Transcript Details
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Overheating and MS: Exploring New Approaches to Exercise Comfort

Announcer:
Welcome to *NeuroFrontiers* on ReachMD. On this episode, Dr. Victoria Leavitt will discuss the use of antipyretic treatment to reduce overheating during exercise in adults with multiple sclerosis. Dr. Leavitt is the Director of the Translational Cognitive Neuroscience Laboratory as well as an Assistant Professor of Neuropsychology at Columbia University. Let's hear from her now.

Dr. Leavitt:
So one of the focused areas of my laboratory has been looking at overheating in people with multiple sclerosis. It's a really big problem for a lot of people. Not all, but a lot of people with MS describe overheating. And sometimes it is seasonal and sometimes it is related to outdoor temperatures and sometimes it's not, but it always drives people crazy because it limits their ability to do the things they want to do, and one of the things that they want to do is exercise. It's kind of interesting, actually. Like, of course we all want our patients to exercise more. We know the risks of sedentary behavior, so we want to facilitate ways for them to engage in exercise. The fact that overheating is one of the things that's limiting people with MS in terms of their exercise participation means we need to target that.

And so I became interested in this a long time ago and started really studying this phenomenon, and it's kind of interesting the things that come to light. First of all, there's a whole lot about body temperature that we don't understand, something so basic as body temperature and then differences between men and women. I mean, it just goes on and on. Bringing in the exercise piece, it's interesting that there's very little known about how body temperature affects us during exercise. And the population in whom this has been looked at the most are elite athletes, which is great for them, but what about the rest of us, right?

So in any case, what we started doing in my lab was evaluating a very simple, inexpensive, readily available treatment for overheating, which is aspirin. And it's kind of one of these like, "Well, that seems obvious, and that's a no-brainer," but nobody had ever done it before, and so we started doing it, and by doing it, I mean we started running randomized controlled trials of patients with MS who describe overheating as a problem during exercise. We recruited them. We had it be a double-blind study so that nobody knew what they were getting. They got a pill. They came into the lab, they received a pill, we waited an hour, and then we engaged them in a maximal exercise test. We put them on a cycle ergometer, stationary bike, and we measured all their vitals throughout an exercise session. And we really wanted to see two things. We wanted to see how and whether their body temperature changed over the course of the session, and we wanted to see whether they could exercise for longer and more comfortably after being given the aspirin compared to the placebo. That was our very first experiment.

Later, we folded in acetaminophen because we wanted to have an aspirin alternative. Some people are worried about the GI effects of aspirin, which, by the way, are pretty benign. Aspirin is pretty safe, and another good feature of aspirin is that lots of folks with MS have taken it at one point or another and so they know how they are going to respond to it. And what we found with that first study was that they were able to exercise for longer before getting to their point of peak exertion, and they showed less of a body temperature increase, so they stayed cooler. And then in our second trial, we found that they weren't able to exercise longer the second time around in the larger study, but on every single other outcome that we looked at, like ratings of perceived exertion, pain, fatigue, and body temperature increase, they got better, so that was really exciting to see.

Announcer:
That was Dr. Victoria Leavitt discussing the use of antipyretic treatment to reduce overheating during exercise in adults with multiple sclerosis. To access this and other episodes in our series, visit *NeuroFrontiers* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!