

What is SuperSlow®?

By Ken Hutchins

Protocol or Philosophy?

When *SuperSlow* is mentioned, it is important to determine whether its context is for a specific exercise protocol or for a more-general exercise philosophy.

Protocol

Specifically, and simply put, SuperSlow is an exercise protocol whereby the positive phase is executed in 10 seconds and the negative in 10 seconds.

Expanding on this, it is understood that the weights—assuming weights are the resistance source—are lifted during the *positive* and lowered during the *negative*. Another way to express this is: Positive contraction occurs as the muscle shortens, and negative contraction occurs as the muscle lengthens.

Philosophy

As an exercise philosophy, SuperSlow encompasses a broad spectrum of considerations.

Frequency: High-intensity activity requires a disproportionately greater *recovery interval*—that is, the period of nonexercise between workouts. Experience with SuperSlow shows that most subjects require 3-7-days rest between workouts. This does not mean that they must be totally inactive, but it is common for subjects to erroneously believe that other activity—running, swimming, tennis, biking, etc.—performed for the sake of exercise, will help or, at least, not hurt their progress. For optimal results, exertional activity must be limited during the rest interval or, obviously, we don't have *rest*.

The foregoing is often interpreted with the response that, "Oh, then it is not necessary for me to exercise more often." This is, therefore, misunderstood. More accurately, the response should be, "For optimal results, it is necessary that I exercise no more often."

Duration: If an activity is adequately intense, then by its very nature it can be continued for only a brief length of time. In our experience, performing a workout that exceeds 30 minutes is an indication that the intensity was too low. Of course, this varies on an individual basis. Some advanced SuperSlow subjects workout at such an intensity that their workout lasts less than ten minutes.

Intensity: Intensity is *the degree of momentary effort* applied in exercise. Activity that can be continued *ad infinitum*, like walking or jogging, is *low-intensity*. Brief activity causing a failure of the involved musculature within only 1-4 minutes is *high-intensity*. Note that *intensity* may refer in a limited sense to one particular exercise, or it may refer in a broader sense to a series of exercises comprising the overall workout. It is possible that one exercise is high intensity while the average intensity of the entire workout is moderate or low.

Intensity is confused when a subject states that he, "trained hard for two hours." If "hard" means "intense"—and it can in proper usage mean this—then sheer experience tells us that the subject must pace or constrain his effort in order to endure physical activity for two hours. And if he intends exertion without limit, his bout can last only a few minutes.

It is a natural and erroneous assumption that high-intensity exercise is necessarily present when one is weight training. If the load with the weights is low enough, then the briefly acquired and complete fatigue is obviated, and activity is continued indefinitely, hence it is of low intensity. Within the past few years the word *weight bearing exercise* has emerged. This is a nonsense word, since all body parts have weight and all earthbound movement is against weight. Only in a weightless environment might this word serve some distinctive purpose.

People often remark that by *high-intensity* we mean "resistance exercise." All exercise, and in fact, all movement involves resistance. To refer to a kind of training as "*resistance* exercise" is not distinctive.

Imagine yourself in a *weightless* environment. The term, "zero gravity" is incorrect. (There is no such thing as *zero gravity*. Gravity is everywhere.) Realize that *weightlessness* is caused by the gravity that causes you to fall around the orbit of the earth, or directly into it or some other celestial body. The fact that you have no backpressure to push off against gives the sensation of *weightlessness*.

Nevertheless, do you have resistance against your movement when weightless? Answer: yes. It is the tonus of your muscles. *Tonus* is loosely defined as the force resident in a muscle when at volitional rest.

Now if you die, do you have resistance? Yes, yet more. You have lost, through death, your volition, but another person will encounter resistance in your limbs due to *rigor mortis*.

Therefore, we encounter muscular resistance at all times and stating "resistance exercise" does not connote special meaning.

A special condition exists when the muscles move against a *meaningful resistance*. A meaningful resistance is one significant enough to cause inroad of the muscle's strength to effect momentary dysfunction within 1-4 minutes.

You see, muscle fibers fatigue, even with the resistance of tonus, but so on a rotating basis. Imagine a conveyor system where several fibers are fatigued as fresh ones are moved in to relief, thus permitting the original ones to rest and recover. This system is not overwhelmed by muscular tonus nor by most daily activity. Only when effort is required to expend more fibers and expend them rapidly does the system reach a failure where momentary dysfunction occurs. Somewhere on the way to this degree of inroad (progressive momentary fatiguing) is encountered some yet unidentified threshold that stimulates the system to upgrade and to become stronger. Only through an organized system of progressive resistance can we achieve an ongoing process of strengthening. This requires some way to record the work performed by the muscles and to ramp up the load at a predetermined future date, hence progression. Thus some means is required for progressing the resistance which was originally systematized with adjustable weights.

Other attempts at exercise have sought to exhaust the body, but by avoiding meaningful resistance. Rather than stimulate muscular strengthening, the quest has been to avoid it so that the body could achieve a steady state of some activity. Training methods such as running, swimming, and walking come to mind. We now realize that these approaches are counterproductive and biologically unsound.

The resistance is either of efficient or of inefficient quality. If efficient, the muscles find little or no respite and fatigue within 1-4 minutes. If inefficient, the muscles can continue *ad infinitum*. Although the continued activity may be uncomfortable for the subject in this last case, the muscles do not completely fatigue to that point where they become momentarily inoperative as in the high-intensity situation.

Another erroneous assumption is that *high-intensity* connotes *high-force*. High-force further suggests other intuitively incorrect associations—incorrect associations with high-intensity, though correct associations with high-force—such as violence, machismo, harm, danger, reckless heaving and other imprudent behavior. On the contrary, demonstrations as a subject stands on a force plate and while performing a standing biceps curl exercise with a barbell, illustrate low forces at a slow speed. At progressively faster speeds, the forces increase exponentially and, what's more, the required loading on the intended muscles to be exercised is obviated. Therefore, high-intensity correlates with low-force. And slow movement correlates with higher-intensity and safer exercise.

High-intensity exercise is desirable, because it ensures stimulation of the body's protective mechanism while minimizing its insult to high-force or high-repetition trauma.

Environment: Exercise is not play. If we take it seriously and bother to undertake its rigors at all, it should be performed in a no-nonsense manner. For maximum benefit and safety, it requires a clinically-controlled environment that is devoid of horse play, socializing, music, mirrors, telephones, pagers, beckoning children, high heat or humidity, or any other distractions. It is obvious that exercise is a physically demanding event, but properly performed, it demands intellectual control that we do not want to compromise with distractions.

Another major distraction is heat. Good ventilation as well as cool, dry air encourages thinking, will power, and thus intense effort. Proper attire should compliment this consideration.

Form: Proper form, first and foremost, means a slow speed of movement. We desire this from three perspectives. First and foremost, a slow speed minimizes acceleration—abrupt starting and stopping—the source of excessive force and injury. Second, slow speed minimizes momentum which undesirably unloads the muscles. Efficient muscular loading is what high-intensity exercise is all about. And third, slow speed permits concentration and study during the movement. When you move quickly, there is no time to actually think through the movement.

There are other aspects of form. In general, we want to avoid grimacing, wiggling-squirming-thrashing, breath holding (Val Salva), excessive hand gripping, and unnecessary tension in areas of the body not intended for involvement in particular exercises.

Safety: Safety, also first and foremost, means a slow speed of movement—as already discussed. There are other considerations of safety, however. Staying cool is a safety consideration, since overheating is a threat to the subject's well being.

Proper breathing technique minimizes the dangers of stroke. Proper head and neck positioning and support protect the subject from neck strain and headache. And proper exercise execution is associated with the body remaining aligned and protected. How to move in and out of the equipment and between exercises is also choreographed to maximize safety as well as efficiency of exercise effect.

Purpose: Another important aspect of the SuperSlow Exercise Philosophy is the actual reason it is performed. We exercise, not to enjoy the exercise, but so that we can apply our better bodies gained from the exercise to enjoy all the other activities (or inactivity) in our lives.

Exercise is not a luxury. It is a basic requirement for a normal, healthy life.

Many people exercise, many do not. Of those that exercise, many do it for the wrong reasons. There are certain things for which exercise is essential, and there are many benefits popularly ascribed to exercise that are biologically impossible.

Exercise is often applied to burn body fat and to trim (spot reduce) certain areas of the body. Spot reduction, though the most common justification for many commercially successful products, is a hoax. Also, exercise is a very inefficient method for burning those extra calories beyond those you normally consume in your typical daily activities.

Certainly, exercise will burn a few extra calories, but far more important is the increased basal metabolism resulting from possessing stronger muscles. And voluminous low-intensity exercise leads to muscle wasting.

More important for control of bodyfat are the calories you don't eat. Caloric control is the foremost factor to address body leanness.

Skeletal Muscle: The Window to the Body

The major areas that we know that we can enhance through high-intensity exercise are:

Strength	Stamina
HDL	Blood Glucose Levels
Bone Density	Mobility
Vascular Efficiency (peripheral and central)	
Metabolic Efficiency	
Joint Stability and Protection	

With exercise, our only approach to these areas is by training the skeletal muscles. Only with the skeletal muscles do we have the volitional control willed by our intellectual processes to impose the required demands. In the past, it has appeared that we could manipulate these effects by other methods, especially those that elevate heart rate. We were merely overlooking the fact that heart involvement is a dependent factor. It too, responds to the skeletal muscles.

Another oversight was something already known for many years. The skeletal muscle is the focus of many important processes in the body. Therein reside the greatest number of mitochondria (the energy powerhouses of the cell), the greatest vascular supply, the greatest nerve supply, the only volitional control (already mentioned) and the major factor of potential cardiac output (the so called venous pump). Is not it interesting that the "flesh" eaten by "flesh eaters," (carnivores) mostly refers to skeletal muscle, the most abundantly available nutritionally valuable part of the carcass

Mixing Things up

Some trainers have heard fragmented information about SuperSlow and have chosen to mix it in with other exercise programs and protocols they already use. This is a bad idea. Yes, moving so slowly is a step in the right direction, but the incredible beneficial results that are possible from SuperSlow are significantly

truncated if other exertional activities are included. Once the effect of SuperSlow has been turned on, additional activity undoes the effect to some, if not, large degree. This, perhaps, is the most difficult aspect of SuperSlow for many people to grasp.

Most of what we naturally believe about exercise comes from the sports arena. It does not have a scientific basis, although vogue has cleverly couched it in panoply of scientific jargon. It is therefore easy to associate athletes and coaches with exercise expertise when, in fact, the opposite is usually the case.

Other assumptions (erroneous conclusions) follow from this association:

- Exercise is for athletes
- Exercise is special to athletes
- One must be an athlete in order to exercise
- Exercise makes one an athlete
- What athletes do for exercise is the way the general public should train.

The facts are:

- Most athletes are either clueless or grossly misinformed about proper exercise. They perform activity in the name of exercise that is often counterproductive and dangerous. Their genetic superiority reigns in spite of their poor training. The general public often celebrates their ignorance and emulates their behavior.
- Great athletes are exceptional individuals, not average people off the street. They possess genetically inherited traits that enable them to perform specific feats that average people cannot.
- The general public should exercise according to principles found in biology, chemistry, and physics, not coaching lore. As a matter of fact, so should the athletes.
- Athletes makes up a small percentage of the general public. Exercise is for everybody not just the select few athletes, celebrities, or so called *pretty people*.

Practices that are contrary to SuperSlow are:

- All forms of Aerobics (steady-state activity)
- All genre of ballistic movement
- Cross Training notions
- Specificity Training
- Motions that do not tract basic muscle/joint function
- Motions that involve split functions (unilateral movement) of the body except where gross disparities make reasonably bilateral equality impossible. Example: One-legged leg press.

SuperSlow is Trademarked

SuperSlow is a federally-registered trademark. I trademarked this name, because I knew that once SuperSlow was acknowledged as the best way to exercise, others would borrow parts of the philosophy and dilute its meaning with tainted ideas from various unqualified sources.

The uninitiated trainers who see clients demanding SuperSlow sometimes opt to call it “Slo-Mo.” The use of this term often indicates that they have not so much as read this technical manual. Most clients who have exercised under the eye of a SuperSlow Certified Instructor understand the concepts better than trainers doing so-called *Slo-Mo* or any similar form by a name other than SuperSlow. The danger herein is that some clients will be confused by the knock offs, as they know no better than to mix a superficial part of the SuperSlow Philosophy with a large part of their traditional exercise nonsense.

To solve some of these inadequacies I have also trademarked several other names, although I encourage only the SuperSlow label. These include: *Slo-Mo*[®] and *Ten/Ten*[®].

SuperSlow Philosophy: Eclectic to a Point

Although SuperSlow is the best general purpose protocol for exercise, strict adherence to a 10/10 excursion is not always possible with some individuals. Sometimes a manually-resisted exercise is more practical. In the most restricted situations a timed static contraction (TSC) is the prudent choice.

Timed static, as its name implies, does not involve gross movement of the body. The subject is locked into a position—usually midrange—where he exerts against an immovable load in staged levels of effort. Although this approach does not serve much to permit the joint motion for joint lubrication and flexibility nor does it apparently promote a remarkable degree of vascular challenge, it is the most conservative method to address injured body parts.

Negative-only training—whereby the subject only lowers the resistance—might also be embraced within the broad heading of SuperSlow Philosophy but with stern reservations.

Tip of the Ice Berg

This article is merely a brief overview of SuperSlow. As you will soon realize, SuperSlow Philosophy and Protocol represents a thorough overhaul of most, if not all, of what we have traditionally believed to be true regarding exercise notions.

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