

## A Simple Test for Gauging Recovery & Workout “Readiness” | Jeff Cavaliere & Dr. Andrew Huberman

If the goal is to challenge muscles and one is dividing their body into let's say you know a three or four day a week split or so or maybe up to six how do you know when a muscle is really ready to be challenged Again I've heard OK every 48 hours is you know protein synthesis increases and then we'll get into this and then it drops off But frankly if I train my legs hard I can get stronger from workout to workout or at least better in some way workout to workout uh leg workout to leg workout training them once every 5 to 8 days If I train them more often I get worse So the whatever that 48 hour to 72 hour thing is somehow my legs don't obey that But you know or maybe something else is wrong with me but I'm sure there are many things else wrong with me But um how do you assess recovery at the local level Meaning at the level of the muscles So we'll talk about soreness and getting better stronger more repetitions et cetera And then the systemic level the level of the nervous system And I'd love for you to tell us about the uh the tool that again I learned from you which is actually using a physical scale because it turns out this is that it will let you tell what the tool is But that tool is also actively being used for assessing cognitive decline and cognitive maintenance and cognitive function in people with Alzheimer's and dementia makes total sense Makes total sense II I all right So regarding the the um the first part of the question like you know how do you how would you kind of dictate when a muscle is recovered So I do think that what you're experiencing is totally real uh that different muscles recover at different rates And I've always been so fascinated by this concept Um I've talked about internally with my with my team but like I feel like what we really need the holy grail to to training is going to be when we're able to crack the code on an individual basis when a muscle is recovered and that is going to dictate its training schedule And the fact that you might have a bicep that could be trained you know via via a pulling workout a regular bicep dedicated workout forget the split at the moment you might have a bicep that's able to be trained that can be trained again the next day you know and then the next day and then maybe you need a day off after that But like you know in that that can vary from person to person for sure And it can vary from muscle to muscle in that person over the course of time A as you mentioned because the systemic recovery is gonna impact all those muscles anyway But let's say

you're systemically recovering every muscle itself is going to have AAA you know a recovery rate And I think what's fascinating is that when you talked about before we like to train this week or we have uh like the way our mind looks at training Well if that was the case with the biceps that bicep is a slave to the rest of your training split you know where it's like why does it have to be also at the end of every eighth day or you know or whatever when it might respond better to something much more frequently And your legs are also being thrown into that mix There's a Mike Spencer concept where he's like you know trained you know one set and be done for 14 days I mean you know it there's there's there's such variability between muscle groups and you're you're linking them all together Um I I think that coming back and using muscle soreness as a guideline for that is is one of the only tools we have in terms of the local level you know we don't really have you know being able to measure let's say uh CPK levels inside of a muscle would be amazing you know at at a local level to see how how recovered that muscle is But that becomes fairly invasive At least to my knowledge it becomes fairly invasive So what are our tools I mean I I think that at the basic level that's the one that most people can relate to and easily identify and then use that as a guideline And if you're training when you're really sore um it's probably not a great idea and then it's probably a good indication that that muscle is not recovered but at least hearing what you and I are saying here might be a comfort to the person to say yeah it is possible that it's not recovered just because 48 hours is the recommendation and just because research points to muscle protein synthesis needing a restimulation well maybe not maybe you're not necessarily there yet You're in that and for that muscle you're not there yet Um So it's all really interesting stuff But as far as the the uh the systemic you know recovery I think there's a lot of ways you know people talk about resting heart rate measured in the morning Um all different kinds of of um you know core temperature and things like that that might become altered in a state of uh non recovery But grip strength is very very much tied to performance and recovery And when I was at the Mets we used to actually take grip strength measurements as a baseline in spring training all the time Now obviously as a baseball player you're gripping a bat your pitcher you're gripping a ball like you know having good grip strength is important So if you've noticed somebody had a very weak grip it's just a good focal point of a specialized training component for their focus every day No we would do in in spring training we do sort of a baseline entry level measurement and then we would we would measure it throughout the season maybe once every

two weeks or three weeks And and and you know the the idea there was to to manage to you know manage to recover measure the recovery Um but I just gave it away you know there to to to do the you know to determine overall recovery your grip strength is pretty highly correlated So we have found that with with one of those scales those old fashioned bathroom scales that like uh the bath and beyond or whatever you can get which by the way almost impossible I believe Jesse and I were searching for the last scale to put in that video and we almost couldn't find one because everything is like digital and everything You know it's like this I'm looking at the old fashioned dial controls It's like old Macintosh computers There's a there's a huge market for them in old phones Can keep your phones now in 30 years the the lame phone now really worth a lot of a lot So you know I wound up um uh you know finding one and it's a great tool for just squeezing the the the uh the scale with your hands and seeing what type of output you could get Um And I think we we all can relate to this when you just visualize imagine the last time you were sick or when you or just try this you know the next time you wake up in the morning when you first wake up in the morning you're still groggy try to squeeze your hand try to make a fist as hard as you can You're gonna sit there angry at your fist because it won't contract as hard as you know it can you don't have the ability to just create the output And that is because in that state you're still sleepy you're still fatigued you know you're you're not even awake a a AAA at the you know the the whole level at this point Well that is the that is still the uh uh uh uh an actual phenomena that happens that you know a a lack of recovery or a lack of wakefulness or whatever you wanna say is is gonna lead to a decreased output there So when you start to measure that on a daily basis you can get a pretty good sense of where you're at And I think when people start to see a drop off of 10% or so or or even greater of of their grip output um you really should skip the gym that day because I don't think there's much you're gonna do there That's going to be that that beneficial Even if it is the day to train legs or whatever day it is I I love this tool It's simple It's low cost If you can find such a scale I guess you could also find one of those grippers that um and you can do this in a very non quantitative way Um But better would be a scale where you could actually measure how hard you can squeeze this thing at a given time of day Uh It draws to mind just a little uh neuroscience factory in the world of circadian neurobiology One of the consistent findings is that in the middle of your night time you know they'll wake people up and they'll say do this test in the laboratory they use a different apparatus but it's essentially the

same thing And in the middle of the night grip strength is very very low And you know mid-morning grip strength is high And as the body temperature goes up into the afternoon grip strength goes higher and higher and higher And then it drops off there's a circadian rhythm and grip temperature So you probably want to do this at more or less the same time each day if you're gonna use it But it I think it's brilliant and um in its simplicity and its directness to these upper motor neurons because that's really what it's uh assessing your ability Again it's about the ability to contract the muscles hard If you can't do that you're not gonna get an effective work And they they also I mean there certainly are more sophisticated tools too as a as a apt that we have uh uh hand grip dynamometer You know we can we can measure one side at a time too You know I'm not really I'm I'm getting a little bit blinded by the fact that both hands are squeezing into that scale and I don't get really a left right comparison But even at that level that could give you a little bit more detail but that comes at a cost that are pretty expensive devices But if it's listen if you were an athlete you know the the 203 100 bucks it costs to have one of those would be worth you know the added investment And I'm sure some of our listeners will want one too because there are a lot of uh tech geeks out there Um not tech industry geeks but people who like like tech gear Uh what's it called again It's a hand grip dynamometer hand grip Dyno Dyno said by Jeff with the with the great East Coast accent And by me in a terrible botched at uh West Coast version Um Thank you