Lightfoot	[music]. I'm really pleased to bring to the stage our next presenter for the day. From the University of Pittsburgh, Dr. John Jakicic. [applause]
Lightfoot	Thanks John.
Jakicic	Thank you. Howdy.
S3 00:32	Howdy.
S2 00:32	I got that right. I'm off to a good start. Thank you all for having me today. I want to speak to you about something that I'm pretty passionate about. I've been working on this in my own career for a long period of time, all the way from the time that I was a Physical Education and Health teacher in a really small school north of Pittsburgh called Slippery Rock University and that is physical activity. And just like many of you in the room, I thought about physical activity as exercise, sports performance, those types of things when I first started in my career. And over time I really realized that, while many of us are passionate about that, that's really not where the biggest impact can be in the work that all of us do. And physical activity is really key important behavior that I think is very important for us all to think about as we start to move forward and try to impact the people around us. And there's a lot of reasons why it's important and we kind of put all these things into one big bucket and say I don't think there's anyone in the room that wouldn't agree that if we got people to be more physically active, that that's going to have some impact on health.
S2 01:33	Health can be defined very, very broadly and health isn't always the physical health. It's the mental health, it's the well-being, it's the quality of life health. If you take an older adult and get them moving around, just having them have that independence is health to them and it's not necessarily that their blood pressure is better and other things. But physical activity has a direct path to those health outcomes, but sometimes physical activity works in other ways to make us healthy.
S2 01:57	One is that sometimes we need that physical activity to actually improve our fitness, make us stronger, make our cardiovascular system stronger, our muscles stronger, those types of things. And sometimes the biggest health benefits we get will maybe potentially come through that pathway.
S2 02:12	The other way is through body weight. Obesity is at epidemic proportions. Two-thirds of adults or more in the United States are struggling with their weight. So how can we use physical activity to try to help combat this and prevent this problem? Obesity is not really the problem. It's the impact that obesity has on downstream health outcomes that we need to pay attention to. And sometimes physical activity, actually a lot of times physical activity gets downplayed in its contribution to prevention of weight gain and actually the treatment of overweight and obesity. And so it's very, very important that we think about it from this perspective.
S2 02:46	But there's also another unique pathway when we think about physical activity as an important health behavior. And that's through, I'll call it diet, or the way we eat. There's more and more evidence coming out that suggests that people who are more physically active also have potentially better dietary behaviors. Or physical activity will influence how diet can actually influence those health outcomes.
S2 03:09	So many times when we tell people, "Just eat a healthy diet," and we ignore the physical activity component, we're actually not actually benefiting from that diet or that healthy diet the way we might be able to because sometimes the activity has to be the stimulus to let those nutrients work in the way that they have to do that. We also know that that diet is going to affect things like body weight and there might

even be times when that diet that we eat is going to increase or improve or change how we respond from a fitness perspective.

S2 03:39 if you're thinking about running a long-distance race or a marathon in some way, you could be in the best physical condition, but if your nutrients aren't there, you're not going to be able to perform very well. So too many times we think about physical activity and diet as separate silos. What we like to think about is physical activity and diet are actually part of a clustering of behaviors that are really important that influence health and both of those are important. And if we ignore either piece of that we're probably not going to manifest the health benefits that we're actually hoping for.

S2 04:12 But we get into kind of a little bit of a quandry and that's because a lot of times we confuse our targets with our outcomes. And when we think about what we're asking people to do, asking you to do, how we're trying to get you to think about health, we can change two things: physical activity and diet. Those are just two things we can change, but those are behaviors that we can change. I can ask you to get up and move a little more. I can recommend that you eat a little differently. Those are things that we can change.

S2 04:42 The other things that we have are really outcomes. Those are things that actually occur because of our activity patterns, because of our dietary patterns. So when we-- sometimes in our field get into this debate of whether or not it's important to focus on physical activity or, say something like obesity, it's important to focus on both because if we focus on physical activity, we're going to impact obesity or prevent weight gain. But we can't just focus on that outcome of obesity, or hypertension, or diabetes, without thinking about the behaviors that influence that. So as we think about the work that we're all doing, where our real targets are in the behaviors that influence the outcomes, not on just the outcomes. Because it's one thing to know what causes something like diabetes or heart disease, it's another thing to understand how we move behaviors in a way that are going to actually positively impact those outcomes.

S2 05:38 So how can we help people to think about physical activity differently? Most people when you ask them about physical activity, they get this inkling about what this is. It's, "I have to sweat. I have to work really hard." But how can we make exercise fun? How can we make activity fun? I want to share with you some stories from some of the people that have inspired me. And actually these are some of my graduate students that have finished up and it inspired me to think about physical activity differently and I hope that I've inspired them to think about activity a little bit differently as we go forward.

S2 06:11 So how do we think about this in an innovative way? Well, one of our recent graduate students, Dr. Seth [Creasy?], has been working in a couple of different spaces and I'll mention Seth in a couple of ways. But one of the things that we've been working on is you're all sitting there right now. And unfortunately, I'm more active than you are at this point in time, unfortunately. But there's a lot of talk around sedentary behavior, and sitting too much, and not moving around enough. Some of the work that we've done has actually compared the energy expenditure that you burn while you're sitting versus standing versus moving around to understand where should our targets be for where we have to intervene on people. And when we've done that, we haven't seen a big difference between the energy expenditure in people who are sitting versus those who stand, potentially using something like a standing desk, but we see a big difference when people are moving around. So you can see that I'm up here and I'm standing, but I'm actually moving. And that's really where the extra energy expenditure comes from. So if I was to stand here still for about an hour and you were

to sit there, I would probably burn about nine more calories than you. So we're not going to combat the obesity problem by getting people to simply stand more. We need to think about how we can get people to stand more and then get them to move once they start standing. And that's something that we've been working on is to try to understand how movement and sedentary behavior both influence a lot of our outcomes that we're talking about.

S2 07:31

The other one-- person is Dr. Lori [Portsa?]. She finished with us a couple of years ago and it was in this same space. The one thing that people do in their leisure time a lot is sit and they watch television. So what Lori has done has actually said, "How do we make watching TV active?" And so I'm a Big Bang Theory fan. I don't know if any of you are, but there's a lot of things in the Big Bang Theory that Sheldon, or Penny, or somebody says that actually repeat themselves. Penny, Penny, Penny. Sweetie, whatever they say. And we said, "Why don't we actually think about using those as prompts?" So every time that that is said in the TV show, the person has to stand up and walk in place for a minute in front of their TV. And when we've done that-- what we've done is we can see that we pretty much double the energy expenditure of when a person's watching TV. We can make this active television viewing as opposed to it being passive television viewing and we can make it fun. I'm sure in college we had a lot of those kind of things where things prompted us to do certain behaviors which we won't talk about today, but it's the same kind of concept. When we do this with people they really start to enjoy it.

S2 08:38

The other one is Dr. Sally Sherman who finished with us in the last year and Sally's been very interested in alternative forms of physical activity. One is, in my opinion, one of the leading yoga people in the country right now so we're glad to have her as part of our group. And what we were really interested in is, people think about yoga as kind of this passive activity. You can stretch and Sally said, "No. There are forms of yoga that people love doing. They burn a lot of energy." And darn it, they do burn a lot of energy when we've done this kind of work. That yoga, when we can get yoga to elicit a heart rate that's as good as brisk walking. And when we do that, we can actually get it to burn as much energy as brisk walking over the same period of time. And when we look at the MET values, whether or not something is meeting the criteria for moderate to vigorous physical activity, certain forms of yoga, vinyasa yoga in particular, meets those criteria.

S2 09:32

So what I'm trying to show you here is too many times we put ourselves into a pickle and we say, "These are the kinds of activities that we want people to do. But the reality is there's a lot of ways, a lot of innovative ways, to try to get people to be physically active." And we have to think about giving people options. We need to find things that people will do and find fun when they do them, as opposed to saying, "You must ride this exercise bike. You must go to the gym. You must walk on this treadmill." There are options that we need to think about that are innovative that are going to get more people physically active. And the more active they are, the more healthy they're going to be.

S2 10:07

One of the last ones I want to show you is a little bit of a-- and I'll show a video right after this, is how do you get people to think about activity the way they need to think about it as opposed to this thing that you got to go and do, special clothes, and so on? We have a program-- luckily our University of Pittsburgh, we're pit so fit rhymes with pit and that's a good thing. So Dr Renee Rogers has created a program at our university called Be Fit Pit where we actually push very simplistic videos and audio to people around how to become physically active. So I'm going to show you just a clip that goes about a minute here so you can get a sense of what it is that we're actually doing. [music] Hopefully this will work. There you go.

[music]

S2 11:57 And so the cool thing about that is-- that's a quick message to help people understand if you just get up and do a little more, you can walk 19 more miles in a year. That's impressive and most people don't think about it from that perspective. We're trying to get people to think about activity as a key behavior that really will move the needle for them.

S2 12:14 I want to come back. One more thing that we've just finished with Seth [Creasy?] recently-- a lot of people think about exercise "I've got to go to the gym and the only way to get my activity is by going to the gym." We just finished a study where we had a home-based, self-directed program. You didn't have to go to the gym or you had to get to the gym to get your exercise and we can improve physical activity. Not quite to the same level we get if we can get people to come to the gym, but at a really high level because the gym is not for everyone. Not everybody loves that. So we have to find ways to help-- find things that people love in order for them to actually move their activity behaviors forward so we're thinking about options in many ways.

S2 12:53 The last thing I want to just share with you is I think we have to be careful about making activity difficult for people. Be careful. If you look at the gym equipment that you have in your home, or in your office complex, or in the fitness facilities, all of them say, "Go talk to your doctor before you become physically active." And that actually makes it difficult because most people actually can become physically active, and should be physically active, and probably don't need to talk to their doctor unless they have some major problems health wise and so I think we need to change the paradigm. We need to change the paradigm to be, "Go talk to your doctor if you decide not to become physically active," because that's really where the health benefit is. If you're not active, the doctor should tell you to become physically active. And we should put warning signs on these things that you're sitting in right now that says, "If you're going to sit in this thing too long, you might want to talk to your doctor as well." So we need to change the paradigm on physical activity because we know it's really good for all of us.

S2 13:47 So as we think about this, the other thing I want to say as I end here is think about health in a different way. Making a move can make a difference and I'll end with this. This is a note that we got from a young child whose father we helped in one of our weight loss and physical activity programs. What this young man said to us was, "Thank you for getting my Dad in better shape. We really appreciate your help." That is the impact folks that we're looking for. That had nothing to do with cholesterol, blood pressure, or diabetes. Had everything to do with the fact that that kid can now play with his Dad and he loved it. Thank you for your time today. [applause]

S1 14:34 Great talk, John. Thanks--

S2 14:35 Thank you.

S1 14:37 --so much. We've got several questions for you here. There was one from Jim Pivarnik at Michigan State. I thought I had it here. Can we increase fitness benefits if we keep our activity constant, but reduce weight through diet?

S2 14:53 That's a very good question. I think it comes down to how we want to measure fitness. If we're thinking about measuring fitness on a treadmill to actually make the cardiovascular system become more efficient, exercise, physical activity makes a difference. However, if you think about it, if you take a body that is in a stable position and you lose weight and now you have to carry 20, 30, 50 pounds less, you're not actually making the body more fit, but you're putting a different load on that system and so they can handle the load a little differently. But if we want to improve fitness,

we actually have to get people physically active.

S1 15:26 Okay. Great question here. Have you, or will your research looking at seated exercise in individuals who are unable to stand for prolong periods of time? Maybe people with disabilities?

S2 15:37 Yes, that's a very, very good question. That's one of things about saying, "Well, everybody needs a standing desk so go ahead and do this." One of the things we're very interested in is how do you actually take these breaks from sitting? So it doesn't have to be stand the whole time, but how can you stand up a little bit and then sit back down? How do you make that transition? And you raise another very good point. What about people who have physical disabilities that don't allow them to stand? How can we put activity into their lives that don't involve the standing component? All that work is really important and is underway across the country and the world right now.

S1 16:07 We got a question from Beca G in Augusta University who asked about the role of genetics in obesity and activity. Is this something that people have to worry about?

S2 16:16 The reality is that genetics do influence obesity. They influence whether or not you could become overweight or may become overweight. But the one thing I think we have to remember is is that those genetics haven't changed a ton over the recent few decades, but our behaviors have. So it's almost like what they say is that the genetics kind of set you up, but then the behaviors kind of pull the trigger. So if you have that genetic predisposition, you actually even have to be more diligent with those behaviors that aren't going to allow that to then become expressed.

S1 16:49 Okay. One last quick question. Is there evidence that participating in physical activity increases the behavior?

S2 16:57 Increases the behavior?

S1 16:58 So you do more of it, if you do.

S2 17:00 Well, I think that goes both ways. The more you start to do, and I think all of you in the room or many of you in the room go-- once you kind of get your body used to it, the body says, "Wait, you got to get up this morning and go and be active." So the body acclimates to that, but it's getting people over that hump and realizing that a four-week, eight-week, 12-week program is not going to get people over the hump. Behaviors aren't formed in that short of a period of time so we need kind of longer-term interventions. I also think Tim, we need interventions that actually change over time so people don't get bored with things. After three months, people get bored. Let's change it up on them and keep it exciting and keep it different. I think that will keep people engaged.

S1 17:38 Thank you so much for your time today John.

S2 17:40 Thanks, Tim. Thank you. [applause] [music]