutics (2023). [DOI: 10.1089/dia.2022.0558](https://doi.org/10.1089/dia.2022.0558)

Provided by Mary Ann Liebert, Inc

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