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Exploring Exercise Barriers

Judy Regensteiner, PhD, and Jane Reusch, MD, hope to answer a familiar question: Why is exercise more difficult for people with diabetes?

By Barbara Brody
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Jane Reusch, MD (left) and Judy Regensteiner, PhD (right)

Judy Regensteiner, PhD, & Jane Reusch, MD

OCCUPATIONS:
Founder and director (Regensteiner) and associate director (Reusch) of the Center for Women's Health Research at the University of Colorado; both are also professors at the University of Colorado Anschutz Medical Campus

FOCUS:
Exercise and diabetes

If you have diabetes, you know that being active helps lower blood glucose and can help you maintain a healthy weight. But what if exercise is uncomfortable and you feel like you can't push yourself very hard before your body calls it quits? You're not imagining things. Exercise really is more difficult when you have diabetes. Not only do people with diabetes have a decrease in maximal exercise function—meaning they aren't able to exert themselves as much as people without diabetes can—but they struggle to begin a workout, too. "When you start to exercise, there's a period where it feels really hard," says Jane Reusch, MD. "That lasts about 50 percent longer in people with uncomplicated diabetes."

Reusch, an endocrinologist who served as the ADA President for Medicine and Science in 2018, joined forces with Judy Regensteiner, PhD, when Regensteiner shifted her research focus from peripheral artery disease to diabetes in the early '90s. In addition to intellectual curiosity, both scientists have relatives with diabetes. "When my grandmother developed **type 2** and started having strokes, I said, 'I'm going to study diabetes,' " Regensteiner recalls. "And I did."

The main goal of their research is to figure out exactly why people with diabetes find exercise especially difficult, a question that they may be close to answering. In a study published in 2017 in the *Journa of Diabetes Complications*, they found that people with type 2 diabetes may not have enough blood flow to their heart and skeletal muscles during exercise. In another, they sought to determine if taking t type 2 drug rosiglitazone, a medication that improves insulin sensitivity, would also improve exercise function—and it worked. "It was a pill that improved exercise capacity without even exercising, but it also caused some weight gain," says Reusch, who sees the pill as a way to help people overcome the initial difficulty in exercising. (One issue: The drug has been shown to cause or worsen congestive hea failure, so it's generally not prescribed.)

Getting to the root of the exercise issue is crucial because lower fitness is linked to a higher risk for early death. "It's a more potent predictor than LDL ['bad'] cholesterol," says Reusch. The pair are also trying to determine why the problem of decreased exercise capacity is even greater in women with diabetes than it is in men with the disease. "We've reported on sex differences and the cardiovascular consequences of diabetes," says Regensteiner. "Women die more often than men after a first heart attack."

Though their research is ongoing, Regensteiner and Reusch advise getting serious about exercise right now. "No Spandex needs to be involved, but you need to get your heart rate up a little bit," says Reusch. "You can start by walking five to 10 minutes a day and work up. The message we want to get out there is that this defect in exercise capacity is a big deal, but you can overcome it."