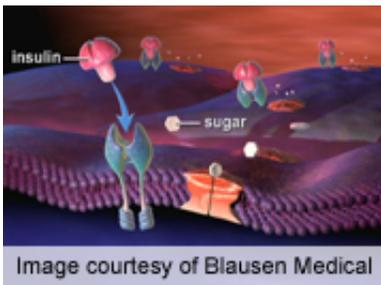


# Single C-peptide as good as full mixed-meal tolerance test

November 2 2012

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For children and adolescents with type 1 diabetes, the 90-minute mixed-meal tolerance test (MMTT)-stimulated C-peptide is a highly sensitive and specific measure of area under the curve and peak C-peptide and may be used as an alternative to a full MMTT, according to a study published online Oct. 30 in *Diabetes Care*.

(HealthDay)—For children and adolescents with type 1 diabetes, the 90-minute mixed-meal tolerance test (MMTT)-stimulated C-peptide (CP; 90CP) is a highly sensitive and specific measure of area under the curve (AUC) and peak CP and may be used as an alternative to a full MMTT, according to a study published online Oct. 30 in *Diabetes Care*.

Rachel E.J. Besser, Ph.D., from Peninsula Medical School at the University of Exeter in the United Kingdom, and colleagues examined whether 90CP or fasting CP (FCP) can be used as alternatives to a full MMTT. In 421 patients younger than 18 years with type 1 [diabetes](#), CP was measured during 1,334 MMTTs at three, nine, 18, 48, and 72

months of diabetes duration.

The researchers found a correlation for AUC CP of 0.96 for 90CP and 0.84 for FCP. AUC CP  $\geq 23$  nmol/L/150 min was the equivalent cut-off for peak CP  $\geq 0.2$  nmol/L, with 98 percent sensitivity and 97 percent specificity. A 90CP  $\geq 0.2$  nmol/L correctly classified 96 percent of patients using AUC or peak CP, while an FCP  $\geq 0.1$  nmol/L correctly classified 83 and 85 percent of patients, respectively. Only a small difference was noted between peak and 90CP. Patients with longer duration of diabetes and younger age had an earlier occurring CP peak.

"In conclusion, our study demonstrates that, in children and [adolescents](#) with [type 1 diabetes](#), a mixed-meal stimulated 90-min CP is a highly sensitive, specific, and practical alternative measure to peak and AUC CP, with advantages over FCP," the authors write.

**More information:** [Abstract](#)

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