QUEST FOR ADVANCED CONDITION

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The Fundamentals of Workout Design by Charles Staley, B.Sc, MSS Director, Staley Training Systems

A properly designed workout has a number of features, all of which are necessary for a high level of training success:

Your workouts must be planned: I don't care if every bodybuilding hero you've ever had planned their workout in the car on the way to the gym, it's NOT the best way to do things! Incidentally, the term "instinctive training" was never meant to infer a lack of planning, but it's often used as an excuse for exactly that.

Although planning can be complex, the basic idea is to consider the type of fatigue that a workout will produce when you're planning the next session. If you're training biceps and triceps on Monday, you shouldn't train your pecs or lats on Wednesday, because the residual fatigue from the previous session will cause your arms to fatigue before you can properly train the pecs or lats. Similarly, leg training should not take place when your low back and/or abdominal muscles are tired, because you won't be able to maintain a safe lifting posture.

Planning and periodization are big subjects— too big for the scope of this article. Therefore, let me recommend an excellent resource on the subject— the Advanced Program Design videotape series by Paul Chek (call 800-5528789).• Your workouts must be properly timed: there is a point, which usually occurs between 3-4 days after a training session, when a muscle is in the best position to be trained again. If you train the muscle prior to this time, you're simply blunting your progress. If you wait too long between sessions, you'll regress to pre-training levels. I normally suggest waiting until you have at least one full day without soreness before a workout is repeated. If, at the beginning of the next workout you feel weak and/or can't create a good mental connection with the muscle you're training, abandon the workout for at least one more day.

Your workouts must be hard and brief: You can train a muscle to do one of two things. You can train the muscle to contract very forcefully, albeit briefly, or, you can train the muscle to contract for long periods of time at a low force output. It is the former of these two methods which causes muscle to grow. Workouts which emphasize endurance will give you an endurance athlete's body— remember that the next time you're past the one hour mark in a workout.

Your workouts must be goal-directed: I once was hired to help a football player complete the NFL combines. One particular test is the 225 pound bench press for maximal reps. This athlete was one of those people who just loves to train— 2-3 hour workouts, 5-6 days a week were the norm before I started training him. After several weeks of low rep training, he called me to say that he just wasn't "feeling anything" from his workouts. When I asked how his bench press was doing he replied "Oh— the bench is great— in fact I just hit a new PR last night!" So my point is, you have to decide what the purpose of your training is, and then carry out your plan with confidence.

Your workouts must be safe: I know, safety is no fun to talk about. Until you experience a serious injury, you'll never give safety more than a passing thought. Take a proactive position on safety. Make sure you're healthy (to the best of your knowledge) going into the workout. If there's any doubt, wait another day, or, of course, if you have an obvious injury or illness, see your doctor. Next, make sure all the equipment you'll be using is in good working order— it only takes a second, but can save you a lifetime of pain. In particular, check the flooring, the ends of the bar you'll use, or, if you're on a machine, look it over for signs of wear. If you're performing a heavy squat, deadlift, or Olympic lift, take a moment to make eye contact with anyone who may be nearby— just to let them know enough to stand clear.

Finally, make liberal use of power racks, good spotters, chalk (although gym owners will hate me for saying it), and anything else that improves your chances of having a safe workout.• Your workouts must be repeated at least four times: Although I am a strong advocate of constant change, if you don't repeat a workout at least four times, you don't have a frame of reference to ensure progress. Since bodybuilding is a qualitative sport, it's not easy to gauge progress unless you have a quantitative standard of measurement. Since we know that there is a direct relationship between strength and lean mass, I believe it is imperative for all bodybuilders to aggressively improve and monitor their strength levels.

Your workouts must be progressive: Progression ensures intensity. What I mean by this is, by repeating a workout at least four times as detailed above, the last 2-3 times are going to be very difficult and result-producing. The intensity is guaranteed because you have "raised the bar" so to speak, and you'll have to summon all of your resources to accomplish the goal. This is far different from simply "working hard" on a series of workouts which have no continuity. We don't know what's really in us until we're pushed to the limit.

Your workouts must be efficient: I'd like to make a case for the drop set in this article. In a "standard" set, the only repetitions that really do you any good are the ones at the end of the set, regardless of how many reps you're performing.

I used to be less enthusiastic about drop sets until my colleague Jerry Telle convinced me that they could be effectively performed starting at very high percentages of 1RM.Telle's method utilizes a technique I call "wide-spectrum variable-tempo (WSVT) drop sets." The idea is to carefully warm up to a 23RM set, and then progressively strip off weight so that you can continue all the way down the motor unit spectrum. In this way, you're fatiguing your highest threshold muscle fibers as well as the medium and low threshold fibers. These WSVT drops can last as long as 4 minutes and believe me, when you finish one, you'll be convinced too. (Telle presents seminars on his unique methods, called Tellekinetics. For more information, please call 800-5192492).

Your workouts must manage fatigue properly: Since fatigue accumulates over the course of a workout, the sets performed at the end of the workout will be performed with less intensity. For this reason, I structure the majority of my workouts as circuits.

To most bodybuilders, circuit training is thought of as a method of integrating resistance and aerobic exercise by performing several exercises in vertical progression (meaning that one performs one set of each exercise until all have been completed, as opposed to finishing all sets of the first exercise before progressing to the second) with little or no rest between exercises. The supposed (and unproven) benefit of this type of high density (work torest ratio) exercise is that the exerciser will improve aerobic and anaerobic functioning at the same time.

Unfortunately, this narrow definition has done a disservice to circuit training, and to those who have dismissed this method as an ineffective fringe variant used only by the

profoundly unfit as a way of regaining some semblance of fitness. In truth, circuit training has much to offer, even for the advanced, if you'll allow for a slightly broader definition of the term, and a bit of creative application. To illustrate my point, let's say that you're training lats and triceps tomorrow, and you'll perform two exercises for each muscle. Here's how most people would structure the workout:

Exercise 1: Chin-ups | Exercise 2: Seated Rows | Exercise 3: French Press | Exercise 4: Tricep Pushdowns.

Using this arrangement, it's hard to do justice to the last exercises. You're simply too exhausted from the first two exercises. So instead, let's arrange the exercises into a circuit:

Exercise 1: Chin-ups | Exercise 2: French Press | Exercise 3: Seated Rows | Exercise 4: Tricep Pushdowns.

You can perform this workout in two ways: you can do a large circuit where you complete one set of each exercise, and then repeat for the desired number of circuits, or, you can perform the first two exercises back to back until all prescribed sets are completed, and then complete the remaining two exercises. Either way, I rarely use the "station" approach to workouts any longer— it's just not efficient.

Your workouts must employ a warm-up and cool-down: Boxing fans know that, when a fighter climbs into the ring bone-dry, he's probably in for a tough night. Bodybuilders can learn a lot from this phenomenon.

Warming up is a transition (physical and psychological) from a low level of activation to a much more intense level of engagement. George Carlin once remarked "No one jumps out of the bed first thing in the morning and vacuums the floor!" If you've ever experienced not wanting to go to the gym, and you forced yourself to go anyway, only to have one of your better workouts, you can bet that your warm-up was responsible. In my experience, most people have a very hard time getting their warm-up right: they either spend FAR too much time and energy, which creates too much fatigue, or they jump immediately to their top weight.

The warm-up has two components. The first phase, called the general warmup, is used to elevate body temperature. I suggest using any activity you like, performed in a low

intensity, continuous manner, until you break a sweat, which normally takes between 2-3 minutes. I personally like skipping rope. If you have any muscle groups which you know are excessively tight, I'd recommend stretching them now. Don't stretch aggressively— just enough to loosen up a bit.

Next comes the specific warm-up, which simply refers to your "warm-up sets." The big question is, how many should you do? My rule of thumb for this is to take your top working weight for the first exercise you'll do (you may have to estimate of course), and perform 2 warm-up sets for every hundred pounds of weight. For example, if you plan to deadlift 315 pounds for 5 sets of five reps, I'd suggest 6 warm-up sets. Incidentally, for some unknown reason, people always seem to think that the last warm-up set must have at least as many reps as the first "work set." Bad plan, because it'll create too much fatigue. The last warm-up set should consist of 1-2 reps only— all you're trying to do here is gauge the proper working weight for your first work set.

Warming up for subsequent exercises depends on how similar they are from the first exercise you did. Using the above example, if you second exercise is the bench press, follow the 2 sets per hundred pound rule, since you'll be training entirely different muscles. However, if you'll be performing leg curls for instance, it should only require one warm-up set to become mentally and physically prepared for the exercise.

Cooling down is simply the reverse of warming up. Spend a few minutes performing some type of light cardiovascular exercise to pump some blood into those hungry muscles and to ramp yourself back down to your "normal" day. If you have short muscle groups, now's the best time to stretch them.

Your workouts must be placed during the best time of the day: I'd like to make an argument here for early morning workouts. Many people can relate to having the best intentions all day long at work, only to fall into a heap as soon as they get home from their jobs. Before you know it, Seinfeld reruns are looking a lot more attractive than climbing under a 400 pound bar!

Getting up at 5 or 6 am for a workout can seem daunting, but it's actually not that difficult, if you plan for it. After an initial adjustment of 4-5 workouts, most people report that they have much more productive workouts than ever before.

The Basics of Exercise Biomechanics If you're a competitive weightlifter or powerlifter,

your objective is to find the easiest way to lift a weight— otherwise, you'll lose. But if you're lifting to increase muscle mass and strength, your goal is to find the hardest way to lift a weight.

This is a difficult concept for people to grasp, because it runs 180 degrees to what your instincts tell you to do. Watching novice lifters confirms this— everything is done with maximum "body English."

My general rule of thumb is that if you can find a way to make an exercise harder, do it. For example, if pausing for a full second at the bottom position of a bench press is harder than "touch and go" style, use the pause. If maximally squeezing your biceps (more than would be necessary to lift the weight) at the top of a curl makes the exercise harder, do it. If crunches are harder on a Swiss ball, use one.

Of course, this approach requires that you check your ego at the door. In fact, it has been my observation that the ego is one of the most insidious obstacles to making progress in the weight room. During one of my last workouts, I noticed a trainer giving some advice to a couple who were holding down each other's butts during leg curls— he suggested that they use their glutes to lift the front of the quads off of the padding, so that they could stabilize their own body during the exercise. As soon as they realized that this would necessitate using less weight, they went back to their former habits. Too bad.

Of course, all good personal trainers and strength coaches have come up with their favorite "tricks" to make various exercises more effective. You don't need a degree in Kinesiology to learn how to develop your own. All it takes is discipline and creativity.

Intensity: Let's get one thing clear: you could hire the best strength specialists available to author your training program; you could hire the best nutritionists, use the best supplements, you could even resort to using anabolic steroids, however, if you don't execute your workouts with all-out ferocity, it's all for naught. The more experience you have, the more this applies.

Now, when I say "intensity," I don't mean the sports science definition (i.e., how close you are to 1RM), but instead, the application of effort during workouts .There's an old story about how the Egyptian pharaohs managed the slaveworkers who built the pyramids: 1000 workers were instructed to haul a massive stone block up an incline to the top of the pyramid. At the end of the day, it was brought to the pharaohs attention that they had

failed. So the pharaoh had 500 of the workers killed and told the remaining workers to get the job done, or he would kill off half of the remaining workers and they would try again. They accomplished the task.

The moral of the story is that often, we think we're applying maximal effort when in fact we are not. Although both volume and intensity are both components of successful training programs, no amount of volume will compensate for insufficient intensity. If you had to choose between the two, go with intensity. Period.

Intensity must be tempered with discipline as well. If you're on the leg press and allowing your low back to round so that you can get that last rep, you're not being disciplined. The application of disciplined effort means that you get every rep humanly possible within the confines of perfect technique.

Optimizing The Time Between Workouts: The Essentials of Recovery: Progress occurs not during workouts, but in the spaces between workouts. Fill these spaces properly, and progress will be swift. The three areas I'd like to specifically address are post-training nutrition, massage, and the concept of active rest.

Post- Workout Nutrition and Supplementation: Eating properly can be difficult even for very serious athletes, because compared to training, the results are often more subtle and take more time to see. Nevertheless, I'd like to urge you to make a commitment. Right now. Make the decision, based on the fact that you know it's important, to clean up your diet. Not tomorrow, NOW. A good place to start is your post training nutrition. After a hard training session, your muscles are glycogen-depleted.

This means that they are "open for business" to use the words of my colleague Will Brink. What he means is that the muscles will quickly uptake any simple carbohydrates you consume immediately after the workout. The neat thing about this is that you can use a high-glycemic drink to "deliver" creatine, branched-chain amino acids, vitamins, etc., directly into your muscles by taking them with the carbohydrate drink. This is the concept behind EAS's Phosphagen HP, incidentally.

Charles Staley, B.Sc., MSS: His colleagues call him an iconoclast, a visionary, a rule-breaker. His clients call him "The Secret Weapon" for his ability to see what other coaches miss. Charles calls himself a "geek" who struggled in Phys Ed throughout school. Whatever you call him, Charles' methods are ahead of their time and quickly produce serious results.

His counter-intuitive approach and self-effacing demeanor have lead to appearances on NBC's The TODAY Show and The CBS Early Show.