

BroadcastMed | Who Needs a Stress Test?

- CHET RIHAL:** Hi I'm Dr. Chet Rihal, Chair of the Division of Cardiovascular Diseases at Mayo Clinic. Today, I have a very special guest with me, good friend and colleague Dr. Thomas Allison, who has a PhD exercise physiologist in our Division of Cardiology and director of our Integrated Stress Center. Tom, welcome.
- THOMAS ALLISON:** Thank you, Chet.
- CHET RIHAL:** Tom, why don't you tell us a little bit about yourself, about your background, your interests, and when you came to Mayo.
- THOMAS ALLISON:** OK, Chet. Why-- I came to Mayo 24 years ago after 10 years at another institution. My background is a PhD in exercise physiology and a master of public health in cardiovascular epidemiology. My role here now, as you mentioned, is Director of the Integrated Stress Testing Center and the cardiopulmonary stress testing lab. And I also work in the preventive cardiology section.
- CHET RIHAL:** Tom, can you tell us about O2 treadmill exercise testing. You've made many contributions here at Mayo, but one of the important ones has been the implementation and expansion of O2 treadmill testing in our practice. What's it used for?
- THOMAS ALLISON:** Well, somebody asked me the other day if I invented it-- of course, which I didn't, but I have sort of popularized it here. And in the evaluation of patients with complex cardiovascular disease for whom surgical interventions may be very important, but surgical interventions also convey a certain risk and expense, so correct selection of patients is very important. And our group here has found that the cardiopulmonary test is really invaluable in determining how limited the patient is, and whether that limitation is primary cardiovascular, and thus could be fixed with an intervention.
- CHET RIHAL:** So O2 treadmill testing can help differentiate cardiac from pulmonary from deconditioning causes of dyspnea. Is that correct?
- THOMAS ALLISON:** That's correct. The standard treadmill testing with a Bruce protocol is basically for the diagnosis of coronary disease and establishment of prognosis in coronary disease. But when you have heart failure, or valvular heart disease, or other forms of structural heart disease, the test falls a little bit short in that patient group.
- CHET RIHAL:** Tom, you've been an advocate and proponent of exercise for all. Can you tell us what the role of exercise and health should be? Should we all be exercising, and if so, what types of exercise ought we be doing?
- THOMAS ALLISON:** Well, we should all be physically active, OK. And so if we're going to talk about exercise, meaning at the gym or in some competitive fashion, we don't all need to do that, but we all need to be physically active to maintain our weight, help maintain our blood pressure, our glucose levels, maintain our joint and muscle function.
- CHET RIHAL:** Are there specific types of exercise that are better than others? I'm thinking aerobic versus resistance versus other things combination exercises?
- THOMAS ALLISON:** Well from a standpoint of cardiovascular health, which of course is our primary focus, there's a little bit of data that suggest that resistance exercise might play a role, but the overwhelming amount of evidence, the weight of evidence, is on aerobic type of exercise-- brisk walking, cycling, climbing hills, hiking, swimming, things like that.

CHET RIHAL: And what about the role of exercise in disease. What do you advise our patients with coronary disease, heart failure, and other problems?

THOMAS
ALLISON: Well, we encourage them all to exercise. There are basically very few patients, a handful, that shouldn't be exercising maybe at least until they have their surgery or something, but almost everybody is exercising to improve their functional status, their ability to kind of get around and do their daily activities and be productive, happy citizens despite their disease.

Now there is also some evidence that the exercise may reduce their chance of having recurrent attacks of their disease or might even, in certain cases, reduce the progression of their disease if the exercise-- for example, the patient's a borderline diabetic and the exercise controls their blood sugar and their blood pressure, that may have an impact on the progression of their disease. I don't think we can prevent 100% these recurrent events by any technique, including exercise, but we can certainly improve the patient's functionality and very possibly improve their downstream course of their disease.

CHET RIHAL: Tom, should patients or anyone have a stress test before embarking upon an exercise program?

THOMAS
ALLISON: Well, I think a patient with cardiovascular disease needs an evaluation of a stress test before they start exercising. In terms of--

CHET RIHAL: What an average, middle-aged physician? What about that?

THOMAS
ALLISON: Well, anybody who's having exertional symptoms. So if the guy says, gee, I tried to start exercising, but I got really short of breath or I was tired for three hours afterward, someone like that should get a stress test. Now there's controversy as to whether an asymptomatic person should get a stress test even with a lot of risk factors. A stress test is safe. It's not high on the list of costly procedures. So when in doubt, why not do it. But asymptomatic healthy people probably don't need one.

CHET RIHAL: Our guest today has been Dr. Tom Allison, Director of the Integrated Stress Center at Mayo Clinic. Dr. Allison today has emphasized the role of exercise and health in diseased, and talked about the role of cardiopulmonary stress testing and differentiating causes of dyspnea in our practice. It's been a very useful adjunct to our practice. And we look forward to having Dr. Allison back in future segments to tell us about this technique in more detail. Tom, thank you very much for joining us.

THOMAS
ALLISON: OK, That. Chet.