

# Absolute incretin effect reduced in type 2 diabetes

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(HealthDay) -- For patients with type 2 diabetes mellitus (T2DM) the absolute incretin effect is reduced compared with healthy individuals, but its relative importance is increased, particularly in first-phase insulin secretion, according to a study published online June 20 in *Diabetes*.

Hans Juergen Woerle, M.D., from Ludwig-Maximilians-University in Munich, Germany, and colleagues examined the role of incretins on [insulin secretion](#) in 12 healthy individuals and 12 patients with T2DM, using the hyperglycemic clamp technique.

The researchers found that, compared with patients with T2DM, intravenous glucose alone was associated with a significantly greater first- and second-phase insulin secretion in healthy individuals. In both groups, duodenal nutrition perfusion increased both phases of insulin secretion, with first-phase insulin secretion enhanced more in patients with T2DM (approximately eight- versus two-fold). Approximately 20 percent of the overall insulin secretion was attributable to glucose-related stimulation of insulin secretion. Infusion with the

glucagon-like peptide 1 [receptor antagonist](#) exendin(9-39) reduced both phases of insulin secretion in both groups.

"In conclusion, both phases of insulin secretion are impaired in T2DM. In particular, the responsiveness to glucose in first-phase insulin secretion is blunted," the authors write. "The absolute incretin effect is reduced in T2DM; its relative importance, however, appears to be increased, highlighting its role as an important amplifier of first-phase insulin secretion in T2DM."

[Abstract](#)

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