

# Exercise beneficial to those with type 1 diabetes on insulin pump

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Type 1 diabetes (T1D) patients on insulin pumps stand to benefit by engaging in aerobic exercise, said a team researchers who conducted a three-month observational study on two groups of diabetes patients.

When compared to patients in the study who did not exercise, patients in the study group who engaged in aerobic exercise benefited by improving their metabolic control, reducing their insulin requirement, and a saw a reduction in the number of hyperglycemic events they experienced.

The study, carried out by a team of researchers in Milan, Italy, and Miami, Florida, will be published in a future issue of *Cell Transplantation*.

The clinical study focused on middle-aged T1D patients on insulin pump therapy and aimed at gathering data on metabolic activity, and inflammatory and autoimmune parameters. Having conducted similar studies previously with animals modeled with T1D, the researchers hypothesized that aerobic, physical activity might also positively regulate autoimmunity and help prevent diabetes-related complications in humans.

"We found that being physically active can improve glycemic control for patients with type 1 diabetes," said study co-author Dr. Livio Luzi of the Diabetes Research Institute at the University of Miami Miller School of Medicine in Miami, Florida and the Metabolism Research Center at IRCCS Policlinico San Donato in San Donato Milanese, Italy, who worked with colleagues based in Milan, Italy. "Our results suggest that an

educational program addressed to T1D patients, and focused on insulin injecting monitoring, diet, and exercise, is highly advantageous for management of T1D. "

According to the researchers, the six patients in the exercise arm of the study (ACT) when compared to the seven study patients that did not exercise and were sedentary (SED), seemed to have more responsible behavior in monitoring their glucose levels.

They concluded that further studies with larger groups of participants should be carried out, but that their results on a small number of patients should be considered "primary predictors of exercise-induced metabolic improvements in T1D patients."

"The current study provides physiological data that demonstrate exercise is an important factor in improving and managing type 1 diabetes," said Rodolfo Alejandro of the University of Miami School of Medicine in Miami, Florida and section editor for *Cell Transplantation*. "With the increasing rate of diabetes, including an exercise program as part of treatment is highly recommended and, when coupled with insulin therapy, may yield better results for patients. Future studies should explore mechanisms of action related to exercise-mediated immunomodulation with a larger sample of the population."

**More information:** , Active Subjects with Autoimmune Type 1 Diabetes Have Better Metabolic Profiles than Sedentary Controls, *Cell Transplantation* (2016). [DOI: 10.3727/096368916X693022](https://doi.org/10.3727/096368916X693022)

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