

# Pramlintide improves glucose control in type 1 diabetes

25 July 2012



Image courtesy of Blausen Medical

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(HealthDay) -- The addition of pramlintide, an analog of the naturally-occurring  $\beta$ -cell peptide amylin, before meals improves blood glucose control in patients with type 1 diabetes receiving insulin through an external closed-loop artificial pancreas system, according to a study published online June 18 in *Diabetes Care*.

To examine whether preprandial injections of pramlintide would improve postprandial glycemia by delaying gastric emptying, Stuart A. Weinzimer, M.D., from the Yale University School of Medicine in New Haven, Conn., and colleagues treated eight patients with type 1 diabetes (15 to 30 years old) with a closed-loop [insulin](#) delivery system for 24 hours either alone or plus preprandial injections of 30  $\mu$ g pramlintide.

The researchers found that the addition of pramlintide significantly increased the mean time to peak [blood glucose](#) (2.5 versus 1.5 hours). The addition of pramlintide also significantly reduced the mean magnitude of glycemic excursion (88 versus 113 mg/dL), with the reduction being particularly pronounced at lunch and dinner, when

premeal insulin concentrations were higher.

"Pramlintide delayed the time to peak postprandial blood glucose and reduced the magnitude of prandial blood glucose excursions," Weinzimer and colleagues conclude. "Beneficial effects of pramlintide on closed-loop may in part be related to higher premeal insulin levels at lunch and dinner compared with breakfast."

Two authors are employees of Medtronic [Diabetes](#), which provided equipment for the study. Two additional authors are consultants/advisors to Medtronic MiniMed and Animas Corporation.

**More information:** [Abstract](#)  
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APA citation: Pramlintide improves glucose control in type 1 diabetes (2012, July 25) retrieved 8 May 2021 from <https://medicalxpress.com/news/2012-07-pramlintide-glucose-diabetes.html>

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