

# How to Build Muscular Strength & Power | Dr. Andy Galpin & Dr. Andrew Huberman

Can we just get a brief recap of the general parameters for an excellent power and strength training program OK Let me hit you with these rapid fire and then you can maybe come and ask questions along that Remember those modifiable variables OK So let's go through them in order and then what they mean specifically for power versus strength So modifiable variable number one is called choice So which exercises do I select for strength in general for power or speed or strength We wanna select compound movements You don't often see people doing maximum strength work for like a tricep kick back right It's typically multiple joint movements and typically complex um movements In selecting these compound movements we generally want to actually think about exercise selection of movements rather than muscle groups So this is an important distinction because we'll see this is a different answer when we get hypertrophy What I mean by that is when we think about again strength training we tend to think about bodybuilding concepts We go to the gym and we do things like I gotta make sure I get my chest today and I gotta make sure I get my hamstrings and now you're selecting exercises based on a muscle You wanna work for strength development and power We wanna think about movements rather than individual muscle groups So there should be like things like I need to train explosive hip extension which is like a uh a vertical jump or something like that I I wanna train pushing or pulling movements or I want to ro I wanna train rotation which is a whole area we haven't gotten into which is very important for overall health and wellness longevity So we wanna select big movements by the muscle the movement patterns that we want to introduce And we just wanna select a reasonable balance between these I don't care what the exact ratio is You just don't want to go an entire six months without doing anything in this rotational area or an entire you know 8 to 10 weeks without doing something Um uh That's a lower body hinge right So any number of examples there So just think about the rough movement patterns upper and lower push and pull Uh And then some sort of rotation that puts you in a pretty good spot if you're using three by five method and you're going to pick as little as three exercises just pick one from each one of those group pick a rotation pick a a push and pick a pole I can easily think of a pushing a pole Um So for example um bench press or shoulder press um row

or chin for po and then squat or deadlift for hinge What would be a good example of a quality rotational movement Yep So anytime um you can use a cable machine like at the gym and you can do it's kind of hard to describe this exercise but basically you're gonna stand facing the cable and you're going to pull it towards yourself and then rotate like you're pivoting like you're um either swinging a golf club or hitting a baseball bat So you're facing one direction I'm facing you right now I'm pulling the cable towards myself and then I'm gonna spin do a 180 degree pivot and face exactly away from you when I finish and then return it back to that same spot So that's a rotation We will provide a link to an example of that that you consider a quality example a medicine ball throw any number of things like this Um aren't great rotational exercise All right So we select your exercises based on that We generally then the case because that is the case we don't worry about things like eccentric versus concentric because you're generally doing a whole body athletic movement right Which the eccentric concentric portion is going to be folded into that and you really can't separate them out All right So that's exercise choice Our first variable the next one is exercise order So because that everything driving power and strength is quality based You wanna do these at the beginning of your workout you would not want to do anything fatiguing before this So no cardiovascular training no other uh repetition to fail your stuff If you do those before and now you're slower all you've done is practice getting slower and and so these need to be done when you're fresh you also need to do them when you're very fresh because they are the most neurologically demanding They're complicated They tend to have multiple steps and they're often in multiple planes and coordinations is a difficult thing And if you're trying to do all that at maximum speed your nervous system needs to be tremendously fresh And so any amount of fatigue here is only going to compromise results um to kind of recap that uh one of the major mistakes when training for strength and especially power is people worry way too much about fatigue Those things should not be part of the equation And in fact if they are that's a very good sign you're not doing this correctly right These are non fing movements especially speed and power So choice order is next Um The next one after that is volume and we sort of hit volume and intensity which is the other one We we talked about that the volume is basically identical between power and strength Um The the general number we're gonna look at here is something like 3 to 20 sets total per workout per workout Um but that would be like 20 would be a little bit of a special case 3 to 5 is what I told you earlier Right I'm just saying like

sometimes you can actually go quite higher in cases but that's the general range and once somebody finishes the three by five workout for power or strength if they decide they want to throw in some cal phrases and curls and a forearm work or a little bit of uh jogging on the treadmill or something That's ok Absolutely There is you have very little risk of interference for things like speed and power strength You have a little bit of a risk only because now you're introducing fatigue which if you're really pushing strength that might compromise your recovery uh I could imagine doing the 3 to 5 routine for strength or for power and then somebody finishing up with um 10 or 15 minutes of hypertrophy arm work and then being very seriously compromised if they try to come in the next day or even the next day and do those big compound movements for speed and power not just because they're sore but the muscles may actually still be damaged And I know later we're gonna talk about the um somewhat tenuous relationship between soreness and recovery Yep So that that's a that's a really nice uh heuristic to pay attention to is you can but just be careful energy starts to matter at that point Um If you're really truly trying to maximize strength you would do nothing at all outside of that training Um If you're just like I kind of want to get stronger and some other things and you're willing to lose strength you know 5% of your strength gains then you're you're totally fine Um The same can be said by the way for super setting So super setting is an idea that says like wait a minute you're telling me dude I gotta take five minutes in between each set Well that's not so much a problem nowadays with phone with um smartphones because people are filling their interet intervals with social media and texting correct You you don't really have to go that long In fact there was actually a study that came out in the last month that showed you know like really two minutes is probably sufficient for most people having said that if you really are trying to push maximum strength adaptations like 3 to 5 is very very reasonable Um You those training sessions are long because you have to take you're spending more time not doing anything then you are doing something but you're trying to maximize quality So that's just sort of like part and parcel Um If you're not super worried about it you can actually do Super Setting which is let's imagine Uh again you're gonna do some some lunges and while your legs are resting doing their 3 to 5 minutes you can go over and do an upper body row or pull and when your upper body is resting you're going back to legs So that really cuts your time in half Is it ideal No we actually ran a study uh maybe 10 years ago in our lab and we looked at that specifically and we did see a reduction in strength performance in the

supers setting group relative to the group who did not superset the question then it becomes like is it enough for you to care So if you were to if I were to say hey I can cut an hour off of your workout time but you will lose 5% of your strength gain Almost everyone would take that exchange with the exception of people who are getting close to competition or really trying to set a new lifetime pr or something Then you might say no I don't want any interference there That last little margin is what I care about Give me the extra rest great So it's not a does it work Does it not work It's always uh what are you willing to give up versus get The practicalities of super setting are staggering push pull push pull uh in my mind are real because you have to take over large segments of the gym which oftentimes leads to a situation where your rest times are too long or highly variable Because people are working in or you can't finish your set because now someone jumped into the machine you lose 3 to 5 of your friends because it's obnoxious when you're taking over all the equipment But in all seriousness I think um it's wonderful if you have the space and the and the format to do it But at least in my experience and observation um these people know who they are Uh it's not practical to do on a regular basis If you train in an open commercial gym tough to pull off So um we've covered choice order volume and intensity to a sufficient level The last one is frequency and we've already sort of indirectly talked about that where frequency can be as high as you'd like in this area It really depends on your recovery If you're really truly pushing maximum strength you probably do need a few days to recover although that's dependent upon you but speed and power can be done multiple times a day almost every day Basically Um The one exception would be maximum sprinting speed You need to be careful there for things like hamstring uh an injury especially if you're pretty fast So you want to be a little bit cautious of that But if you're doing easier movements um like medicine ball throws or kettlebell swings or something you could do those quite often as long as the volume is staying pretty low last little piece here is progression How do I progress over time So I mentioned this earlier but just want to fill this gap right back in before we head over to Hypert Tree which is 3 to 5% increase per week of intensity in general Um And you can do upwards of about 5% increase in volume per week over time And I generally recommend running that for uh at longest eight weeks but probably most realistically you wanna go about five weeks or so and then have some sort of a de load or back off week If you do that you're not you're generally gonna be a pretty good spot