Everything You Need To Know About Interval Training And Diabetes

by COLLEEN KELLY

Things You Didn't Know About Interval Training And Diabetes

I'd bet that you don't need me to tell you that the American Diabetes Association recommends 150 minutes of exercise weekly – ideally 30 minutes, five days per week. You hear this from your physician and diabetes educator at every appointment.

But what if I told you that maybe, just *maybe*, there was a way to get that exercise in a little bit quicker – and it may even be more beneficial? Would you do it?

Enter high-intensity interval training.

What Is HIIT?

High-intensity interval training, more commonly known as HIIT, has taken the exercise world by storm over the past several years. This type of exercise is short, intense bursts of exercise, with only small breaks in between the exercise. The idea is that with each session, the intensity increases.

There are various "protocols" that have been used in research studies. These "protocols" utilize different intensity levels, length of intensity periods, and length of rest periods. But they all had the "on-off" pattern in common, which may make it an "ideal strategy for implementing vigorous exercise in individuals who are unfit or unaccustomed to vigorous-intensity physical activity."

Benefits of HIIT for Diabetics

The benefits of HIIT are multifaceted. According to the American Diabetes Association, HIIT is known to reduce cardiovascular risk, improve psychological well-being, improve immunity, and increase strength and flexibility.

This is great for *everyone* in general. So, is there any additional benefit for people with diabetes?

Actually, yes!

One study indicated that one round of HIIT seemed to increase insulin sensitivity for up to 48 hours. This was demonstrated by an improvement in blood glucose control. If one round of HIIT can do this much, what about continued HIIT?

In one study, researchers evaluated a HIIT walking routine versus a moderate intensity walking program. Both of the groups were training for approximately 60 minutes, five days per week. The results indicated that the group performing HIIT walking had a greater improvement in body composition, aerobic fitness, and glucose levels, which were assessed through continuous glucose monitoring.

Even low-volume HIIT can be beneficial! Low-volume HIIT utilizes a lower exercise volume as well as time commitment. Low-volume HIIT is an attractive option for people who do not have a lot of time to exercise and can, therefore, increase physical fitness in a short amount of time.

In one study, people with diabetes performed low-volume HIIT. These people required exogenous insulin (meaning they needed to take insulin injections) and they did not have any complications. At the completion of the study, the glucose level was measured – all had reduced glucose levels, although fasting glucose levels were not lower the following day. However, six of the nine participants did have improvement in insulin resistance "assessed by fasting homeostasis model assessment scores and argued that this HIIT protocol may be effective for improving metabolic control."

Why Is HIIT Beneficial for Diabetics?

If HIIT is the "magic" exercise, one may wonder what makes it so effective.

The answer – no one knows *exactly* why.

There is one theory that seems plausible. According to the American Diabetes Association, "The mechanism by which HIIT improves glucose control may lie in its ability to recruit more muscle fibers and rapidly deplete muscle glycogen levels, thereby promoting a greater increase in post-exercise muscle insulin sensitivity."

Like we already discussed, HIIT seems to reduce glucose levels for 24 to 48 hours after performing the intervals – and this is a single bout of exercise! Researchers believe that HIIT may be helpful in reducing glucose levels over a long-term period. If performed over a period of 12 to 16 weeks, it may even reduce adipose tissue in the abdomen and increase muscle mass.

Diabetic Safety Recommendations and HIIT Exercise Advice

Vigorous exercise seems to have a correlation with increased risk of cardiovascular events. This doesn't mean that you should avoid HIIT exercise. This means that you should assess your risk of cardiovascular events – most of these events occur because there is an underlying cause – not due to the exercise itself.

The American Diabetes Association recommends a 12-lead electrocardiogram (ECG) for any patient with type 2 diabetes prior to beginning any vigorous exercise routine. An evaluation with a physician is also recommended. It is also a good idea to have a trained professional guide the program initially.

Another good rule-of-thumb is that if you are prescribed insulin or a sulfonylurea, you should ensure that you are exercising with your meter or wearing continuous glucose monitoring. This will allow you to check your glucose level if you feel that you are having a low blood glucose level. Always carry a source of quick-acting carbohydrates (think diabetes emergency plan or diabetes kit), should you feel that your glucose levels are running low.