# Activity Tolerance Training

## Edited Video Transcript

Okay, so you've got your client, right? You went through your screening process. You did your six-minute walk test to assess their cardiopulmonary status, and it's like bam—you've got a good solid hypothesis: cardiopulmonary function. It lines up with what you know from the charts. It's like, “Yeah, we're good to go now. We can treat.” Remember two ways we can treat: we can go remedial, fix the problem—we're going to do activity tolerance training. Or, we can go compensatory. So with remedial, what you're going to do is do activity that is tolerable but challenging to that activity tolerance. Once they can tolerate that, you're going to go a little bit harder and then a little bit harder and a little bit harder. That can be exercise, that can be activity, see? You can use the arm bike; you can go garden—both are appropriate. But it's all about what's going to work best for that client in your setting, so know the right activity.

To know the right level of challenge, we have several tools to grade activity. First—we already talked about this—is our physiological values. We can measure their heart rate, figure out that max heart rate, and then figure out these zones. So let's say for me at 45, I had a severe case of coronavirus disease (COVID). I was in that long-hauler status where I was recovered. I need to regain my conditioning in that early cardiopulmonary phase, right? When I'm just first getting out of bed that first few times, I'm going to be in that zone. So you're going to push me. So I'm in that, and I am maintaining good oxygen saturations, above 90 percent, okay? Once I'm doing that, once I'm tolerating that well. “Hey, he can complete his dressing without dropping down oxygen. Saturations are going great, and he doesn't need to take a break; he's not complaining of fatigue, great! This is going good.”

I graduate to that middle stage. Now, push me a little bit, okay? “We got ADLs done, let's go on to IADLs, have you sweep the floor, have you perform some light cleaning, wash the windows.” Oh, I'm sitting here having to take a break, getting out of breath, oxygen's dropping, okay? Over time, you're going to notice my cardiopulmonary status improves due to your great therapy. Advance me on to here, you know. I can go back to walking. I can go back to putting weight on my back, go back to a light cycle to get me into that zone. Does that process make sense?

There are times when this doesn't work. Some of you may have already noticed, huh? I do this maximal heart rate, and I go to standing, and I'm here in that 40 to 50 or that 50 to 60 zone. My wife is like this walking—she's the same age as me, walking at a normal pace on flat level ground; she's in this 70 percent zone. It's like, “No you're not—you're not breathing hard. You're not working at it.” She's got very fit cardiopulmonary status. Her zones are wrong; her max heart rate is bad data, okay? That's one example when these zones just don't line up with what makes sense. They're in 70, 80; they're not breathing hard. They say they're rating on your Borg RPE a three, okay? “Yeah, let's take this, throw it out, try something different.”

Other examples are certain medications. Certain medications can blunt heart rate response. So, you exercise, and your heart rate doesn't raise as much as it should, okay? Using this is going to give you bad data, so don't do that. We use an alternative, one we talked about in class—our talk-test. The talk-test is very simple. Talk with them if they can carry on a conversation with complete sentences. We know we're challenging them when it's getting to be short sentences. Once we drop into phrases, right, we start pushing beyond that. So, unable to carry sentences, but able to get out a short phrase. If they're only able to gasp words, you're well beyond that—back off. On the other hand, if they're able to carry out a soliloquy like these monologues like I'm putting on, you're probably not pushing them enough—bump up the challenge, okay?

So, now our last one we are going to talk about today is our Borg RPE—our rating of perceived exertion. You've got one example of it on your sheet, simply a scale of one to ten, where ten is your maximal exertion, and one is rest—sitting on the couch watching Netflix. And you're going to ask them to grade their activity. Generally, we see ADLs fitting in that two to three for normal healthy adults. But for training for these deconditioned patients or cardiopulmonary patients, we're going to push that to the five range, three to six on the outside. So, again, when I said ADLs in that two to three, that's for healthy people. For help when somebody has cardiopulmonary status, again, if I was in that long-haul COVID status, ADLs maybe four, five, or maybe seven, eight, okay? So maybe really pushing to a higher level, that's how you grade the activity, simply asking them. Let's say they're on the arm bike—pedal, pedal, pedal, most boring activity ever on the planet by the way, and you're going to ask, “Well how hard do you think you're working right now? Nine, okay. Let's back off. I really want you shooting for this five right now, where you can carry out a sentence. We can talk; you can carry out a sentence, but you're not gasping for it.”

So, we use these three tools: our physiological values, our talk-test, our Borg RPE to grade that activity, to find that just-right challenge.

Yes, well no. So, if they're nine for that cardiopulmonary, if they're a cardiopulmonary patient, if they're a deconditioned older adult, if they're at nine, you're going to be calling EMs. You're going to be calling your emergency medical services. Excellent question. So, that's our remedial approach. Great activity to challenge them beyond their norm.

If our other approach is compensatory, we're going to adapt—we're going to change the task so they stay at that comfortable zone. So, my example of sweeping the floor—sweeping the floor is too hard, right? I'm in that six, seven sweeping the floor after COVID. I’m going to adapt. That's why we use our energy conservation strategies, our prioritization, our planning, our pacing, our power saving, our posture. This is a compensatory strategy—you're changing the task to make it easier, yep, excellent!

Okay, so how could I take that challenge of sweeping the floor—sweeping the floor is a seven, eight. I want to drop it down to maybe a four. How could I change it? I could sweep the floor while seated. Most likely that's going to be challenging just to the nature of sweeping the floor, but yeah, small sections at a time. You don't have to sweep your entire house at once. “Can you sweep that little area over there, take a break? Can you sweep this little area, take a break?” That may be more from seated, okay? Yes, I would argue that's a great example of pacing. What else? Yeah buying a robot vacuum, okay. Having someone else do it. Changing your standards. How many people vacuum once a week, once a day, once a month? Right? There's wide variation. Say you're that person that is used to sweeping the house daily, okay? “Let's back it off and do every other day. Balance your work, okay?” So the way I'm going to have you look at this is we have a case study. I'm going to have you read this case study, and with your partner come up with compensatory strategies and come up with strategies to do activity tolerances during the remedial training.