

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Lawrence Neal: 00:00:01 Wayne, welcome to the membership.

Wayne Westcott: 00:00:04 Thank you very much Lawrence.

Lawrence Neal: 00:00:06 Thank you very much for joining me today. I really appreciate you taking the time. I'm excited to dig into some of the topics today. So just to provide a little bit of introduction context for the listeners, we are going to dig into some research that you explained to me is not actually available on the internet. So, it must be very very old indeed. But I'm sure that doesn't mean it's out of date or not relevant. And from what I understand, there's not a lot of research on some of the topics we'll be talking about anyway that is available on line.

Lawrence Neal: 00:00:43 So, excited to go into this. And the topics we're going to be looking at are advanced techniques and looking at specific niches within advanced techniques in training, and their different practical applications, and the research that underpins that, and also, the research that you've done on recovery time from relatively challenging strength training sessions. So, let's start this one off by talking about your research findings and the recommendations in some of the advanced techniques. So, do you wanna just set the scene, and maybe we can look at addressing each of these bullet points in terms of the different sub headings of advanced techniques one by one?

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:01:24 Sure. Thank you very much Lawrence. I appreciate the privilege of being on with you again. Back in the 70s, mostly the 80s, Arthur Jones took what had been the standard of modern strength training developed by Thomas Delorme, a medical doctor, that was a three set program. First set was ten reps with 50 percent of your ten rep max. Second set was ten reps with 75 percent of your ten rep max. Third set was as many reps as you could with your max. That was doctor Thomas Delorme, who really is the father of modern strength training back in the 1940s rehabilitating World War II veterans. He was an incredible person.

Wayne Westcott: 00:02:10 His son actually, another Doctor Delorme, trains with us here in our center, which is wonderful. It's a great connect. But Arthur Jones wanted to make strength training more time efficient, and also a little more intense. And so, he took from Delorme's writing something ... Delorme said, "I'm not sure you really need to do those first few progressive warm up sets." And so, Arthur Jones said, "We're just gonna do a set. We're gonna do it slower, controlled, so that by the time you get to your last reps, where you're gonna put out the most effort in a sense, you're gonna be warmed up. You're not gonna be injured."

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:02:46 And so, he came up with the single set. He may not be the first person. He certainly popularized single set training. And most people didn't think that was enough. They had been used to multiple sets, high volume training, rather than the new so called high intensity training. So Arthur Jones really did a great thing. We've used the single set training for years and years and years and had wonderful results, and virtually no injuries with that type of training. But the body builders, the football players, they weren't convinced. So Arthur, genius that he was, came up with what he called high intensity training techniques to make that one set much more impactful. And basically, he had one way of doing this. Later on, Ben Bocchicchio... oh goodness.

Lawrence Neal: 00:03:40 Ken Hutchins?

Wayne Westcott: 00:03:41 Ken Hutchins, yeah, came up with another means of doing this. Thank you Lawrence. When you get my age, it's really hard. But most of Arthur's techniques involve a principle of extending the exercise set, not taking a rest and doing a second set, but extending the exercise set. Let me give you a little background on why that might work. When you do a set of exercise, a typical set of ten, you're using about 75 percent of your mass resistance when you go ten

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

repetitions or higher. You're using a combination of your type one slow twitch and type two fast twitch muscle fibers. You always recruit the type one fibers first. And then, if that's not sufficient, you bring in type two fibers, type 2A and type 2X, in that order, from smallest to largest size fibers, or from most enduring to least enduring fibers, is how I like to usually put that.

Wayne Westcott: 00:04:40

And so, when you start fatiguing, the fast twitch motor units, or fibers, it's actually more ... we'll just say fibers, they bring in, they kick in some others, and they kick in some others. They kick in the type 2A, which have a little more endurance. Then they finally kick in the type 2X, which are very powerful but very brief in the amount of energy that they can utilize, produce, and give you effort for. And at the point where you run out of fast twitch muscles ... fast twitch muscle fibers, excuse me, at that point, usually, we can no longer complete the set. That's when the set's over. And you take a rest. Those fast twitch fibers recover. And you come back a minute or two minutes later, and do another set. And they've pretty much recovered so you can get another set of ten, or at least nine or eight.

Wayne Westcott: 00:05:29

What Jones said is if, at that very moment, when we've fatigued the fast twitch, which would be ...

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

For most of us, half of our muscle fibers are fast twitch and half are slow twitch in our major groups like our quads and pecs and things of that nature. When you fatigue those, you've given them a good stimulus. They've gone to fatigue. You've stimulated them to grow and become larger and stronger. But you haven't really stimulated your slow twitch 'cause they could have done a few more repetitions. They have much more endurance. They said, "Let's do something at the end of that set to extend that set without stopping, without giving the fast twitch fibers a chance to recover and regroup and contribute once again."

Wayne Westcott: 00:06:08 What he said ... the first thing would be ... and this is the simplest technique, and I'll stop after I say this 'cause I'm talking for too long, I apologize, but-

Lawrence Neal: 00:06:16 No. It's fine.

Wayne Westcott: 00:06:17 But I would say that we're gonna do what I call a break down. Other people call it drop sets. There are different names. But let's say I'm doing full leg extensions with 100 pounds, and I can't get number 11. At that point, when I can't get it, I don't cheat. I don't do anything crazy. I just say, "I can't get it. That's it." And my quads of course are on fire from leg extensions anyhow. So, I'm

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

hoping the sets over. But Arthur would say, "All right. We're gonna just drop it down about 10 to 20 percent."

Wayne Westcott: 00:06:44 It depends on the individual. It depends on a variety of factors. But let's say we dropped it to 85 pounds, we dropped it 15 percent. And he said, "You can squeeze out three more reps with that."

Wayne Westcott: 00:06:53 I say, "I don't wanna squeeze out three more reps." But you do. You squeeze them out. And at that point, you've now taken to fatigue a certain percentage of your type 1 slow twitch, more enduring fibers. And you've stimulated them to grow and to become stronger. So, you've done what can be done. I'm not knocking multiple sets at all. You can do that. In four or five or six multiple sets, I'm sure you can get a lot of fibers involved. But it takes a long time, and it takes a lot of energy. And it may not be pleasant for most people to do.

Wayne Westcott: 00:07:25 Now, this isn't necessarily pleasant. But at least unpleasant for a brief bit of time, because you only do usually three to five, what I call, post fatigue repetition, where you've gone to fatigue. You've hit most of the fast twitch fibers. They're not able to help. But now, you've actually hit the slow twitch fibers. Which again, why not

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

stimulate them also? They make up 50 percent of your muscle mass. So, you stimulate those slow twitch fibers, and then you move on. After you've made that deep of an inroad, as Doctor Darden calls it, into your recovery ability, your muscle recovery ability, you really don't need to repeat that two or three times. And I know very few people that do. They say, "Wow! That was a burn. That was high fatiguing. It was tough. Let's move on to the next exercise."

Wayne Westcott: 00:08:10 And what our research ... I'll get to that. I'll stop talking. I'm gonna give you a chance to interject on some things here. Lawrence, my apology. But our research would indicate that, with a beginning subject and for advanced trainees, that works very effectively.

Lawrence Neal: 00:08:26 No. I appreciate it. No need for an apology at all Wayne. I'm just curious, on the breakdown training, I guess a synonym for that could be drop set training as well, correct?

Wayne Westcott: 00:08:37 Yes, absolutely. Yes.

Lawrence Neal: 00:08:39 And so, my question is ... and I know a lot of people, experts, recommend advanced techniques like break down training. And certainly, once people get stuck at certain

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

sticking points in a strength failure on a particular exercise ...

Lawrence Neal: 00:08:59 Because, just for example, for those listening, there's always a point in an exercise where you will be so fatigued that you won't have the strength to overcome that sticking point, especially as you get stronger and the load your using increases relative to that. And so, I understand how breakdown training can provide additional volume in order to fatigue the overall muscle fiber spectrum more effectively. Now, is there research to show ... maybe this is what you were going into ... to show that single set to failure followed up with breakdown sets is more effective for producing adaptations, versus just plus one set to positive failure?

Wayne Westcott: 00:09:49 Absolutely. I did publish a book on this, a small book. I actually worked for the United States Navy back in 2003. So, like you say, it goes back about 15 years when we were doing this type of research. We did a lot of it actually over that time frame. But, I'm gonna take a look at my book through my glass. Forgive me here for a second. But when we did beginners ...

Wayne Westcott: 00:10:10 And I like doing beginners first because they come in with an even playing field. They don't have any predisposed concepts, or very bad

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

habits so to speak. They are coming in as just kind of a blank slate. And you tell them what to do, and they're kind enough to do it 'cause they don't know any better. So, we have a matched group of about 45, about 50 people. And we split them into two equal kind of matched sub groups. And they have a basic ... We used a research center, so there's no interference. They have a basic protocol of one set of 8 to 12 reps. And I believe they did 12 different exercises at that time. 12 different ... they had to use resistance machines to do that.

Wayne Westcott: 00:11:02

And we had the other group do exactly the same thing, except after the ... This was an 8 week study. My apologies for not mentioning that. After the first four weeks, they all did the same. They all did standard training to get used to what it was like. After the first four weeks, half of them continued to just do standard training. The other half added the breakdowns. We tried to drop the weight just enough that they could get, on average, three additional repetitions through a second level of fatigue, which was all they wanted to do. Believe me. These were beginning men and women.

Wayne Westcott: 00:11:38

So, at the end of the eight weeks, where they did four weeks the same and four weeks of actual

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

high intensity training in the one group, the group that did the standard training for all eight weeks increased their strength across the board for the 12 exercises by 18 pounds. The group that did the breakdown training for just the last four weeks increased their average strength by 25 pounds, which, if I'm not mistaken, is about a 40 percent greater strength gain across that same time. So, it worked with beginners, which then gave us the impetus to try some advanced people. It's hard to get advanced people to do these things, 'cause they're really entrenched in what they do. And I don't blame them. I would be a hard subject to get to 'cause I like my routine. I wanna stay with it. I don't wanna mess it up for eight weeks.

Wayne Westcott: 00:12:29

But with advanced people, they didn't improve as much over the eight week period. And they also did the high intensity training the entire time because they were already training. They weren't learning how to train. But we had a 12 pound increase with the standard training, and a 15 pound increase, not as big a difference, that would be about a 25 percent improvement, with those who did the break down training. So, in both advanced and beginning participants, we found, in our studies at least ... very highly controlled with the same instructors and the

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

same facility and everything identical, except for those trying to get off the resistance when they reached fatigue enough, enough to get about three additional repetitions, we found that the breakdown training was more effective than the standard.

Lawrence Neal: 00:13:21 Interesting. So, they saw clear improvements in strength there, even the advanced group, which is interesting. Did they see any other improvements in muscle hypertrophy or other markers of improvement? Do you remember?

Wayne Westcott: 00:13:36 In that particular struggle, we did look at strength aids. Most of my studies, I look at muscle mass improvement. But on that one, I didn't. As I go through this though, I'll get to some other high intensity techniques, similar techniques, where I did look at muscle mass. And I think you'll be very impressed that those who did the high intensity techniques really did make major increases in their muscle mass, especially as you mentioned earlier and I forgot to mention, so thank you, we used this with the advanced people who had reached a plateau. That was the criteria to be in this. They had to say, "You know, I've been doing the same thing over and over. I'm training so hard, but I'm not making any progress."

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:14:12 So, these were people that had not improved their muscle mass or their muscle strength in some time. I'll get to that a little bit later. But in this particular study, we just looked at the strength aids.

Lawrence Neal: 00:14:24 Cool. Wayne, I thank you for that. And I should also mention I'll put a link to your high intensity strength training book, with some of this research in it, on the membership. People will be able to see that. Sorry.

Wayne Westcott: 00:14:38 Thank you.

Lawrence Neal: 00:14:39 No, no. That's fine. I actually tried ordering one myself. But they wouldn't ship to island. And I left them a little support ticket to see if they'll address that or see if there's ... 'cause they are selling it via in an epub format, so for e books. But the weird thing is, is when I selected e book, they still wanted my ... I still had to have a US shipping address. So, I've left that with them to address. I'm assuming, do they have exclusive rights to that or can you put that on Amazon or other places?

Wayne Westcott: 00:15:17 I don't know the answer to that. I thought they had several in stock.

Lawrence Neal: 00:15:24 Actually they do. It's just the shipping location.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:15:28 If it doesn't work, I'd be happy to send you a copy. I've got a couple here. Don't worry about it. It's a small book. But it's packed with ... it's just research.

Lawrence Neal: 00:15:39 Oh yeah. I really appreciate that. And I think the members would ... their interest in a copy as a reference to this conversation. So, okay, cool. So, we spoke about breakdown training and some of the research. So, that's very interesting. Is it now logical to move on to some of the other advanced techniques?

Wayne Westcott: 00:15:59 Absolutely. I love your outline. It's perfect. I'd love to address assisted training next, if I could.

Lawrence Neal: 00:16:05 Yeah. Let's go there.

Wayne Westcott: 00:16:05 All right. So, following your outline, thank you so much Lawrence. You're very knowledgeable in this area. Breakdown training involves going to muscle failure twice. But ... or you can do it ... The football teams that use it, that we've trained with, would break it down more than once. Believe me. But they had much more incentive. But when you go to failure twice, in what I've just described, you're going to what we call concentric muscle failure, the ability to get your muscle to contract, shorten, and overcome the resistance. And it won't do that anymore. So, you

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

drop your resistance and then you can do it. You have enough strength to overcome a wider resistance for a few more months.

Wayne Westcott: 00:16:50

However, concentric muscle fatigue is not nearly as invasive. Again, it doesn't make near as much of an inroad into your muscle's recovery ability as eccentric muscle failure. Eccentric muscle failure, of course, can be to hit random myolysis and all kinds of things if you take it too far. But if you do it reasonably, we expected to get even better results with this technique. And we did. Now, there's some drawbacks to the technique, but there are also some advantages. And we call it assisted training. You can call it by other names, of course. But what we do here ... let's take the same example. I'm doing leg extensions with 100 pounds. I begin to struggle. I try 11. I can't get 11 in reasonably good technique. So, I say, "That's it." And you say, "Wayne, no. Let me actually manually assist you."

Wayne Westcott: 00:17:43

So, you put your hand underneath the roller pad that I'm trying to lift. And let's say I can give 95 pounds of force. I can't give 100, so I can't lift 100 pound weight. But I give 95. You say, "When you give it all you've got, I'll make up the difference." And you give 5 pounds. And I get it up there. And of course, you are about 20

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

percent stronger isometrically holding a resistance than you are lifting it. I can hold it there for a second isometrically. And you are 20 percent stronger lowering a resistance eccentrically, than you are holding it, which means you're about 40 or 50 percent strong lowering than lifting ... lower, under control, about 40 percent more resistance than you can lift, which is kind of cool. So anyhow, you say you're gonna lower it yourself when you've got plenty of strength to lower it. So I say, "Okay." So, I lower it under control. Say, I lower it in, let's say, three seconds. I can hold the lowering.

Wayne Westcott: 00:18:34

And it's not pleasant. But I can do it. You say, "Okay Wayne, we're gonna do another post fatigue assisted rep." And now, let's say I can give about 85 pounds of force. You have to give me 15. So, you'll get a good workout too. So, you'll get a good work out too. So, you help me lift it up. But once I get it up, I pause for it. And you say, "Wayne, you gotta lower it by yourself." Right? I give it everything I've got to lower it. And I can still lower it. It's a little painful, but I can lower. You say, "Wayne, we get one more." So, I say, "Oh no." And you say, "Here we go."

Wayne Westcott: 00:19:02

Let's say I can give about 70 pounds now, and you're lifting 30. But we get it up. I'm fully

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

contracted. I'm holding that. I can just barely hold it. And now, I can just barely lower it under control. But I'm lowering it. I'm starting to shake a little bit and it's going a little faster than I want. And that's where we stop. I'm not saying everybody else should. But when we have trouble, a participant, when a trainee has trouble lowering the resistance, can't control the lowering, it goes a little faster than normal, that is where we say, "You've done enough. We don't wanna push any further. That's plenty of inroad. You're gonna have a lot of recovery to do to rebuild that muscle to a higher level", which is true because you've pushed it harder.

Wayne Westcott: 00:19:44

We tend to get about three post fatigue eccentric emphasis repetitions. And that ... Indeed, that has caused a greater training stimulus in our research. And I'll do it ... We did it the same way as before, different subjects. But then we had about 40 ... This time we had about 40 subjects. And the standard training group, again, they did four weeks of standard and then they did another four weeks of standard. So, they did eight weeks of standard training. They increased 20 pounds, this particularly group, across the ... actually, I just wrote that it was 11 different exercises. All right?

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Lawrence Neal: 00:20:17 Mm-hmm (affirmative).

Wayne Westcott: 00:20:19 Now, the other group that did ... This was beginners. These were beginners. They did four weeks of the basic standard training, one set to fatigue, no high intensity technique. And then, the last four weeks, we had an assistant with them. We had our person work with them, and would give them three post fatigue assists. It was always three, unless they started to lose [inaudible 00:20:40]. Then we, [inaudible 00:20:44] three. And they increased 29 pounds. That's 45 percent greater improvement by doing the assisted. Which we didn't have a bias, but I was anticipating that might be the case, because certainly, you could just tell subjectively, that it was a little harder technique than going to a concentric muscle failure twice. Going to concentric failure once, and eccentric muscle once are definitely a step in the harder direction.

Wayne Westcott: 00:21:17 When we did the same story with our advanced subject, those who did the standard training ... I'm sorry. They didn't do that. Forgive me. Those who did the assisted training for eight weeks, I believe that was eight weeks ... Actually, the advanced was six weeks. I'm sorry, a mistake. The advanced was six weeks. They did all six weeks, twice a week. We did twice a week

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

training with this technique because you do need more recovery time. We didn't go three times a week. We went Mondays and Fridays. They increased 12 pounds. Those who did ...

Wayne Westcott: 00:21:50 I said this all wrong. I apologize. Forgive me Lawrence.

Lawrence Neal: 00:21:54 No problem Wayne.

Wayne Westcott: 00:21:54 Those who did the standard training for six weeks, they were the control. They didn't like me 'cause they didn't get to try the new technique. And they improved. Because when we train them, we make sure they actually do go to fatigue during that one set. Whereas, if they were to do it themselves, they may not have done that as much. But they did improve. But those who did the assisted training for six weeks improved by 17 pounds. That was huge for what we called ... You may have called them intermediate. We called them advanced people who had hit a plateau by their own evaluation. So again, in both the beginners and the advanced, we saw an advantage to doing the assisted training, one of the high intensity techniques.

Wayne Westcott: 00:22:44 And we thought it was a stronger response with the assisted than the breakdown. Now, the down side is you have to have someone training you.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

You have to have someone there to do the ...
Because, there are ways you could kind of assist yourself, but they're a little sloppy. It's nice to have someone there also to make sure you're doing things properly and to give you some encouragement, 'cause it's not the most pleasant technique. But again, if you're doing six second repetitions, you've got an extra 18 seconds, less than 20 seconds, of discomfort. And the results might make that worthwhile for many people who do want to break a strength plateau or a size plateau.

Wayne Westcott: 00:23:19 In both of those studies, we had positive reinforcing results. And I would say that the assisted training was superior to the breakdown.

Lawrence Neal: 00:23:34 Right. Okay. So, between the two studies, you found the assisted training to be superior to the breakdown training ... no-

Wayne Westcott: 00:23:42 Yes.

Lawrence Neal: 00:23:43 ... superior to the normal control group.

Wayne Westcott: 00:23:47 Yeah. Everything was superior to the normal control group.

Lawrence Neal: 00:23:50 Sure.

Wayne Westcott: 00:23:51 But also, just relative to percentage changes, we believe ... And again, this is subjective. I didn't

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

compare the two in this particular study. There are studies that I have compared the two. And when I've done that, we also did find that the assisted was more effective than the breakdown. The assisted, again, you need to have someone with you typically. The breakdown you can do by yourself. You just have to pull the pin, reinsert it, so to speak. Or if you're using dumb bells, just drop ...

Wayne Westcott: 00:24:19 If you're doing curls with 35 and you're fatigued, drop the 35s and pick up the 30s, and you'll get three or four more reps.

Lawrence Neal: 00:24:26 Yeah. That's right. The breakdown drop set training is far more easy to do unsupervised. One thing I just wanted to ask about some of these studies is ... you know, one of the things I've seen or realized in, I guess, a lot of research, is that the subjects don't often ...

Lawrence Neal: 00:24:45 When they train to failure, they don't kind of ... Failure is a very difficult thing to define. Right? And I know that James Steele has done a fair bit of work recently on definitions regarding efforts and things like that. [And I've had him on the podcast to talk about that.](#)

Wayne Westcott: 00:24:59 He is awesome.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Lawrence Neal: 00:25:00 He is. He is. So are you Wayne. And so, one of the things he kind of talked to me about, and I guess I've learned from other research as well, is this problem with defining failure. And when someone says they trained to failure, we think, "Oh, they trained to the same failure that I trained to." But it might be quite different. And so, I sometimes wonder if these results are being conflated with people potentially who aren't training to the same degree of failure as I would train in my first set. So, they're getting that additional volume with that second set, which is kind of equal to my single set. Does that make sense? Do you think there's any issues with that at all, potentially?

Wayne Westcott: 00:25:44 I agree with what you said. I agree with what James said. We work together on several projects. And he and his team are just phenomenal. But in the research outside of the high intensity realm, the research ... We've looked at high intensity training. But our high intensity trainers themselves, they have never shown high intensity training to be more effective than multiple set training. And in some of our studies, we didn't either. It's just that it's much more efficient. I can get to that next if you would like.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:26:18 But our definition of failure, muscle failure or muscle fatigue ... Muscle fatigue is a lot more gray area than muscle failure to me. We define muscle failure is you absolutely can not, in good form, complete the repetition. You don't say, "Well, I don't think ... " or you say, "Well, try one." And you try it. You get it a third of the way or two thirds of the way, but you can't do it. You say, "Okay. Let's now start high intensity. Let's start assist on the next one. We'll do a breakdown on the next one."

Wayne Westcott: 00:26:49 But that's how we do it. And that's probably why ... and I'm sorry for confusing myself there a minute ago, but when I said that the advanced people who just did our standard training, still made quite a bit of improvement. Because our standard training was apparently a lot more challenging than their standard training was. And then of course, those who did the standard training plus the assisted, or plus the breakdown, they made even more improvement. But yes, you're right.

Lawrence Neal: 00:27:18 I see. So interesting. So, perhaps I didn't appreciate that. In your study design or in your lab, like you said there, you are a big fan of high intensity shrink training, and those that were supervising those studies, I'm assuming, were as

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

well. So, it's quite a different environment than a lot of these other resistance training studies we might see who are sometimes ... Those studies may be managed and conducted by those that aren't necessarily from that group of people. E

Wayne Westcott: 00:27:57

Exactly. The biggest ... As an aside, just for a moment, we run people through our fitness center every day where they're highly supervised, highly structured. Everybody is supposed to be working to failure. But the biggest problem we've had over the last 30 years of doing this, or more than that at this point, is when we actually say, "Well, I think you could go up now. You're at 12 reps." Oh yeah, but it isn't easy yet. Well, it's not gonna get easy. Once you get to 12 ... That's our system. We use an 8 to 12, which is typically about 70 to 80 percent of your maximum. Once you get to 12, we want you to go up. That's your ceiling.

Wayne Westcott: 00:28:36

They tell me a lot of times, "It's pretty tough." I say, "No. It's not. You can do it." And so, they go out and they still get 12. Even in our environment, our most difficult task is getting the average person to train to a little bit higher level of fatigue than they want to and that they're used to.

Lawrence Neal: 00:28:54

Interesting. Cool. So, the next one we were gonna come on to is pre exhaustion training. Do

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

you wanna talk about your view and the research around that, if there is some?

Wayne Westcott: 00:29:04

Yes. Absolutely. That's my favorite of the techniques because the other techniques, especially something like a leg extension, you're on fire. You're burning up. You say, "This is crazy. There's gotta be an easier way to make a living than doing this." And now, I've gone to this on fire fatigue, and you asked me to do three more repetitions. He's gonna help me with three more. And I've gotta lower under incredible challenge and pain. So, at least with the pre exhaustion training, or pre fatigue training, which I would prefer to call that, you get to change the exercise. You don't have to do more of the same thing. But you say, "I don't wanna do this to start with."

Wayne Westcott: 00:29:41

so, in the pre exhaust, we have found that indeed Arthur Jones was correct, that you should always begin with the rotary exercise. So, let's say that you wanna improve your pectoralis major strength and your pectoralis major size. This is where we do look at size. All right?

Wayne Westcott: 00:30:02

So, he would say, "Okay, do pec deck or chest crosses or something of that nature that isolates your pectoralis major. Take it to fatigue. And now, when it's already fatigued, so it's pretty fatigued, now, immediately move to a linear exercise, an

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

exercise that uses two or more joints, an exercise that uses two or more major muscles, so you can bring in some fresh muscles that are prime movers in that action to push your pre fatigued pectoralis major to a deeper level of stimulus."

Wayne Westcott: 00:30:36

So, let's say we do the chest cross, or the pec deck, whatever you call it, kind of isolating the pectoralis major and the anterior delta. [inaudible 00:30:47]. And you're not using any of your arm muscles, no elbow extension like you'd have in a bench press, an incline press, a push up or a barge or anything like that. So you say, "Okay. My chest is pretty fatigued." And now, you move immediately as quickly as possible so as not to allow any recovery time, but a minimum recovery time. You move to a linear movement, a multi joint exercise such as the chest press. You say, well, your chest is fatigued, you can't use as much weight. That's right. But you can use a pretty good amount of what you would normally use because you're bringing in fresh triceps in your elbow extension.

Wayne Westcott: 00:31:21

So, your pectoralis major muscles do your horizontal shoulder flex and the shoulder joint action. But you've got fresh triceps that were not involved at all in the previous exercise. They weren't involved in the chest cross, or the flies,

whatever you wanna call that. So you bring them in. And they act like your own assistant. You've got your own assistant, right? My tries are assisting my pre fatigued pecs to push them to a deeper level of stimulus. And I'll give you the results on that in a minute. But to continue what I was saying, those of us who were born when I was born and when you went to school ... the only exercise people did when I went to high school was bench press. That was it. You did bench press. You were defined by how much you could bench press. When I went to school, the boys would come up.

Wayne Westcott: 00:32:06

If you could bench press 200 pounds once, which is okay way back then when you're in a freshman in high school, they wouldn't pick on you. If you couldn't do 200, you were toast. They'd pick on you. So, everything was a bench press. How much could you bench? And so, I've always had that in the back of my mind. I know that's stupid, but it's still there. It's engraved. Well, I don't wanna do chest flies first, when I can only, say, do ten reps with 200 pounds, and the bench have to drop down to 180 pounds 'cause I've already pre fatigued my pecs. I look like a wimp. You know? I say, "Oh no. I can't do this." So, we did some studies to see if Arthur was wrong, Arthur Jones.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:32:43 And we said, "Let's try it the other way. Let's try the bench presses or the chest presses first, and then go to the chest crosses." And it didn't work. You have to have your fatigue, your pre fatigue, the target muscle group. It's not about how much weight you're lifting. It's about stimulating the muscles to get stronger and larger. And then you go to the multiple joint exercise, a linear exercise like [inaudible 00:33:06] whatever it might be. You bring in the fresh [inaudible 00:33:12] target muscle. And you really wanna work to a deep level of fatigue. You just have to suck it up and say, "Hey. I'm not trying to do my maximum bench today. I'm doing a special technique."

Wayne Westcott: 00:33:20 When we do that ... and again, I'm just using the bench because that was one that I didn't like doing this on. But at least in this particular one, we did a six month study with pre exhaustion versus multiple set. And the pre exhaustion is two sets. But it really isn't because there's such a short separation, like one set. And we actually found no significant difference there. But in terms of the time efficiency, it was incredible. In the old days, Arthur Jones made machines. He made double machines which had a press added and a decline press added, and a machine that did a pull over and a pull back. He had a machine that did a lateral raise and a shoulder press. He even

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

had a machine, it took over about half the gym, where you could do a leg extension and go right to a leg press.

Wayne Westcott: 00:34:09

So, you always work the target muscle group first, with a rotary single joint single muscle exercise. And then, go to the linear multiple joint multiple muscle exercise. We did another study with this, with people that really had reached a strength and size plateau, and we ... This time, we looked at their improvement. It was a six week study. And they were doing about 12 different exercises in this particular study. They increased their exercise weight over the six weeks, twice a week, of doing the type of pre exhaust I just mentioned. They do a leg extension to a leg cross, those type of things. Okay? They increased their average weight lifts by 15 pounds, which we thought that was pretty impressive. Their lean weight increased by 2.2 pounds. We found that very encouraging. And their fat weight, which we really weren't trying to ... we weren't looking at fat weight. But we ... I mean, we weren't interested in that per se.

Wayne Westcott: 00:35:11

We just wanted to see if we could increase strength, increase muscle. But they actually lost 2.1 pounds of fat weight. So, their weight stayed the same, their weight did not change, their body

weight. But they made a four pound improvement in their body composition with two pounds more muscle. In six weeks, that's not bad. That's about as good as we ever get in six weeks. Even with beginners, we don't get much more than that in six weeks. And they increased their strength by 15 pounds. So we found this to be a very effective technique, and one that was a little better received, again, because they're doing two different exercises. And I'll say just one last thing on this Lawrence.

Wayne Westcott: 00:35:48

When you go from, say, a lateral raise to a shoulder press, you're still working your deltoid muscles. But the movement pattern recruits a different array of motor units. So, you get a little more impact because you're not just hitting the same motor units that do that particular pattern most efficiently over a second time, as we did on the first two techniques. But now, even though you're doing [inaudible 00:36:16], you are changing that just enough to bring in some additional motor units. Motor units, for those who aren't familiar with that term ... You have slow twitch motor units. You have about 100 fibers per unit. And you have fast twitch motor units that can have up to 500 or even more fibers per unit.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:36:35 So, when you bring in a different motor unit, you can affect a lot of different muscle ... a lot more muscle fiber. So, I do like the pre exhaustion for a few reasons. One, you can do it by yourself. You don't have to have anybody helping you. And two, you get psychological benefit of a change of exercise. At least, the pain is a little different. I'm just saying pain. I don't mean that ... I'm not a wimp in that sense. But it is somewhat discomfoting when you do this. But also, you can hit more muscle fiber.

Lawrence Neal: 00:37:00 I don't think any of us that have been doing it for a long period of time are brave enough to say that they never feel slightly afraid of their workouts. I just don't think ... It certainly does get easier. But you still ... Yeah. I think everyone can relate to what you just said is what I'm trying to say.

Wayne Westcott: 00:37:21 Thank you.

Lawrence Neal: 00:37:22 Yeah. And this is real interesting. Pre exhaustion is not something I've really played around with that much. But it does make sense, based on what you were saying there. I just had a question on that actually. You know, one thing that I was thinking about is I've only really ... and this is quite embarrassing to say. But when doing chest press, I never really thought that ...

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Lawrence Neal: 00:37:46 You know, obviously the primary role of the chest is to abduct the humerus. Is that correct? Am I saying that correctly?

Wayne Westcott: 00:37:54 Absolutely. It's done in what they call the transverse plane. [inaudible 00:38:04]. The actual name of the joint action is horizontal shoulder flexion. Other people would call it horizontal shoulder abducting, the exact same thing. It depends on which physical therapist you're talking to. Okay? Yes. You're exactly right.

Lawrence Neal: 00:38:20 So, that's fine. So, I've been ... When I've been doing a chest press, I did a chest press yesterday actually, I've been thinking about the primary function of the chest, and then abducting my arms as opposed to pushing with my triceps when I'm actually doing the exercise. So my mind-muscle connection is more connected to my chest as opposed to the fronts of my deltoids or my triceps.

Wayne Westcott: 00:38:48 Right.

Lawrence Neal: 00:38:48 And I just found that it felt far more potent in terms of a stimulus to my chest. And now, my question is ... This is a very nuanced question. If you were to pre exhaust with a pec deck, for instance like your example, and then you went into a chest press machine, would you still look

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

to focus on the chest? Or would you be less inclined to do that and you would just focus on all the muscles involved? Or is all of this irrelevant?

Wayne Westcott: 00:39:19 Not at all. What you said was brilliant. And again, I think you should ... If you're doing this to improve your pectoralis major mass and strength, you should definitely try and focus on the pecs. The pecs are a very interesting muscle. They are a multi pennate muscle group, which means they have fibers going in many different directions. If you ...

Wayne Westcott: 00:39:41 I'm sure you could do this 'cause you are so fit. If you had shorts on right now, and you just brought your foot up into a knee extension, you would see your quadriceps, and you'd probably see the individual fibers 'cause you're so fit. And you'd see-

Wayne Westcott: 00:39:57 They look like a feather. They're called bi pennate. So they kind of come at an angle. It's like a little feather, going down little angles. And it doubles the amount of ... essentially doubles the amount of force you can produce because of the angle, the panacea. The pecks have fibers going all different directions. So, a majority of the fibers kind of run, if you're standing up, or sitting like we're sitting up, horizontally. And they attach to

the inside of your humerus, your upper arm bone. And so, the chest press, the bench press, will pretty much get most of your fibers. However, your upper fibers, they don't originate off of your sternum. They originate off of your clavicle. All right?

Wayne Westcott: 00:40:40 They attach the same place. But they have a totally different origin. So, to really work your upper fibers, which is gonna be about 25 percent of your pectoralis major, you kind of get better results doing an incline press on a 45 degree angle, or at least a 35 degree angle. So, put a little more emphasis, a little more straight line contract, 'cause muscle fibers contract in a straight line. They can do nothing else. [inaudible 00:41:04], it will be aligned better for an incline press, or I should say an incline [inaudible 00:41:09], give a little more of the upper fibers.

Wayne Westcott: 00:41:12 And the lower fibers ... I'm not a big fan of decline press. I don't like the head being underneath the big bar, blood rushing to your head and all that type of thing. But the decline press or a simple bar dip would certainly work the lower fibers better because they would be now in alignment with the direction of pull that you're doing on your humerus. So, the pec is an incredibly complex muscle. It's a fabulous

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

muscle. But to work the entire muscle fully, you probably would need to do three different exercise. Having said that, if you concentrate, as you mentioned, on your pectoralis major, and you did sets of chest presses, especially after you've already fatigued it, you will do just fine. That would be a great stimulus.

Lawrence Neal: 00:41:58 Interesting. I didn't realize that ... I thought that was a bit of a myth that you needed to do different angles of chest pressing exercises in order to completely stimulate the entire pectoral musculature. I think I used to believe that you could use multiple exercises to stimulate the overall pectoral. But then, I came across here. And then, I was told as long as you do a bench press or a chest press, you're going to stimulate the entire muscle group, because the muscles are so closely integrated and inter woven. But it's your opinion, and very well stated there, that in order to ...

Lawrence Neal: 00:42:43 If one is looking to stimulate every muscle, then it probably serves them better to add in additional exercises to ensure that you're stimulating the entire pectoral region.

Wayne Westcott: 00:42:56 You know, it's a good point. And there are experts who agree with what I said, others who'd agree with what you just mentioned. And when it

really comes down to it, there's a fabulous body builder named Doug Brignole who's written a ... He didn't publish it, I don't think. There's an awesome book he sent me ... the information is gonna be a huge ... he's just amazing. He's a mister everything. He's won pretty much everything you can win at the [inaudible 00:43:23], on a professional level. But I'm not sure which level he's at. But he's at the best level and he's won everything. He's an older fella, so he's really studied this.

Wayne Westcott: 00:43:35

And he says, "I'm not gonna do an incline press. I get all the stimulus that I need for my pecs with the bench press, or other similar exercise." And I'm sure not gonna argue with that. I'm just saying that the fibers do pull in a straight line. And since you have multi pennate muscles there, you may be able to emphasize the upper fibers a little better when you're pulling a little more with a clavicular angle than toward the sternal angle. And the lower fibers, again, you just have to feel and say, "Hey. Where do I feel this most? Where do I feel it more? When I'm doing dips, where do I feel it in my chest? And when I do inclines, where do I feel it?"

Wayne Westcott: 00:44:21

And if you feel it better when you do those exercise, go ahead and do them. That makes

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

sense. If you notice that I get everything I need from these bench presses, that's fine too. Because of time limitations, which effect me more than anything else unfortunately, I just do bench presses most the time. When I can fit it in, I'll do some inclines. You know I love dips. I'll try and get those in. But when it comes to [inaudible 00:44:44], I'm with you. Again, a set of bench presses or some other similar exercise would be just fine.

Lawrence Neal: 00:44:51 Cool. Now, that's really interesting. And I'm going to certainly be experimenting with some of that myself. But I think this ... Just to summarize some of this. And I've got certainly more to cover, this is some great information for the personal trainers listening to this in terms of using some of these techniques and some of these ideas when training clients and achieving maximum results from an outcome point of view, but also helping clients to adhere to training long term with some of these other techniques, to either provide novelty, progress, or both.

Lawrence Neal: 00:45:27 So, okay. So, we've talked about pre exhaustion. Let's go on to slow training.

Wayne Westcott: 00:45:32 Okay. All right. This is a real controversial area. But-

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

- Lawrence Neal: 00:45:36 Sounds good.
- Wayne Westcott: 00:45:37 Ben Bocchicchio started this way back. And then Ken Hutchins really took it to the next level and popularized it. And we did a couple studies on slow training. And in both ... These were big. [inaudible 00:45:52]. In both of these studies, we saw-
- Lawrence Neal: 00:45:57 Sorry. Could you repeat that, because you moved backward there. I couldn't pick up the sound as well.
- Wayne Westcott: 00:46:05 Oh, I'm sorry. That was a journal of sports medicine and physical fitness a few years ago, quite a few years ago. We did two studies on this just because I didn't believe the results of the first. I am not a slow training fan, just to put that out there. All right? I don't like it. I'd rather do four or six second reps. It's just it's too tedious, intensive, and tough for me. But I tried it for about six months, six or nine months, I forget, before I did The Fix. I wanted to make sure that it wasn't gonna hurt anybody and that they could tolerate it. So, I did it. And I had good results. I didn't like it. But I had good results.
- Wayne Westcott: 00:46:42 Some of these fast subjects ... and again, in our research room, half of them did standard training. They did 8 to 12 reps to failure. We're gonna call

it 10, if you don't mind, just to simplify the comparison. So, they did an average of 10 reps. Then I had another group. They didn't know any better. They were beginners. We said, [inaudible 00:47:03]. So, they did the actual protocol, in Hutchins protocol, the original protocol of 4 to 6 reps at 10 seconds lifting and 4 seconds lowering. So the lowering was the same as the standard [inaudible 00:47:19], two up/four down. They still did four down. But they did a 10 second concentric muscle action. So, it was a 14 second repetition.

Wayne Westcott: 00:47:27

They did 4 to 6. When they'd get to 6, we'd increase the weight by 5 percent. So, they did an average of 5. We had one group that did an average of 10 reps, and in 70 seconds. They did 2 seconds up, one second pause, [inaudible 00:47:42], two seconds up, one second pause, and four seconds down. So, they did 7 seconds per rep, 10 reps. That's 70 seconds. Our other group, the slow group, did an average of 5 reps at 14 seconds each, which is also 70 seconds. We felt that was very important that, number one, we fatigued the muscles within the anaerobic energy system as normally we would any strength training program less than 90 seconds. And we were. We were about average 70 seconds. I would say 55 to 85 seconds.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:48:14 But it was within that 90 seconds. And we wanted to equate the time under load, or the time of muscle tension for both groups. And when we did that, in the first study, the group that did the standard training increased 17.5 pounds. The group that did the slow speed increased 26.5. that is almost 50 percent greater strength gains. Amazing. I didn't believe it. We didn't even try to publish it. All right? It was ... come one, that's crazy. Interestingly, although the group that did the slow training had fixed set greater strength gains, they hated it. Only one person said, "I'm gonna keep doing this 'cause it totally works." The other half ...

Wayne Westcott: 00:49:02 I spoke with [inaudible 00:49:03] two groups. So the other 37 or 38 people said, "If you ever make us do this again, we'll find you and kill you. So, don't make me do it again." I said, "That's it. Okay. Good. Fine." So, I replicated the same study. And I did it with another 75 people. And this time, the group that did the standard training, 16.3 pound increase, the slow speed, a 24 point ... I can't read my writing. I need my glasses on ... a 24 point zero pound increase. Okay? So, that was again a 50 percent increase. I didn't make these up. I don't even like slow training. Okay. We had awesome results with this.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:49:42 Again, one person who still works for me now, he didn't then but does now, loved the slow training. The other 74 said, "Don't ever even mention slow training to us again." So, it's not the most popular training around. But it is incredibly effective. I'll say just one more thing on this, however. And that is this. Okay. What do I have to say on this? It's really important to. Oh goodness! Lawrence.

Lawrence Neal: 00:50:09 It might come back to me.

Wayne Westcott: 00:50:13 It'll come to me. It'll come to me.

Lawrence Neal: 00:50:13 So, let me ask you while you're thinking, and you can butt in if it comes up-

Wayne Westcott: 00:50:16 Oh, I've got it.

Lawrence Neal: 00:50:17 You've got it. Go on. Go on then.

Wayne Westcott: 00:50:19 I do. I'm sorry. I apologize. So, after I did that, there are a lot of people that don't like high intensity training at all. They really hated slow training for a variety of reasons. All right? The personalities involved, whatever ... But anyway, two major studies were done, published in excellent research journals, that found slow training didn't work at all. So, it made me look pretty stupid 'cause these are very important

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

people in our profession and kind of the esteemed.

Wayne Westcott: 00:50:45

But they didn't do the protocol. If you're gonna test a protocol, you've gotta test the protocol. I took Ken Hutchins protocol, 10 up/4 down, 14 seconds, 4 to 6 reps, and tested that. The other people, the other two studies, they did their own protocol. They did 10 up/5 down, which [inaudible 00:51:09]. But they did 8 to 12 reps. So you've got 12 reps at a 15 second rep, that's three minutes. That's 180. That's three minutes of time under load. That's way beyond the anaerobic air system. And so, they didn't get near as good results with the slow as they did the [inaudible 00:51:30].

Wayne Westcott: 00:51:29

Well of course they didn't, they were using based on ... like they wrote in their research paper, they were using less than 30 percent of the one rep max to get that type of a time under load. That's not gonna work. At least, it didn't work. So, I'll just stand by our studies. I'm not perfect in my research. But they were not equating the time under load at all. So, I think that's very important. You have to equate time under load. And we compared the standard [inaudible 00:51:58] protocol with the super slow protocol, at that time, and we had excellent results. And I do

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

recommend it for breaking strength plateaus. But I don't recommend it for getting a lot of average people into your program, if you start that way. 'Cause it's a pretty tough way to do it.

Lawrence Neal: 00:52:13 Very interesting. So just on that then, what was the reason for the much greater improvement? I mean, I'm surprised by that, in the super slow groups, in both of those studies. What did you ... Did you come to any conclusions in terms of why they grew more?

Wayne Westcott: 00:52:31 I did. And they're probably wrong but at least I was thinking about it. Okay? So, the concentric muscle action is your weakest. You're much stronger isometrically and eccentrically than concentrically. So to emphasize the weaker part of the movement might make a lot of sense. We tend to always ... We go with what we do well. I mean, I do. I like dips. I do lots of dips. But then I get chin ups. I don't do chin ups. Okay? I should be doing the opposite. I'm already good at dips. I should be doing chest to get better at chest. But we tend to do what we're good at. You play basketball 'cause you're a great basketball player. I don't play basketball because I dribble underneath my feet, so that type of thing.

Wayne Westcott: 00:53:12 But emphasizing the concentric muscle action with a longer time under load seems to make

sense to me. And I think that Ben and Ken and the others who promote the super slow, Fathana, all those that do such great work with this, I think they're really onto something. But you have to ... I think you have to be a little reasonable and sensible. Because the slow works so well and because I'm about as creative as a rock, I've never really [inaudible 00:53:45] my old protocol, but this time I did. I said, "We're gonna try the Westcott protocol. It's gonna be a 5-5-5." 'Cause people didn't like the 14 second rep. They didn't like the ten.

Wayne Westcott: 00:53:55

I said, "We're gonna go up on five, we're gonna go down on five. And we're gonna do five reps." And so it's a ten second rep, five rep. When you get to six, we go up. We don't mess around. When you get to six, you're going up. But it was five. Five times ten seconds was 50 seconds. It was within the anaerobic energy system. But it wasn't nearly as tense or tedious, fumbling, terrible, whatever other word you want there, as the ten second. And we had excellent results. We had excellent results with the 5-5-5. Now, only in terms of improvements, but people like it. Oh wow. I can do five reps? This is good. I can do a five set lifting ten seconds. [inaudible 00:54:34]

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:54:34 I think you go into a wax museum, watching people and say, "Are you really moving?" That's a slow tedious thing. But the 5-5-5 worked very well. I haven't done a lot of research on the 5-5-5. But people like it. It's a little slower. We think it works pretty well. They get good results. And it was a modification, pretty much my only invention ever. So, I'm hanging in there and saying the 5-5-5 is a good starting point at least.

Lawrence Neal: 00:54:58 Very cool. Really wanna get my hands on this book now Wayne and read more about this stuff. So, a quick for ahead. Is there some ... let's talk about this final bullet point, and then wrap up, 'cause time is ticking on. And if you'd like, we can always cover off some of the other points in a future episode together.

Wayne Westcott: 00:55:17 Thank you.

Lawrence Neal: 00:55:17 Cool. So, the last one is ... Maybe you can elaborate on this one, it's simple but effective hard training. Talk to me about the findings and related recommendations on that. And define exactly what that is.

Wayne Westcott: 00:55:33 Okay.

Lawrence Neal: 00:55:34 Is that just concentric failure, or what is that?
Yeah.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:55:37 It is. I think this is more psychological than physiologic. But there is a physiological component. And that's why I started with a little discourse of Doctor Thomas Delorme, the famous medical doctor, who really does get credit for modern strength training. Before his ... No one, no coaches, no doctors, no physical educators, no one advocated strength training except little sub cultures of olympic lifters and body builders and power lifters.

Wayne Westcott: 00:56:05 He said, as you remember, he said, "You need [inaudible 00:56:12]. Rest two minutes." I don't know how he knew two minutes was the right time, but that's how long it takes to replenish about 95 percent of your fast [inaudible 00:56:19] or anaerobic energy source. All right? If you were going to failure. But you weren't going to failure. Never the less, you had a two minute rest, which was fine. Then you take 75 percent of your 10 rep max and do that for 10 reps, which is a little harder. But it's not a stimulus. That's for sure. And then you go to your 10 rep max weight, whatever that might be. And you do that as many times as possible, which is brilliant. Just do it 10. If you get 11, or 12, or 13 ... anyway, once you could get to 15, he was very concerned. He's a medical doctor, then you would go up and resist it.

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Wayne Westcott: 00:56:50 Well, he wrote that you probably don't need those to be ... you probably don't actually need those two warm up sets. And Jones said, "That's just what I needed to hear. I'm gonna go and just do single sets, very efficient, get people in, get people out, give them a really good workout. We'll get these high intense techniques."

Wayne Westcott: 00:57:05 What I said was, "Okay. I believe, based on the research and recent research has really borne this out to a much greater degree, that that first set, sets your neuro muscular system." Strength training's not just about muscle, it's about the nervous system and the motor units. And if you're doing that particular pattern, you're gonna recruit the same motor units, maybe more, but the same pattern of motor recruitment in a bench press, let's say, or a [inaudible 00:57:33], whatever it is, as you're gonna do if you have your weights. So, set yourself up psychologically and physiologically with a wider weight. And what we did, we went to 50 percent. Whatever you're gonna do for your 10 rep, or I think I used an 8 rep add on this, just 'cause I wanted to use 80 percent of maximum instead of 75 mass by ... but I just felt that might be useful.

Wayne Westcott: 00:57:53 So, the first set would be half of what you're gonna do in your second set. So, if I'm gonna do

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

100 pounds in the biceps curl for my stimulus set, just one stimulus set, I'm gonna do 50 pound warm up. And I'm gonna rest just one minute, 'cause 50 pounds is only half of what I'm gonna do, what I could do, for ten. I don't need ... I haven't pushed that much or used that much energy. I get a one minute recovery. And then, I go to my 100 pound biceps curl. And every time we looked at this, when we put in that one preliminary set, which takes maybe a minute, and then you've got a minute rest, so it's a little longer. But it's not a three set with two minutes in between.

Wayne Westcott: 00:58:37

We do that, and then we go to our stimulus set. We almost always get one more rep. And we have compared this. And I don't have any major studies on this, but we would just do this with our participants. They almost get about one more rep, sometimes two, when you have that preliminary, physiological, psychological warm up effect, than if you'd just dumped 100 pounds cold, and do it without any warm up. So, we ... And again, I'm as creative as a rock, as I said before. I couldn't think of a good way to do this sort of training. Because I said, "All right. You've got this easy warm up. Right? I want you to go really hard on your stimulus set." And people do. They say, "Okay. He must know what he's talking

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

about. He's got this great name for heaven's sake, hard training." So, I have to train ... I'm being facetious.

Wayne Westcott: 00:59:26 "He's had very good results." In fact, I don't have that in the book. We did that after the book came out. But basically, we've done with that ... We've had at least as good and usually better muscle gain and strength gain than with any other techniques, and sometimes ... Again, this is with beginners. With beginners, simplicity sometimes is a very good technique in and of itself, keeping it very simple. That's about as simple as it gets.

Lawrence Neal: 00:59:52 Great. So effectively, one slightly lighter warm up set followed by one hard set to failure.

Wayne Westcott: 00:59:59 And the hard set is usually you can do more reps with that hard set when you've had that preliminary physiological psychological warm up than when you don't, at least in our participants. That may not be representative of everyone on the planet. But they're a pretty good subject group.

Lawrence Neal: 01:00:17 Wayne, this has been really really interesting. Thank you so much for joining me today. I'm glad we got to talk about these things. And this is probably the first ... certainly, the first members podcast, but maybe the first ...

[HIT Business Membership - Dr Wayne Westcott - How To Use Advanced Training Techniques](#)

Lawrence Neal: 01:00:29 Actually, I have talked about advanced technique sort of thing on the podcast before, but not in detail like this in terms of some of the research behind them, which is very very fascinating and interesting indeed. As I said, happy to do a part two with you to cover some of that other stuff we didn't cover in a part two for the membership also, if you're interested in that in the future. But otherwise, thank you very much for your time today. I really appreciate it.

Wayne Westcott: 01:00:54 It is always a privilege. Thank you so much. Continued success with the great work you're doing Lawrence.

Lawrence Neal: 01:00:59 Thank you Wayne.