

How to Build Muscle | Dr. Andy Galpin & Dr. Andrew Huberman

OK let's talk about hypertrophy The topic that occupies the minds of so many youth young men but also a lot of women I think one of the really interesting progressions that's taken place in the last decade or so is that far more men and women are using resistance training in order to evoke hypertrophy growth of muscles for aesthetic reasons and for all sorts of reasons what are the ways that people can induce hypertrophy So not to correct you or insult you but probably a better way to think about that question is really what stimuli do I need to give the muscle to induce hypertrophy Now there are um hormonal factors that are important there are nutritional factors but just to stick with the context of training Um This is really going to frame a lot of our answers And as you'll see it's one of the reasons why I call hypertrophy training kind of idiot proof in terms of programming Now the work is hard difficult and all that But the precision needed is a lot less than what we saw in power and strength And so if you know there like it's very important that you do it in this style with this intent and with with these within these parameters and if you're outside the parameters it's not gonna be a hypertrophy has a very broad range um in terms of your actual applications and this is why you have and we'll continue to see countless styles of training that all work I mean I know you uh were mentored earlier in life by one of my favorite people in this entire field Mike er like just an absolute character his style was completely different than what you would see in a classic textbook Um or or any number of different influencers or coaches or individuals and if you've ever thought thought to yourself like why is it all these programs work And people love to jump to things like well that's the steroids like just get that out of the equation for now independent of that right That's not even part of the equation You're still going to see results And the question is like why Well that's because what's driving changes in strength and power are the adaptations of specificity What's driving changes in hypertrophy is much more well rounded and so you have options to get that Remember you're training a movement and now you're training a response and a muscle that causes the growth that's very very different So if we look at like the classic dogma we have to basically challenge the muscle to need to come back in this case specifically bigger and the nutrients need to be there to support that growth Ok The nutrients

aside perhaps we can come in a few more minutes and and talk about that So all we really have to do is going back to our our dogma of activation of something on the cell wall We've talked about this earlier that's got to induce that signaling cascade that's gotta be strong enough to cause the nucleus to react to it to go to the ribosomes to initiate this entire cascade of protein synthesis OK So that signal has to be one of a couple of things either has to be strong enough one time it has to be frequent enough or it has to be a combination of these things All right So I can get there with a lot of frequency and a moderate signal I can get there with very low frequency and a large signal like more akin to what you did with with Mike back in the day I'm sure and still train that way still train each muscle group mainly once a week directly and once a week indirectly So all you can all you have to do there to not fail is to make sure the training is hard enough And it's gonna work If you choose the frequency path then you actually have to make sure you're not training too hard to where you can actually maintain the frequency The only wrong combination here is infrequent and low intensity and low volume That's it As long as one of those three variables is high you're gonna get there because the mechanisms that are needed to activate that signaling cascade are wide ranging And this is why when we even see things like blood flow restriction training right This is when you put like a cuff on your arm or your leg and you block blood flow and you use no load or as low as say 30% of your maximum And you take it to fatigue failure that actually is an equally effective way of inducing hypertrophy Despite the fact that you know you're using 35 10 maybe most 20 to 30% of your one at max Why Because you went through through the route of of metabolic disturbance OK Other ways say a higher load maybe uh as heavy as you can for say eight repetitions is gonna get through through what's called mechanical tension Uh And so there's there's these different paths so we can get to the same spot Now eventually these things have a saturation point So you don't need all three of these mechanisms The third one of course being muscle damage or breakdown And I and I I know we want to chat a little bit about that but none of these three are absolutely required You can have multiple of them in a session Um You don't have to have breakdown at all that is a complete uh well really it's a flat out lie that you have to break a muscle down to cause it to grow that that's just not needed at all You have to have one of these three things though And so again this allows you a lot of flexibility which is why crafting your program which is best for you is actually fairly simple when it comes to hyper but you just have to make sure you do the work Um And you

wanna make sure you have a few standards in place with the exercise choice and some other things that we um we'll hit in just a second but that's really the fundamental way of getting to it Um making sure either that signal is loud enough or frequent enough to give the nuclei a convincing enough reason to spend the resources because you have to remember two things in order to grow new skeletal muscle you need amino acids which are your uh supply And then you need primarily carbohydrates as the energy source to power that synthesis process You remember basic chemistry it says if you're gonna take two atoms and you're gonna pull them apart or put them together right That's going to take energy typically and and most of actually metabolism uh when you split a bond you're gonna get it's called egoic you're gonna get energy from that But when you put them together that's going to take energy this is why we call that protein synthesis right So you have to convince your nucleus that one invest those resources in energy primarily carbohydrate But number two and more importantly invest that supply there's a ton of possible ways to get energy but there's a very low amount of amino acids available and you need them for many more things than just taking your biceps from 17 inches to 18 inches Right It's not going to do that if you're in a position where again you can't sustain immune function If if red blood cell turnover needs to be higher or any of the other main like tons of things that you need proteins for So you have to be able to say like are you sure you really wanna spend these resources and build it in a muscle Because once we do that it's very difficult to go backwards break them back down and bring the immuno assis back into that to that availability pool So we can use them for either another function entirely or even another muscle group Um That's called protein redistribution By the way when you say um maybe you you don't do um a lot of upper body work in your training and you're not eating enough protein or a minimal amount and you're doing a lot of lifting in your legs you'll you'll notice your legs will get larger but that's actually a lot of times you're pulling the protein from say your upper body in this case and redistributing it back down um to the quads So that's the way you that's what you have to get to