

# Interferon alpha can delay full onset of type I diabetes

July 1 2009

---

A low dose of oral interferon alpha shows promise in preserving beta cell function for patients with newly diagnosed type 1 diabetes, or juvenile diabetes, according to researchers at The University of Texas Medical School at Houston.

The results of the Phase II trial are published today in *Diabetes Care*, a journal of the American Diabetes Association.

"It shows a strong trend in preserving insulin-producing beta cell function that is significantly better than placebo," said Staley Brod, M.D., principal investigator of the trial, which includes the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). "It can extend the 'honeymoon phase' of the disease, allowing the body to still produce insulin from beta cells, which correlates with decreased complication rates."

As many as 3 million Americans may have type I diabetes, formerly called juvenile diabetes, according to the Juvenile Diabetes Research Foundation International. Each year, 15,000 children are diagnosed with the autoimmune disease, in which the pancreas stops producing the insulin needed to transfer glucose from the blood to cells for energy. The result is too much glucose in the blood, which can lead to [kidney failure](#), blindness, nerve damage, amputations, heart attack and stroke.

A honeymoon phase sometimes occurs just after diagnosis as the body tries to rebound. Many patients experience a period when their need for

insulin becomes minimal, control of blood sugar improves and [beta cells](#) partially recover. If the pancreas is still able to function, the highs and lows experienced by taking manufactured insulin can be decreased.

The Phase II trial included 128 patients from the NIDDK's Intramural Studies Office, The University of Texas Southwestern Medical Center in Dallas and Children's Hospitals and Clinics in Minneapolis/St. Paul, Minn. Research was conducted at The University of Texas Clinical Research Center at Memorial Hermann-Texas Medical Center, which is part of the Center for Clinical and Translational Sciences at The University of Texas Health Science Center at Houston.

Research subjects ages 3 to 25 diagnosed with type 1 diabetes within six weeks of enrollment were randomized to receive 5,000 units of interferon alpha, 30,000 units of interferon alpha or placebo once daily for one year. Patients treated with 5,000 units lost only 29 percent of their beta cell function compared to 48 percent for patients receiving 30,000 units and 56 percent for patients receiving the placebo.

Austin resident Jarod Wallquist, 11, was 5 years old when he was diagnosed with type I diabetes and his mother Amy learned about Brod's study. Jarod received the 5,000 units of interferon alpha, but neither she nor the researchers knew it at the time because of the double-blind nature of the study.

"My husband and I are both scientific-minded so we understood the importance of the research even if we didn't know whether it would help Jarod," said Wallquist, whose family made regular trips to Houston for the study. "Jarod is doing really well. He wears an insulin pump but he's never had to go to the emergency room. To this day, according to his doctor, his amount of insulin needed is much lower than other kids his age and weight. He plays baseball and is on the swim team and he totally has a normal life."

The research builds on Brod's earlier studies on oral [interferon alpha](#) in animals and a Phase I safety trial. After the results of the safety trial, NIDDK researchers asked to join Brod's research before the Phase II trial.

Brod's theory is that autoimmune diseases, which occur when the body is attacked by its own immune system, are actually an alpha interferon immunodeficiency syndrome. Interferons are a group of proteins produced by cells in response to an attack by a virus.

Source: University of Texas Health Science Center at Houston ([news : web](#))

Citation: Interferon alpha can delay full onset of type I diabetes (2009, July 1) retrieved 23 April 2024 from <https://medicalxpress.com/news/2009-07-interferon-alpha-full-onset-diabetes.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--