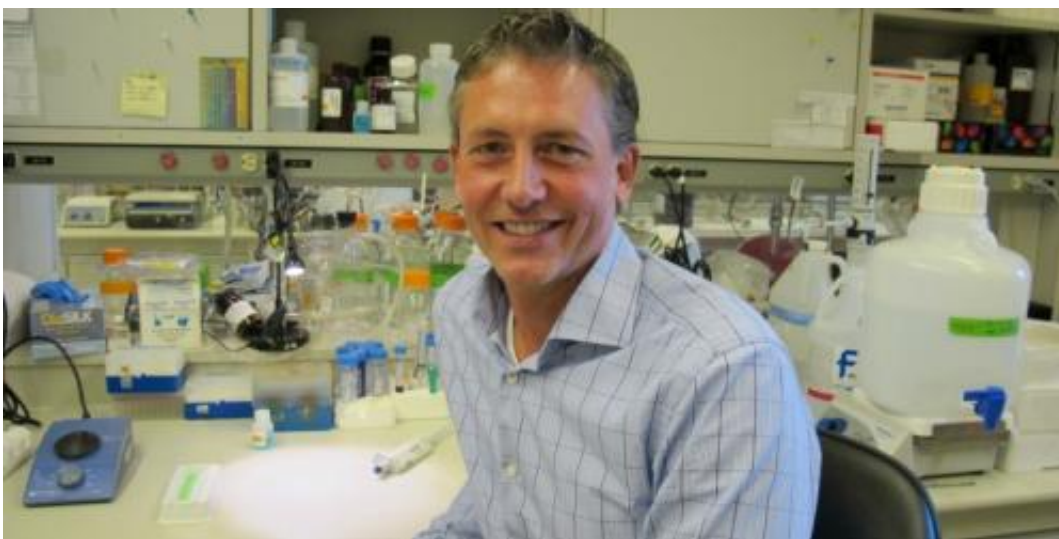


New gene-therapy approach could improve obesity treatment

September 20 2012, by Raquel Maurier



Jason Dyck and his medical research team at UAlberta found a new, safer way to deliver gene therapy for obesity.

(Medical Xpress)—Medical researchers at the University of Alberta have found a new way of using gene therapy to treat obesity. The treatment was successful, resulting in less weight gain, higher activity levels and decreased insulin resistance in lab models on a high-fat, high-sugar diet.

Faculty of Medicine & Dentistry researcher Jason Dyck, who works in the Department of Pediatrics and the Department of Pharmacology, published his findings this week in the peer-reviewed journal [Nutrition](#)

[and Diabetes](#). His team found a way to deliver the obesity treatment via DNA as opposed to a virus, which has had limited success in the past, especially over the long term. The results they demonstrated corroborated findings by other researchers who conducted short-term studies or used more risky methods of gene delivery.

"I think our findings may bring this treatment one step closer to clinical trials, as this approach appears to be much safer than conventional forms of [gene therapy](#)," said Dyck.

The obesity treatment focused on increasing levels of adiponectin, a hormone secreted from fat cells. As a person gains weight and fat cells get larger, the body secretes less of this hormone. People who are thin secrete high levels of this hormone.

"This hormone seems to be protective against a number of diseases, including diabetes and cardiovascular disease, as well as [weight gain](#)," says Dyck. "But as you gain weight, less adiponectin is secreted and you lose the beneficial effects associated with this hormone."

Lab animal models fed a high-fat, high-sugar diet that were given this treatment gained less weight, burned more calories, were more active, used more oxygen, and were better protected against glucose intolerance and [insulin resistance](#) than those that were fed the same diet but didn't get the anti-[obesity](#) treatment. Dyck hopes other research teams will move his work forward.

More information: [doi:10.1038/nutd.2012.18](https://doi.org/10.1038/nutd.2012.18)

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