

Building Strength vs Building Muscle Size (Hypertrophy) | Dr. Andy Galpin & Dr. Andrew Huberman

Let's talk about strength and hypertrophy. If you would please remind us what strength and hypertrophy are in terms of the specific adaptation they represent. What I mean by that is when somebody is training for strength, what are they really training for? Obviously, it means the ability to move more weight. But I know that it includes a number of other things as well. And when one is training for hypertrophy for the growth of muscle fibers, what does that represent? Because I think if people understand that they will far better understand the methods and protocols that are going to be best for strength and hypertrophy at its core. You've basically described it when we talk about strength, we're talking about an actual function. So can you create more force across a muscle or muscle groups or our total movement? And when we talk about hypertrophy, now we're specifically referring to just an increase in size; there's no actual mention of function. So a muscle can grow larger without actually technically being stronger, uh, for a number of reasons. Um, however, there is a strong relationship between strength and hypertrophy. So a lot of the times in the general public in the lay conversations, we sort of lump those two things in as the same thing. And so we have to recognize people who are new to training or people even are intermediately trained. There is a huge overlap between strength and hypertrophy. Once you get past that, though, they become disentangled. And a good example of it is this: if you look at the strongest people in the world, this would be people who compete in the sport of powerlifting, right? That's a true test of maximal strength. So it is, uh, a dead lift, a bench press, and a back squat, and you're going to do a one-repetition max on all three of those. And so whoever wins is the person who lifted the most amount of weight one time. That's it. It's not like the world's strongest man where it is, "How many reps can you do in a row or your time?" Right? Is a true maximal strength test, and you compare those to, say, bodybuilders. Now both of those individuals are strong, and both of those individuals have a lot of muscle. However, it is extremely clear the powerlifters will be significantly stronger than the bodybuilders on average. Right? There are individual exceptions, but we're just talking collective averages, and the bodybuilders will have more muscle than the other ones. In addition, whether you look at Olympic weightlifting or

powerlifting or world's strongest man for that matter there are weight classes and the reason is as you go up in weight classes you will always see the world records go higher and higher and higher right So you can clearly get stronger without adding any muscle However there's a point right where you simply have to add more mass to get a higher number And that's why we have weight classes in those sports and in combat sports and lots of other things So we have the there's a lot of confusion right Because people think man either these are the same thing or if I wanna get stronger I have to get bigger which is not the case at all Another misnomer here is I can't get stronger unless I add muscle That's not true either Right It's a similar idea So what what I'm saying is you have the ability to do whatever you'd like if you'd like to get stronger and add muscle great If you add muscle you're probably going to bring some strength along for the ride However if you want to get stronger and you don't wanna add muscle for any reason personal preference on aesthetics whether you're in a weight class and you simply can't afford it It is quite easy to get stronger and not add much muscle mass either And so differentiating these two things is one of them is simply a measure of size and the other one is a measure of force And when we talk about strength what we're really talking about are two unique components Component One is what I call the physiology So what I what is the ability of the neuromuscular system What is the ability of the muscle fibers to contract and produce force The other one is what we call mechanics and mechanics is simply things like it's minutia down to how long your femurs are relative to your tibia or or other things right This is biomechanics this is also technique This is skill This is how smooth do you feel this is are you firing the right muscle group in the right sequence and order And all of these things play into strength So somebody who maybe has uh more force capability in their muscle fibers but their technique and the movement is worse may lose in a competition or somebody again who's um like I if you go into the world of speed and power especially you'll hear a lot of people talk about like the rhythm and there's just a certain rhythm that has to happen if you wanna jump as high as possible or run as fast as fast as possible But that's all mechanics at this fundamental level So when we look at hypertrophy it's just still simply about how big the muscle is So those are the really the the the similarities and distinctions between strength and hypertrophy