



STADION® news
Training Info for Serious Athletes

<http://www.stadion.com>

Volume 11, Number 2, Spring 2004

\$3.00

Secrets of Stretching Just Released on DVD!

The video *Secrets of Stretching*, which revealed the most effective method of stretching, is finally available on DVD.

The original video, released in 1990 on VHS, presented the revolutionary concept of combining strengthening the muscles with stretching them for awesome strength at the greatest range of motion. Another benefit offered by this method is achieving full flexibility even without a warm-up. The quality of instruction on this video was unprecedented then and unsurpassed since until the current release on DVD.

The *Secrets of Stretching* DVD contains the original video with minor updates, plus a menu system that lets viewers quickly find any exercise and makes it more convenient to follow instruction than on the videotape.

The DVD presents programs for achieving splits while increasing strength of the trunk and legs. There are four such programs—from beginners to very advanced. All these programs are accessible from menus, and so are individual exercises within those programs.

This DVD is released in a three-language version (English, French, and Spanish, all on one disc).

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How Often to Work Out

■ Summary

To learn more about this video visit Stadion Publishing Company's Web site at <http://www.stadion.com/secrets.html>.

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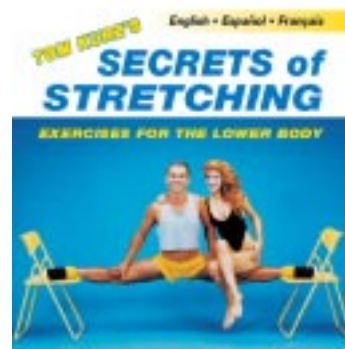
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THE SAFEST AND THE FASTEST STRETCHING METHOD

Write, record your solution before beginning. Use as your solution program.

The Importance of Workout Composition

by Thomas Kurz

The amount of work done in a workout is not the only factor determining athletes' response to that work.

All aspects of a workout's composition—selection and order of exercises, changes of intensity of effort, workload in particular exercises, and the total workload in the workout—have to be correct for optimal results.

If exercises are not selected to best match both the athletes' capabilities and the task of the workout, then the tasks are not fulfilled and the athletes are discouraged. If the exercises are poorly ordered—do not flow, with each preceding a lead-up for the one that follows—athletes get “out of the groove.” They become distracted by abrupt transitions between dissimilar actions, which require extra commands and explanations if the exercises are new; if the exercises are known, the athletes still waste time and effort on switching their “mode of operation,” and the workout prolongs unnecessarily because of needless breaks. If athletes are to be tired, it ought to be with purposeful activity that helps fulfill the objectives of a given workout.

Intensity too high or too low, and inappropriate changes of intensity—for example, too sudden increases or decreases—affect athletes' work capacity and speed of recovery.

A well-composed and well-conducted workout leaves athletes with a sense of accomplishment and looking forward to the next workout. After the workout athletes should be more or less fatigued—depending on the type and task of the workout—but not so much as to interfere with healthy recovery. Workouts with an excessive training load (amount and intensity of effort) can put athletes into a catabolic state lasting several hours, so they do not feel hungry for hours after the workout, can't fall asleep, or sleep poorly.

Some instructors haphazardly throw together some exercises and are very proud that their athletes work hard. Hard work does not always equal smart work.

Effectiveness of a workout or an exercise is not determined by fatigue or pain it causes but by how well it realizes its task—and how this task fits in the overall long-term training plan designed to improve athletes' performance. Some workouts

have to fatigue deeply, some exercises have to hurt, but for some tasks fatigue or pain is counterproductive.

Below is a negative example from taekwondo. (I do not imply that all taekwondo instructors run poor workouts. I have seen poorly run workouts in many sports and martial arts.)

Here it is: “Our class starts out with the stretch kicks, works into all the kicks with-out pads, [. . .] then pads at full power followed by or intertwined with push-ups, sit-ups, duck walk, running/kicking in place and then sparring often 15 min, several 2 min rounds followed by many 30 sec rounds.”

Now, what is the purpose of doing push-ups, sit-ups, and duck walk between (“intertwined with”) rounds of kicking practice? Why not do hand work (punches, combinations, defenses) or footwork, which would constitute active rest from kicking while improving the fighting skills? I know why at certain stages of training grapplers would need to do push-ups between sets of fit-ins or periods of grappling, but taekwondo is not grappling! The explanation that intertwining the sets of push-ups or sit-ups with rounds of kicking practice toughens the taekwondo players just shows instructor ignorance. There are other ways of making those players tougher, and they may involve doing push-ups, etc., but at the right time.

Another example: “Until a year ago I had always made my students stretch statically prior to a taekwondo class. After reading your book I made the switch as you suggest to warming up (marching, joint rotation, knee raises, etc.) followed by dynamic stretches, then kicking. At the end of class we cool down with static stretching. I have seen marked improvement in not only my own but also my students' range of motion and flexibility. My question is that I often teach two classes back to back—many students attend both classes. Typically the ‘main parts’ of the classes cover different material or are geared towards different abilities. There is a 10 min break between the two classes—should I have these students skip the static stretches at the end of the first class, or is 10–15 min enough recovery time before the next workout?”

Answer: 15 min won't do. Static stretches impair coordination and strength of muscles for up to one hour (see *Stretching Scientifically*), but there is more trouble with this idea of back-to-back workouts.

This example was also from taekwondo, but I have seen two kung-fu workouts run back to back, first one for beginners and the following one for more advanced kung-fu practitioners. The idea was that the beginners' workout served as warm-up for the advanced workout. Therefore the beginners' workout had no proper cool-down and no proper ending—no discussion of what was done, how, why, and what those beginners should pay attention to during their next workout. They were also deprived of the benefits of cool-down, such as speeding up of recovery and calming down. (There are also exercises for some abilities that fit well in this ending part of the workout; see examples in *Science of Sports Training*.) The instructor was proud of his “efficient” time management—two workouts in two hours, no time spent on designing warm-up for the advanced group or cool-down for the beginners. (Actually there was no cool-down for the advanced workout either, and the beginners' warm-up was perfunctory.)

Doing back-to-back workouts is asking for trouble because a cool-down of one workout does not make a good warm-up for another. Further, in the case of technical workouts quality of practice determines the result. Increasing quantity beyond what's just right, say one 60–90 min workout, may cause athletes to practice when fatigued too much and to spoil the technique instead of perfecting it. Similar is the case with workouts dedicated to improving speed. If the two workouts cover different new skills, doing them back to back interferes with acquiring and retaining those skills (see why in *Science of Sports Training*). If a workout dedicated to strength, or muscular endurance, or aerobic endurance is too long, it causes excessive fatigue, which instead of providing a stimulus for rebuilding and growth can overstress athletes and push them into overtraining.

The optimal structure and content of all parts of the workout (the warm-up, the main part, the cool-down) are described in the book *Science of Sports Training*.

The Mind Rules the Body

by Thomas Kurz

EEG Biofeedback

Peak performance happens when the concentration on the task is combined with mental relaxation. This mental state can be entered and perfected by techniques of mental training (autogenic training), or in an easier way, though more expensive, through EEG biofeedback.

EEG biofeedback is used by athletes to prepare for competitions and by non-athletes to learn relaxation; to deal with sleep disorders, anxiety, depression, post-traumatic stress, chronic fatigue, and learning disorders; or to increase mental efficiency.

Before using EEG biofeedback, a patient or an athlete has to have a consultation with a physician and an EEG made. After that the fun begins as the method involves playing simple computer games. The games are controlled only by the player's brain waves, picked up by two electrodes placed on his or her head. The game, such as a car race, responds to the quality of brain waves—if the waves indicate relaxation the game goes well; a racing car drives fast, stays on track, and can overtake the leader. If the brain waves indicate tension, the racing car slows down and goes off the track. (There are a few such games with different scenarios.)

Healthy people who just want to learn how to relax usually need 10 practice sessions.

Athletes use this method as one of several components of a whole mental training. Ski jumper Adam Malysz, 2001 World Champion, Olympic silver medalist in 2002, three-time winner of the World Cup, used EEG biofeedback to calm down and concentrate before jumps. It was just

one of several components of his total mental training, but according to Jan Blecharz, the sports psychologist who helped him to the top, biofeedback was a significant factor in his successes.

More information on EEG biofeedback is available at <http://www.eegresearch.com/> and at <http://www.ibt-promenada.pl>.

Self-Hypnosis

Another important component of mental toughness training is self-hypnosis.

An athlete can hypnotize himself or herself to overcome doubts and anxiety and to enter the peak performance state. Acquiring this ability is a step-by-step process, from simple concentration exercises, through muscular and mental relaxation, ending with an ability to enter hypnotic trance at will. A good example of such a program is the *Gold Medal Mental Workout* on which, to a large degree, mental preparation of Adam Malysz was based.

For more information on the *Gold Medal Mental Workout* program visit www.stadion.com/gold.html. Subscribers to the online version of the *Wall Street Journal* can read about *GMMW* in the article by Barry Newman titled "The Key to Ski Jumping? Never Think about It: Mr. Malysz Was in a Funk Till He Tried Hypnosis; Entranced with a Bronze" (*Wall Street Journal*, February 11, 2002).

Performance Anxiety Cure

There is another method of dealing with performance anxiety and even phobias. (Performance anxiety can be associated with performing exercises during a work-

out, not just with performance during competition. Overtrained athletes may experience anxiety over working out, dislike for training sites, or even a phobia of sports equipment.)

Most psychologists believe that a phobia or an anxiety has its cause in one's personality disorder, so the personality has to be treated (for a long time and lots of money). There are psychologists, however, such as Dr. Callahan, who believe that anxiety and phobias need not be related to personality but to physiological causes. For example, an athlete can acquire a performance anxiety if practice of a difficult technique occurs often enough (in some cases once can be enough) with great fatigue or with some, even seemingly light, repeated trauma. Or if the practice or performance happens often enough when an athlete is not comfortable mentally or physically or under too much stress—sports-related or not.

Dr. Callahan has shown that anxieties and phobias can be effectively treated by breaking the association between fear, physiological symptoms of stress, and the object of anxiety or phobia. His method is based on concepts of oriental medicine and applied kinesiology—and it works. An excellent explanation of this method is in *Applied Kinesiology: Synopsis* by Dr. Walther, and complete how-to instructions are in Dr. Durlacher's book *Freedom from Fear Forever*. Both of these books are listed at the Athlete's Bookshelf (www.stadion.com/bookshelf.html) and can be ordered there.

Boxing Database

Amateur boxing event organizers and coaches can obtain the participating boxers' profiles and bout records. Information such as this is valuable for coaches in researching future opponents.

The Amateur Boxing Computerized Database covers most amateur boxing matches from January 1980 up to now. Included are major events such as Olympic Games, World Cups, World Championships, Continental Championships, Commonwealth Games, World Championships Under 19, and many other major tournaments.

The database contains records of over 66,000 men's bouts and 3,500 women's bouts. (The female boxing records began July 1991.)

The records can be sorted out in many ways: by the names of the boxers, weight class, boxers' ages, boxing stance, country, etc. In addition to these data, each boxer's record includes a list of all bouts (date, place, rank of the event, opponent, in which round the bout ended and how) and best achievements. Many boxers' records include comments on skills, strength, and

other peculiarities of the boxers.

Statistics such as bout stoppages (KO, RSC, injury, disqualification, retirement), weight class, per year, per event (date and place), and per round can be obtained.

This is the most comprehensive database of individual amateur boxers and boxing bouts. For more information contact Matt Mizerski, Technical Director, Boxing Canada, 888 Belfast Rd., Ottawa, ON K1G 0Z6, phone 613-238-7700, fax 613-238-1600, e-mail mattmiz@boxing.ca.

Q and A on TRAINING

Study these typical questions on stretching and training carefully. You may find information that relates to questions of yours. Questions are in *italic boldface*.

■ *I have trouble acquiring the required abdominal endurance to proceed with your program. I am currently training abdominals with crunches every second day. I have been training them for months now, and can still only do 60 repetitions at most of regular crunches on the floor. This is most frustrating for me, because progress in my other muscle groups does not seem to be this slow (I have been training with Hindu squats and push-ups). As you recommend gaining endurance in abdominal muscles, I have been doing four sets of crunches to exhaustion (reaching a maximum of 60 in my first set). I am curious if you would recommend adding weights to lower my repetition range (if so, to how many reps) or whether I should continue with what I am doing. My progress is not consistent. I have tried weeks of doing more or fewer workouts per week, but I can't seem to find a workout schedule that sees me making gains after every workout.*

First, no workout schedule can ensure making gains after EVERY workout. If this would be possible people could leap over tall buildings, run faster than a train, etc. This is explained on pages 37 through 48 of *Science of Sports Training*.

Now, your question. Directing your training without seeing you exercise is blind guessing without knowing what is actually happening. So here are my blind guesses:

1. You do not relax at the end of each rep and do not breathe deeply when you do your abdomen crunches. Deep breathing comes naturally in Hindu squats and Hindu push-ups, but in abdomen crunches many people hold their breath. Not breathing deeply and keeping muscles tensed throughout all phases of an exercise force the muscles to work with impaired blood circulation (oxygen and nutrition supply and waste removal) and are bound to exhaust them and even cause microtrauma. Ability to work in such conditions is very limited, and you may have reached your

limit. If that is the case then doing more sets in these conditions may only hurt you. See the article on microtrauma in *Stadion News* of Spring 2002 (downloadable at <http://www.stadion.com/freebies.html>).

2. You did too many reps too soon and damaged your abdominal muscles. Read about microtrauma in *Stadion News*.

Possible solutions:

1. Breathe properly when you do your crunches.

2. Rest your abdomen for a week or two (you can continue with other exercises), and then when you do the crunches do them not to exhaustion but only until fatigue slows you down. This will likely be much fewer reps than you do now. Try doing your crunches every other day, and if one day of rest seems too much for adding a few reps in the next workout, then do crunches every day. Eventually you should reach such a number of reps that your abdominal muscles will need more than 24 hours of rest. There is a general pattern of decreasing frequency of repeating an exercise as the total load in it increases. So, if proceeding very gradually, initially one can do a given exercise every day, but eventually one reaches a load (resistance or number of reps or both) that requires a longer rest than one day, and then even longer as the load increases further. Only exercises that do not seriously challenge one's capability can be done every day consistently.

3. Increase resistance and lower the number of reps (your idea), or do crunches slower, tensing longer in the top position. This may do if your abdomen is too weak for endurance work at the number of reps you attempted. Don't do so much as to cause persistent muscle soreness.

4. Do sit-ups instead of crunches, and after a few weeks try crunches again.

Let us know what you think about our newsletter. Have you learned something that improved your or your athletes' performance or health? What would you like to learn more about? Write to us at our address: Stadion Publishing Company, Inc., P.O. Box 447-N, Island Pond, VT 05846, U.S.A. e-mail: news@stadion.com

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