

# Diabetes vaccine stumbles at second hurdle

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An experimental vaccine to prevent progression of Type 1 diabetes failed at the second step of the three-phase trial process, doctors said on Monday in a study reported online by *The Lancet*.

The vaccine sought to protect insulin-producing beta cells in the pancreas from the body's immune system.

Its formula is based on an enzyme called glutamic acid decarboxylase (GAD), which the over-sensitised immune system targets -- and in doing so destroys the precious [beta cells](#).

The idea was that by vaccinating patients with GAD, this would teach the immune system's [T cells](#) to tolerate the enzyme.

The trial was carried out on 145 patients aged three to 45 years living in the United States and Canada who had been diagnosed with [Type 1 diabetes](#) within the previous three months.

The volunteers were given either the vaccine; the vaccine plus a standard immune-system booster; or just the booster alone.

Patients in all three groups experienced similar progression in the disease, with no difference among them in side effects.

The paper, led by Jay Skyler of the University of Miami Miller School of Medicine, was presented at a conference of the [American Diabetes Association](#) in San Diego, California.

Despite the setback, the investigators called for more research to see if the formula might work when administered sooner or as part of a combination therapy.

The number of adults with diabetes worldwide has more than doubled since 1980, with almost 350 million now affected, according to data reported earlier at the conference.

Diabetes is caused by poor [blood sugar control](#) and can lead to heart disease and stroke and damage the kidneys, nerves and eyes.

High [blood sugar levels](#) and diabetes kill three million people across the world each year.

The surge is attributed to longer lifespan and excess weight, especially among women.

Type 1, a condition that affects about five to 10 percent of people with diabetes, was previously known as juvenile diabetes because it typically shows up in children or young adults. Patients have to take daily insulin shots for the rest of their lives and follow dietary guidelines and exercise.

In Type 2 diabetes, previously known as adult-onset diabetes, either the body does not produce enough insulin or cells are resistant to the hormone. The condition is managed by diet, exercise as well as insulin shots if need be.

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