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2. Other than a few classified ads, HARDGAINER is free of advertising.
3. HARDGAINER has no time for bodybuilding drugs and the physiques that owe much of their development to drug abuse. We promote *genuine* Physical Culture—health, strength, *and* physique.
4. HARDGAINER publishes few photos. There's no shortage of photos in the training world. But, there *is* a major shortage of training instruction that's relevant to the training masses. *That's* what we focus on supplying. Photos are, of course, essential for teaching proper exercise form. There are nearly 250 photos in our book on exercise technique.

The printed editions of HARDGAINER have color covers, with photos.

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2		Editorial
3	Duckett	Tools of the Trade
8	Steiner	Is there an <i>Ideal</i> Training Program?
11	McRobert	Words of Caution
14	Christy	The Art of Concentration, Part 2
16	Ravelle	In Search of the Golden Calf
20	Whelan	Bob Whelan's Q&A
25	Conner	The Deadlift
28	McRobert	Miscellany of Topics #1
32	Vallejo	From the Grassroots, I
34	Leistner	The Steel Tip
37	Bass	From the Grassroots, II
41	Steiner	Aging and Training, Part 2
44		Forum

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EDITORIAL

Something to think about

By Stuart McRobert

For many years I was a harsh critic of anyone who didn't comply with my standards for a satisfactory physique. Whether people were clothed or at a pool or beach, I was unable to see anyone without passing judgement (in my mind) on their bodies. This came from years of being mesmerized by famous physiques in bodybuilding magazines and books, and applying *those* standards to both myself and other people. I was scornful of anything less than a super physique. As a result I was never satisfied, either with myself or anyone I saw. I even found fault with elite competitive bodybuilders. There was no end to my dissatisfaction.

Comparing myself with an unattainable standard led, at times, to hatred of my own physique. My standards made me unhappy, and for many years I failed to appreciate what I and others *had* achieved, much of which was impressive and worthy of respect.

While elite competitive bodybuilding was *my* ideal, different trainees have different standards of what's ideal for them, but the end result of self-shame and continual dissatisfaction is commonly the same.

Living in sunny Cyprus I see many people in minimal clothing at pools, beaches and other tourist areas. Never have I seen a physique that would meet the standards I used to have. But I see many people—all *untrained*—who are, apparently, more comfortable with their bodies than I used to be with mine even though I was well-trained. They seem better off than I was when I strove for the impossible and yet no matter how much improvement I achieved, I was *never* satisfied.

This *isn't*, however, to say that all the aforementioned people are happy with their bodies. Either way, I no longer look upon untrained people with scorn for revealing their bodies. I can now look upon them without judgement.

I still prefer well-trained bodies, but I'm savvy enough to know that while seeking *self*-improvement and building a leaner, fitter and better-developed physique is desirable, seeking "perfection" and making comparisons with physique champions is usually destructive.

This isn't to say that I should accept low standards, or stop training because "perfection" is out of reach. Far from it. I still challenge myself and train hard, though in different ways to years gone by. A well-trained body provides many benefits and is highly desirable *providing* that the benefits aren't undone by self-torture from continual dissatisfaction.

I'm now more at ease with myself *and* others. I'm better able to live with the reality of my own genetic endowment and the lack of interest in training shown by most people. I no longer compare myself and others with absurd ideals. As a result I'm no longer tormented with the discrepancy between reality and the fanciful.



Tools of the Trade

By Ian Duckett

It was the middle to late 1990s when I came to my senses and totally changed the way I trained. A new armory of exercises entered my routine—movements I had to master, equipment I had to become a craftsman in, in order to gain the utmost benefit. I've never looked back.

By reading an account of some of these changes you may pick up a tip or two to aid you in *your own* quest for strength, size and health. It was only through reading, studying and experimenting that I came across the changes in the first place.

The ideas are not my own, but an accumulation from years of reading articles and books by many authors. My book collection has to be seen to be believed. Some of the books are double my age, but the information in them is priceless. You may already employ some of the ideas and equipment, especially if you've been a **HARDGAINER** reader for many years. If not, give the strategies a try. They have worked for me and many of the clients in my gym; and they may do the same for you. One thing's for sure, unless you give them a try, you'll never know.

Some of the movements have been mentioned a number of times in **HARDGAINER**, but I believe it's good to be reminded of them. Sometimes we need to read about a given recommendation a number of times before we give it a try. All the writers in this publication are on the same wavelength. Although some approaches may differ, the basics are there, i.e., progression and recovery.

I've used the "new" techniques in a properly conducted and balanced training program. As always, use common sense and don't employ all the changes at the same time.

The power rack

The power rack has done more for my strength and development than anything else. As mentioned in one of my previous articles, I believed in the benefits of the rack so much that I put three in the big commercial gym I own. I also equipped my garage at home for very early morning sessions. I bought a bar, 700 pounds in plates, a bench and . . . a power rack.

Top-position hold

I picked this movement up from Chuck Sipes in old **IRON MAN** articles. Chuck was one of the most massively developed bodybuilders in the late fifties and early sixties. Not only was he big, he was also very strong, able to bench press close to 570 pounds. Of course he was genetically very gifted, but needed to fully exploit his gifts. One of the techniques he used to amass great strength was the top-position power hold. I believe this increased my strength in the bench press beyond what I ever thought possible.

Position the bar on the pins, so that when you lie down on a bench inside the rack you can press the bar only through the top two to three inches to lockout. You simply press the bar out to lockout and hold, for a slow count of ten, and lower slowly back to the pins. With this movement you can use a great deal of weight. This will work the stabilizer muscles

as well as overloading the chest, shoulders and triceps. You need to be able to stabilize big weights in order to bench big weights.

When holding the weight above you, keep perfect alignment, chest high, everything solid, muscles tensed. I've found one or two sets of ten seconds works well.

Without a doubt, this top-position hold does carry over to the regular bench press. There's also the psychological benefit, since the regular full-range bench press feels light by comparison.

Naturally, you should start the top-position hold with only moderate poundages, and build up progressively. Absolutely *never* should you jump into using your very best poundages, as that's a route to injury. Be careful!

Close-grip bench press

This has been my favorite for years now, for triceps mass, but *not* in the fashion that most people perform it. Set a bar in the rack on the pins. Position the bar so that it's four inches off your chest when you're on the bench. In this movement I believe that the bar doesn't have to travel all the way down to the chest, since if it did there would be more chest involvement. The reduced range allows more than enough elbow flexion for me; you may need a different positioning.

Take a grip on the bar (I always use a thick bar on these) so that your thumbs are in line with your nipples. I've found the most effective way is with the elbows under the bar, but find a grip and elbow position that suits your frame, one that allows you to feel the movement in your triceps, but which is safe for your joints. Press to lock out and then lower to a dead stop, set yourself, and then press out the next rep.

Work the exercise hard and under control, and keep your body solid as if you're the bench itself. Tense your back and rear deltoids into the bench. This gives you a solid base from which to press the bar.

Overhead lockouts

This I picked up from *HARDGAINER* #9, in an article entitled "More From Rich Abbott: Deltoids." In this article, Rich explained the movement in great detail and how it works many upper-body muscles: pectorals, deltoids, triceps, upper back, lower back and support muscles in the trunk. I've been using this for a while now, and I can attest to its benefits on the aforementioned musculature. This and the seated rack press (using a thick bar, and full range of motion) have been my only shoulder movements for a long time.

For the overhead lockout, here's how I do it: Position the rack's pins overhead so that when you stand with your arms fully locked above you, you have only 5–6 inches of motion before the bar would come to rest on the pins. The pins are at that height for starting and finishing in safety, *not* to press off. Stand under the bar, with a shoulder-width stance, and grab the bar a little wider than shoulder-width. Squat down a few inches so that you can lock out your arms while the bar sits on the pins. Tense your whole body, keep your arms locked, and then stand up so that you're supporting the weight overhead.

Maintain rigid legs and torso, the solid base to press from. Now unlock your elbows and lower the bar around three inches—*not* to the pins, I might add; the pins are there for safety. Press back to full lockout, push hard on the bar, tense all muscles of the shoulders and upper back.

Rich Abbott did this movement by sliding the bar up and down the rear

uprights of the power rack. I prefer to do them free of the uprights, but still in the rack for safety and confidence.

I've tried a few different rep ranges and I feel I get more from this movement doing 15–20 reps.

Experiment yourself, “think” and feel the movement. Start with a very comfortable weight, and take some time to get used to the exercise before you go using a challenging weight. For more information on this exercise, look up Rich's article or check out a copy of Stuart's exercise technique book where he covers the movement in great detail, with photos.

Squats in the rack

Squats in the rack are tough, very tough. Squeeze under a loaded bar set in the rack on the pins so that when underneath it your thighs are parallel to the floor. Set yourself up—feet placed correctly, back flat, head up, butt under the bar. From here you drive the bar off the pins to the standing position. Hold briefly, then lower back down under control to the pins.

When the bar touches the pins there should be a light click, *not* a crash. You must lower under control. Crashing a heavy weight onto the pins won't help your longevity in training. Lower under control and let the bar stop dead on the pins. Set up again for the next rep, back flat, chest high, butt under the bar. Drive into the bar to complete your next rep, and continue until your goal reps are achieved.

This is a very hard way to squat as you have to start from the bottom on *every* rep, from a dead stop, so there's no momentum. It takes real strength to make the rep, but it rewards you with added size and transfer of added weight to the regular squat.

As in other power rack movements, different ranges of motion can be

worked, from strongest to weakest, by setting the pins at different heights. One of my favorites is the quarter squat, where you work the top position of the movement, the strongest range. You can move some heavy iron in this, and work your legs into pulp. This has, over time, helped me get over the fear factor of heavy squats, as you can lift more than twice, in some cases, the weight you would lift in a regular squat. After a time of doing the quarters, regulars feel light in comparison.

Exercise great caution and care with rack work. Start with moderate weights, get the form off pat, and then over time *progressively* build up to challenging weights. *Never* jump into using challenging weights from the outset, as that's a road to injury. You must give your body *plenty* of time to adjust to the increased rigor and poundage potential of the rack work. If you feel any negative reaction, chances are you've tried to progress too quickly. Back off, and then take things slower.

The big little movement

The thick-bar curl has been my main biceps movement for a few years. What makes it so productive? I'm not sure but I have my own ideas, which I'll share with you here. But let it be known, it's the greatest exercise I've ever done for biceps.

We have three thick bars at Future Bodies Gym, and I have one at home in my garage gym. The one at home is the largest, about three inches in diameter. The one I use the most for biceps is a 90-pound tractor axle, with turned-down ends to fit Olympic plates. The thick bars are so widely used in my gym that you wouldn't believe it. I always rave about how good they are for the biceps, and when a client or member asks why, here's how I explain the thick-bar curl, as I see it.

The biceps not only flex the elbows, but supinate the forearms and hands. To prove this, hold your right arm at your side and bend it as if you're going to shake hands. Place your left hand on your right biceps; now twist your right forearm clockwise as far as it will go. You can feel how much your biceps contracts from this action.

When you grip a thick bar, the hand is twisted as far as it can possibly go. With a normal bar there's a slight margin for not having the hand fully supinated. This, I believe, makes a big difference—the contraction is harder with the thick bar. Staying with the hand, the thick bar practically fills the hand. Compare the hand holding a normal inch-thick bar to how it looks holding a two-and-half-inch or even a three-inch bar. This must alter the leverage, making the curl different. I don't know the science, but I do know there's an alteration of the mechanics. This makes the movement harder and very productive.

Two more points: One, you have to grip the thick bar like your life depends on it, this again increases the contraction in the biceps. Two, with the thick bar you can't swing and cheat, or else it will just come right out of your hands. You have to perform the curls strictly since you have no choice.

Exercise caution with the thick-bar curl. It increases stress in the connective tissue around the elbows. Take it easy to begin with, or else you risk elbow problems that can take a long time to recover. Start light, progress in weight slowly, and take a couple of months or so before you're using a weight that really challenges you. The last thing you want is an elbow injury, so be careful.

I can't recommend thick bars enough, not just for curls but also for

other upper-body movements. The close-grip bench press and rack bench press are made much more difficult—in a strict must-exercise-under-control sort of way, not a dangerous way. You have to fight constantly to keep the movement honest and in the correct groove, thus making it more productive.

Thick bars are also fantastic forearm developers, due to the grip being so heavily involved. A strong grip is key to big forearms and important to the rest of the body too. This leads me nicely to grip work.

Grip work

Talking of chunky forearms, I've found there's nothing better than grip work to increase the size of the forearms. What I mean by grip work is exactly that—working and strengthening the grip. Increase the strength of the grip, and larger forearms will follow. If you don't believe me, look around at the masses of people who use wrist straps in the gym. Even though they may do forearm work, most don't have enough lower-arm mass to hold up a shirt sleeve.

Whatever you do, don't use wrist straps—these are a pet hate of mine.

Additional to thick-bar work, here are a couple of my favorite grip exercises:

Pinch grip

I do this with a block of wood around three inches thick. There's a hole drilled through it with a piece of rope threaded through on which weight can be suspended. All I do is take hold of the wood with fingers flat, pinching the wood between the thumb and the rest of the digits. Lift the weight from the floor using the grip only.

You can use both hands, or one at a time. Lift for reps or timed holds. Whatever you do, just work it hard—grip the wood like your life depends on it.

Holding dumbbells

Hold dumbbells for as long as possible, one arm at a time or both together. Hold them over a bench for safety and so that you can challenge yourself to hold onto them till they fall from your fingers. Don't let the dumbbells rest on your thighs thereby allowing some of the weight to be unloaded. Be sure that you can't drop the dumbbells on your feet.

Another grip exercise I do is the farmer's walk with dumbbells, but in a different way to the usual manner. I loop a full-size towel around the handle of the dumbbell—one towel per dumbbell. I then take hold of the towel ends, which are gripped together above

the dumbbell, in one hand, and I do the same with the other hand for the other towel and dumbbell, and then walk the length of the gym.

The towel length makes the exercise safer as the weights are suspended close to the floor and don't cause any damage if they fall. And gripping the towels is much harder on the grip than holding the handles of the dumbbells.

There you have it, a few ideas I hope you may benefit from. Use good sense, take it easy to begin with, and employ the ideas within the guidelines of a properly conducted and balanced training program. ☐

Exercise selection, and technique

Your choice of exercises should be determined by what is safe and productive *for you*. No matter how productive an exercise may be for someone else, if that exercise does not suit you, it will do you no good but perhaps do you harm. When considering an author's preferences, always keep in mind your own limitations and technical proficiency. When necessary, either modify an author's suggestions, or choose alternative exercises. Naturally you should choose from comparable exercises. A pec deck cannot substitute for the bench press, but the parallel bar dip can. Laterals cannot substitute for presses behind the neck, but dumbbell presses can. Upright rows are not a good alternative to high pulls, but deadlifts are. And if a machine variation of an exercise is safer for you than a free-weights version, use the machine. The bottom line is what allows *you* to train safely, intensively and progressively.

Because I have physical limitations due to having damaged myself as the result of poor exercise selections during my years of training foolishness, which was a time when I gave training intensity greater priority than good technique, I am particularly aware of the need to personalize exercise selection according to the individual. A conservative approach to exercise selection, *and* strict adherence to perfect form, are the priorities for safe long-term training.

Using perfect and *controlled* exercise form means having the discipline to use good technique even when training intensively. Breaking form in order to be able to gut out additional reps in the name of intensity is the mark of undisciplined training that will sooner or later injure you, and ruin your progress.

– Stuart McRobert

Is there an *Ideal* Training Program?

By Bradley J. Steiner

I've never known of two successful bodybuilders—easy or hard gainers—who employed the identical training routine. Even when two fellows were training partners, and literally followed a scheduled workout *together*, they needed to make at least a few adjustments in order to accommodate their somewhat different physical peculiarities. Perhaps one needed a set or two more (or perhaps *fewer*) on a given exercise. Possibly one had a need to alter one or two of the scheduled exercises, since the particular exercise, say for the shoulders, that one of the partners employed, simply didn't work for the other. And so on.

Nor am I aware of any two *lifters* following identical training routines. Each top strength star must find the right combination of exercises, sets, reps, “heavy” vs. “moderate” or “light” workouts per month that he personally ought to do in order to prompt the greatest gains, etc.

Also, when I observe experienced athletes or simple fitness enthusiasts who employ weights as their primary medium of physical training, I always notice that no two individuals employ the identical routine.

So what am I saying here? Am I saying that the answer to the question posed by the title of this article is a flat “No!” Actually, no, I'm not saying that. However, in what many will at first believe is simple self-contradiction, I want to emphatically state that *in a manner of speaking*, yes, I am saying that there is an ideal training program. Here's what I mean, in detail:

On the one hand there can never be a single “perfect” training routine that, when followed in some precise, unalterable manner, will somehow work flawlessly for everyone who follows it. Every individual is different, unique and special. However, on the other hand, virtually every individual must adhere to a *somewhat similar* training approach, or his body can't possibly become as strong, fit and well-built as its inherent potential will allow. This is because we all—easy gainers down to the world's hardest gainers—possess human bodies that have muscles, bones and a general structure that respond *in general* to demands upon it that are, and that must remain, very similar.

Just as the principle of overloading the muscles by ever-increasing resistance is a “must-employ” rule for a Mr. Universe, so it is for a cardiac patient who's rebuilding his health; and so are all of the other principles that result in physical improvement and excellence.

Basic exercises are the ones that have built every single outstanding body! They have triggered the gains that have permitted underpar, terribly hard gainers to appear, literally, as transformed beings, just as they have permitted genetically well-endowed “naturals” to acquire world-class levels of development.

Rest and good nutrition are required by, and will inevitably assist in the development of *anyone*.

Measuring one's training carefully so as to avoid doing too much, while ensuring that *enough* is always done, is necessary for anyone who aspires to optimal development.

Quality performance of the basic exercises is an essential rule for everyone. It figures in the routines of title winners and it figures in the routines of the less genetically favored individual who is seeking his personal best. So, in a manner of speaking, yes there is an ideal training program; ideal in the sense that *one must adhere to the same proven body-building and strength-developing rules that everyone must adhere to, or one will never actualize one's ultimate potential, however great or modest it may be.*

Yet, on the other hand, every single individual needs a *custom* approach to working out. In *general terms* he must do what every successful trainee has always done in order to build up. But, specifically, *he* will need to do these things in a manner most suited to his unique personal requirements.

I remember very well what I read back around 1960, when I first became interested in building up my body (primarily, to bolster my self-defense training, and to compensate for my inherent weakness and poor genetics). People who, to this day, I regard as great authorities on the matter of physical training, wrote about the following:

- a. Using low reps for power and high reps for endurance.
- b. Using a wide variety of exercises.
- c. Training 4–5 days per week.
- d. Employing “shaping” exercises along with the key basics, in order to build “shapely” muscles.
- e. And a few other “rules” that, according to these people (who I’m absolutely convinced meant only to convey that which they believed was the best possible information about building up) *needed* to be followed scrupulously, if “true” success was desired.

The reality

I found out, after many years of my own devotion to personal training, that these “accepted truths” just weren’t, well, really

true for everybody. There was truth to them for some people, to be sure. But they were by no means *truths*.

I found that it was possible to drastically improve both endurance and muscle size via low-rep training, in certain cases, *providing* the proper exercises and training pace were employed. I also found that some people did quite well by employing fairly high reps in order to get much stronger.

I found that, not only in my case but in practically *everyone's*, a wide variety of exercises is not needed. In fact, I found that a very few exercises are required in order to build a great physique and great strength, although which few exercise *variations* ought to be selected for each individual trainee do tend to vary greatly.

I found that everyone could gain very well on three (and sometimes two) hard weekly workouts, and that training four, five or six times per week was *often absorbed by easy gainers*, but was never really needed by anyone. For the majority of people who use weights in order to supplement an athletic activity, *two* weekly workouts are normally quite enough.

I found that so-called “shaping” exercises were just about 100% *pointless* and that the degree of “shapeliness” one ultimately enjoyed after building up on good, hard, basic exercises was dependent simply upon *heredity* and, to a lesser degree, *diet* more often than not.

I found that *fewer sets* generally produced the greatest benefits—i.e., normally two or three per exercise, or possibly four when reps dropped to between four and six per set—despite the fact that so many physique stars seemed hell-bent in working their bodies for many more sets per exercise than that.

I found that “split” routines, though very popular, were not nearly as effective and beneficial as all-round total-body routines.

I found that much of what many people seemed to swear by, as far as diet was concerned, was largely nonsense. I came

to see that “basically good nutrition” was the key; and that *precisely what this is depends to a large extent on the individual’s specific physiology and very personal unique preferences*. Enormous eating and feeding sessions will not turn a slender-boned hard gainer into a huge, well-muscled physique star. It will just pile a lot of fat on a skinny frame. Good food in amounts that the individual requires for growth and development, coupled with hard training, rest and a positive attitude, is what builds up anyone to his maximum.

Only very few people can become physique or strength stars. Most of us can, in fact, never achieve a level of development that even comes close to “star” status. However, if the right principles and rules of sound training are followed—the rules that have always been responsible for building the finest physiques and greatest strength athletes in history—then an *ideal* routine will have been discovered, and by using it one will attain one’s own personal “ideal” level of development.

Personalized training

I can’t tell you exactly which specific exercises to follow, and which specific exercises will work for *you*. But I can sure tell you which *types* of exercises to derive your variations from, and if you’ll pay attention you’ll make great progress! If you’re relatively new to bodybuilding, you’ll need to alter your training schedules over time and try out the possible variations of the exercise movements *until you discover what fits you, personally, the best*. Here’s what you’ll need in order to build your “ideal” routine:

1. Pressing movement that’s general and basic. This means the standard military type barbell press (seated or standing), or heavy alternate or simultaneous dumbbell press, or one-hand military press with a dumbbell (seated or standing).

2. Curling movement. Regular barbell curls or the simultaneous or alternate heavy dumbbell curling movements (may be done seated, if desired).
3. Bench pressing. Regular barbell bench press, flat or incline, or two dumbbells heavy bench press (assuming you’ve got dumbbells that are heavy enough) on a flat or incline bench.
4. Rowing. Basic bent-over barbell or heavy single-arm dumbbell version.
5. Squatting. *The King!* There’s no way around this baby! You may do these in parallel or full-squat versions, and even partials are good. But you’ve got to squat!
6. Deadlifting, standard or stiff-legged.

A basic routine built around a selection of exercises from that very excellent assortment will do the job. Most people like to add some abdominal and calf work, and, sometimes, it’s interesting to use basic and heavy exercise variations like dips and chins as substitutes for bench work and rowing. These are very fine exercises and will provide great results when worked hard enough. I’ve emphasized only basic barbell-dumbbell work, per se, because I assume that most readers train at home and haven’t access to dipping bars or a chinning bar that permits weighted work. A perfectly excellent and totally comprehensive schedule is easily set up using *only* the listed barbell-dumbbell exercises.

The trick is to pay attention to *yourself* and to note how you, personally, respond not only to a particular exercise variation, but also to a specific scheme of sets and reps with the exercises you do. *Be your own trainer!* You are unique, and without violating the basic rules and principles of sound physical training, your workouts must reflect your acknowledgement and understanding of your uniqueness.

Follow through in this manner, patiently and persistently over the weeks, months and years, and you *will* most assuredly discover the *ideal training program for you!* ☐

Words of Caution

By Stuart McRobert

No matter how thorough training instruction is, it's impossible to include all caveats and exceptions. Individual variation can be considerable, not only in muscle size potential, but in terms of age, innate recovery ability, tolerance of exercise, satisfaction of the components of recovery, training intensity and volume and frequency, gym facilities, training experience, exercise form, motivation, goals, general lifestyle, work commitments, etc. A given training program can be applied by two individuals and the implementation and effect be very different. A program is a mere list of exercises, reps, sets and workout days.

Training intensity

In my own writing, and that of some others, there have been cautionary words concerning ultra-high-intensity training. A recommendation is sometimes given to train a rep or two short of total failure. This can be terrible advice for some people, since what they think is failure is already a rep or two or three *or more* short of it. If these people cut back on their "intensity" by a rep or two, they will further compromise their ability to progress.

The recommendation to train a rep or two short of failure, rather than go "balls to the wall," applies *only* to people who *truly* know what failure is, and can accurately determine that they are training a rep or two short of it. Because I can't witness you train, I can't assess whether or not you're accurately determining this. Here's where a hands-

on personal coach can be so valuable—he/she can see if a trainee is doing what should be done. It's one thing to receive advice, but whether it's put into practice is something else.

Urging people to train as hard as they possibly can, with no holding back whatsoever, has real merit because it allows no margin for slacking. (Few trainees work to true failure unless a knowledgeable supervisor directs them.) But at least each would attempt to go all the way. When, however, a recommendation is given to stop a rep or two short of failure, it gives trainees an escape from all-the-way training *even before they pick up a weight*.

I recommend that you experiment with your training in a sensible way. One of the variables to experiment with is exercise intensity. Experiment with training to failure, and training *slightly* short of failure.

Things become complicated because there are many variables beyond exercise intensity that can account for results. Training to failure might be the most productive format for some people *providing* that the volume and frequency of exercise are appropriate, and recovery is optimal. Just a bit too much volume, or a bit too much training frequency, may undo the potential good of the very-high-intensity work. All that may be needed to

Sample issue

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make the very-high-intensity training work is to abbreviate workouts sufficiently, and not hit each exercise quite so often. Some people, however, give up on very-high-intensity training and conclude it doesn't work for them when, in fact, it was *their specific implementation of it that was amiss*.

If you already train short of failure, then cutting back further is unlikely to help you, and in fact will probably lead to regression. Hard training is a necessity, but just because "hard" is good, that doesn't necessarily mean that "hardest" is best.

Training volume

While some trainees have been guilty of *over-abbreviating* their training program, and cutting back too far on exercises and sets *for them* (relative to *their* training intensity and volume, recovery ability, genetics, etc.), the response of some trainees to the *possibility* of their having cut back too far, has been to add too much work (extra sets and/or exercises) and thus *unabbreviate* their programs. Thus they go from one non-working program to another. It's somewhere between the two markers that the best solution is to be found.

This thinking, however, strictly applies to people who have *already* adopted abbreviated training. For almost everyone else, out in the mainstream, training will already be excessive in terms of volume and need cutting back, *not* expanding.

Training frequency

Some people who have adopted abbreviated training have cut back on their training frequency too far, at least too far relative to the intensity and volume *they* are using. Had, for example, they been training harder, then perhaps the lesser training frequency may be more effective.

While it seems to be easier, at least for some people, to build strength on infrequent training schedules where a given exercise or bodypart is trained less often than once a week, many people seem to need a bit more frequency—twice every 7–10 days or so per bodypart, though not necessarily the same frequency for each area—in order to produce muscle growth. While a *bit* more training frequency may be good for some trainees, at least for those who want additional muscular size, if you overdo it you'll be back to square one. That's the danger—there can be a fine line between too much and enough, and then a further fine line between enough and too little.

What to do

Genetically typical and drug-free trainees don't have a capacity for a lot of weight training if they want to make good progress. Abbreviated training programs will always be necessary, but just what's "abbreviated" can vary considerably. Do too little and you may stimulate no progress. Do too much—too much *for you*, that is—and you'll also make no progress.

Because to some degree training volume, intensity and frequency can offset one another, the same abbreviated program can have different effects on different people according to how the three variables are manipulated *and* how the factors of individual variation come into play. A bit more training frequency may make a given training intensity produce better progress; or, an extra set or two per exercise may produce better progress; or a set or two *less* per exercise may produce better progress.

This is frustrating since there are so many variables at play, especially for trainees who are beyond the novice stage. This is why you need to experiment, sensibly, to find what works

well for you. Then to further complicate matters, what works well for you now may not in a few years time. This is why it's so important that you become very knowledgeable about training, and then set about experimenting sensibly to apply that knowledge to *your* own individual case.

Your level of training experience, and strength and development, can affect the effectiveness of a given interpretation of training. While more frequent training, for example, may better suit novice and some intermediate bodybuilders, it may be a negative step for advanced power men.

If you're steadily getting stronger, and strength is your priority, stay with what you're currently doing. If you're getting stronger, but not seeing the size increases you think should accompany the strength gains, I suggest you try a little more frequency *or* a little more volume. If you're steadily getting bigger, and growth is your priority, stick with what you're currently doing. If you're getting bigger, but not seeing the strength increases you think should accompany the size gains, I suggest you try a little less frequency *or* a little less volume.

The qualifier about progressive poundages is justified: The strongest muscles aren't the biggest, and the biggest muscles aren't the strongest, and getting stronger doesn't necessarily mean that you'll get bigger. But don't jump to an extreme view and think that poundage progression is unimportant. For most people for most of the time, poundage progression *is* very important *providing*, of course, that consistently good form is used. *You still need progressive resistance, but the precise format of training you apply the "progressive poundages in good form" to (frequency, volume, rep count, etc.), can influence how much size a given strength increase produces.*

What's excessive abbreviation of training for some trainees may be just the job for others. Different trainees may need different interpretations of the same basic principles, and may need different variations at different stages of their training. Training is more of an art than a science, and sensible experimentation is needed if you're to find what works best for you. You must, however, and as stressed earlier, *keep your training abbreviated*, as typical trainees don't have the ability to deal with the type of routines that gifted and drug-enhanced trainees prosper on.

Before you go experimenting with your training, and as I've said repeatedly, you need to get everything in good order *out of the gym*. So, one more time . . .

If your sleeping and nutritional habits are in a mess, no amount of experimenting with exercise program design will make much difference. I'm taking it as a given that the major components of recovery are in good order. If they aren't, you must get them in good order *before* you throw yourself into training. You should give priority to the out-of-the-gym components of recovery *before* you get really concerned with the in-the-gym factors of training. Recovery *is* that important.

Some trainees will never gain much muscle, though they may have gained some strength, at least in part because they don't eat enough. Of course, many trainees do eat enough—and some of them consume too much, as shown by surplus bodyfat. If you're lean, and your bodyweight never seems to move yet you want bigger muscles, chances are that you're not consuming enough quality nutrition. ☐

For further discussion on related issues, and some specific guidelines to try in the gym, see Stuart's series "Experimental Training" in issues 72–74.

The Art of Concentration

Part 2: The workout

By John Christy

In the first part of this article I explained how to concentrate before your workout so that you can transition from your everyday responsibilities and challenges, to the necessary mental state needed for your workout. I discussed why I feel it's absolutely necessary, and how I do it. In the second part of the article I want to continue to emphasize the importance of concentrating on the task at hand, and how I do it during a workout.

It's amazing how easy it is for the mind to drift from what you're actually supposed to be working on. I want to offer myself as an example. Not to boast, but I feel that after weight training for 28 years, successfully competing at the Division I college level in football and baseball, then professional baseball, then bodybuilding and powerlifting, I'm able to focus and concentrate on the task at hand as well as anyone. But, and this is a really big "but," there are still instances when, without following proper procedure on intensifying my concentration and aggression right before a set, I could get easily distracted.

There was a time in my life when I could totally, physically (which helps mentally), isolate myself from the rest of the world while I was working out. I would hide out in The Dungeon (what my brothers and I named the gym in our parents' basement), without any phone, cell phone, pager or other humans to distract me from my workout. Also, I was

at a time in my life when my responsibilities didn't include a wife, children, concerns about my parents health (and other family issues), concerns about corporate financial, personnel or management issues, etc. What I'm saying is that it requires much more effort nowadays not only to get into a state of ideal concentration, but to maintain it!

Nowadays I can't just turn off the cell phone or the pager. I have to answer the phone and return critical messages for the reasons listed above. Now don't get me wrong, I won't stop right in the middle of a set to answer the phone, but as soon as the set is over I have to call back and check that everything is all right. I also want you to know that my level of concentration, and hence performance, is many times above when my responsibilities were much less.

The reason I'm offering all this personal information is to lead into the point of this article, which is to emphasize the importance of concentration *during* a workout and to show you how to do it *in spite* of all the things that can distract you.

Intensifying and *maintaining* concentration

The procedure that's used before the workout to shift your concentration from everyday responsibilities to the mental state that's necessary to have a productive workout, is exactly the same as the one to use, specifically, right before a set. And it doesn't matter whether or not you've been distracted between sets. This procedure will get you back on track if you've been

distracted, and if not, will *intensify* your concentration for the upcoming set. The goals of this procedure are twofold. It must get you focused specifically on the “feel” of the upcoming exercise, and it must *intensify* your aggression. Here’s how I do it.

About one minute before the set, I’ll close my eyes and practice one or two reps of the exercise in my mind. I’ll experience the exact “feel” of the movement. Many times I’ll actually simulate these reps without the weight. For instance, before a set of dumbbell rows I’ll “feel” in my mind the dumbbells in my hands, I’ll feel how my lats stretch when my arms extend, I’ll feel my lats initializing the contraction and then exploding to the contracted position at which point I’ll feel my lats lowering the dumbbells—lowering, lowering, lowering—then stretching; and with another strong contraction the dumbbells are at the top position again.

This is *my* way of doing it. Yours may be different. I practice (and teach) feeling the prime mover of any exercise flexing and then lengthening (stretching) against the resistance. This technique helps your body to teach you proper biomechanics. Once I’ve completed this rehearsal, I take another moment to get aggressive. I get myself “up” to attack the weight.

Don’t misinterpret what I’m saying and think I go around shouting and banging my head against a wall to get up for a set (although this works for some). That’s not my way. My way is relatively quiet. But I’ve been told you can see what’s going on in my eyes. The point is to go into the set aggressively.

I want to come back to something I said earlier concerning your workout environment. If you can, you should shut out the outside world when you train. You may be at a stage in your life where all communication can be cut off for an hour or so. I left that stage some time ago, but I haven’t let increased responsibilities decrease my concentration one iota. And as I stated earlier, my concentration and workout quality are better than ever.

In summary

I can’t stress enough the importance of utilizing your mind to achieve the most out of your training. Really put the procedure described in this two-part article to the test. You may want to start out trying it the way I do it, and then let time and experience help you to develop your own way. Regardless of which of the two ways you do it—mine or yours—I’m confident that you’ll start deriving benefits right away. ☐

I started training in 1973, at age 15, when Arnold Schwarzenegger was in his prime. I was *obsessed* with trying to build a great physique. I trained as the famous bodybuilders recommended. For years, everything in my life was secondary to bodybuilding. I became a recluse. All I wanted was to study training, train, and apply myself to satisfying my recovery needs.

I was gullible. I was at the mercy of whatever training literature I found. I couldn’t distinguish between good and poor instruction. If it was in print and supposedly written by a champion bodybuilder, I believed it.

The mistakes I made as I tried to build a Mr. Universe physique many years ago, are made today by most gym members—whether bodybuilders, fitness trainees, or strength trainees. **HARDGAINER** will teach you how to train safely and effectively.

– Stuart McRobert

In Search of the Golden Calf

By Lou Ravelle

The trouble with calves is that they've had a lot of bad press. For decades, generations of muscle writers have been telling us how difficult the calves are to develop. There's been so much negative propaganda about calf development that lots of people don't even try—they are beaten before they begin. At best many only make a half-hearted effort in this department.

Stubborn is the most overworked adjective in many of these calf articles. Yes, calves, compared with some other muscle groups, may be hard to develop, but that doesn't mean that they are impossible to build. Calf development is something that should, like any other aspect of weight training, be tackled intelligently. Do this and you'll reap rewards.

Given that calf development can be tough going, let's look for a moment at the other end of the scale. The muscles of the neck are amongst the easiest to develop. The reason for this is that they are seldom, in normal everyday life, given any real work—i.e., work against resistance. Once the neck is subjected to resistance work, it rapidly blossoms.

The calves, on the other hand, have been severely caned from the day you learned to walk. They are used to operating against resistance through walking, running, climbing stairs, etc. Now, in the case of the genetically well blessed few, this natural or incidental (if you will) exercise is enough to promote reasonable growth. These lucky folk, if they start training, usually find no special difficulty in adding an inch or two on

their calves. In the case of Mr. Average, however, things may be very different.

The main calf muscle is the gastrocnemius. The gastro is the muscle we usually think about when considering the calves—it's the prime mover in the heel raise movement. It's the gastro that's responsible for that beautiful, but elusive diamond shape, seen only in the best-developed lower legs.

Calf development and calf potential are affected by and dependent on various factors. There are four main ones.

1. Overall bulk and in particular thigh size

Calf size is normally relative to, and to an extent dependent on, overall bodyweight and general bulk. You can't expect a decent-sized calf if you're lacking in thigh bulk. After all, the thighs are the "roots" of the lower limbs. Yes, I know that there are guys with big thighs and poor calves, but we're coming to that. The point I want to make here is that you won't see a 17-inch calf backed up by a thigh that measures a mere 22 inches. It's a law of Nature—big branches, like big trees, have big roots.

There's a sub-division which has great bearing on the bulk and size factor, and that's bone size and thickness. More on this later, but for now remember that, like your leverages, bones are genetically determined.

2. Attachments/leverages and muscle length

This is just another way of saying *genetics*. In other words, it's what you were born with and what you have to make the most of. The ideal calf is long, low and full-bellied. People with this type

of configuration have got it made. Lots of people, however, have a shorter, higher calf which gives an appearance of long ankles. If you fall into this latter category you can still increase your calf girth, but you can't alter muscle lengths or attachments; so again, you just have to make the most of what you've got.

3. Racial and hereditary characteristics

It may sound a bit strong, but it's an anthropological fact that people of different ethnic, racial or geographical groups have varying and distinctive physical characteristics. Black people often have the high calf muscle together with that long-ankle look mentioned earlier. The heel bone often protrudes more than in their white counterparts.

Yet again, it's a matter of making the most of what Nature has provided. The large number of black bodybuilders (many of whom have had to contend with this genetic handicap in the calves) who make it big in world class events is proof of what can be done in this direction.

While considering competitive bodybuilding, think of the large number of men, black and white, who never quite take top honors due to their calf development never quite matching up to their other bodyparts due to genetic or hereditary limitations in this area.

4. Bone girth and calf size

The heavier the bone structure in the lower leg, the greater the potential for calf size. Ankle measurement gives a figure that's as close to actual bone size as you're going to get without performing a little dissection.

To give some idea of the calf-to-ankle relationship I'm going to quote some facts about some well-known underpinnings. I've gone back half a century to bring you these statistics, for two reasons:

- a. In those days, muscle was natural and not drug-driven. It would mislead to use hothouse-reared anabolic athletes as examples of what can be achieved.
- b. It's rare nowadays to see any published information on competitors' girths. Some of the "golden oldies" may have been accused of being tape-happy, but some of today's crop seem to be tape-shy.

Here are some facts taken from the official figures published for the 1950 London NABBA Mr. Universe contest. This was the year of the legendary Steve Reeves and Reg Park battle, which Reeves won.

Reg Park had calves of 17-1/2 inches on a 9-1/2 inch ankle. Great calves, by any standards. Steve Reeves, with the same ankle size as Reg, had a calf of 17-7/8. For me, Steve was "the man with golden calves," albeit that they were perfect diamonds in shape. I think it's safe to say that Steve's unparalleled calves set the standard by which all others have since been judged.

Oscar Heidenstam had the biggest ankle and calf measurements of the show. Truly massive at 10-1/2 and 18-1/4 respectively! For sheer size, calves were Oscar's most outstanding bodypart.

These three men give some idea of what can be achieved given the right skeletal advantages.

Reub Martin, famous for the bulk and spread of his shoulders and back, had the smallest calves among the taller men. He also had a somewhat lighter bone structure in his legs than his upper body. For this contest he only registered a 15-1/2 calf with a 9-inch ankle. His thigh was only 24-1/2. Compare this with 26, 26-1/2 and 27 inches of Reeves, Heidenstam and Park respectively. Despite his shortcomings in the leg department, Reub was one of Britain's top physiques. He liked to refer to himself as a strength

athlete rather than a bodybuilder. And he had the record to back it up. He took the British heavyweight lifting title in 1947, and was also famous for his straight-arm pullover of 200 pounds, which was around his own bodyweight. Reub told me that they measured him and Reeves (backstage at the Universe show) together for shoulder-width, with calipers, and they were identical though Martin was a bit shorter than Reeves, so that would have made Reub look a tad wider.

Reeves was much lighter boned in the legs than Heidenstam, and his calf was half an inch smaller. However, as his ankle measured a full inch less than Oscar's, the shape and overall appearance of Steve's calves were superior.

Worthy of mention in the medium-height class, is Spencer Churchill who had shapely 16-inch calf on a 9-inch ankle. Incidentally, as one of Spence's training partners at that time, I know that he worked very hard to achieve this proportion. He's an example of the pleasing effect of a lot of muscle on a relatively light frame.

Reub Martin never paid much attention to his calves. Perhaps this may have been partly due to the fact that as a handbalancer and Roman rings performer, extra weight at the lower end could be a drawback.

Nine inches can be considered a medium ankle measurement and though really big calves aren't impossible to build on this foundation, they are rare. The heavy-boned brigade go from 9-1/2 upwards and that's where you'll find the 18-inch calves. However, light-boned men can take heart from the fact that the smaller the ankle is, the bigger the well-formed calf looks.

The moral of the story so far is to make the most of what you've got, don't be deterred by thoughts that bigger and better calves are not for you, and grit your teeth and get on with it!

Calf training

Let's get down to the nuts and bolts of calf building. As lubrication, all I can offer you, in parallel with Winston Churchill, are "blood, sweat and tears." I'm *not* promising that a "calfless wonder" can win awards for best legs, but he can build better calves.

The exercises

Calf raises are the key to your calf routine. There are several forms but, in my opinion, the basic, standing calf raise is the best.

The donkey raise with a partner seated on your back may be a fair substitute for beach training purposes, but that's all. Seated calf machines are very comfortable, but only really work the soleus which is a small muscle that lies deep to the gastro and gets plenty of work in normal standing calf raises. There's also a *toe* raise exercise in which the heels are placed on a block and the toes are raised off the floor. This works a small strip of muscle on the outer side of the shin. In a lifetime of gym experience I can't remember seeing anybody doing this movement. So, it's back to the good old calf raise.

The best way to do it is on a standing calf machine, though some squatting machines are excellent too. In days of yore it used to be done with a barbell across the shoulders which, unless you're masochistically inclined, is no pleasure at all. Furthermore, the use of a calf or squat machine makes for much greater comfort because they have padded shoulder yokes. With these machines there's no need to concern yourself with balance and you're better able to concentrate on the exercise itself.

Reps and sets

Reps should be pumped out steadily. Make a slight pause at the top of the movement when the muscles are fully

contracted. Do four or five working sets of between five and eight reps. Work the calves twice a week maximum. This calf routine should be part of an all-round workout which will, of course, include squats or something comparable. This routine is short and sharp so adjust your mindset for maximum effort.

Note that the reps are low. The important factor in calf work is the amount of iron you move in good form. For this reason you must set yourself a poundage target and when you reach it, set yourself another. Strive to constantly increase the weight. This will be relatively easy in the beginning, but later it may only be a pound (or less) at a time. As stated earlier, the calves are used to a lot of work, from a very early age. What they are not used to is shifting huge amounts of iron—hence the low reps/heavy weight routine. *Shock* the calves into growth.

Psychology

Psyche yourself into it. Refuse to believe that good calves are only for the naturally blessed. Tell everybody in your training circle that you're "going for it." You're going to get those calves. People in the gym will be watching you, perhaps even pushing you. Some may even take the Mickey. It'll be up to you to show them.

I remember a young Swede I had training in my gym in London. He not only told everybody that he was going after big calves, he also cut the lower legs off his training pants. As a result his calves were on display to all and sundry in the gym. His psychological ploy paid off and his calves grew half an inch in a short time.

Don't be a "calfless wonder," get your glutes in gear and go to it! ☐

Lou Ravelle has 54 years experience running gyms, training, and coaching.

Training good sense

When I was in my youth, I had no time for injury-prevention or injury-awareness type advice. I only wanted articles on training, or inspirational type pieces that would help crank me up for my next bout with the weights. It was, however, my neglect of injury prevention, my taking of liberties with exercise technique, and use of high-risk exercises, that, eventually, was my downfall. There was nothing unusual about my attitude. It was the typical macho "it won't happen to me" type outlook, and the "no pain, no gain" madness that have been the undoing of millions of trainees over the years. I'm training injury-free today, but I'm unable to safely perform some of the most productive exercises—most notably, I can't barbell squat, or do any type of bent-legged deadlifting—which is a major loss.

Part of the training strategy needed to minimize the chance of injury, is avoiding high-risk exercises. While a few people like to boast of their heroics with handling heavy awkwardly-shaped objects, for example, for each reported success there are many people who got hurt trying to do something similar, and rue the day they got caught up in such high-risk lifting. Play safe, be sensible, and don't take unnecessary risks.

A body free of limitations that you can push hard for the rest of your life is a lot more satisfying than a body limited by injuries but accompanied by a few anecdotes of what you used to be able to do in former "it won't happen to me" days.

– Stuart McRobert

BOB WHELAN'S Q&A

By Bob Whelan

I need some advice on the front squat. Is it a good alternative to the regular (back) squat? What's the best grip to use?

In my opinion, the front squat is a *great* exercise. It's one of the most under-rated of the good exercises. Most people just do the regular back squat and don't even consider the front squat. The front squat is still "a squat" and it really makes no difference if you do it or the back squat version, as far as your routine goes. It's more a matter of tradition that most people do back squats, though front squats are more tricky to perform than regular squats. It's my opinion that the front squat is at least as good, or better; unless, of course, you're competing as a powerlifter, but even then it will take a minimum adjustment to switch over to the regular squat, with no loss of strength—I've done it. Do what you like and prefer. If you prefer regular back squats, do them. They can be great too.

Many feel, me included, that the front squat is an even harder version of the squat than the regular one. I've done the front squat for years, with back squats too. I only do front squats now because back squats hurt my neck area. Every time I back squat, I end up with a stiff neck and can't turn my head for a few days. I think I'm getting a warning following *decades* of heavy weights on my spine. Everyone is different, so if you like front squats, just replace the back squats with them. No big deal. You're

doing no less work, that's for sure, and maybe even more work.

Ask Olympic lifters about front squats. You use less weight as you must stand straight or else you'll dump the bar. It makes you use better form and is more leg specific and less back-and-glute specific than the back squat.

You don't actually *grip* the bar during the front squat. My finger tips just touch the bar and keep it in place. The bar rests in a groove in my delts, and my fingers just help keep it there. There's no gripping involved. If you're in a power rack—which you *should* be for the front squat, with pins set in place to catch the bar if you have to dump it—you've nothing to worry about. Just get your balance and form down pat first, and *then* build up the weight.

Many non-Olympic lifters like the cross-arms method. Olympic lifters usually *don't* use cross-arms when front squatting, since cross-arms are not used in Olympic lifting. I don't cross my arms. Use what feels comfortable *to you*. Remember, the bar is supported in a groove in your deltoids. Once you find what feels comfortable, and you can keep good form and balance, *then* you should be able to up the poundage quickly. Again, take your time to master form with a light weight before you go increasing the poundage.

The style that you use to support the bar (cross-armed or Olympic) is really not that important, as it's not actually involved in lifting the weight. I sometimes do a technique demo for my clients. I do a little jig with a light bar on my shoulders to show how the bar is

wedged in my delts. I then do some front squats with my arms out straight just to demonstrate that the key is bar *positioning* and balance, and has nothing to do with grip. On the final few reps, due to total body fatigue, you *must* resist slouching on your form. You'll need to strain to hold good form in order to get the last few reps. Gravity pulls you forward with the weight, and it's harder to stay straight up when you're tired. *This* is when your finger tips might help hold the bar in place. Sometimes I try "one too many" and end up dumping the bar in the rack.

Some people, especially those new to the front squat, may feel more comfortable with a secure grip on the bar while squatting. Check out AtomicAthletic.com, as they now have a seven-foot bar, weighing 52 pounds, that has parallel-grip handles made especially for front squatting. Ken Mannie, strength coach at Michigan State University, has his charges front squat with this bar, and he loves the feel of the bar while front squatting. A bar with this grip may solve your gripping problem while front squatting.

The upright row is considered a dangerous exercise by some. What's your opinion of this exercise?

As I've gotten older I've developed an appreciation of Stuart's conservative approach to form and exercise selection. I used to do the upright row with my hands close together, and pull the bar all the way up to my chin. It never bothered me when I was younger, but does now. I still do it (but differently) and think it's a good exercise *as long as* you don't pull the bar up too high and don't use a close grip. I believe it becomes increasingly dangerous if you go above the lower chest level.

I always do a few warm-up sets in the upright row before the heavy sets. For both warm-up and work sets I keep my hands right on the edge of the knurl mark on a York bar (about 16 inches apart). I lower the bar slowly with a good bottom pause, and raise it no higher than chest/nipple level. If you do the movement this way, your chances of injury are dramatically reduced. Of course, if you still get a negative reaction even to the modified version, eliminate the exercise. Never persist with any exercise that causes pain or any other type of negative reaction.

Some coaches feel that intensive bent-legged deadlifting on one day and intensive stiff-legged deadlifting on another day each week is too much for the lower back, but others feel it's okay. What's your position? What do you have your clients do, as a general rule?

In my opinion, deadlifting of any form should not be done more than once per week. The muscles of the lower back frequently need more recovery time than other musculature. The deadlift is one of the toughest exercises and there are many individuals, powerlifters included, who only deadlift once every other week (twice per month).

There may be a minority of individuals who can get away with doing a variation of deadlifts twice per week, but I feel that would be serious overtraining for the vast majority of lifters. Deadlifting hard and heavy once per week is the frequency I recommend.

Some people recommend training the grip hard once or at most twice

a week, but a few recommend training it almost every day, rotating a number of different exercises. How much is enough with grip work, and should the grip be worked more frequently than other bodyparts?

I may be the wrong person to ask this question of, as I do grip work just to assist my strength training, not to compete in any form of grip competition. It may be different if you're seriously training to excel in a grip competition or demonstration, such as closing a certain gripper. I recommend doing your grip training just like you would any other muscle—hitting it twice every 7–10 days as per the “commandments” of Whelan Strength Training. Why should the grip get any special extra attention, unless you're really involved in grip competition, which I'm not, and neither are my clients.

It's great if you have a strong grip, but your major lifts should be as impressive, if not more so. I get a good chuckle when I see some of the guys who are so into grip work that they seem to forget they have a body attached to their hands. I know a guy who can almost close the number three gripper, which is very impressive and a lot better than I can do, but he can only bench press about 250 pounds and squat maybe 350, if he's lucky. He thinks he's a strong guy just because of his grip.

I think some people are getting their priorities mixed up. Work your whole body, which *includes* the grip. Don't put emphasis on the grip at the expense of the major strength-training movements. People who can only do feats of strength with the grip aren't real strongmen in my opinion. If their squat, bench press, deadlift, military press, etc. are done with

heavy weights, *and* they have a strong grip, to me, *that's* impressive. To have a really strong grip and be weak in the major barbell movements, is getting it all wrong.

What do you think of the book MUSCLETOWN USA, by John D. Fair?

In my opinion, although it unfairly treated Hoffman too negatively, Fair's book is excellent. It's full of historical information and is a fascinating read. The facts in it can't be disputed, but some of the negative things about Hoffman were unfairly portrayed. The same effort wasn't made to dig in detail into the personal lives of other major characters in Iron Game history. I don't know of any new book coming out with a more positive spin on the York/Hoffman side, but I'd love to see it.

The problem is that Fair seems to go out of his way to show Hoffman's bad side. He seemed biased towards Joe Weider and cynical/negative about Hoffman. Factual information can still be unfair. People usually dig deeper into personal negative things if they don't like you, and omit some of the positive things. (The opposite applies if they *like* you). If you can keep that in mind, MUSCLETOWN USA is a great book.

I love Hoffman. His influence got me started in all this when I bought my first copies of MUSCULAR DEVELOPMENT and STRENGTH AND HEALTH, in 1964, when I was ten years old. I admire the man and won't let Fair's book change my admiration for Hoffman. I'd like to see the same dirt-digging effort put into a book about other leading Iron Game figures, past and present, to help balance things.

What's the best description of how the old-timers really trained?

The only real absolute about the old-timers is that they trained naturally, hard and progressively. They may have had crude equipment and limited information, but they made the most of what they had. If you take a close look at old Iron Game literature, you'll find a common theme: health, strength, vigor and longevity. Cosmetic results, although mentioned, were clearly secondary. The cosmetic results were believed to be the end result of "doing the right thing," and were a reward for effort, discipline and a lifestyle commitment.

The titles of the popular books and magazines reflected these values. There were STRENGTH AND HEALTH, HEALTH AND STRENGTH, PHYSICAL CULTURE, STRENGTH, THE STRONG MAN, and numerous other titles. Compare these titles to the best-selling training books and magazines of today—the difference is astounding.

The pioneers of Physical Culture were not just body beautiful posers. They were strong! Eugene Sandow and others competed in various feats of strength. They had to make do with crude training facilities and equipment, but they made the most of what they had. They had to endure the wrath of society, as attaining health and strength was not a trendy thing to do in those days. This is how the term health nut got started (they were definitely not called buff!) Even though they had far less information available, they swore by the information they did have.

How many of us truly can say we're using the information we have? Jack LaLanne was so dedicated that he trained his mind to visualize disgusting images at the very thought of junk food. Cosmetic results were

seen as the reward for correct living and hard training.

Many of our Physical Culture forefathers went beyond physical health and were concerned with mental and spiritual health as well. Peary Rader frequently wrote articles about spiritual health; and Bob Hoffman and Bernarr MacFadden, in addition to writing about training, wrote about practically everything dealing with health and happiness, including moral issues.

We now have much better overall equipment, gyms, and nutritional and health knowledge. But we also have the horrendous mess of drug abuse. Public acceptance/involvement of training is much higher now. But *most* of the training principles have been around a long time.

There's nothing really new as far as strength-training principles are concerned. It just gets re-packaged. Read the "Letters from Chas" on NaturalStrength.com, and his articles in old issues of *HARDGAINER*, as he repeatedly covers this topic. There's no single training philosophy that defines the old-timers. Klein, Maxick, Cyr and Grimek trained differently, just as individuals today train differently. Chas stated that none of today's training principles are really new. The only exception I can think of that may be considered *new* is the concept of *very* slow speed training.

I'm curious as to what you think about Arthur Jones, his writing and strength training methods. Also, do you consider yourself an advocate of HIT?

I have a great deal of respect for Jones, and consider him to be one of the brightest minds in the history of

strength training. I didn't discover him right away though. My early influences were mainly from York (Hoffman and Grimek), Brad Steiner and later from the original IRON MAN from Peary Rader. In the late 1970s I was temporarily influenced a great deal by Heavy Duty from Mike Mentzer, but later realized that he just paraphrased and repackaged Arthur Jones' theories, so it was really Jones I was influenced by. I don't agree with everything Jones says, but most of it. He definitely had a big impact on my beliefs.

I frequently use multiple sets, low reps and barbells. I believe *how* you train depends on the goal of your training. A powerlifter *has to* do low reps, multiple sets and use a barbell. A basketball player doesn't. I don't believe you *have to* go to failure to get good results *so long as* you train progressively. It depends on the goal of your training and your circumstances.

The methods promoted in HARDGAINER will pack on muscle and strength for all who conscientiously and diligently put them into practice. But the practical application demands great resolve, dedication, effort and persistence. We provide the training advice you need, but only you alone can provide the resolve, dedication, effort and persistence. Rise to the challenge, and then you'll reap the wonderful rewards!

When it comes to training stimulus, I'm mainly a poundage guy. A lot of HIT guys never talk about poundage, it's always only about going to failure. I always put poundage (in good form) first, ahead of going to failure or anything else as far as training stimulus goes. Although I'm a big supporter of going to failure, and controlled speed of motion training (for some trainees), for me they are clearly secondary to load progression.

I have a broad view of strength training and can see many ways that work. I don't feel the need to try to persuade people to do exactly what I do, nor do I get personally offended by differences in training philosophy *other than* those which use drug support. The most important thing is that you're natural and trying to train hard and lift heavier. If so, we're brothers, and there's no need to argue about minor details.

In strength training, it's all good as long as you follow the sensible rules of safety, progression and recovery as expressed in HARDGAINER. If you do power cleans or don't do them, I don't care so long as you don't get hurt. Same with odd objects, going to failure, etc. Just don't get injured!

I see the various modes and methods of strength training as tools in a tool chest. A craftsman can collect and use many tools to perform his art. Only a fool would throw useful tools away and insist on using just a few tools. Different tools can be used for different people. Some need low reps and multiple sets due to their goals, and some need one set to failure.

Regardless of the method used in strength training, I always put the greatest emphasis on load or poundage progression. Effort without progression is no better than calisthenics or manual labor. ☐

The Deadlift

By Dick Conner

The deadlift is the King of lifts—it's the bad boy on the block, it takes no prisoners. If you don't respect it, and don't do it with good form and on an irregular basis, you'll get hurt.

Few men approach this lift, exercise or movement (whatever you prefer to call it) with the proper attitude. I hear from all kinds of authorities that it's a useless movement, and a waste of time for a bodybuilder. They are wrong. Every man who uses a barbell should deadlift if he has a healthy back, and *he should do it with a flat back to keep a healthy back.*

Something that opened my eyes to the deadlift was, over the years, taking my powerlifting team to prisons. The Pit has lifted at the Kentucky State Prison, Eddyville and the Marion Federal Penitentiary. Lifting in a prison against men whose struggles in life are different to mine and yours, and causes them to have respect for what's hard and not so much for that which requires skill. And in prison I saw some very good deadlifters.

No disrespect for the wide-foot deadlift, but I didn't see many wide-foot deadlifters in prison. What I saw were close-foot pulls through a long distance of travel, done by men with a great respect for strength.

I've seen a close-foot deadlift of 760 pounds done by a man standing about 6-1 tall, and he weighed only about 180 pounds. With a close stance is the way you want to deadlift if you want the most from the movement.

I want to say that it's my belief that the deadlift builds more useable strength than any other movement, and affects more muscle than any other movement.

The deadlift is also the easiest movement to overtrain. It needs to be treated with great care.

To keep the back flat and tight is of utmost importance. As you start your pull, never let your back start to round, but keep it tight and flat. Here's how to deadlift by the numbers:

As you step to the bar, place your feet no more than shoulder-width apart, and toes pointed out so that as you bend over and grip the bar with bent legs, flat back and head up, the feel is right. Fine-tune the stance and toe flare until you feel right in the bottom position.

The pull should start over your feet, and you pull the bar towards you as you pull the bar up. You must keep a flat back and begin your pull with good control. *Do not jerk on the bar.* In most cases the bar will be right against the legs just after you start the pull.

As you start the pull, *your shoulders and hips must move at the same time!* This is very important, and you may need a spotter/assistant to tell you if your hips are moving up and your legs are beginning to straighten and yet the bar has hardly moved from the floor. The typical error is that lifters raise their hips faster than their shoulders, and straighten their legs too quickly. This error distorts the exercise and puts massive stress on the lower back, leads to rounding of the back, and injury.

By the time the bar gets to the knees the legs should still be bent, and the bar should be right against the legs. As you get close to the finish, push your hips forward and stand erect. Don't lean back, but stand erect with legs straight and shoulders pulled back. Deadlift correctly and save your back.

The deadlift is a great lift—the only true power lift, since the use of support gear has ruined the squat and bench press.

Never deadlift intensively more than twice a month, and never more than one work set per workout. If you've been training hard on the deadlift for six months or better, drop the frequency to every third week.

Here's a good deadlift routine. It's not the only way to do it, but it's as good as any and better than most. Only work sets are listed—warm-up work is additional, and necessary—and exercises unrelated to the deadlift haven't been included here. You must, however, keep your overall training program *brief* if it's to be effective.

1. Deadlift: 15 reps
2. Back extension: 6
3. Negative chin: 10
4. Side bend: 15

The back extension, negative chin, and side bend should be done very slowly—10 seconds up and 10 seconds down.

Other issues

Recently a man asked me if I thought an abbreviated training program would be effective for him. The man weighed about 225 pounds at 6-1 tall. He explained that his best bench press was 315 but after going on a very abbreviated routine in which he only did two sets of bench presses a week, his bench press went down to 300. As I understood, he was doing a general routine with little assistance work and just a few basic movements. I don't know how hard he was training though. Perhaps he wasn't training as hard as he needed to for good results. But to know, I'd have needed to see him train.

If this man is as heavy in bodyweight as he wants to be, and his main interest is the bench press, he needs to add assistance work for the bench press, improve his technique, train hard and drop

back in his other work in order to have the recovery ability to cope with the added assistance work. He would probably have to trade some strength elsewhere in order to boost his bench press.

If, however, you're a true hard gainer and want to build bigger muscles, you have to think in terms of gaining on your *whole* routine, not just your bench press.

If you're a powerlifter you must improve your total, not just one movement like the bench press. That's the way a hard gainer needs to think.

I've known men who could deadlift over 550 yet who couldn't bench press 300. David Wedding, one of The Pit's powerlifters, has been able to become very good at the deadlift and squat, with 560 and 480 respectively, but his bench press is sub par at 250, all at 165 pounds bodyweight. If David decided to drop the squat and deadlift he could improve his bench press by 20–50 pounds, but in the end he would lose strength *overall*.

Strength is a whole lot more than, "How good is your bench press?"

Of the three great pressing movements, the bench press is third behind the dip and overhead press. Don't worry about one particular movement. Give each compound movement in your routine your best, which means in some cases no more than one work set per exercise, in other cases two or maybe three work sets.

Almost none of you can productively train over twice a week, and most can productively do no more than five work sets in a single workout. Some extreme hard gainers can productively do no more than three work sets a week.

You must find out for yourself. If you're not gaining, but you *are* training hard and eating and sleeping well, in most cases you need to train less.

I believe the following are the best basic free-weight movements: deadlift, squat, chin (supinated grip), press, dip,

row (with a dumbbell), shrug and bench press. Beyond this are the best assistance movements: side bend, crunch sit-up, back extension and L-fly—these help protect the back and shoulders.

The order these exercises are written in, in my opinion, is the order of their importance in building strength.

As for machines, the best are the leg press, old Nautilus plate-loaded pullover, and the pulldown.

The leg press must be a good machine—Hammer Strength's, for its price, is hard to beat. The old Nautilus plate-loaded pullover is impossible to duplicate with a barbell, but it must be done correctly—very slowly—and then

you have a great upper-back workout. The pulldown is needed by hard gainers, so it's important. I don't know of anything else that can do anything that these exercises can't. And consider that The Pit has vintage Nautilus machines—1970 models. We also have some of the new machines. And I'm in the process of upgrading our barrel, bag, and log equipment.

We use all types of equipment, and know well what works *if you work*. But the basics will always be the same, and they will always be the best.

No equipment, however, is going to replace your heart and mind in getting you the strength you want. ☐

Especially for new readers

While strength and physical development are our shared interests, some of you are primarily concerned with your physical appearance (with strength building being just a means to an end), others of you are primarily interested in strength and strength feats, while a third group is interested in a combination of appearance *and* performance. And some of you have physical limitations that proscribe methods of training that other people gain well on. To cater for these different needs and preferences, *HARDGAINER* provides a diversity of training information—but always within the framework of abbreviated training routines. Be prudent in what you select, only put into practice what's appropriate for *you* to apply, and always keep safety uppermost in your mind.

There are many ways to train, each proven to be effective, *but not necessarily effective and safe for all trainees*. All our contributors have their own emphases and preferences, coming from their own experiences, but all recognize that no single person “knows it all.” The opinions published in *HARDGAINER* are those of individual authors, and not necessarily those of the publisher and CS Publishing Ltd.

The training methods promoted in *HARDGAINER* are physically very demanding. If you have any doubts about your body's ability to tolerate any self-imposed exercise program, consult with your physician. Proceed with caution.

– Stuart McRobert

Miscellany of Topics #1

By Stuart McRobert

For about three years I've produced a questions and answers column for www.hardgainer.com. It was the first year or so of answers, together with a batch of answers from elsewhere, that were revised and sorted out to produce FURTHER BRAWN. Some of you who don't have internet access, or who prefer not to use the internet other than for work, have asked for a selection of the post-FURTHER BRAWN answers, revised and updated, to be published in HARDGAINER.

Generally speaking, the answers deal with topics either not covered in my books, or not covered in detail there.

I've noticed that my hands turn cold after my 15 reps of squatting. After a few minutes my hands return to body temperature. Is squatting cutting off circulation to my hands?

The bar placement on your shoulders and/or the hand position you use, may be hampering your circulation. I'd suggest that you try a slightly different bar placement—a bit lower, not higher—and a wider hand placement on the bar. Tinker with those two factors, from workout to workout, until you find a combination that doesn't cause your hands to feel cold at the end of a set of squats.

In BEYOND BRAWN you say that the Tru-Squat helped bring you back into your previous condition after not squatting for some years. I have a bad back and can't squat without extreme pain. The only thing I can do is one-legged squats for a short spell, then I'm forced to stop and do leg presses when the

dumbbells get heavy. Do you think the Tru-Squat would benefit me?

I'd say the Tru-Squat is worth a try, but don't go buying one to try it. Contact the manufacturing company, Southern Xercise (800-348-4907), and find where there's a machine near you, and then contact the owner to see if you can give it a try for a good few workouts.

The Tru-Squat does involve contraction of the back musculature, but there's no forward flexion, and there's no weight directly against your spine. Also, substantially less weight is needed on the Tru-Squat than in the barbell squat, to produce the same degree of work.

Ball squats and hip-belt squats are two other alternatives to consider, and both cost peanuts compared to a Tru-Squat.

The Tru-Squat continue to be safe for my back, but it irritates my knees sufficiently for me to have stopped using it.

I noticed in a lot of routines that I see no exercises listed specifically for triceps, but the same routines have specific exercises listed for the biceps. Why?

Because there's usually more work for the triceps from the big exercises than for the biceps. Dips, benches and overhead presses all give the triceps a lot of work. Chins and supinated pulldowns work the biceps hard, and rows give the biceps some work. Whereas most trainees include two of the pressing movements that really hit the triceps, many don't include the chin or supinated pulldown. This is why curls are often included in abbreviated routines. Relative to the size of the biceps, it's strange

that a specific exercise is usually included for it while the calves and hamstrings may be neglected in many cases, both of which are much larger than the biceps.

If I squat heavy, do I have to do any hamstrings work in addition to the squats? What's the *primary* purpose of the stiff-legged deadlift? Do I need to do stiff-legged deads if I squat heavy?

The primary purpose of the stiff-legged deadlift is to work the hamstrings, erectors, glutes and upper back. Squats hit the hams, glutes and erectors (along with the quads and adductors), but the stiff-legged deadlift, for most people, works the erectors and hams more than does the squat. I'd recommend that you use the stiff-legged deadlift as a companion exercise to the squat, other than for short-term very-abbreviated programs. But be sure you use impeccable form, and don't use an exaggerated or excessive range of motion for you. *Never* round your lower or upper back.

The stiff-legged deadlift alone isn't, however, adequate to work the functions of the hamstrings. At least in some training cycles, the addition of the leg curl is a good idea, to produce improved balance between the musculature and strength of the front and rear thighs. If you can't stiff-legged deadlift safely, perform one or two hard sets of the leg curl once every 4–7 days on a consistent basis. I now include the leg curl as one of the most valuable single-joint exercises.

For the leg curl, *be sure* to use a machine and set-up that enables you to position the axis of rotation of the apparatus so that it lines up with the center of your knees. If the two points are out of alignment, the leg curl will irritate your knees and produce more harm than good. *Use the right set-up or don't use the leg curl at all.*

How close together should my hands be when I sumo deadlift?

If your hands are very close, there are two immediate problems—no knurling on the bar (in most cases) and thus a weakened grip, and poor control of balance of the bar. I'd say you should have your hands about hip width apart, and definitely on the knurling of the bar. With a stronger grip, and better control of the bar, your form can only be helped, not hindered.

The first time I deadlifted I managed 310 pounds for a few reps. I managed to get up to 395 for 5 rest-pause reps. I couldn't figure out the training frequency and thus couldn't keep tabs on progression, so I decided to give the deadlift up. After a similar time period of squatting I only managed 225 pounds for 5 in the full squat, without a belt. I realized that I'm more gifted at the deadlift than the squat. I want to start deadlifting again. The problem is that I can't seem to get a gaining momentum going with the deadlift.

That you were able to deadlift so much the first time is extraordinary, and indicates natural ability well above the average unless you have a background in heavy manual labor that built the required strength.

Your problem wasn't deadlifting frequency. You should never have been deadlifting 310 pounds the first time out. Though an apparently simple exercise, the deadlift still needs to be mastered by using light weights, and then gradually building up the resistance while *maintaining* perfect form. It's impossible to master form by starting out on an exercise with a weight that makes you struggle. You took a huge risk when you jumped into intensive deadlifting without a period of adaptation. You could have suffered severe damage.

Start deadlifting again, and do it properly this time. First, learn all the ins and outs of deadlifting. Only then should you proceed. Start with 60 kilos or 135 pounds—a 20-kilo/45-pound plate on each end of an Olympic bar, plus spring collars. Master the form in a couple of sessions, doing multiple sets of 6 reps each time, and until you have it off pat. Video tape yourself so that you can actually see how you're lifting. Once form is perfect, and the groove entrenched, add 5 kilos/10 pounds per week, for the first four weeks, and thereafter drop to just half of that a week. Perform 3 work sets of 6 reps each, following warm-up work. Don't progress any faster than that. Impeccable form is imperative. Video tape yourself every few workouts, to check on your form. If your form degrades, cut back the weight, and build up again, but without any degradation.

Assuming you don't have any setbacks, it will take you about eight months to get to 310 pounds. At that point, cut back to 2 x 6 works sets, following *minimum* warm-ups with 135 pounds, 200 and 265. If done properly you'll get to 310 x 6 x 3 with perfect form and lots of potential for keeping the progression going at 5 pounds per week for a further few months, and then at a slower pace thereafter (assuming you're eating and sleeping well each day). Over the second half of the year you're going to have to crank up your nutrition, rest and sleeping habits, in order to provide the recovery "ingredients," otherwise your progress will grind to a halt.

You may not be happy about the prospect of starting the cycle with 135 pounds, but the thought of being able to handle around 400 pounds a year or so from now should excite you. But you won't get there if you rush things now. (This rate of progress is unusually quick, a reflection of your above-average deadlifting potential.)

So long as progress is happening nicely, stick with deadlifting once every seven

days. But if or when progress starts to get really tough, stretch out the deadlifting frequency to once every 10–14 days.

The squat is potentially a great exercise. You should continue to squat *providing* you can do it safely. If you've also been making mistakes in your form and progression scheme in the squat, then that would seriously limit your progress and make injury likely. Please learn lessons from your deadlifting, and apply them elsewhere in your training.

I read somewhere that Bob Peoples used to alternate squats and deadlifts. When he became stale in one of them he used to switch to the other. I'm thinking of trying this approach. What do you think?

Peoples was a phenomenal deadlifter, though his round-back style is off limits for regular mortals. He deadlifted 725 pounds at a bodyweight of 189 pounds, in 1949! Peoples used many innovative training methods and pieces of equipment.

I'm all for doing what works *for you*, though if you're going to alternate the squat and deadlift, the deadlift needs to use heavy thigh involvement or otherwise your leg strength is probably going to back track while you focus on the deadlift. If you deadlift with either the trap bar or shrug bar, you can get lots of thigh involvement, and will alternate somewhat similar exercises, as the parallel-grip deadlift has more in common with the squat than the straight bar deadlift has.

Why are seated or standing overhead dumbbell or barbell presses in the "big movement" group with squats, deadlifts, dips, etc? In my opinion, I don't see how working such a small grouping of muscles would stimulate the same growth as squatting 20 reps.

Any overhead press can't compare with intensive 20-rep squatting when comparing total muscular involvement and growth potential. But behind the really big exercises—the squat and bent-legged deadlift—come the next tier of major exercises, which includes the overhead press variations, along with the dip, bench press and chin, as examples. The overhead press is included in the big movement grouping to distinguish it from the isolation movement grouping—laterals, for the shoulders, for example.

I'm 46 years old and as of now I'm stronger than I've ever been and I'm still making progress. When should I consider stopping or changing the direction of my lifting? I'm still in good health and enjoy training. I don't want to take it too far and endanger myself.

There are no rigid rules here relative to numbers, because there are big differences among individuals. I'd say you should continue getting stronger for as long as you safely can, and for as long as you continue to have the appetite for it. How much farther you can go depends on where you are relative to your potential.

Perhaps you've been training for only a couple of years and can squat 240 x 20. Or perhaps you've been training for twenty years and can squat 340 x 20. If the latter, I'd say you're around the point where you should move to maintenance strength work for a while, and then live with the gradual decline in strength that will take effect soon, though perhaps not for a few years yet if you keep yourself in good condition and health. But if you're at 240 x 20, I'd say you can keep progressing in strength for a while yet.

Either way, be sure you're giving serious attention to cardiovascular health and conditioning—three sessions per week of 30–40 minutes of moderate


aerobic work, or much shorter bouts of harder cardio work. Additionally, if you need to burn calories through aerobic exercise for the sake of weight control, then walk for an hour or so each day.

Beyond exercise, do all that you can in other areas in order to look after your health—eat healthfully, take plenty of anti-oxidant supplements, avoid harmful habits and environments, sleep adequately and well, avoid severe stress, do work you enjoy, and have some regular but *moderate* exposure to sunshine. And keep in mind that being happy is an important part of good health.

Is the deadlift a good substitute for the squat, in the context of leg training?

Depends on the deadlift and the individual. If you're talking about the trap bar or shrug bar deadlift, then for sure it's a good substitute for the squat. For some people, that form of the deadlift (the parallel-grip deadlift) can provide a *more* productive workout for the legs.

If you mean the conventional straight bar deadlift, it depends on how much leg work it gives you. If your leverages favor the squat more than the deadlift, then using the deadlift as your sole upper-leg movement will reduce the training effect in that area, and the conventional deadlift wouldn't be a good substitute for the squat for leg work for you. In such cases, the sumo deadlift may provide more leg work than the conventional deadlift.

If your leverages are more suited to the deadlift than the squat, then the difference between the deadlift and the squat, at least for leg work, may be more blurred. In this case, the parallel-grip deadlift is the way to go—then you can get the benefit of your improved leverages for the deadlift but with more leg flexion than with a straight bar, and thus perhaps get more leg involvement than from the barbell squat. 

FROM THE GRASSROOTS, I

Things happen, and lessons to learn

By Fernando Vallejo

This article may make for uncomfortable reading. It's been included to illustrate why it's *critical* that you're *always* sensible and conservative in your training. No matter how experienced one may be, the rules of sensible training *still* apply. Properly done, weight training is very safe and healthy, but take liberties and it becomes a dangerous activity.

I've learned the importance of safety-first training through some painful and frightening experiences many years ago. Through foolishness I've been stuck under a heavy bench press bar without a spotter or safety set-up and stuck at the bottom of a heavy squat with no help or safety set-up, I've used appalling form to gut out final reps of sets, and I've attempted maximal lifting before conditioning myself to it. I've paid a heavy price for the foolishness, and so have countless others. *Learn from our foolishness!*

– Stuart McRobert

I've been training with weights since 1973, though more off than on over recent years. Since the start of 2002 I did, however, resolve to get back into training regularly.

I've bench pressed safely for many years. Since I first began training, I was good at this particular exercise, being able to bench press more than my bodyweight with very little training. Being an injury-free trainee most of my life had ingrained some habits, but not necessarily habits that would work permanently. As we age, what seemed fine in earlier years may turn out to be safe no longer. Previous success doesn't necessarily mean that you've been doing things properly. What the body could cope with during its youth is one thing, but an older body can't necessarily cope with the same habits. Of course, if the training habits were sound from the start, then even an older body could prosper on the same methods used on youngsters. The safety or otherwise of a given training approach will really be tested if you try it when you're much older. This is exactly what I did.

In January I started training "seriously" again. I started bench pressing anew following a few years of not doing it. I thought that my strength would come back quickly, like in the old days. The first day back I could perform only two reps with 85% of bodyweight. Within four weeks I was able to do ten reps with 95% bodyweight. My goal was to get some reps with 220 pounds, soon.

Late February, in a warm-up set with 60% of my bodyweight, I felt a pain in both shoulder joints, something I'd never felt before. I thought it was due to the muscles not being warmed up properly. I kept on adding weight and doing reps. The pain disappeared. First mistake: not heeding a warning sign.

The following week, March 4, 2002, I didn't feel like training, but as it was scheduled, I "had" to train. Second mistake: not heeding another warning sign. Once again I felt chest-shoulder pain in the warm-up sets. This wasn't soreness but pain in the joints as if it was in the bones. Next was a work set with four pounds more than the previous week, and then I'd finish

with a single-rep set. After the final multi-rep set, I didn't feel like doing the single-rep set. Third mistake: not heeding yet another warning sign.

But I did go for the final set, the single rep. I lowered the bar till it touched my chest, and I pushed it upwards, as usual. In the middle of the path, suddenly, my left arm started to shake and I heard a noise identical to cloth being ripped. The pain was terrible. I stopped the ascent and slowly lowered the bar until it touched my chest. I didn't dare look at my shoulder. And to make matters even worse, I was trapped under the bar, severely injured, with no safety racks, and no spotter to help. *A terrifying experience!*

After a great effort I got the bar off by tilting it to one side. Then I collapsed on the floor and started to quiver—a vagal reaction to the pain. I was taken into emergency care at the nearby hospital. The next day my left arm was blue because of the broken capillaries, and lots of pectoral major fibers were torn—a very serious injury.

By May I could bench press with 30–40% of bodyweight. I was unable to do a chin or even hang from a bar. I hope that no surgery is needed to repair the damage. For the moment I need to train very carefully and see the evolution of the recovery.

Listen to your body, train safely, don't be in a hurry to add weight before you can really cope with it. Use less weight and more reps, and get to your goal when your body is ready. You can't rush strength increase. Safety is the priority. Getting injured will at best slow your progress, and at the worst may lead to permanent problems.

Progressive resistance training emphasizes the importance of going heavier and heavier to get bigger and stronger, but many of us (including me) have given exaggerated importance to it, and cut corners on form and safety measures. Now I can't perform any chins, dips or even simple floor push-ups. I hope that within a few months I'll be able to do

them again. But recovering all of my former strength is another thing. My training may never be the same because of a few moments of recklessness.

"Fernando, things happen," said the doctor who first examined me at the hospital's emergency ward. Don't forget this phrase, please. Things happen to all of us. But bad things don't have to happen in the gym *providing* you follow the rules of sensible training.

I hope you don't need a serious injury to be reminded of critical lessons of productive weight training.

In the back of my mind I *did* know better, but I let foolish bravado, haste and lack of caution rule the roost. I *knew* I should have been much more cautious, and started with a far lighter bench press weight. I *knew* I should never bench press alone or without any safety set-up. I *knew* I should heed warning signs, not ignore them. I *knew* I should never use low reps and singles when, in effect, I was a novice once again. But I wasn't a teenage novice like when I first started training, but a middle-age novice. *But despite all of this, I broke all these rules, and what a heavy price I paid.*

Sensible training means caution and a conservative approach at all ages, but *even more so* in one's mid-life and later years.

I've reported my painful and humbling experience to help you avoid making the mistakes I did. Don't think that you can get away with breaking the rules of *sensible* and *progressive* training. *Train sensibly and safely, or don't train at all.* ☒

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THE STEEL TIP

A Newsletter for Strength and Fitness

By Dr. Ken E. Leistner

Nautilus leverage machines

Continued from the previous issue

Many trainees who had grown up using barbell or conventional weight-training machinery were not psychologically comfortable with these new training devices. Some remained resistant to any and all machine-based exercise. Others were resistant, but saw the advantages offered by the machines. Their bias at what they felt were erroneous exercise principles, fueled by the muscle-building media, allowed the acceptance of some machines, but not Nautilus, which they felt were somehow different, and not result producing. Others tried and accepted Nautilus and other machines, because they felt the difference in their strength levels, and saw increases in their muscular tissue.

Somewhere in the middle stood the overwhelming majority of athletes, strength coaches and fitness enthusiasts, wanting to believe whatever seemed to be true about Nautilus or other machines, but not really in a position to know with certainty, despite their degrees, despite the books and journals they had read, and despite what they were told by all of the pseudo experts that fill the field of physical exercise.

The development of the Nautilus leverage machines is, I believe, another "great leap forward," another step in the exercise revolution. The leverage machines are aptly named, designed so that the leverage factors of the machines themselves provide productive and efficient exercise. Exercise movement feels right, feels balanced, and feels as if the muscles are being forced to work at

maximum levels of effort. They don't utilize cams, sprockets, chains, cables, hydraulics or water-based resistance. They are, in the truest sense of the term, "redesigned barbells."

The original Nautilus designs were an attempt to produce "perfect" exercise machines, and some of them came very close to doing so. The Nautilus leverage machines have been designed to provide efficient, comfortable and productive exercise. They are not "perfect," but the alterations in resistance as one moves through a complete range of motion cause the exertion of maximal efforts. Even die-hard barbell men have stated, "These feel good, I like it!" after an all-out set on the Leverage Leg Press.

They are designed to be orthopedically advantageous. I've always been leery of those manufacturers who proclaimed that their equipment was "orthopedically correct." My immediate response was, "Correct for whom?" Leg press machines that exposed the patella tendon to excessive shearing forces and the lumbar spine to compression; pressing machines that caused compression on the lumbar and thoracic spine while causing impingement at the shoulder joints; biceps and triceps machines which caused discomfort and extreme torquing forces upon the vulnerable elbow joint have all been touted as "the next step" in exercise technology. The Nautilus leverage machines do in fact provide many orthopedic/structural advantages that are not presently available in other pieces of equipment.

The leverage machines are tools that can, if used properly, provide a degree of exercise intensity that can't be equalled by

a barbell or dumbbell. Most of the leverage machines provide a type of exercise that can't be provided by other forms of exercise machinery. The orthopedic advantages and safety features relative to free-weights, and the variation in exercise that's provided by these advantages—such as scapulae movements and synergistic contractions—make the leverage machines the perfect choice for heavy-duty gyms, high school and university settings, and the home fitness market.

As always, the proviso in reaping the potential benefits from this relatively new form of exercise methodology, is the application of “proper” training techniques. The Nautilus leverage machines can lead the dedicated trainee to levels of training intensity heretofore unattainable, and for that reason only, we use them in our facility, like the results that our patients and clients receive from their use, and have no hesitation in singing their praises in our newsletter.

Shotput curls

Jamie LaBelle is a young man with a sterling athletic background, and an innovative mind. He has made a number of important contributions to our training facility, and is constantly experimenting and attempting to improve specific exercises in an attempt to increase their productivity.

Recently, Jamie suggested that we use a shotput, or different sized shotputs, to increase the intensity of our forearm workouts. As a “finishing touch” to our forearm or biceps work, the shotput will be held in a reverse curl position, with a pronated or palm-facing-down grip. The elbow is tucked tightly into the side, and the shotput is then curled in a slow and strict manner. The negative or eccentric contraction is done more slowly and controlled than the positive movement. In addition to working the brachioradialis and other forearm flexors, the intrinsic muscles of the hand and the finger flexors

are placed under a high level of contraction. Doing each arm separately allows a high degree of concentration.

The effects of this movement have been terrific and immediate! As a finishing touch to the major arm or forearm exercises, the shotput curl provides a higher degree of muscle stimulating work. I suggest that one begin with a women's shotput, weighing 4 kilos, or 8.98 pounds, and gradually work up to the men's full-sized, 16-pound shot. The small-sized shot is perfect for those with relatively small hands or short fingers, while the 16-pounder will serve the Tim Krumries of the world adequately. The 12-pound men's high school shotput is an intermediate size that can be used exclusively as the forearm workout of the day.

If one does reverse shotput curls to a point of momentary muscular failure or fatigue, and then holds the shot with the hand pronated and the forearm flexed at approximately 45 degrees until that position can no longer be maintained, or the shotput falls from the hand, this can serve as a very adequate muscle stimulator for that day.

The interest that's sparked by the use of easily available implements can be a boon to any program, especially when those implements are easy to integrate into the existing program, and produce very worthwhile results.

“Carbohydrate drinks”

Volume 2, No. 1 of THE STEEL TIP, in an article entitled “Ergogenic aids,” briefly mentioned the proliferation of carbohydrate drinks. These supplemental products, according to the advertising material, are “ready to drink complex-carbohydrate energy quenchers,” “the perfect source for fueling muscles before and during strenuous exercise, and refueling after your hardest, most vigorous workouts.” Further, we learn that at least one product is “extracted from grain for

accelerated absorption” so that “as fast as your body depletes glycogen stores . . . it replenishes them.”

The ultimate source of fuel for muscle movement is glucose, or simple sugar. Glucose is best derived from carbohydrate foods, although the body has the capacity to convert proteins and fats to glucose also. So-called complex carbohydrates, long-chained sugar molecules, tend to enter the bloodstream at a slower “more sustained” rate than those foods designated as simple sugars, i.e., the short-chained molecules.

The body will store a certain amount of glucose in the muscles and the liver, in the form of glycogen, for use during activity, and will then deliver more to the bloodstream, and ultimately to the cells, as the need demands. Obviously, high-intensity strength training demands a certain amount of blood sugar or glucose. If glucose or glycogen stores are low or depleted, levels of what we usually define or refer to as “energy” will be depressed, and muscular contraction will be less than optimal.

One of the most overlooked and important facts regarding carbohydrate metabolism, is that the ultimate source of the glucose is unimportant. As THE REALITIES OF NUTRITION by Roland Deutsch states, “. . . the origin of the various sugars matters no more to the organs and cells which will use them than do the origins of oxygen matter to the lungs. Glucose is glucose.” Virtually all of the single sugars which are not glucose are converted to glucose by the liver, because glucose is the only carbohydrate that most body cells use for energy. If this is the case, it should be obvious that one can eat fruit, vegetables, grains or other carbohydrate foods, all of which will undoubtedly be less expensive than any “specially formulated” carbohydrate-energy drink.

Foods which are high in refined sugar such as candies and pastries may cause a

rapid rise and subsequent fall in blood sugar levels, which would have a detrimental effect on one’s workout. However, if one eats sensibly, making sure to eat a relatively high proportion of the daily caloric intake in the form of carbohydrates, getting these from various sources, then one’s available sugar levels will not be an inhibiting factor during training. If one feels the need for additional carbohydrates and/or calories due to the increased nutritional demands of intensive training, high-quality carbohydrate-bearing foods are easily obtainable. One or two pieces of fruit an hour or so prior to training will supply all of the “workout fuel” necessary for training.

If one is concerned that his or her carbohydrate stores are depleted at the conclusion of a training session, then figs, raisins, dates, a sweet potato or tomato juice will quickly replenish those stores.

Advertisers can talk about a product’s “unique complex carbohydrate,” but to the body this will soon be glucose, and as mentioned previously, glucose is glucose. There’s no molecule of glucose that’s superior to another glucose molecule. The energy drinks are advertising genius at its best because it preys on the insecurities of a group of individuals who are often fastidious or compulsive about all aspects of their training.

Propagating the belief that one is “missing something” that will affect their training sessions, especially if this magic ingredient is easily obtained from commonly found foodstuffs, makes this author wonder about the honesty of some manufacturers and distributors. But when this is compounded by the efforts to sell a product that’s vastly overpriced relative to the other foods that can supply the same glucose molecules, I no longer wonder; I know. ☐

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FROM THE GRASSROOTS, II

University/college life and training

By Charlie Bass

I vividly recall my four years at college, 1978–1982. Had I known then what I know now, I could have done much better with both bodybuilding *and* my studies. As it was, I gave tremendous priority to bodybuilding, but trained inappropriately and thus wasn't able to take advantage of my extreme motivation and the height of my recovery powers. What a waste. If you're a college student, make the most of what potentially may be your most productive training years. It's possible to make your best bodybuilding progress while applying yourself *fully* to your academic studies *providing* you know how to train and recover.

About halfway through college, and partly out of disillusionment with bodybuilding (due to my inadequate knowledge of how to train), I moved my focus almost totally to another passion—veganism and animal welfare. I remained a vegan for four years before finally accepting that such a regimen was unsuited to me. I reverted to a mixed diet, though still one free of meat, and returned to bodybuilding with a vengeance.

– Stuart McRobert

It's the start of your first term at college or university, and you're discovering a new-found freedom. A fresh student loan means you have a lot of money in the bank. What's more, there's no one to tell you what to spend it on. If like me you're totally serious about getting much bigger and stronger, then you're going to have to employ some apparently radical (relative to the common student's behavior) practices in order to make decent bodybuilding progress, and build muscle.

My university life began in September 2001. I'd not moved far away from home but the changes to my life were just the same as if I'd moved a thousand miles away. As a freshman I found there were many temptations and freedoms that didn't exist at home. But I was left without the many conveniences of home.

I'm a real hard gainer. I have trouble adding size and gaining strength even though working my backside off in the gym on an abbreviated program. My out-of-the-gym factors are critical to my progress,

even more so than for a "regular" hard gainer. Getting them in order is top priority if I'm to build muscle and might and achieve my goals. I've had to overcome many problems in order to get my nutrition, rest and recovery in good order to promote progress in the gym.

Bodybuilding nutrition

University and college food is usually overpriced, poorly cooked, high in saturated fat and artificial additives, and just plain bad for your health and bodybuilding efforts. There are, however, some choices you can make whilst at the cafeteria which will be beneficial for your health and bodybuilding. Here are some basic guidelines:

Chicken breasts

Most colleges will have a grill area offering a variety of cooked meats. Select a grilled chicken breast, and add desired low-fat condiments. A chicken breast will yield approximately 25 grams of protein and 4 grams of fat.

Eggs

Avoid scrambled or fried eggs, and choose the boiled alternatives. Eggs are an excellent protein-rich food.

Cereal and toast

Choose unprocessed cereals and bread, such as bran cereal and wholemeal toast. Shy away from high-fat spreads and sugar-loaded jams and jellies for your toast. Opt for a low-fat spread or low-sugar jam/jelly.

Salads

Cafeterias usually have a salad bar. Vegetables contain many vitamins, minerals and anti-oxidants, as well as fibre. Avoid high-fat dressings and pick out lower-fat alternatives, or even vinegar.

Subs or baguettes

Cafeterias usually offer a range of baguettes, pre-packed and “self-constructable.” If you construct your sub right you can get around 30 grams of protein, 60 grams of carbs, and about 10 grams of fat. My personal favorite is a chicken sub with tuna, tomatoes, cucumber, mustard and pickle.

The three-meals-a-day meal plan offered by most universities and colleges leaves a lot to be desired. This leaves it up to you to get your nutrition in good order. Three meals a day isn't usually enough for a serious trainee. You should be consuming protein-rich food (whilst not neglecting carbs and healthful fats) every three hours or so to keep yourself out of catabolism, i.e., your body feeding on itself to obtain energy. Catabolism is your arch enemy whilst trying to gain muscle. I generally feed 6–8 times a day. Don't, however, think that you have to rely on solid food meals to obtain your nutrition—supplement with blended drinks and shakes. Liquid meals tend to digest faster so the gap between a liquid feed and a solid meal, for example, will probably be quicker (depending on the individual and the drinks you concoct) than that of two solid meals.

Blended drinks are convenient as they are quick to make and consume, easily portable, and involve no mess. You can take them to a lecture or seminar if your feeding time happens to fall in class, with minimal interruption. Most lecturers don't mind if you eat or drink during class so long as you're discrete. Alternatively, drink the potions between classes. Many times I've also taken one of my concoctions to a party or other event to get my nutritional “fix” (discretely, of course) when my feeding time happens to fall in this period. With the desire and dedication you can have quality nutrition throughout the day without neglecting other areas of your student life.

Here's an example of my daily nutrition:

Meal 1 (in my room)

100 grams of Quaker Oats in skim milk, three egg whites, a banana and a litre of water.

Meal 2 (in the cafeteria)

A chicken and tuna baguette (sub) with mustard, pickles and salad items; and a litre of water.

Meal 3 (in class)

Liquid feed of milk, skim-milk powder, cottage cheese, banana and peanut butter.

Meal 4 (post workout)

30 g of whey protein in 300 ml skim milk, 95 gm dextrose in 500 ml water, and separate 500 ml of water.

Meal 5 (an hour later, in my room)

250 g lean minced beef, 100 g rice, a bowl of salad vegetables, and a litre of water.

Meal 6 (in my room)

Two bowls of bran cereal in skim milk.

Meal 7 (right before bed)

1,200 ml skim milk, an apple.

This yields approximately 3,500–3,800 calories, the correct amount for me to gain on.

Meal preparation

To prepare your own meals you'll need to learn basic cooking skills. Most kitchen appliances come with instructions on how to cook some basic foods. I suggest you invest in a book or two on the subject; you may even be able to take a course. You don't need to be a master chef, but you need basic skills.

You'll need some basic equipment to cook with. The kitchens or kitchenettes are, more often than not, poor in colleges and universities. Not only that, but food stored in the communal fridge is at the threat of thieving hands. I strongly suggest that you invest in the following equipment:

1. A suitably sized refrigerator (a freezer compartment is not essential but may come in handy)
2. A small microwave
3. Some sort of grill for cooking meats, e.g., the George Foreman grill
4. A hand blender and calibrated beaker
5. Kitchen scales
6. Some common kitchen attributes (plates, knives, forks, etc.)
7. One or two small (500 ml) thermos flasks or equivalents

I've found these things to be very helpful. You must check though that you're able to have such items in your room. If you explain your case to the accommodation officer and demonstrate your culinary skills and knowledge, you should get approval. Find a way to get these items into your room.

You'll also need to know how much food you're consuming on a weekly basis, so you can budget for it. The figures don't need to be exact, but exact helps a lot more. To know this you must determine what you're consuming on a daily basis. As Stuart advised in *BEYOND BRAWN*, I suggest you compose several daily dietary schedules to meet your caloric and macronutrient needs. Then you'll know how much milk, eggs, bread, chicken, etc., to buy when you make your weekly trip to the grocery store. Here's my weekly grocery list:

Three gallons of milk
Seven cans of tuna fish
Three dozen eggs
Two containers of skim milk powder
Two containers of cottage cheese
Seven chicken breasts
A kilo of lean minced beef
A kilo box of rice
A kilo bag of pasta
A bag potatoes
Two loaves wholemeal bread
A box Quaker Oats
Two boxes raisin bran cereal
A bag of apples
Two bunches of bananas
Various salad items
A jar of natural peanut butter.
This usually costs me around £40/\$60.

Most universities or colleges have some form of store on campus. This can prove to be very convenient if the items are reasonably priced, but you may have to make a trip to the local supermarket. This is why you must know what you consume on a weekly basis, to avoid "Oh, I need more eggs" halfway through the week, or running out of milk before the next shopping day. Get organized.

Supplements

At the best of times supplements can burn a substantial hole in your wallet. But when you're a student, and on a tight budget, supplements are usually out of the question for most people. Saying this though, don't think that supplements are a necessity. They aren't. They are exactly what they're called—supplements. Your focus should always be obtaining quality nutrition through a well balanced diet. I'm only saying this as most people freak out over supplements these days and give them way too much attention—this goes for students and non-students.

Some supplements may be useful post workout, in liquid meals. Some supplements provide a concentrated form of nutrition that's easily dissolved in milk or water and

which is quickly digested by the body. The only supplements I believe in are a quality protein supplement (for post-workout feeds), a good multi-vitamin and possibly dextrose or equivalent. Most of the time, however, post workout I rely on my “poor man’s protein shake” which mainly consists of skim-milk powder in skim milk, with possibly three cooked egg whites, and three or four bananas.

Drinking and student life

Drinking not only burns a hole in your wallet and eats up your weekly budget very quickly, but it has several negative effects on your body. Alcohol consumption may reduce testosterone levels. Drinking also impairs the absorption of some vitamins and minerals. Further, it has a dehydrating effect and provides a lot of useless, empty calories. Avoid alcoholic drinks if you’re serious about making decent gains. This is especially applicable to the hard-gaining and very-hard-gaining folk.

I know about the kind of treatment and “static” you can get when you’re a non drinker in a college or university environment, where drinking is rampant. Here are some techniques you can employ to make yourself fit in, minus the drink.

When you’re at a party, or drinking venue, find some sort of covered cup and put water in it. It’s unlikely that people will look in and see what you’re drinking so they will assume you’re drinking like the rest of them, and treat you no differently.

If you’re going to a party or bar off campus, be the DD (designated driver). This is a fail-safe method of not getting grief for not drinking, because without you people wouldn’t be going.

Don’t make a big deal about not drinking. Take care of getting your own drinks and don’t rely on people getting rounds in for you. This way people will neither see what you’re drinking nor be interested as they will probably be too busy wondering where their next drink is coming from.

Getting to sleep, and on time

Getting enough quality sleep is so important for making decent progress, especially for hard gainers. But getting to sleep in a college or university environment can sometimes be very difficult due to all the commotion going on. I nearly always get to bed at 11:00pm at the latest, to ensure I get a full eight hours of sleep every night. Asking people to keep the noise down usually ends up in them making it louder. How do you ensure you get a full quota of sleep each night? Here are some methods I’ve personally found helpful:

- a. Get yourself some comfortably fitting ear plugs if you sleep in a noisy area of the campus. They must be comfortable enough so that they don’t need regular adjustment. These may not come cheap, but will be an excellent aid for reducing background noise, though not eliminating it
- b. Ensure that the curtains in your room are dense enough to block out all external light. You may have to replace the ones in your room if they are poor in this respect. If this is impractical, invest in an eye shade to eliminate light whilst you sleep. It must fit comfortably enough so that you don’t have to keep adjusting it.
- c. Make sure your room is at a comfortable temperature. A too-hot or too-cold room can be ruinous to your sleeping. But don’t open the window to cool the room down if it’s too hot, as this can allow external noise to enter, disrupting your sleep further. Turn the heating off. If the room becomes too cold, add an extra blanket to your bed.
- d. Designate a time that you have to get to bed at, then get to bed at that time.

Employing these measures should help you to get to sleep on time, and for long enough. Never compromise on your sleep. For a hard gainer, progress can unnecessarily stall due to lack of quality sleep. ☐

Aging and Training, Part 2

By Gregory Steiner, DC

Here we are, another issue older—and we would hope wiser, better trained and another percentage point closer to our goals of strength, health and that always-around-the-next corner “perfect body.”

Even in the short time since the last issue, aging has taken place in our bodies. Some parts of us are fractionally less efficient, yet if—and only if—we’ve been training, eating and restoring ourselves as we should, some parts may be fractionally better and more efficient, and perhaps bigger as well. It’s really up to each of us individually. Our bodies age, but our job is to guide that aging so while the years add up so do the benefits of increased experience, body-wisdom and effectiveness in individual training.

Western culture is a rough neighborhood in which to age—the culture overall is only interested in youth, beauty and gold medals. Look at certain Hollywood celebrities who have faces etched in permanent smiles due to one too many trips to the plastic surgeon.

Your perceptions and beliefs—at the real gut level—about aging and what being “old” means, will guide what you do and how much you can maintain. Very recently a lifter I know set personal records in both the front and back squats though he’s been training for 22 years, half of his life, and his progress seems certain to continue. His secret? After all this time, over the last year he finally—and I do mean finally—learned how to train in a way that was friendly to his body.

The “magic” was in several mutually supportive factors, each inter-linking and symbiotically augmenting the power of

the others. First, he absolutely cleaned up his exercise technique. What were the effects of this? Well, he initially had a hard time dealing with a drop in exercise poundage. Losing 50 pounds off a squat was hard to swallow, and by increasing the depth to “*all the way*,” he lost another 50 pounds. Some lifters would be on the brink of suicide at that point. Now he had no belt, no wraps, no depth questions, and no excuses. It became a situation where “It’s all you!” meant exactly that.

With each change there were fewer injuries. The lower-back ache, tight hamstrings and repeatedly pulled mid-back became faded images of past stubbornness and ego. Best of all, he found he could once again squat down to the floor without pain, as his knees got better and better.

Further, he quit training to failure. He learned to stop a rep or two short, and he was clever enough to find a way to blend his “blood and guts” mental side with what his body really wanted. What he did was set his rep goal, usually 5–9 reps, and if the last rep or two just wasn’t there, he would rest a minute or so and do two more reps. This satisfied his driven personality yet built one success after the other into his memory and nervous system.

He also quit “obliterating” himself in most of his workouts, which were once described as “Klingon-like.” He learned to “tease and tweak,” to “suggest and encourage” rather than “beat to death,” and what a change it made.

Finally, he quit doing exercises which were painful and damaging to his body. In his case this meant bench pressing—old rotator cuff tear that just wouldn’t stand heavy strain—behind the neck pressing,

French curls (recipe for triceps tendinitis) and barbell rowing (to his chest, far too far forward for the good of the lower back) were all dropped.

All these changes, *following* adaptation, led to new PRs when most people are trying to do no more than tread water. I would also add that this individual is back in training for a return to competitive sprinting after a lapse of 20 years. So much for aging!

Broad types of pain

Pain is the usual limiting factor for most people, and if interpreted correctly as to what pain means, this is not a bad thing. Continuing on from discussion of the four-step pain cycle from last issue, I'll talk about types of pain relevant to the weight trainee.

In the broadest terms, the main causes of pain are chemical, tissue ischemia (which is another way of saying the tissue "starves" or "chokes" and has insufficient oxygen from bad circulation), muscle spasm, and pain after exertion.

The chemical causes involve conditions such as trauma which set up an inflammation response in which chemicals such as histamines and substance "P" are produced. These and other inflammation chemicals in turn irritate free nerve endings—the "bare wire ends" of pain-conducting nerves.

As we age and injuries accumulate, there are more chronically inflamed areas, and as it's human nature to avoid moving painful parts (so as to avoid pain itself), we get stiffer.

Ischemia, the "choking," can take place from bad circulation, or perhaps nutritional inadequacies. An interesting experiment shows that when someone performs forearm exercises while a blood pressure cuff is inflated around the upper arm, he will experience pain within 20 seconds. If the cuff is inflated and no exercise is performed, he will

hurt anyway within 3–4 minutes. If the experiment is done again on a person with bad circulation or a low metabolic rate, there will be a sensation of pain in 20–30 minutes due to slowness and insufficiency of blood transport bringing oxygen with it and removing waste products produced by the muscles' work. This condition apparently causes release of the histamines, for example, and here comes the pain.

Muscle spasm itself contributes to ischemia. The spasm itself is considered active—it expends energy and creates waste products though in an involuntary and often painful contraction, yet to complicate matters the spasm constricts blood vessels which narrow the "breathing" tubes of the muscle, so to speak. The combination allows ischemia to develop and therefore the pain producing chemicals as well, once again causing pain.

Post-exertion pain is the one we're most used to—it's the usual pain caused by training with weights, especially for higher reps. The mechanism is rather like that of muscle spasm, though over a shorter time. Exertion causes metabolic waste products to accrue, yet the contraction of the muscle temporarily closes off some of the supplying blood vessels while the muscle contracts, in turn temporarily reducing oxygenation and waste removal. One study showed that an isometric contraction of but 60% of a muscle's maximum would result in nearly complete constriction of the supply vessels. In blood pressure terms, the constriction—more technically called "occlusion"—takes place when the pressure exerted by the muscle on the blood vessel walls exceeds that of the systolic blood pressure within the vessel. It's rather like pinching off a hose. Again the waste products eventually irritate nerve endings, and there's pain again.

Another factor to discuss is swelling itself, in this case related to the “pump” felt after exercising a muscle. Waste products can create an increase in pressure in and around the muscle, which can create a reflexive contraction, which increases ischemia and therefore pain.

Reps themselves contribute to pain in another way—especially the delayed “day after” pain we’ve all felt and sometimes hated and sometimes enjoyed, as we’ve proven to ourselves we’ve worked hard.

As we age, and the waste removal becomes less swift, we take longer to recover from training. Interestingly enough, in a younger person the day-after soreness may arrive before that, perhaps some hours later. The generality is that the older the person, the longer it takes until the pain and soreness become “the day after the day after.” Why?

Circulatory insufficiency—the oxygen supply department is suffering from budget cuts and the garbage men are on strike!

In practical terms all this information makes a good case for restorative measures which aid recovery. Years ago, measures such as saunas, cold plunges and massage have been usual practice for reinvigorating tired, sore bodies. Some of us have learned that a “light” workout day, while painful at first, seems to work wonders in relieving soreness later on, and now you know why—circulation has been enhanced and waste products removed or metabolized, and thus no longer around to be irritating.

Specific types of pain

The most commonly injured part of a muscle is the musculo-tendinous junction, that place near either end of a muscle where the working, contracting part of the muscle merges into the stringy, grisly bit that

connects it to the bone. Such injury usually hurts on movement or contraction, yet true tendinitis such as with the Achilles or pec tendons will hurt on pinching, squeezing or rolling the tendon back and forth.

Ligaments can hurt as well, though the pain is of a different quality, and it’s a pain any athlete can definitely do without! Stretching, or deep pressure, will cause the pain.

Adhesions are similar to bits of Velcro, which connect bone to joint, ligament to bone, muscle to muscle, and so on. They are usually a by-product of trauma or surgery and in themselves are not painful, but what they do is create undue tension and tugging on structures, that in turn send out pain signals.

Cartilage can cause pain too, though only the disc cartilages in the back and the meniscus structures in the knee have their own fibers. More often, cartilage becomes rough or displaced and, like adhesions, creates pressure or tension on a pain-responsive structure.

Bones can hurt, though generally it’s the covering of the bone that has a very large number of pain receptors—just knock your shin!

Finally there’s organic pain. Pain that’s worse at night, is unaffected by position, does not respond to painkillers or is accompanied by weight loss or changes in bowel/bladder function, should be looked at straight away by a doctor.

But, it’s not all bad. There’s a strong psychological component to pain perception and our reactions to it when we perceive it, and I’ll look at that next time. ☐

Gregory Steiner, D.C., was born and professionally trained in the USA, but is resident in the UK. His chiropractic practice is in Glasgow.

FORUM

Edited by Stuart McRobert

Editorial and disclaimer

Your Editorial in issue #79 was the most important piece I've read in 79 issues. I believe that more thought and discussion on this subject are needed.

I'm a 46-year-old man who has trained 30 years in the martial arts, and with strength training, both as a trainee and an instructor. These pursuits have given me great satisfaction but also struggles similar to those that you described. I've noted in private discussions with peers, and in men's groups I've attended, that the issues you raised have particular relevance for me and for many men who have been harmed by messages that we ourselves perpetuate. Therefore, I now prefer to participate in the less exciting, but indispensable discussions of this sort rather than the more popular yet-another-way-to-train-properly rhetoric.

I'd like to address another topic. I'm relieved that you added a Disclaimer on the credits page. Let that admonition be a clarion call for readers to investigate—for themselves—the science and art that underlie this field, rather than surrender their good minds (and bodies) to the suggestions of authorities in any exercise forum, regardless of how experienced they claim to be, how inspirational they sound, how articulate they are, or how muscular they appear. I believe that it's only through education of this sort, coupled with the advice in your #79 Editorial, that we may exploit the opportunities that this excellent field provides, and give trainees the tools to evaluate the advice of others.

With your “ten years wiser” retrospectives, and these present

additions, you've shown an ability for self-examination, humility, and progressive thought that I find rare in this field.

– Arty Conliffe

The mind

The mind is the most important tool in your training. It takes a good mind to understand how to train properly. Too many people listen to others in the training world. The advice some bodybuilders give is downright dangerous and shouldn't be considered. These people are drug-fed genetic wonders that prey on average people with average genetics, to fuel their massive egos. These drug-fed individuals like to impress trainees with their “vast knowledge” of training advice. They would have you believe that training five or more days a week is essential for building a big, muscular physique. These individuals would have you working each bodypart for 10–20 sets. This works for them so surely it would work for you, is the usual way of thinking Wrong! If you don't take drugs and have poor to average genetics, you'll overtrain and gains will stop.

This is where your mind comes into play. Do you listen to these genetic wonders, or make a stand and listen to your mind? They will try and break you. They want you to train like them so they can influence you and increase their egos.

If, when these people come over to you in the gym, you cut them out of your mind, you're halfway there. Don't be rude, just tell them you train your own way, and leave it at that. Hopefully they will leave you alone, but if they persist, be right to the point. Tell them that, one, you don't take steroids and, two, your genetics suck relative to

theirs, and leave it there. Don't upset them, as otherwise your membership of the gym might be terminated.

At the end of the day you train yourself. Be your own person and build your own body.

When it comes to using the mind in training, it helps to have a driven self-important mind, clear of distractions. You must have a will of steel while getting out the last few reps in a set of 20-rep squats. The discomfort becomes almost unbearable, and the bar digs deep into your traps, but you must persist and complete the set. It has taken a lot out of you, but you've done it! Your mind helped you out when you needed it most.

Now imagine that your mind let you down and, a few reps short of the 20, it said, "This is too tough, but you nearly did it . . . maybe next time you'll do it." With that mentality, after you finish the set you'd feel guilty for stopping after being so close. Your mind and willpower let you down. You could have finished the set; you had the strength but not the mind power.

You can't train full-bore all the time as otherwise overtraining will catch up with you. But every workout must be a challenge.

You could put yourself in a fantasy situation when it comes to your workout. Watch a inspirational movie or read a good training book. If you put yourself into a hero's role, for example, you could go to war with the weights. Do what works *for you*.

Use your mind in the gym. It's your one and only true friend. It knows you better than anyone else. It will help you out in times of stress or need. But abuse it and it will work against you. It will let you off a hard workout and slow your gains, if you allow it to. Work with your mind or it *will* work against you.

– Matt Ware

Return to shoulder health

It can be difficult for a hard gainer to keep healthy shoulders and still work the upper body effectively. As we've learned from recent issues of *HARDGAINER*, squatting, deadlifting and bench pressing should be done with a retracted shoulder girdle. That means the shoulders are to be pulled back as hard as possible. Cable exercises are the best way I've found to help develop this ability. The old-timers used cables to perform feats of strength. Three exercises were used extensively, and I'll discuss them momentarily.

Most of us have probably seen the poor sporting-goods store versions of cables, or "chest expanders." That's not what I'm talking about at all. The more handy among you can make your own set with surgical tubing. Alternatively, buy your own ready made. I purchased the Fabled Cables from IronMind® Enterprises. I recommend them highly.

Now onto the exercises, traditional ones practiced by the old-timers.

The first one is the basic front chest pull. Arms are out in front of you, parallel to the ground, holding the cables. You then pull them back until your arms are locked out in the crucifix position. This works the shoulders to help stabilize the upper back for bench pressing, squatting and deadlifting.

The second one is the downward pull to back. Hold cables directly overhead, palms facing each other. Pull down and out until arms are locked out in the crucifix position once again. This one, too, works the shoulders, along with the traps and triceps.

The third one is the back press-out. Place cables behind mid-back, palms facing each other. Press the arms out to the sides until they are in the crucifix position. This works all the upper-body pressing muscles, and a perusal of old-timer pictures will show what great shoulders and upper backs they had.

I recommend that each of the exercises be done for 3 sets of 10–15 reps. Add cables *slowly* over time.

These exercises will build muscle strength from directions that traditional barbell exercises can't. They also can help rehabilitate rotator cuff and other shoulder injuries. Work these exercises slowly and progressively, with care, and you can gain additional shoulder strength and stability.

– Jody Shealy

Shoulders make a man

We're all aware of the terrific visual appearance well-developed shoulders have. Strands have the potential to develop this area to its fullest, in terms of strength, power and size. Recent trends have made the bench press a favorite amongst lifters. This has contributed, in my opinion, to both poor posture (due to an imbalance between the front and rear muscles of the body) and a less functional physique. Although I believe all muscles should be strengthened equally, if you're going to give more attention to certain areas, make those areas the back and shoulders.

Whilst on holiday last year I devised a two-week program to target my shoulders. The only equipment I had was my strands. I only wanted to spend 20–30 minutes a workout and although year-round I usually train two or three days a week, in this case I thought a bit of specialization would do me no harm. I made the decision to train almost every day for those two weeks, taking a day off whenever I felt tired. I wasn't doing any leg work for those two weeks (my reward for being on holiday) so I knew that I wouldn't overtrain. Here's the program I used:

1. Back press: brief warm up then 5 rest-pause singles
2. One-arm overhead press: 5 rest-pause singles

3. Overhead downward pull to front: 5 rest-pause singles
4. Front chest pull: 5 rest-pause singles
5. One-arm curl: 5–8 rest-pause singles
6. Abs (optional)

Start this program with a resistance that you feel is working you hard but leaves you knowing that you could have done more. It's vital that you cultivate this feeling of energy. Having nothing left at the end of your workout is a definite no-no for this program. Add resistance as and when you see fit because you should be training hard and testing yourself, but each rep should be a certainty. I believe this is how the old-timers used to train and benefit from frequent workouts without burning out, before the days of steroids.

A word on the pulldown to the front—if you wish to substitute it with an improvised one-arm row, do so.

My results from this program were two inches around the circumference of my shoulders. People even commented on my increased development—not bad for two-weeks worth of work.

I'm a typical gainer, and I couldn't train this way on a regular basis, and although you're welcome to try to do so, I urge you not to, as I believe it will lead to overtraining if sustained too long. It also goes without saying that I didn't, and never will, use any body-enhancing drugs. I say this because some people may not believe such improvements are possible for a drug-free typical gainer. The results are a testament to good training with strands, hard work, good food and adequate rest. Remember that strength is a feeling as well as a demonstration of dynamic physical movement, and there's no sense in tearing that down with drugs.

– Nick Tangi

Training is for life

Something that has been hard earned is the point that training is for life, and

many years of sensible drug-free training is required to build the best possible physique *together* with building health. Keep this in mind when considering any mad temptation to, for example, add too much weight at a time to a given exercise, perform a dangerous exercise or unplanned act inside or outside of the gym, return to training too soon following injury, etc. You have a whole lifetime to train, and it isn't worth risking that for some temptation that may offer short-term personal gain or ego gratification, but at a heavy price.

Work hard, train wisely and you'll experience the consistency of training that will deliver consistent progress.

– Peter White

Training frequency

Like a lot of HARDGAINER readers I'm an older trainee, 48 years old. I used to be stuck in planning my training programs with a seven-day time frame. Why? Who knows—tradition probably.

I now train with weights one day, rest a day, get in some cardio work and assistance exercises (L-fly, lower back, abs), rest a day, etc. So every other day I'm resting.

– Gary Nickless

INSPIRING QUOTES

“Everyone takes the limits of his own vision for the limits of the world.”

– Arthur Schopenhauer

“When I was a young man, I wanted to change the world. I found it was difficult to change the world, so I tried to change my nation. When I found I couldn't change the nation, I began to focus on my town. I couldn't change the town, and as an older man I tried to change my family. Now, as an old man, I realize the only thing I can change is myself, and suddenly I realized that if long ago I had changed myself, I could have made an impact on my family. My family and I could have made an impact on our town. Their impact could have changed the nation and I could indeed have changed the world.”

– Unknown

“Putting off an easy thing makes it hard, and putting off a hard thing makes it impossible.”

– George Lorimer

“Be kind, for everyone you meet is fighting a battle.”

– John Watson

“Better to do something imperfectly than to do nothing flawlessly.”

– Robert Schuller

“I've missed more than 9,000 shots in my career. I've lost almost 300 games; and 26 times, I've been trusted to take the game's winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed.”

– Michael Jordan

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Final page

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