



**Sweat - Serious Muscle, Fitness, & Fat Loss** (<http://www.lowcarbmuscle.com/forums/index.php>)

- **Bodybuilding and Strength Training** (<http://www.lowcarbmuscle.com/forums/forumdisplay.php?f=10>)

- **Maximizing muscle mass - the scientific evidence** (<http://www.lowcarbmuscle.com/forums/showthread.php?t=519>)

serious strength

February 3rd, 2007 01:24 AM

**Maximizing muscle mass - the scientific evidence**

Any ideas? We know that multiple sets and high volume does not produce greater mass gains than single sets performed 3X a week. Who here has good experience with HIT and Slow Burn training?

Glad to be here. Colpo's book The Great Cholesterol Con is a great read.

AnthonyColpo

February 3rd, 2007 11:22 AM

**Re: Maximizing muscle mass - the scientific evidence**

Hey serious strength,

welcome!

HIT can be a great strategy when is time is an issue or as a novel change of pace, but clinical research and empirical evidence especially shows that higher volume and frequency can indeed produce greater strength and size gains.

The following should be of interest to you, Slow Burn is also discussed here:

<http://www.lowcarbmuscle.com/forums/...ight=slow+burn>

serious strength

February 3rd, 2007 10:26 PM

**Re: Maximizing muscle mass - the scientific evidence**

Quote:

but clinical research and empirical evidence especially shows that higher volume and frequency can indeed produce greater strength and size gains.

Hi Anthony. Loved your book. You must have worked very hard on that project! Impressive. I'm working on my second one and the task is daunting.

I'm very curious to read what clinical research you have which indicates that higher volume and frequency (than?) is superior for building muscle mass. I'm not sure if you are aware of Dr. Ralph Carpinelli's and Dr. Robert Otto's paper on single vs multiple sets. They looked at every peer reviewed and published study on the subject and only one study (the Berger study) showed multiple sets to be superior. The other 50+ studies showed no difference. Some showed better results with single sets. If you'd like I can send you a copy of the paper.

A metaanalysis done by Drs. Carpinelli and Winett also showed that virtually all the benefits of resistance training can be obtained with 2, 15-20 minute training sessions a week. More than two provides no additional benefits.

As we both know empirical evidence is just that - empirical and anecdotal. Empirically, the Sun orbits the Earth. We (obviously) cannot point to a group of typical bodybuilders who use split routines and train 5 days a week using multiple sets and fast rep speeds say "See, look at them. They're very muscular so obviously you need high volume, high frequency, high speed reps to become like them." One would have to perform a controlled studies on body builders to see if they do indeed require the kind of volume and frequency they typically use.

Folks who are very muscular are so due to genetics. they have a higher % of FT fibers ans thus respond very well to lesser intensity efforts. They do not need to train to failure as the FT fibers are engaged almost immediatley as they have far less type II fibers than the typical trainee. Muscle men are truly born, not made.

Anyhow I'd love it if you could point me to any research that you have found that indicates that higher volume and frequency is better for growing muscle with one caveat - if it's from the NSCA don't bother. Kraemer and colleagues are charlatans (they are worse than the ADA RE: diabetes!) and if you want to have a talk about them one day over coffee I'm buying!

All the best,  
Fred Hahn

[fhahn@seriousstrength.com](mailto:fhahn@seriousstrength.com)  
[www.seriousstrength.com](http://www.seriousstrength.com)

AnthonyColpo

February 4th, 2007 09:58 AM

### Re: Maximizing muscle mass - the scientific evidence

I've read the papers by Carpinelli, Otto and Winnett, and I do *not* hold them in high esteem.

In their 2004 Journal of Exercise Physiology paper, they make the following claim for short-term studies involving untrained folks:

*"In summary, only one study (29) out of the four studies (29-32) cited in the Position Stand in support of multiple sets, which involved previously untrained participants, reported a small but statistically significant benefit for a multiple-set protocol."*

Actually, their own discussion of these papers even shows that all four studies showed one or more superior outcomes for multiple sets when compared with single set routines!?

As someone who firmly believes in the dictum that one should control all possible confounding variables, I agree that the methodology of these studies left much to be desired. Some groups used different rep schemes, some used machines while others used free weights, some used different rep speeds.

However, in the same paper Carpinelli et al maintain that repetition speed, machine vs free weight use, repetition range etc do not differentially affect the rate of strength and hypertrophy development! So if the authors claim these things make no difference, then they have no business citing them in a manner which infers that the studies were subject to confounding.

They then discuss untrained subjects in *Long-Term Studies*.

*"Borst et al. (33) recruited 31 healthy, sedentary males and females (~38 years) who were stratified by sex and quadriceps strength into one of three groups: single-set resistance training, multiple-set, or non-exercising control. The 1-set and 3-set groups performed seven exercises on a circuit of machines using an 8-12 range of repetitions to muscular fatigue 3x/wk for 25 weeks. The 3-set group (3 circuits) had a significantly greater increase in strength (~48 %) compared with the 1-set group (~32 %). There was no reported change in body mass or body composition in either group."*

*Marx et al. (34) randomly assigned 34 previously untrained females (~23 years) to a single-set, multiple-set, or control group for six months of resistance training. The single-set group trained 3x/wk performing one set of 8-12 RM for each exercise on two alternating circuits of 10 machines. The multiple-set group trained 4x/wk and performed 2-4 sets of 8-10 RM on Tuesday and Friday, and 3-5 RM, 8-10 RM, or 12-15 RM on Monday and Thursday on 7-12 free-weight and machine exercises. The multiple-set group showed a significantly greater strength gain in 1 RM bench press (46.8 %) and leg press (31.9 %) compared with the single-set group (12.2 and 11.2 %, bench press and leg press, respectively). There was no significant increase in lean body mass or decrease in percent body fat in the single-set group, while the multiple-set group showed a significant 3.3 kg increase in lean body mass and a significant decrease in percent body fat from 26.5 to 19.8 %."*

They admit that:

*"In summary, both of these long-term (~6 months) studies (33-34) support the superiority of multiple sets in previously untrained subjects."*

They then go on to cite 2 studies that showed no difference in strength gains (in one of these, the gains were similar, in another the greater gains in the multiple set group were statistically non-significant).

They then enthusiastically cite a bunch of studies that compare 1 vs 2 sets and showed similar strength gains. That's great, but 2 sets is hardly what I or any other volume advocate would call "volume training".

Indeed, earlier in the paper they cite a study that showed greater improvements with 3 sets than with 1 or 2 sets...

Then they address the results of studies involving trained individuals conducted by 3 different research groups.

Ostrowski et al found no difference, Kraemer et al claims in some studies to have observed greater gains with multiple sets and no difference in another study, and Schlumberger et al found greater strength gains with multiple sets.

Granted, Kraemer's methodology raises questions, and Schlumberger's ambiguity on the subject's training experience is cause for concern (although if his results are valid, the multiple set subjects still improved to a greater degree).

One of the better quality studies I have seen, and published since the Carpinelli review (although I still haven't seen HIT advocates rush to cite it), was conducted under the auspices of the Spanish Olympic Committee:

*Gonzalez-Badillo JJ, et al. Moderate resistance training volume produces more favorable strength gains than high or low volumes during a short-term training cycle. J Strength Cond Res. 2005 Aug; 19 (3): 689-97.*

Spanish Olympic Committee, Madrid, Spain. [jjgbadi@arrakis.es](mailto:jjgbadi@arrakis.es)

*The purpose of this study was to examine the effects of 3 resistance training volumes on maximal strength in the snatch (Sn), clean & jerk (C&J), and squat (Sq) exercises during a 10-week training period. Fifty-one experienced (>3 years), trained junior lifters were randomly assigned to one of 3 groups: a low-volume group (LVG, n = 16), a moderate-volume group (MVG, n = 17), and a high-volume group (HVG, n = 18). All subjects trained 4-5 days a week with a periodized routine using the same exercises and relative intensities but a different total number of sets and repetitions at each relative load: LVG (1,923 repetitions), MVG (2,481 repetitions), and HVG (3,030 repetitions). The training was periodized from moderate intensity (60- 80% of 1 repetition maximum [1RM]) and high number of repetitions per set (2-6) to high intensity (90-100% of 1RM) and low number of repetitions per set (1-3). During the training period, the MVG showed a significant increase for the Sn, C&J, and Sq exercises (6.1, 3.7, and 4.2%, respectively, p < 0.01), whereas in the LVG and HVG, the increase took place only with the C&J exercise (3.7 and 3%, respectively, p < 0.05) and the Sq exercise (4.6%, p < 0.05, and 4.8%, p < 0.01, respectively). The increase in the Sn exercise for the MVG was significantly higher than in the LVG (p = 0.015). Calculation of effect sizes showed higher strength gains in the MVG than in the HVG or LVG.*

*There were no significant differences between the LVG and HVG training volume-induced strength gains. The present results indicate that junior experienced lifters can optimize performance by exercising with only 85% or less of the maximal volume that they can tolerate. These observations may have important practical relevance for the optimal design of strength training programs for resistance-trained athletes, since we have shown that performing at a moderate volume is more effective and efficient than performing at a higher volume.*

So here's a study involving real weightlifters, and showed clearly that weight training exposure shows a U-shaped curve, just like many other agents - ie, too little and too much produce inferior results.

Sure, this study did not involve a single set group, but to claim that a single set regimen would somehow have produced greater gains, when the lowest volume group already produced inferior gains to the moderate volume group, defies logic.

What is often forgotten by the HIT crowd is that lifting weights is a skill. Machine training is much less technically demanding than free weight training, and bodybuilding training, with its typical heavy emphasis on isolation movements, is much less technically demanding than powerlifting and especially weight lifting.

Repeating the movements over and over improves neuromuscular efficiency and paves the way for greater strength gains.

Would you roll up to kickboxing training, kick the bag once in all out effort, then go home?

If you play tennis, would you arrive at training, swing the racquet once, and then head off to the mall?

I should hope not. If you do, your performance in these activities will never progress very far. If you limit yourself to single set regimens, your progress will likely be much less than what it could be with an intelligently implemented higher volume routine.

AnthonyColpo

February 4th, 2007 10:24 AM

**Re: Maximizing muscle mass - the scientific evidence**

***Empirically, the Sun orbits the Earth.***

Really?!?

***As we both know empirical evidence is just that - empirical and anecdotal.***

I guess it is important for folks who promote super-slow, HIT, single-set training, etc, etc to flippantly blow off the mountain of empirical evidence, because it totally contradicts their theories.

If you are going to ignore empirical evidence, then be forever prepared to accept second-rate progress. The fact is that much of what constitutes successful weight training practice has been arrived at by trial and error.

It is only by looking at real world results - ie, the empirical evidence - that we can see what happens beyond the short duration 6, 8 or 10 week studies that typify clinical research. Successful weight training is not an endeavour that one does for a few weeks.

Unfortunately, superior weight training protocols are a low priority for Western health research agencies. There is a much bigger pool of research funds available to scientists who study heart disease, cancer, etc. No-one's going to win a Nobel Prize for establishing a quicker method for improving the bench press. And drug companies, who sponsor much of today's clinical research, have little interest in whether you or I wish to gain a few extra pounds of muscle. Bodybuilder and weightlifters would hardly constitute their most lucrative market.

The most successful coaches are those who employ both science and empirical knowledge/experience. If you think you are going to reach a high level relying only on studies published in the English language literature, you are sadly mistaken. Show me a lab coated-researcher (or a HIT advocate for that matter) who can rival Louie Simmon's ability to create champion powerlifters, or the Metal Militia's ability to pump out guys with mind-boggling bench press poundages, or the Eastern Bloc coaches who routinely pumped out world-beating weightlifters and athletes.

When it comes to physical training, the ability to observe what has worked in the past, as well as to examine the available science and see if there is any way current methods can be improved further, is paramount.

HIT training has been with us for at least 3 decades, but volume training is still the protocol of choice for elite level weightlifters and athletes.

Why do you think that is?

Please don't try to tell me that it is the result of some sort of pro-volume/anti-HIT conspiracy. As a person who has researched more than his fair share of documented examples of official corruption, collusion and dishonesty, I'm hardly the kind of person to flippantly dismiss conspiratorial concerns.

But why would countries all around the world, all eager to establish athletic dominance, shun the use of single set training and embrace multiple set training?

Why did the Bulgarians - who used to totally dominate the weight lifting arena and are still a primary force in that arena - train several times a day, six days a week, with multiple sets?

Why did the other Eastern Bloc countries train their athletes using multiple sets? The Communists would not stop at anything to establish athletic dominance, and poured immense scientific manpower and financial resources into training research. The Eastern Bloc were not constrained by politically correct beliefs - the Bulgarians, for example, reportedly tried a low fat (30%) diet with their weightlifters, and promptly dumped it when they observed their athletes getting weaker. The attainment of results, not PC dogma, was their guiding light.

Eastern Bloc coaches would have been under immense pressure to produce world-beating athletes - the commies considered athletics a prime forum for demonstrating the so-called superiority of their BS political system - you really believe they would have stuck with multiple set, volume training if it didn't produce superior results?

Don't tell me it was "drugs"; you and I know full well that the athletes of every other country were juiced as well. And I know full well from my own personal experience and those of my clients that drug-free trainees can make superior progress with high-frequency, multiple set training. For the record, I don't sell any books or DVDs pushing a particular training methodology - I just go with what works.

In the REAL world, volume reigns supreme. Always has, and always will.

AnthonyColpo

February 4th, 2007 11:29 AM

**Re: Maximizing muscle mass - the scientific evidence**

Quote:

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Originally Posted by **serious strength** (Post 2298)  
*Any ideas? We know that multiple sets and high volume does not produce greater mass gains than single sets performed 3X a week. Who here has good experience with HIT and Slow Burn training?*

---

BTW Fred,

I'm a little curious as to why you anonymously started a thread mentioning your training system, only revealing your identity *after* I posted a not-so-supportive response.

Is this part of your marketing strategy - to "sneak" on to forums and trigger discussions about your training system to garner extra publicity?

To all other authors/promoters, you are welcome on this forum to participate in legitimate discussion, but please be upfront about your true identity right from the start. Find somewhere else to practice your "Guerilla Marketing" techniques...

serious strength

February 6th, 2007 02:09 AM

**Re: Maximizing muscle mass - the scientific evidence**

Quote:

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I'm a little curious as to why you anonymously started a thread mentioning your training system, only revealing your identity after I posted a not-so-supportive response.

---

Well let me start with this. I did not join this forum to promote my way of lifting. I came here because I liked your book very much and wanted to say so and because I wanted to ask the opinions of others and ask about their experiences with training. It is precisely why I didn't say who I was because I DON'T want to sell or promote anything. My true identity is immaterial.

Quote:

---

HIT training has been with us for at least 3 decades, but volume training is still the protocol of choice for elite level weightlifters and athletes.

---

Strength training for purposes of building muscle mass and weight lifting to become good at certain techniques are two totally different endeavors.

Quote:

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The most successful coaches are those who employ both science and empirical knowledge/experience. If you think you are going to reach a high level relying only on studies published in the English language literature, you are sadly mistaken. Show me a lab coated-researcher (or a HIT advocate for that matter) who can rival Louie Simmon's ability to create champion powerlifters, or the Metal Militia's ability to pump out guys with mind-boggling bench press poundages, or the Eastern Bloc coaches who routinely pumped out world-beating weightlifters and athletes.

---

Here again you confuse two totally different endeavors. I have no question that high volume and high practice are/is necessary for becoming proficient at those types of lifts. But your contention that high volume and frequency of training is necessary for building massive muscles is not supported in the literature. It is not even empirically true. While there are legions of people who have built great physiques using typical body building approaches, there are also just as many who have built their bodies using HIT. To say that you NEED high volume and frequency to build a great physique is simply untrue.

AnthonyColpo

February 6th, 2007 05:05 AM

**Re: Maximizing muscle mass - the scientific evidence**

Quote:

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Originally Posted by **serious strength** (Post 2365)

*Well let me start with this. I did not join this forum to promote my way of lifting. I came here because I liked your book very much and wanted to say so and because I wanted to ask the opinions of others and ask about their experiences with training. It is precisely why I didn't say who I was because I DON'T want to sell or promote anything. My true identity is immaterial.*

---

Your true identity is most definitely relevant. If you start a thread about your own training system, but don't reveal to readers that you are in fact the author of that system, then they will not be aware they are discussing the topic with someone who has a vested interest in that system.

Again, whatever your intentions, I request that you and anyone else who has a vested interest in the topics they discuss reveal their true identity from the outset. I feel this is only fair to other users of the forum.

Quote:

---

Originally Posted by **serious strength** (Post 2365)

*Strength training for purposes of building muscle mass and weight lifting to become good at certain techniques are two totally different endeavors.*

---

To say that bodybuilding and weight lifting are *totally* different is patently false. Baking a cake and lifting weights are 2 totally different things. Bodybuilding and weight lifting both utilize resistance training, but in bodybuilding the emphasis is on aesthetics, in powerlifting and olympic lifting the emphasis is on getting as strong as possible in the competitive lifts. And weight lifting is not merely an endeavor "*to become good at certain techniques*" - it is about developing the ability to move ungodly amounts of weight. To those who value the attainment of a physique that is as strong and explosive as it looks, training with an Oly lifting and/or powerlifting component works wonders.

Powerlifting and olympic training can indeed produce great size along with strength. Have you ever checked out the muscle mass on powerlifters and weightlifters in the heavier weight classes??? Many of these guys would put a lot of folks who have been laboring away with so-called bodybuilding-style training to shame. In the lighter weight classes, caloric intake must be tempered to avoid exceeding the bodyweight limit.

Quote:

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Originally Posted by **serious strength** (Post 2365)

*Here again you confuse two totally different endeavors. I have no question that high volume and high practice are/is necessary for becoming proficient at those types of lifts. But your contention that high volume and frequency of training is necessary for building massive muscles is not supported in the literature. It is not even empirically true. While there are legions of people who have built great physiques using typical body building approaches, there are also just as many who have built their bodies using HIT. To say that you NEED high volume and frequency to build a great physique is simply untrue.*

---

Again, please cease and desist in attributing statements to me which I have NEVER made. The creation of straw-man arguments does little to further your credibility. For the record, I have NEVER stated that "*high volume and frequency of training is necessary for building massive muscles*". What I have said is that high volume and frequency of training are *superior* for building size and strength. As I have stated, the empirical record lends far more support to my contentions than yours.

I have no doubt there are people who have built sizable strength and mass with HIT-style training, just as I know there are people who have built impressive physiques using Weider-style "bomb and blitz" routines that I would consider excessive in volume.

Real life experience has shown that people can grow on all sorts of routines - favorable genetics (and drug use in many instances) can make someone grow substantially on a less-than-optimal routine. But that doesn't change the fact that the routine is less than optimal; that the person may experience even greater progress if they trained using a more intelligently-structured regimen. I refer you back to the study by Gonzalez-Badillo JJ, et al, which showed that the moderate volume regimen was superior to both the lower-volume and higher-volume regimen.

Quote:

---

Originally Posted by **serious strength** (Post 2365)

*While there are legions of people who have built great physiques using typical body building approaches, there are also just as many who have built their bodies using HIT.*

---

Please cite your verifiable data source for this astounding revelation.

## serious strength

February 6th, 2007 10:39 AM

### Re: Maximizing muscle mass - the scientific evidence

Quote:

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Again, please cease and desist in attributing statements to me which I have NEVER made. The creation of straw-man arguments does little to further your credibility. For the record, I have NEVER stated that "*high volume and frequency of training is necessary for building massive muscles*". What I have said is that high volume and frequency of training are superior for building size and strength. As I have stated, the empirical record lends far more support to my contentions than yours.

---

You knew exactly what I meant. And being argumentative and caustic for the sake of it does little to further your credibility Anthony. You've yet to say "Thanks" for the positive remarks I've made about your book. Your answers are dripping with anger and the need to prove other people

wrong. What's the problem?

Quote:

---

To say that bodybuilding and weight lifting are totally different is patently false.

---

Please cease and desist in attributing statements to me which I have NEVER made. I said "Strength training for purposes of building muscle mass and weight lifting to become good at certain techniques are two totally different endeavors." One is designed to become skilled at certain lifts as in Olympic lifting, one is designed for building the largest muscles possible. Different endeavors not entirely different things.

Quote:

---

I have no doubt there are people who have built sizable strength and mass with HIT-style training, just as I know there are people who have built impressive physiques using Weider-style "bomb and blitz" routines that I would consider excessive in volume.

---

So then why do you talk it down and call it "inferior?" Inferior to what EXACTLY?

Quote:

---

Please cite your verifiable data source for this astounding revelation.

---

Why are you so nasty Anthony? What is your problem? You know, I'd be happy to answer your questions and contribute in a positive fashion but you sure make it hard as heck to do so. You like to make your posts sound as if you're superior to others who might disagree with you. Clearly you have nothing left to learn.

AnthonyColpo

February 6th, 2007 12:03 PM

**Re: Maximizing muscle mass - the scientific evidence**

Quote:

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Originally Posted by **serious strength** (Post 2379)  
*You knew exactly what I meant.*

---

Fred, I am NOT a mind reader. You clearly stated that I claimed "*high volume and frequency of training is necessary for building massive muscles*". I will repeat - I NEVER stated this.

In future, say what you *mean*. And do NOT try and shift the blame for any misconceptions arising from your ill-conceived comments onto me.

Quote:

---

Originally Posted by **serious strength** (Post 2379)  
*And being argumentative and caustic for the sake of it does little to further your credibility Anthony. You've yet to say "Thanks" for the positive remarks I've made about your book. Your answers are dripping with anger and the need to prove other people wrong. What's the problem?*

---

Fred, I'm not the one with the problem. I'm not the one that covertly came onto the forum mentioning his own training system under dubious circumstances. You came here anonymously starting a "discussion" about a training system in which you have a vested interest. You might not think this is a big deal, but as someone who is big on transparency, I do.

I'm not the one who put out the challenge for scientific evidence to justify volume training and simultaneously dismissed anecdotal evidence BUT then quickly switched to anecdotal claims when scientific evidence disputing your claims was cited!

You accuse me of being argumentative - how precious! You are the one that initiated this thread and you are the one that keeps sidestepping my requests to justify your claims. I guess it's OK for you to just keep posting untenable nonsense, but when I reply it's being "argumentative".

Quote:

---

Originally Posted by **serious strength** (Post 2379)  
*You've yet to say "Thanks" for the positive remarks I've made about your book.*

---

Another ironic remark from someone who specifically started a thread whining about the forum banner! Gee, maybe I should demand an expression of gratitude for having the patience to repeatedly entertain argumentative time-wasters like yourself?

Quote:

Originally Posted by **serious strength** (Post 2379)

*Please cease and desist in attributing statements to me which I have NEVER made. I said "Strength training for purposes of building muscle mass and weight lifting to become good at certain techniques are two totally different endeavors." One is desinged to become skilled at certain lifts as in Olympic lifting, one is designed for building the largest muscles possible. Different endeavors not entirely different things.*

---

You clearly stated they are "two **totally different** endeavors". Are they, or are they not, two **totally different** endeavors??? Make your mind up! And don't resort to playing on words to weasel away from your original statements...

Quote:

Originally Posted by **serious strength** (Post 2379)

*So then why do you talk it down and call it "inferior?" Inferior to what EXACTLY?*

---

Holy crap! Not exactly a master of reason are you Fred? Where exactly have you been this entire thread!? HIT is inferior to **optimal volume training. Both insufficient volume and excessive volume are counterproductive.** It's not an either-or thing - I have already stated that weight training exposure, like so many other agents, shows a U-shaped curve of benefit.

Quote:

Originally Posted by **serious strength** (Post 2379)

*Why are you so nasty Anthony? What is your problem?*

---

Fred, if you think I am "nasty" and "caustic", then that's your problem. I really don't give a hoot what you or anyone else thinks. As the current state of the world clearly demonstrates, most people simply aren't very good at thinking. Your continual distortion of my comments (and subsequent denial of said distortions) and your persistent posts that keep the argument going but fail to justify your claims, indicates to me that you are in no way an exception to the rule.

As for credibility, the only credibility I care about is that which comes from presenting the facts as truthfully and objectively as possible - which I always endeavor to do. I am not out to win any popularity contests.

If calling you up on your BS statements is being "nasty" and "caustic", then consider me guilty as charged.

Quote:

Originally Posted by **serious strength** (Post 2379)

*You know, I'd be happy to answer your questions and contribute in a positive fashion but you sure make is hard as heck to do so.*

---

All you need to do is pull out your keyboard, and start tapping out the data to support your claims. You then hit the "submit reply" button. That's it...quite easy really!

The fact that you have not been able to do so is your own fault - you should not have made claims that cannot be substantiated.

Quote:

Originally Posted by **serious strength** (Post 2379)

*You like to make your posts sound as if your superior to others who might disagree with you.*

---

Again, I say what I think. If you are going to come on this forum and post misleading information, then take offense when I call you out on this, then perhaps it's best you find somewhere else to play.

If you can't stand the heat...

Quote:

Originally Posted by **serious strength** (Post 2379)

*Clearly you have nothing left to learn.*

---

Another juvenile attempt at denigration. If I had nothing left to learn I would not spend so much of my time reading and researching in an effort to further my knowledge.

I'm not the close-minded slow-burn/HIT advocate...

AnthonyColpo

February 6th, 2007 04:25 PM

**Re: Maximizing muscle mass - the scientific evidence**

Fred,

before you post more irrelevant nonsense, please read the following very carefully.

You came on this forum dismissing anecdotal evidence in favor of volume training, but then proceeded to use anecdotal evidence in support of HIT training. I find this to be most hypocritical.

I presented you with a high quality study conducted by researchers from the Spanish Olympic Committee, which showed that medium volume training garnered superior strength gains than low or high volume regimens.

You have not addressed the implications of this study - I guess it's simply much easier for you to ignore it because it contradicts what you want to believe.

You claim to be perplexed that I showed symptoms of fatigue and adrenal exhaustion when training to failure, even though I have already posted a study by the aforementioned researchers found that those who avoided training to failure enjoyed **higher** testosterone (an anabolic hormone) and **lower** cortisol (a catabolic hormone, excessive levels of which can lead to muscle loss and immune impairment) than those training to failure. This was despite both groups using similar volume.

This study therefore supports empirical observations that not-to-failure training is not as taxing on the adrenals. But again, you do not discuss this study. Again, I guess it's simply much easier for you to ignore it because it contradicts what you want to believe.

I have asked you to provide me with a coherent explanation as to why volume training is the method of choice for the world's top strength athletes, and why it is the method of choice by coaches at the elite level of athletics.

You have not done so.

Nor have you provided me with a reason why the vast majority of successful weight trainers - drug free and drug-using - use volume training DESPITE several decades of exposure to HIT theories (whose promoters tend to be VERY vocal)?

The bottom line is that you have NOT responded to the above points, all of which indicate that not-to-failure and volume training offer advantages over HIT-style training.

You have ignored the research I have cited, yet continue to argue with me any old how - and you then have the temerity to accuse me of wishing to argue for argument's sake!!!

You behave in this irrational, evasive manner, then insinuate that I am the one behaving in a manner that lacks credibility!

Fred, the BS stops here, mate. I am way too busy too entertain someone who just wants to argue for the hell of it.

If you make one more post that does not coherently address the above contradictions to your HIT beliefs, then you will be banned from this forum. As I told your fellow super slow devotee, the pig-headed MrFreddy, this is a forum for intelligent mature individuals who genuinely seek to advance their knowledge, not immature zealots who are stubbornly committed to a fixed point of view and will not entertain any information that doesn't support their predetermined point of view.

My advice to you - start reading about weight training methodologies from sources outside your narrow little HIT world - you might just learn something. Not only will volume training yield the potential for greater size and strength gains, the extra time you spend in the gym might just help keep you from making nuisance posts on other people's forums...

AnthonyColpo

February 7th, 2007 04:08 AM

**Re: Maximizing muscle mass - the scientific evidence**

The following post by serious strength was removed by a fellow moderator, but I am reproducing it below so people can see for themselves just what kind of character Fred Hahn really is:

**#12 Today, 08:10 AM**  
**serious strength**  
**Junior Member Join Date: Feb 2007**  
**Location: NYC**  
**Posts: 12**

**Re: Maximizing muscle mass - the scientific evidence**

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**Anthony - I would be happy to debate you here and share information but as you are rude and offensive I will leave this forum all by myself and let you continue to behave like a close minded frightend child who cannot converse with adults on a civil level.**

**Good luck to you. And I suggest you stop taking the steroids.**

As noted, Fred has completely failed to address the contradictions to his theories that I have raised. He has been banned from the forum.

Like most people I have come across who don't get their way during their failed arguments, he has abandoned his original argument and is now relying entirely on juvenile personal insults.

One last note to Fred - I would also strongly suggest you refrain from making **false accusations**. I do NOT use steroids, and would be happy to undergo testing (at the accuser's expense) to prove as much. If you intend to repeat this false and defamatory claim about me elsewhere, I suggest you seek legal advice...you'd better think carefully about the legal and professional implications of making such easily-disproved false and malicious accusations about others.



sroberts

February 7th, 2007 04:33 AM

**Re: Maximizing muscle mass - the scientific evidence**

Geez,

Dogma is not a pretty thing is it

AnthonyColpo

February 7th, 2007 08:22 AM

**Re: Maximizing muscle mass - the scientific evidence**

Quote:

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Originally Posted by **sroberts** (Post 2392)

Geez,

*Dogma is not a pretty thing is it*

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Definitely not!

One of the things that really gets me about exchanges like the one we have just witnessed is that, at the end of the day, I couldn't give a brass razoo how other folks train or eat. If one likes to do one set per exercise, or thinks that a diet of tofu, bean sprouts, and lettuce is the ultimate in nutrition, then good luck to them.

As long as no-one is interfering with the right of myself, my friends and family to eat and train the way we see fit, then what others do to keep themselves in shape is pretty much their business.

However, as someone who has arrived at his present state of knowledge through a long and at times frustrating process of trial and error, I can empathize with others trying to make sense of all the conflicting information that is rife on the internet/magazines/TV/books, etc. I'm happy to do my bit to help cut the learning curve of folks who are sincerely interested in discovering the facts. That's why I run this forum, and why I write books.

I am NOT interesting in wasting my time trying to convince those whose minds are jammed firmly shut. These types of folks have settled upon a theory they like, and for various reasons (be it laziness, a poor capacity for rational thought, the unwillingness to reconsider beliefs they have become familiar and comfortable and even financially dependent upon, etc) and will not consider any information that challenges that which they wish to believe. Instead, they merely seek out information that appears to agree with what they wish to believe. Conflicting information is either ignored, or creatively "reinterpreted" in a way that supports the person's cherished dogma.

While I don't care what individual folks do in their own private lives, I don't think it is fair to spread misinformation to others. So when I notice that someone comes on this forum and says something that is not supported by the available evidence (scientific and/or anecdotal), then I have every right to call that person up on this.

If that person cannot justify their statements, but instead becomes frustrated that they're not getting their way, then they should either grow up or find some other arena where such juvenile behavior is tolerated.

If they evade conflicting evidence, or cannot cite evidence supporting their own case, but nevertheless continue posting with nothing new of substance to say, then all hope of rational debate is lost - the party in question is merely arguing to save face. Again, this is not the place for such disingenuous behaviour.

Lastly, for those who decide to experiment with super slow, here's some important advice: Remember to BREATHE during reps! Holding your breath during reps that are performed at very slow speeds could cause hypoxia. The resultant brain damage could turn you into a disgruntled, disenfranchised individual who barges onto other people's forums making untenable claims and launching bitter attacks on those who don't agree with said claims...

sroberts

February 7th, 2007 08:41 AM

**Re: Maximizing muscle mass - the scientific evidence**

Anthony,

I noticed in a post (can't remember exactly where) you cited RM Enoka,1988Roger was one of my profs at the the University of Arizona. He was doing a lot on motor learning. I just ran into another prof today in my spinning class, Ralph Fergosi (nuerophysiology).

He said Roger is doing most of his research on exercise and aging in Boulder, CO with Doug Seals, who I believe has come up with a new target HR training equation (better than 220-minus age, which never was intended to be used for the general population). Have you seen any of Enoka's or Seals recent research?

AnthonyColpo

February 7th, 2007 09:40 AM

**Re: Maximizing muscle mass - the scientific evidence**

Heck, it's a small world ain't it!

Enoka is a prolific researcher, he's published quite a few papers in the neuromuscular arena. The 1988 paper I cited is a good one to show folks who cannot understand why a stronger muscle does not automatically equate to a bigger muscle:

[Enoka RM. Muscle strength and its development. New perspectives. Sports Med. 1988 Sep;6 \(3\): 146-168.](#)

Yes, the 220-age formula is pretty crude. I'm sure I've got some papers lying around somewhere here dealing with this, but don't ask me to find them, I'd probably need a search and rescue team to dig them out from wherever they are...

Here's Seals' CV, listing his recent research papers:

[http://www.escardio.org/NR/rdonlyres...R\\_EP\\_Seals.pdf](http://www.escardio.org/NR/rdonlyres...R_EP_Seals.pdf)

You might also find the following interesting:

['Maximum' Heart Rate Theory Is Challenged](#)

BugMan

November 19th, 2007 03:24 AM

**Re: Maximizing muscle mass - the scientific evidence**

Anthony,

Since you are essentially the only one left to answer these questions in this thread...

I found this thread because I did a search on HIT on your forum to see if there was information about the training other than the information I had read in Ellington Darden's book, The New High Intensity Training. Just like you I have no particular attachment to what works for other people. I do have an attachment though to what works for me. That said, I don't know what exactly that is yet. I started training as 12 year old with my Dad in our basement 29 years ago, and have had various programs over the years. I have had results with every program I have used to some extent. Essentially working out is better than not working out. I can't say that any program has blown me away with respect to muscle gain or strength gains.

I was interested in the HIT system because I had read somewhere that this approach was good for someone who has an endomorphic body type. I was amazed to find this style of workout so hotly debated on multiple body building forums. Some people that even admit to never trying it get really upset about the mere mention of HIT. Not saying that is the case here.

I have a couple of thoughts I want to put out there for you to comment on.

1. Is it possible that HIT is superior to other training methods for some people/body types? I think this same thing is true for diet as well. No one diet or training method is perfect for everyone.
2. IS HIT a complete waste of time, or is spending 100% more time in the gym going to produce 100% better results? If not is 100% more time going to produce 25% or 30% etc... If I am not getting a huge benefit for the extra time, why spend it?
3. Can HIT provide me with strength gains, functional muscle, and ensure I look good clothed and naked? If so, it works for me.
4. One thing that caught my attention in the book I am reading by Darden, on page 28, he quotes Arthur Jones from the Dec, 1971 issue of Ironman. "Within the last year, our trainees have won 34 first place trophies. We must be doing something right?" Any thoughts on this statement?

So my thought is, HIT must have some value? I have only done 2 workouts using the HIT system in Dardens book, and the only opinion I have is it wore me out, and produced a great pump. I have decided I would give in 12 weeks to determine if it is working for me. Obviously I hope it does, who wouldn't want to get great results from a 20-30 minute workout? If it doesn't produce the results I am looking for big deal \$13 and a little more experience under my belt. I am sure it won't hurt me in the same way not working out would, so at the worst I will loose a little ground. Time will tell.

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