

Natural, edible treatment offers promise for diabetics

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A potentially revolutionary treatment for diabetics mimics the benefits of major surgery, but achieves the same results without it.

The American Heart Association's Science & Technology Accelerator investment catalyst division is investing in an oral treatment that delivers natural substances, dramatically improving blood sugar levels in diabetics. This collaborative investment, with Broadview Ventures and North Carolina Biotechnology Center, holds the promise of replacing synthetic drugs for thousands of Type 2 diabetics.

"The use of natural, nontoxic dietary compounds—delivered in a new way to achieve the same amazing improvements in blood sugar observed in diabetics who have undergone intestinal surgery—could be a game-changer, helping dramatically start decreasing the incidence of heart attack and stroke within the next five years," said Joseph A. Hill, M.D., Ph.D., chief of cardiology at UT Southwestern Medical Center.

Here's how the benefits could translate from the operating room to a simple oral treatment. Morbidly obese diabetics often undergo intestinal bypass surgery to lose weight. The surgery shortens the small intestine so that just a fraction of calories ingested have time to be absorbed in the small intestine before reaching the colon, where waste is handled. These diabetics appear virtually "cured" of their diabetes before they leave the operating room.

The likely reason is that two nutrients in everyone's diet, Sodium

Butyrate and L-Glutamine, are normally absorbed shortly after they leave the stomach, but they reach the colon after such gut-shortening surgery. The colon has receptors that bind with them, causing a massive increase in insulin secretion and a decrease in insulin resistance.

Non-obese diabetics are not candidates for intestinal bypass surgery, but the innovators have found a way to create an "artificial short gut" with a capsule that delivers these nutrients from mouth to colon, lowering blood glucose to normal.

"This has the potential to save thousands of lives each year and save an already overburdened healthcare system billions of dollars," said Russell Vester, M.D., a cardiovascular surgeon and current member of the Science & Technology Accelerator's investment committee.

"The patients' blood glucose is normalized before they've lost an ounce. It appears, in many of them, as if they never had [diabetes](#) in the first place," said Ross Tonkens, M.D., a cardiologist and head of the American Heart Association's Science & Technology Accelerator Fund.

"Many diabetics could be moved from prosthetic drugs (which the FDA is scrutinizing for toxicities including increasing incidence of pancreatic cancer) to natural substances with no toxicities," Tonkens said. "The implications are huge."

Provided by American Heart Association

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