

BroadcastMed | High Intensity Interval Training for Patients with CAD: What Risks? What Benefits?

STEVE OMMEN: Thank you for joining us. I'm Steve Ommen, the chair of clinical cardiovascular practice at Mayo Clinic in Rochester, Minnesota. And this morning I'm joined by Dr. Ray Squires, who's one of our exercise physiologists. Ray, thank you for being here today. I wanted to ask you about high intensity interval training. There's been lots of information in the mass press about this. So can you explain to us the difference between high intensity interval training and regular aerobic exercise?

RAY SQUIRES: Well, traditional aerobic exercise is generally performed at a moderate intensity, approximately 50% to 70% of maximal capacity for a continuous 20 minutes or more. High intensity aerobic interval training is a process where you insert high intensity intervals, perhaps of 80% to 90% of maximal exercise capacity, for 30 to 120 seconds or more during the workout. So the patient may perform three to five high intensity workouts interspaced with lower intensity workouts during a 30-minute session.

STEVE OMMEN: What are the potential risks and benefits of that type of training program?

RAY SQUIRES: The biggest risks are musculoskeletal for patients who haven't preconditioned themselves to be able to accommodate the exercise. For patients with cardiovascular symptoms who are unstable, oftentimes they could develop problems. So we recommend that patients have an evaluation, including an exercise test, before trying to perform aerobic high intensity training.

STEVE OMMEN: Are there individual groups that should and should not consider this as part of their training program?

RAY SQUIRES: In terms of cardiovascular patients, we believe patients with coronary heart disease are probably the best population. So patients after myocardial infarction, PCI, or bypass surgery. In our own cardiovascular rehabilitation program, we include it for all patients with various cardiovascular disease.

STEVE OMMEN: And what have our experiences been?

RAY SQUIRES: Our experiences have been good. We looked at our data from last year, 2011, and approximately 500 patients entered the cardiac rehabilitation outpatient program. Of that group, approximately 70% performed aerobic interval training and performed over 7,000 high intensity exercise sessions. And there were no complications, and patients actually enjoyed it. The benefits of the training is a faster increase in fitness and a greater magnitude of fitness with the training.

STEVE OMMEN: So are there specific patients that should not be doing high intensity interval training?

RAY SQUIRES: Well, certainly cardiovascular patients that are unstable, those patients who have symptoms with minimal exertion, patients who haven't been thoroughly evaluated should not perform aerobic interval training. The patients who develop musculoskeletal pain with more than moderate intensity exercise, patients who are extremely deconditioned are not ready for high intensity aerobic interval training, and patients who are frail, who may be prone to falls and other types of injuries.

STEVE OMMEN: Is there any difference during the program you're designing for cardiovascular patients than what they might get at their local gym or health club with the physical trainers that are there?

RAY SQUIRES: That's a good point. Aerobic high intensity training has been a part of athletic training for decades. And fitness centers, exercise videos, personal trainers are certainly aware of the benefits of high intensity aerobic training. I think the difference in going to a health club is the practitioner there probably will not be aware of the problems and potential problems with patients with cardiovascular disease. So I think it's best for a patient with cardiovascular disease to start an aerobic interval training under medical supervision.

STEVE OMMEN: OK, thank you very much. Thank you for joining us today to talk about the benefits for high intensity interval training for patients with cardiovascular disease. And join us again for future interactions with Mayo Clinic. Thanks so much for being here, this is--

RAY SQUIRES: My pleasure.