

Brad Schoenfeld (July 2020 Live Q&A)

Lawrence: Welcome to the July 2020 Q&A within [HIT Business Membership](#). We do this every single month, either we have an expert in personal training business or high intensity training business or we have a researcher or exercise scientist. Although I am sure in this case, Brad, has probably have expertise in the business side as well in terms of fitness business. [Dr. Brad Schoenfeld](#) is one of the most prolific and sought out health and fitness professionals in the world and a leading muscle building and fat loss researcher. We are super lucky to have Brad. I'm really grateful he's taking the time today to join us as he is someone who is very much in demand in this space. This is really a great opportunity to ask Brad questions about his research, and thoughts on health and fitness to help improve your personal training operation, give better results for your clients, and improve your own workouts as well.

Guys, you got to bear with me on this one because we've migrated from Go-To webinar to Zoom, so I'm still getting the hang of using the tool but it looks pretty intuitive. I feel quite confident. The way we'll do this is if you could either raise a hand or type a question. I'll prefer if you could actually ask a question because I think it's more productive to have a tiny bit of back and forth so Brad can refine questions as this is obviously clearly a very nuance field, nuance topic. So let's unmute and have some conversation where we can. But if you can't do that feel free to type your question in the Q&A box and I'll read it to Brad. This is recorded so don't say anything that you wouldn't want other people to listen back to but do bear in your mind this is a private community with at this point

Brad Schoenfeld (July 2020 Live Q&A)

approximately 60 high intensity training studio owners and growing, but it is a private community of people that are in the same space. At that I'm going to open the floor for questions for you, Brad, so just bear with me a moment.

Good morning, Chuck. Okay, so gents, you should be able to raise a hand on the control panel or if that's too complicated then you can just type in the chat box and actually I'll unmute you for a question or you can type the question to the chat box and I can ask that question on your behalf. But just to kick things off, I'm really curious, Brad, on your thoughts on something. Clearly we're in a, hopefully coming to sort of the tail end of this [COVID pandemic](#), although I know there's estimations that it will spike again in the winter and maybe would be around for a very long time. It's very interesting to see how this has impacted the personal training and fitness industry. What do you think is going to happen to the industry once the world, I just want to say the world, mostly the US has reopened fully? How do you think the fitness industry is going to play out? Who do you think is going to lose and who do you think is actually going to really benefit from this?

Brad: It's a great question. I am not the greatest prognosticator of what future events. Certainly, this pandemic has seriously impacted how I train and how a lot of people have them. I'm in New York and US and gyms haven't been opened since March and there's no, at this point, [unclear 03:36] to when they actually really open. If you would ask me my opinion on it, I do think that we will get back to somewhat to where it was. Maybe there are

Brad Schoenfeld (July 2020 Live Q&A)

some people that will still never go back to a gym. I think some people have adapted the home workouts but I think there's just something unique about the gym experience not only the equipment but there's a camaraderie aspect. I think a majority of those who were gym goers before who will go back it's a question really of WHEN. I think that is going to be dependent on how safe the society can make them feel and the individual gym owners as well so it will be kind of a dual effect of what are people thoughts as to how society is handling it. When I say society, it's within a given city or it is obviously a localized aspect in general. Because if you're in the US, in New York, we actually have very low, at this point, were enjoying now very low rates of disease here, whereas, in Florida, and Texas and Arizona, I mean it's 10-20x higher. And it was much higher here in New York three months ago. I think all these things need to shake out. It will be interesting event to see how things do transpire but I am confident that gyms are not going anywhere. I do also though think there'll be more and I think it's a good thing there will be a greater focus on cleanliness. If you saw how most gyms are operated here, at least in the States, and I have been into gyms throughout the world a year or two, cleanliness often was not a primary focus. I think there's going to be a renewed now effort to make sure that the machines are wiped down after use. When I would go to a gym you'd have sweat all over a bench and not really the most conducive towards disease for instance.

Lawrence: Yeah, I remember many gyms like that. One follow-up question from me on this is we're clearly quiet biased in our space and that we are

Brad Schoenfeld (July 2020 Live Q&A)

predominantly boutique high intensity training studios, smaller studios with a real emphasis on being kind of surgically clean before all of this. Obviously, as you know, brief workouts, low frequency, relatively speaking. Those are things that might appeal to people with these events. Do you think that the kind of boutique fitness industry has a real advantage at the end of all this or even in the kind of medium term?

Brad: Absolutely. As a matter of fact, if I were in charge, which of course I'm not, like a mayor or a governor, I think the boutique facility should be allowed but they are not. They have not been allowed to open. But I don't see any difference between a hairdresser. It's interesting, hairdressers are allowed to open but boutique gyms aren't. The governor doesn't really I think understand this but it's a much, obviously, a much safer environment. You can control things. It comes down the control. Your ability to control the environment. I'm not sure how much briefer work because the workout is still going to be 20. I mean, if you're a 20-minutes versus an hour I don't know how much difference the time makes once you pass several minutes of an interaction with someone. It's perception, so I don't know, maybe the perception might be such that a briefer workout maybe more. But I just think when you're in any one-on-one boutique environment is just a much different environment and should be much more viable going forward than with big gyms where people are left to be on their own. I mean, the mandate I think a lot better people wearing mask and you have to obey social distancing when you're in a gym. You're not going to have

Brad Schoenfeld (July 2020 Live Q&A)

police around to make sure people are doing what they're supposed to be doing.

Lawrence: Yeah. I really appreciate your take on that. Okay, so I'm going to Craig. I want to try something. You always have a good question, so get a good question ready. And I'm going to relay the talk there. Hey, Craig. How is it going?

Craig: I'm good, Lawrence. How are you doing?

Lawrence: I'm good. Sorry to put you on the spot but I'm still getting grips with Zoom.

Craig: Not at all.

Lawrence: I just wonder if you have any question off your sleeve for Brad. You typically have lots of questions at hand.

Craig: Yes, certainly. How are you doing, Brad?

Brad: Good, man. How are you, Craig?

Craig: I'm good. I just actually you caught me going from my facility back to the house which I just pulled over to the side of the road.

Brad: You sound like you're a Canadian. Are you Canadian?

Brad Schoenfeld (July 2020 Live Q&A)

Craig: Oh yeah, big time, just outside of Montreal, so we're not too far. But yeah, so I'm about a kilometer and half away. I'll start by saying, so I've got my biases obviously in training being more of a HIT guy, but my background is more influenced originally by guys like Charles Poliquin back in the late 90s, Charles Staley, Paul Chek, Jerry Telle sort of that whole era. One of the things that I have had a hard time with over the years is specifically to athletics and a lot of the Olympic lifts. Again, my bias comes from seeing a lot of guys struggle to do it properly. I've always felt that if you are, let's say, taking a hockey player that has maybe 8 to 12 weeks off season and condition before going back to camp. I see a lot, not the older guys, let's say the 16-year olds, 15-year olds, they don't have the same sort of coordination athletic ability. It just seems to me that they can get the same results taking a safer approach or safer exercise selection rather than spending a lot of time trying to learn a very technical lift where they're never going to be able to use, let's say, a progressive overload. I'm just curious what are your thoughts are in terms of Olympic lifting for sports but specifically non-Olympic lifting required sports?

Brad: Great question. I would, first, to your point about the off season generally that would be a general preparatory phase where I would, even if your predilection is to use those lifts be, in my opinion I think it just goes along with the seasonality of the sport and what you're looking to accomplish in the off season. By the way, I consult a professional hockey team for the [New Jersey Devils](#). I'm their sports nutritionist. I'm part of the human

Brad Schoenfeld (July 2020 Live Q&A)

performance staff for the Devils... and what is going on with them. Generally, you are looking to bulk them up or whatever basically their general preparatory goals during the off season. The Olympic lifts would be more for sports specific movements which we then progress into the pre-season area.

I actually agree with you. I don't necessarily think you shouldn't do it. Certainly, I don't think they are required exercises. I think there are other exercises you can do. I do have issues with the Olympic lifts because of the safety aspect. At the pro level, certainly it's do no harm. If you injure a pro hockey player lifting, your job as a strength coach is in jeopardy because they are paid to be on the ice. If there is a minor benefit, and it would be minor, it's certainly isn't worth the trigger for the injury. You got to make sure that they are well versed in the movements. Part of the issue with the Olympic lifts is that you need to do them regularly to make sure that you maintain that form. If you don't do them on a regular basis the chances of injury are increased because your form degrades over time. You can progress them to do, obviously if they are not then you have to go back and regress to do much lighter loads, and then it comes down to how much benefit that is.

Yeah, I do think there are other movements I think you could get a lot of the same type of benefits through biometric type exercise and other types of more speed velocity based training. Did that answer your question?

Brad Schoenfeld (July 2020 Live Q&A)

Craig: Yeah, it pretty much exactly. Just to follow up with that because the other issue I've had sort of over the years with all the stuff is mainly, I mean, everybody comes back to this whole idea of triple extension and that's one of the main purposes of doing a lift. But if I am just looking at it from what's required for a sport, it is rare that both feet are flying. And even watching any professional basketball player jump, they are never going from a low position double foot. It's kind of this leap jump to take off. Unless maybe just biomechanically I'm missing something, but I don't really see where the transfer would be outside of getting good at O lifts gets you good at O lifts as a side effect being that you've gotten stronger. But I don't necessarily know that that's going to make you run faster or jump higher.

Brad: I think your point is well taken. There is some evidence although it is equivocal. There is contrary evidence to this. But some evidence that half squats actually have greater transfer to with heavier loads obviously as we [unclear – 13:49] The transfer is greater with the shallower squats to jump high than it is to low full squat. I'm always hesitant. One of my pet peeves is either who are thinking it's binary do this or that because it doesn't have necessarily to be that. You could do some full squats and shallow squats. And generally combining types of movements usually has synergistic effects hasn't been studied though so it's hard to draw evidence or research based conclusions. It is more what you're gauging it on more as anecdote. But, with that said, I would then concur that I don't think

Brad Schoenfeld (July 2020 Live Q&A)

there's certainly any strong evidence that doing those types of lifts would have greater transfer to a jump let's say.

Craig: Okay. Perfect. Thank you.

Lawrence: Thank you Craig. I'm just going to disable that. There you go. Slightly related to this, a question from Chuck. He said, so Brad, "Would you agree that even if Olympic lifts are performed perfectly that one would be exposing the joints to unnecessary forces and predisposing injury?"

Brad: No. I wouldn't necessarily agree. I think that everything comes down to... It's a multifactorial question. I mean, to give an absolute on that would be I think it is just not... It would be unscientific to give an absolute type of comment. I think that for some people even with proper form the ballistic nature might if they have pre-existing injuries or certain. It's hard to give all the ramifications but [osteoarthritis](#) would be another issues and aspects like that, then it might be, but I think that some people tolerate that. If form is not good, then it is an issue no matter what. If your form is excellent, you don't have any valgus or varus or you are able to keep your spine properly positioned, directly positioned, I don't necessarily think that is detrimental. I think that it's going to come down to what is your volume. How much repetitive movements is done on joints, what type of recovery are you getting, so too many ifs. Those are to me it depends. If you start asking me those types of questions I would almost always give an it depends answer.

Brad Schoenfeld (July 2020 Live Q&A)

Lawrence: Yeah. I appreciate that. Chuck, you might want to be more specific in the follow up to that. Maybe give an example because it is I guess quite a complicated one. That goes to the rest of you as well. The rest of you attending, please raise a hand if you have a question. I'll unmute you and/or if that's challenging to figure out then type in the chat pad and I'll actually read your question to Brad as well alternatively.

But I wanted to ask you about a paper you are involved in recently. The title being, and you add on your Instagram recently – The Benefits of Strength Training on Musculoskeletal System Health: Practical Applications for Interdisciplinary Care; and a very interesting diagram where you had strength training in the middle and then all sorts around the edge in terms of how it benefits cancer, dementia, sleep, bone, cartilage. A really empowering image that is a great testament for strength training.

Brad: Just to clarify, Lawrence, I posted that but those are colleagues of mine that wrote that paper. I was not one of the authors. I thought it was an excellent paper but I cannot take credit for that. I wish I could.

Lawrence: That is not the first time I made that mistake. Just because I saw your name on the paper obviously different involvement, right?

Brad: That's right.

Brad Schoenfeld (July 2020 Live Q&A)

Lawrence: But I'd still be interested in your thoughts in having been involved in reviewing these outcomes. Do you mind speaking on it for a little bit just so people can get better understanding of what the... because this is a systematic review, isn't it? What were the kind of the key findings?

Brad: Well, it was a narrative for you... Regardless it was a review paper on the topic. Now that you got me thinking I don't recall because it was several days ago I read it. Bottom line is that they went into what are the benefits of resistance training and how do they enhance health. I posted I thought was a really terrific image from it, like the first figure which just showed the multitude of benefits that many people don't even realize. I mean, we all know that you are going to... A lot of most young people going and lift weights because they want to look good. They want to look great naked. They want to look jacked. That is the obvious, static aspect to it. Of course, it is going to make you stronger, people understand that, and more powerful. Then people often know that it can help bone density. And kind of beyond that, people stop thinking about some of the multitude of benefits. I mean, as the article touched on, there's just so many benefits.

First of all, there is mental health. By the way, I don't want to diminish that other forms of exercise have benefits too. My point when I posted this was that I don't think any exercise, and I think this is fairly well documented, some might have a contention with me on it. I think it is fairly well documented that resistance training has the greatest multitudes of benefits. Whereas, other exercises, other types of exercise certainly have

Brad Schoenfeld (July 2020 Live Q&A)

a lot of benefits. When you look at all of them in the magnitude of the benefits, I think the greatest is strength training. I also by the way give the important caveat to this. I'm in no way saying that you shouldn't do other as well. There's synergistic benefits. I know there is always this, well, if you had to do one. Well, generally speaking you don't have to do one. Now, if you are very time pressed. I mean, with the HIT type business you will look at people who are very time pressed and maybe they don't have time but... Look, you can always walk places instead of driving. There are ways to at least get more cardiovascular exercise involved. I think there is synergies. But yeah, if you had to do one only, I think you get the greatest bang for your buck and I think that's more documented. But, mental health, it reduces anxiety and depression. Brain health as well. It helps to reduce the onset of dementia and the aging brain.

Cardiovascular function. A lot of people don't realize the effects on cardiovascular function. It actually depends on to some extent the duration, again to some extent the rest intervals that you're using, the density of the training. There is always going to be caveats to what the routines will comprise to the extent of this gains, but certainly you can get cardiovascular benefits. Not to the extent that if you are doing let's say high intensity interval training or you've been just steady state jogging running. But you can get very helpful cardiovascular benefits.

Postural benefits. I mentioned the bone density aspect, and on and on. There's just so many health related benefits. As I said, I don't think it is

Brad Schoenfeld (July 2020 Live Q&A)

necessarily, I wouldn't say that it is the only exercise you need to do. But I will say that I don't think you can without. My humble personal opinion, I think that it is the one form of exercise that is mandatory if you want a multitude of benefits. Because you are not just going to get particularly from a strength and power standpoint, you just don't get those benefits with any other type of exercise to any substantial degree and then you are risking real issues later in life. Osteoporosis to some extent because you can't allow the bones properly. And certainly [sarcopenia](#), sarcopenic effects, which is the age related loss of muscle which leads to all sorts of functional impairments and loss of independence. I think that would be my good summary of that. I would encourage everyone to look at that paper because it really had an excellent review.

Lawrence: Yeah, absolutely. No, I think most of us would agree with you on strength training being probably the most potent form of exercise and the most benefits. Obviously, that review demonstrates that.

If you had to kind of hypothesize on what protocol would give you the best outcomes in all those areas, is it that there would be an optimal protocol in terms certain amount of effort, or volume, or frequency to optimize the outcomes for these areas or isn't that simple? How do you think about that?

Brad: I don't think that we have enough information to give hard guidelines. I know this might not what you want to hear given your business, but there

Brad Schoenfeld (July 2020 Live Q&A)

is some evidence that for let's say cardio metabolic functions of [glucose homeostasis](#), greater volumes would be of greater benefits. And that's just the logic. I mean, there is evidence to this in the research. But skeletal muscle contraction you are using more glucose so longer sessions will use more glucose and thus you are going to tend to get greater benefits in that regard. And then, not as well studied but you would at least assume that frequency will have similar benefits, greater frequencies, because again more muscle contraction. But just the fact that you're... With that said, I will say that even short intense training sessions do increase what are called your Glucose 4 transporters. It is called [GLUT-4](#), Glucose transports, which is basically act as chaperones within the muscle cells. They meet the receptors, the insulin receptors, where the glucose is transported by insulin and then they ferry them into the cells. People who are metabolically insensitive, glucose insensitive, they tend to have insensitivity of these GLUT-4 receptors, just any type of intense training awakes them up.

I am of the opinion that the most, again when it comes to health, there are some caveats in this. But I think overall, certainly for strength and hypertrophy and these type of adaptations, the most important factor is the intensity of effort that is put in. Now, I would hesitate to say, I know these might go against your biases as well but you necessarily need to train to failure. But I think you need to approach failure, you need to come relatively close to. If you are not substantially challenging the muscle, there is no impetus for it to adapt. Ultimately, adaptation is a survival

Brad Schoenfeld (July 2020 Live Q&A)

response. The only reason muscle or any other aspect of your body will undergo an adaptation is because it perceives a threat to its survival. Certainly there is multiple variables that can be manipulated to bring about a challenge to the system. The most overt certainly is the effort. You could do a ton of volume but if you don't have any effort that is still not imposing a challenge to the body. I would certainly say that for a majority of benefits that the effort would in my humble opinion be the most important.

Lawrence: I appreciate that.

Brad: I would also then, to your bias, say that if you are just going through the motions you do a ton of volume, frequency, and any other variable you want to put in without putting in sufficient effort you are going to get much better results through a shorter, intense routine.

Lawrence: So what you are saying, Brad, is that single set to muscular failure is the best protocol, right?

Brad: Don't put words in my mouth.

Lawrence: Just kidding. No, that was interesting overview of that. That was good. Everyone who is joined, if you got a question, please raise your hand, or type it in the chat or the Q&A feature and I can either read your question to Brad or unmute you and you can ask him your question, so just let me know. You should be able to raise your hand on the Zoom control panel so I can see it, but I'm not seeing raised hands at the moment. Hopefully,

Brad Schoenfeld (July 2020 Live Q&A)

that's not my lack of technical ability. Oh no, I see raised hand. It's not down to my poor technical ability. That's good to know. Okay, so Craig just bear me a moment. Hey, Craig.

Craig: Alright, perfect. Just maybe kind of touching on the [GLUT-4](#) stuff you are just talking about, Brad. I went from, let's say, the last 2.5 years or maybe longer on/off sort of following more of a low-carb eating regime and then got back into doing like my [Precision Nutrition Level 1](#), and just reading through that I up the carbs. I was doing sort of the typical of everybody a lot of people on this call I guess and a lot of studio owners in the [Membership](#) doing more of a once a week one set to failure anywhere from 5 to 12 exercises depending. And as soon as the carb intake went up, the recovery improved immensely and the volume that I could handle also went up. Now, I put on weight over since the beginning of COVID. We can also add maybe a little bit more alcohol intake into that as well as stress. I'm just curious if you could maybe extend on kind of glucose's role in recovery for strength training.

Brad: Yeah. Recovery is somewhat of an ambiguous term. You want to maybe... because you could take recovery with different...

Craig: Specifically, let's say, from not just replenishing glycogen locally but sort of how glucose might systemically, or increase in carbohydrate intake might systematically aid in your nervous system recovering [unclear – 29:09] system, your ability to perform the same amount of work or more work over the same amount of time, things like that.

Brad Schoenfeld (July 2020 Live Q&A)

Brad: That is again a really interesting question. I think there is a large individual response to this. Number one, and the form of recovery that you are talking about, people have different responses to ketogenic type diets versus moderate to higher carb diets. There's obviously differences in fuel utilization in ketogenic diets, very low-carb diets, there is a transition to utilizing keto which are products of fatty acids for fuel so there is a shift in substrate utilization. Whereas the primary source of fuel would be obviously in the moderate to higher carb diet through glucose utilization. Some people transition quite well to utilizing keto for fuels. Others don't. And that in itself can have effects on your mental state in terms of the session to session recovery and just your overall focus, your ability to focus during training. There is of course the glycogen aspect.

Now, some research actually shows that certainly there is a substantial depletion of glycogen. But the research seems to show that you don't completely or even come close to completely deplete in glycogen. Probably decrease it by a half. You are down to like 40-50% from some of the research that I've seen which is again not entirely clear based on what I've seen. But with that said, when you then deplete glycogen during a resistance training session and then stay low-carb you're not depleting it as well. And depending upon when you're training again you are not going to be recovered until or well recovered because the moderate type sessions are primarily fueled by glycogen. If you are doing a HIT routine, you should be having less of an issue with that - the HIT high intensity

Brad Schoenfeld (July 2020 Live Q&A)

training - so that would be one set to failure because volume will enter into it. The more volume you are doing, the more glycogen that will get depleted. If you are saying that you would have the ability to hit higher volumes that would be consistent with the glycogen depletion. Roughly, some of the literature shows you get about 40% glycogen depletion with a moderate volume type of workout, which I would consider moderate is 9 sets of bicep curls, so that cause a 40% depletion in glycogen.

The final thing is that and this is, again, somewhat not well defined in the literature but glycogen acts as an anabolic signaling molecule, so the depletion of glycogen. Basically, to take a step back from that, there is a process called [mechanotransduction](#) which ultimately carries out the ability to build muscle. Mechanotransduction is the body senses, so those are sensors at the level of the muscle. The forces from let's say lifting a weight of any type of resistance that you are opposing on it will be chemically transduced by these sensors into these signals. It's an enzymatic process of [mTOR](#). Many of you probably have heard of mTOR which is the key anabolic signaling molecule as well as p7S6K which is more of a downstream affecter that is involved in protein translation. Anyway, there is an antagonistic aspect called [AMPK](#), and AMPK is a catabolic process, catabolic enzyme. That AMPK senses, it's an energy sensor, so when energy levels are low it's going to try to restore energy and reduce protein synthesis because protein synthesis is a very energy intensive process. So the upside or the upshot is that during low glycogen states these AMPK is regulated substantially because it senses a

Brad Schoenfeld (July 2020 Live Q&A)

depletion of energy source and thus it antagonizes the intercellular signaling, and thus can antagonize your ability to repair tissue post exercise. I think how these things tie together is still not well determined I think over the coming years.

I'll finalize this by saying that we are still a long way from understanding the processes that carry out muscle growth. We are way ahead of where we were like a decade ago. I published a paper called [The Mechanisms of Muscle Hypertrophy and Their Application to Resistance Training](#), it was the combination of my master's degree work, published that in 2010. I looked back, I mean, the field has changed so much and our understanding is light years ahead of where it was and we are still light years away of where we are going to go like in another decade or two. What I'm telling you now is kind of my opinion of what we know but we are very likely and I say almost certainly will have different opinions over the coming years.

Craig: Perfect. Thank you.

Lawrence: Thank you, Craig. Excellent question. Just lowered all hands there, so Craig if you do have a further question feel free to raise your hand. And that goes to all people in attendance, raise your hand if you've got a question or type in the Q&A. I have multiple windows here to just monitor everything. Someone who couldn't attend, Brad, had a question which I wanted to ask you, which I thought was really interesting. They are asking

Brad Schoenfeld (July 2020 Live Q&A)

for resistance training recommendations with conditions that cause hypermobility such as [EDS](#) which I believe stands for [Ehlers-Danlos Syndrome](#). Are you familiar with that?

Brad: I am not.

Lawrence: EDS is where you got weird people that can bend their thumb back to their wrist and they are like double jointed. It is like that type of hypermobility flexibility which I guess extends to like knee joints, hip joints, and things like that. If you've got any kind of resistance training recommendations for those individuals?

Brad: As a general rule, I just know that it's hyper flexibility. I've not heard the term that you use. Before I became an educator, as a researcher I had my own private facility for 18 years which I sold in 2010 when I became an educator. I, over the years, had trained several thousand people from all walks of life. Those who had hyper flexibility it really comes down to just being extra careful with maintaining a range of motion that does not go into hyperextension. Resistance training in general will help to, and this is another one, another health related benefits, but has positive benefits on connective tissue. Overtime that can help to stiffen the tissue, the connective tissue. I've not seen the study but just logically that it would help to reduce the risk of injury in those who are hypermobile, hyper flexible. To me I think it is just the only real piece of advice is to be additionally careful like when you are coming down in a curl that you don't

Brad Schoenfeld (July 2020 Live Q&A)

let the person go into hyperextension. That you make sure they are stopping slightly short of bow extension to make sure that they don't injure the joint because loading on a joint in a hyperextended state has high risk of injury.

Lawrence: Yeah, and I guess the same would for a knee extension like you would necessarily lockout the knee. You might just stop short with that. Exercises that you would deem safe for someone who hasn't got hyper flexibility. I think they said hypermobility. They are from the UK so that might have something to do with it. Exercises that you might deem safe for someone who doesn't have that. Would there be any that you would avoid if someone had hyper flexibility issues? Any exercise that come to mind that you think best avoid x, y, z.

Brad: First that's a tough question because at least based on my experience it is not necessarily a global phenomenon so that some people just might be hyper flexible at the elbow and then have no issues in the other joints. It really would depend upon what joint we are talking about here and that would dictate it. But even with that said, I mean, if someone had spinal hyper flexibility with spinal issues, it might be somewhat reticent to use a deadlift. But even that, it just would depend, like those two, much it depends. It depends on the extent and other factors. By the way, hypermobility, there are people that are slightly hypermobile and some people it looks painful when you see how far they can go into

Brad Schoenfeld (July 2020 Live Q&A)

hyperextension. These are all things that would mitigate those types of factors as well.

Lawrence: Just going back a previous thing you said. You know you are talking about obviously the narrative review The Benefits of Strength Training on Musculoskeletal System Health. You started saying, you made it clear that you don't advocate people only do strength training, but do you feel that strength training when done properly is all one needs or do you believe that there are some really important adjuncts? Where do you stand on that?

Brad: Again, that would be an it depends aspect.

Lawrence: Shall I give you more context if it's someone who is really... Let's say, an individual, a busy professional, who wants to look great, have great appearance, but they just want to be functionally strong, they want to have quality of life, they want to be able to play with their kids, but they are not exactly going to go sprinting, run a marathon, or compete in sprinting or something like that. Those kinds of things are important to them.

Brad: Yeah. You'd also have to give me the context of their health issues because there is additive benefits of cardiovascular health with combining the two modality let's say resistance training and aerobic training. There's some evidence that potentially added benefits on mental health for those who maybe, let's say, moderately depress. But if you are just talking let's

Brad Schoenfeld (July 2020 Live Q&A)

say completely healthy person, younger person, generally speaking, no. I would say that you can get a one stop shop and I think you could do it. I've said this over and over, very short session, I mean HIT type workouts can be very effective for the busy professional. If you are not looking to be a bodybuilder or have loftier goals of maximizing certain components, you really don't need to train more than a few times a week with sessions less than a half hour, so in my humble opinion.

Lawrence: Yeah. Well, let's talk about hypertrophy for a moment then. I don't know if you remember. In fact, I don't expect you to remember. When you're featured on my podcast last I think you said that, and I hope I'm getting this right, that you felt that an individual can optimize muscular hypertrophy to about 80% with high intensity training. Now I know that's a super high level of heuristic because even in HIT there is factions and there is nuance, right? But do you still think that to be the case just following on from your last point that one can or do you think now it is perhaps greater? I'm wondering what is your most up to date view is on high intensity training as a training modality for hypertrophy?

Brad: I would say yes with the caveat there, and maybe I should have clarified if I didn't at that time, that that would be an average because I think some people can get almost all their benefits from a HIT type training. I think other people may only be able to get 50-60%. They could get a good amount but there are people that just do not seem to respond as well to lower volume. If you average all that out, the higher responders, I think

Brad Schoenfeld (July 2020 Live Q&A)

that it would be somewhere between like 75-85%. But I think some people would be, and this is again, is fairly well point out in a lot of the literature and just those study that we carried at. You just see this very inter individual response. I think that's why it is one of the issues I have with giving these like for people that say, "Well, HIT is all you need to do." It takes that completely out of context of inter individual variability. That's just not the way the body responds. If you go in the sun versus someone who is three shades darker, then you go in the sun, you're not going to stay in the sun for the same period of time. And just every aspect, this has been shown in aerobic training where some people within a certain duration of training get the maximal VO₂. Other people don't then they need a greater. There is a dose-response to virtually everything. That's why to give a one size fits all prescription is disingenuous to me to the essence of the way the human body responds, the inter individual aspects, that we don't respond the same. We talked earlier about low-carb diet. It's the same thing. People have different response to diet. People talk like keto is the keto life. I mean, it is just silly. Some people do quite well on it. Other people do terribly on it.

To get back to your question, I think high intensity training can be extremely effective. It is certainly time efficient. And that with limited training I think you could get a majority. The way I would say this is that most people can get a majority of benefits through that type of training. Then it comes down to the individual what their genetics give them as well as their ultimate goals. That's the essence of evidence-based practice that

Brad Schoenfeld (July 2020 Live Q&A)

you look at what the literature shows. You first go to the literature but that's going to provide general guidance and then you have to use your expertise and consort with the individual. Yeah, if I had someone coming in and I did certainly when I was a trainer, I use those type. When someone came in to me and said, "I have limited time", We did different routines. If I had a half hour session. Then you said, "Look I have a two half hour sessions a week rather than the hour session." If that's all they can do, then we have different routines and they generally got quite good results from it.

Lawrence: I think I speak for a lot of people in fitness and certainly in my audience and in the [Membership](#) that we're very grateful for a lot of the work you do, the science you published that really does support and just explores strength training in a lot more depth. In extension to that is the, one that comes to that, is the article you had published in the New York Times which I can't remember the title. Maybe you know the title at the top of your head, Brad. It was something like the 13-minute workout.

Brad: I didn't publish it. I was interviewed. It was based on a [study](#) that I carried out.

Lawrence: Sorry, right, right. Of course.

Brad: I think it was the [13-minute workout](#).

Brad Schoenfeld (July 2020 Live Q&A)

Lawrence: Yeah, correct. But you are obviously responsible for pushing that out there and really popularizing strength training more so. I think at the end of the day most people, even our community, just want to see more people lifting weights. Not necessarily you have to do high intensity training but just safely lifting weights and getting the benefits of that. Again, I'm asking you to prognosticate but I just like to know how you feel about the fitness industry and the direction it is headed. Do you see a continued growth and awareness around strength training and that being more of a go to modality for people or what do you see?

Brad: Yes, as you alluded to, much of my work is focused on optimization of lifting strategies for those who are really serious. But as an educator and a fitness professional my number one priority is just getting people into the gym. We talked about the health benefits to it, and the aesthetic benefit, just everything, self-esteem. And that it is the most important, in my work and in yours too, modality you can do and something everyone should be doing. The problem is that few people actually at this point are lifting. I think the last statistics I saw was that less than 20% of the entire population regularly engages in resistance training. It was something to that extent on a regular basis, and that's just way too low.

I do think that, yes, if I have to put it on my prognostication hat that we will see more in the future. I think part of the issue was that some of the elderly... We are talking elderly at this point, people 70+, they just were not raised in this culture and there is still fear for it. Whereas, now we are

Brad Schoenfeld (July 2020 Live Q&A)

getting to the baby boomer generation getting into the older set now starting to get into the, late 60s and above. They were raised more and are more comfortable with it, so I think it is an easier sell to a lot of these people. I think not only that, as more research starts coming out that it will be more important. By the way, I think also transitioning to the realization that it is not necessarily for bodybuilders which had been if you go back to the Schwarzenegger [Pumping Iron](#) era that was the promotion of lifting that it was for this bodybuilders. And here with the health benefits making people aware that there is just this multitude of benefits. As well as the fact, and importantly, as you are promoting that it can be done you don't need to expend a lot of time to accomplish it. I do feel that it will be more and more until they figure out a way to get lifting in a pill. You'll never know where technology is going. But until that day, I think that lifting will become more popular. It has. I mean, we see more and more people and particularly what heartens me is particularly when we're seeing more women where women use to not, they would avoid weight training like it was Ebola. They use to think it was going to bulk them up, and it wasn't feminine. It was all this sexist thoughts and claims that were made by men is just terrible. It has as much if not probably more important benefits for women than it does for men.

Lawrence: Awesome. I pretty got time for one more quick question guys because I promised Brad we'd wrap up on time. Rich, I'm going to just allow you to ask question here. Just give me a sec. Hey Rich, how is it going? Can you hear me?

Brad Schoenfeld (July 2020 Live Q&A)

Rich: Good, good. Can you hear me?

Lawrence: Yeah, loud and clear.

Rich: Alright. Hi, Brad!

Brad: Hey Rich! How are you?

Rich: Nice to meet you.

Brad: You too.

Rich: Thanks for this so far. My question, it's just I'm kind of warning. I didn't really look into your bio before I came on here. But, what is your take on... I got to work with a lot of seniors and gen pop clients. It sounds like you use HIT as one of your maybe go tos. But do you believe in a certain protocol like machines or are you kind of about everything - sets, reps, timing? It sounds like you looking for time efficiency as well.

Brad: Well, I'm not looking for any. I'm looking to help the client achieve whatever it is they're looking to achieve. We train a body builder much differently than I train an elderly person or just gen pops. Really, those would be it depend. I don't have a go to or anything. It would depend upon what access I had or the person did, what their goals were, what their level is. There are just so many factors that are going to enter into it.

Brad Schoenfeld (July 2020 Live Q&A)

Giving a cookie cutter prescription I think does an injustice to the complexities of what a good trainer does or should be doing is that they are customizing routines based upon individual response. I think not only that. I'll end with this, that routine should never be stagnant because ultimately you keep doing the same thing someone is going to plateau with it. You need to be on guard to provide stimuli, to figure out ways assuming they want to keep progressing. Now, some people are happy with maintenance. Again, your job as a trainer is to optimize the goals of that or to meet the goals of that individual. And generally if they want to keep progressing then you need to continue at least to be open to changing your program based upon what they've been doing and what they're looking to do. I know that might not be and whoever wants like a hard answer. I know people, and I do interviews for magazines and stuff like that, they hate how ambiguous I tend to be but it's just that's the way to me science works. I think I would be disingenuous by giving a concrete answer when there isn't a concrete answer.

Rich: Yup, thanks. It sounds like you probably have a pretty in depth assessment I would assume as well to see not only by questions but seeing how they move and then qualifying.

Brad: Absolutely. Yup. The assessment to me is the essential first step. Anyone who just says, "Alright. Come on, let's train." When I was a professor, I told my students. If that is you, disassociate yourself from whoever is studying under me because [unclear 52:55] everything that a fitness

Brad Schoenfeld (July 2020 Live Q&A)

professional should be doing unless you have a true understanding of what that individual is looking for, you're not going to be able to really optimize their goal or basically you're swimming in the dark.

Rich: Yeah, exactly. Thanks, Brad.

Lawrence Thank you, Rich. Great questions. Thank you, Brad for taking the hour. That's it guys for questions I'm afraid. Brad, I really appreciate that. I know you've got another appointment. Best way for my members and audience to find out more about you?

Rich: I would just say google me. I'm on Instagram. It's my primary focus now. It's [@bradschoenfeldphd](#). I'm on [Twitter](#). Twitter and Instagram are the ones I use most. But I'm also on Facebook. I've done little less because of their algorithm have got very screwy and have impacted the way that I. I don't sell stuffs. When you're an educator and it gets screwy algorithms it doesn't make as much sense. But anyway, if you google me or just go on any of those platforms you will get all the information. I have a website called [Look Great Naked](#) where you can read about me. I have not logged in quite a while though just for other things.

Lawrence: I was surprised to see that. I was on there today. I know you haven't blog there for a while. But you've been involved in so much research.

Brad: So many other things going on. It's just not a high priority.

Brad Schoenfeld (July 2020 Live Q&A)

Lawrence: That's it folks. That's what that is. Brad, thanks again. I really appreciate you taking the time. Hopefully we can do this again some time because I know that there's so many more questions that suddenly come up. But for everyone who has joined, this will be recorded and transcribed for future reference within the [Membership](#). Thank you for being a member. I really appreciate it. Brad, thanks again and enjoy the rest of your day.

Brad: Always a pleasure, Lawrence.

Lawrence: Likewise. Take care.