



STADION news

International Sports Insider

<http://www.stadion.com>

Volume 4, Number 1, Winter 1997

\$3.00

Overtraining

Chronic general fatigue accompanied by symptoms of central nervous system exhaustion caused by wrong exercises with inadequate rest is called overtraining. It may not announce itself with lowered sports results and thus its initial stage can be missed, allowing for further development of this pathological state, eventually causing an athlete to get seriously ill. Athletes in the final stage of overtraining need medical help and must stop training for up to two months.

Overtraining can be caused by the following:

- irrational training methods;
- continuous application of intensive, monotonous workouts combined with insufficient rest and restoration;
- participation in a string of competitions with great personal responsibility; and
- combining strenuous training with intensive studies, with work in shifts, or with conflicts in the family or in the workplace.

Situations that facilitate overtraining: chronic infections, systematic violations of the principles of nutrition, frequent loss of weight (in order to make weight), abuse of toxic substances such as tobacco or alcohol

and physical overstrain.

Overtraining has more to do with the sequence of different kinds of efforts than with the total training load or the load-to-rest ratio. This whole issue is explained in great detail in the book *Science of Sports Training: How to Plan and Control Training for Peak Performance*. Here you see examples of right and wrong exercise sequences in single workouts and in weekly sequences of workouts.

In a single workout you should do technique before speed drills, and both technique or speed before strength exercises or endurance exercises. You should do speed or strength exercises before endurance exercises. Doing otherwise will extend your recovery time to double or triple that of a properly sequenced workout in which speed exercises precede endurance work.

High intensity anaerobic efforts such as speed or strength exercises after fatiguing aerobic efforts such as endurance work produce more lactic acid than when speed precedes endurance. The excess lactic acid taxes the body's abilities to restore the proper acid and alkaline balance. Sodium

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Stretching and Children

We thank Mr. William C. Watkins for sending the photo showing his son, Andy Watkins, doing the chair split—the result of using Stadion's video *Secrets of Stretching*.

Tom Kurz's comment

I congratulate Andy, who is an exceptional young athlete, but I must repeat the warning from the leaflet accompanying the video *Secrets of Stretching*, that the type of stretching shown on this video is not recommended for children before they reach the second stage of puberty (ages 15 to 19).

The exact reasons for doing and for not doing certain exercises by children of various ages are given in the book *Children and Sports Training*. Its author, Józef Drabik, Ph.D., explains the "sensitive ages" for development of endurance, coordination, speed, strength, and flexibility, and what exercises you should use for developing these abilities at any age.

The consequence of not doing just the right kind of exercises at just the right age is reduced fitness and athletic potential lost forever.

"As you can see, Andy has followed your video religiously. Thank you for the exceptional and proficient help your video has given him. Andy is eleven years old. [He] has won 21 trophies in the last eighteen months. I honestly believe that some of the credit should go to your video."—Mr. William C. Watkins from Smiths, Alabama



Your Self-Confidence and Your Performance

by Artur Poczwardowski

You can do it if you just have a little confidence.

—D. L. Feltz, *Understanding Motivation*

This is Part II of a four-part article that explains what self-confidence is, what can happen if you are over-confident or not confident enough, and how to develop, maintain, and restore it to an optimal level, in the case of an athlete who has lost self-confidence.

The author, Artur Poczwardowski, is a sports psychology consultant. He graduated from Gdansk University (M.Sc. in psychology) and from AWF—University School of Physical Education (M.Sc. in coaching). He competed on a national level (in Poland) in judo. Currently he is working on his Ph.D. thesis in sports psychology at the University of Utah.

You can reach Artur Poczwardowski by e-mail at Artur.P@m.cc.utah.edu to arrange consultations on preparing mental training programs, implementing these programs, monitoring, and adjusting them.

How much confidence you need

In the beginning of this article, I mentioned the following phrase: “an optimal level of self-confidence.” While performing you can be overconfident—having “false confidence”—or not confident enough, or optimally self-confident. In this latter state you have just the right level of self-confidence.

Consider three scenarios that describe the relationship between different levels of self-confidence and performance. The fact that high performance level may not guarantee a win will be addressed later.

1. Being overconfident (“false confidence” or being “cocky”). Athletes with false confidence overestimate their abilities, thinking that they are better than they really are: “No one can beat me.” In this situation, an athlete does not treat his or her opponents seriously enough, which frequently results in insufficient warm-up, lack of a strong tactical plan for the match or fight, and so on. Such an approach makes him or her risk a failure.

2. Too little self-confidence or none at all—in this situation, an athlete pictures him- or herself as someone who fails. Worries and self-doubts fill the mind, resulting

in a lack of the mental energy that is needed to concentrate. “Motivation? What for? I will not succeed...” Worrying does not go along with having fun. Thus, this mind set exhausts the athlete: “What? Competitions? I can’t wait until it’s over...” The result is poor performance and failure.

There is another scenario for athletes who have too little confidence. Some try to cover up their feelings of doubt by behaving in a way that expresses a great deal of confidence. These athletes in effect say, “I mustn’t let anyone know that I’m nervous.” In this situation, an athlete may simply avoid any trial of his or her true abilities. The individual may fake an injury, for example, or train in a slipshod fashion and then blame the loss on that: “I lost, but in fact I did not train hard.”

3. Optimal self-confidence—in this situation an athlete sets realistic goals based on abilities, skill level, and a completed preparation program. Because the individual believes that he or she will reach the goal, the athlete practices and trains systematically and is well motivated for the competition season: “I know that I have completed my preparation program, I feel good, I’ll do my best and I am capable of succeeding. I can’t wait till the competition.”

The self-confidence level of such an athlete is resistant to fluctuations in sports form, small failures once in a while, or successes of major opponents. This in turn, enables him or her to continue pursuing excellence. It also results in a true commitment to constantly increasing training intensity and volume. More importantly, the ultimate outcome of that process is the athlete’s excellence during contests. In this scenario, if the competition schedule is not overloaded, the athlete will develop an attitude toward competing that may be called “a success hunger.”

Self-fulfilling prophesy

At this point, it seems necessary to discuss the concept of self-fulfilling prophesy. Understanding this phenomenon allows predictions about an athlete’s performance based on both the coach’s and athlete’s

expectations.

Here is how it works. A coach, based on his or her observations, forms an expectation for each athlete that predicts the level of this athlete’s performance. Moreover, the coach starts to behave toward this athlete based on these expectations. For example: “He will be no good. I can devote more time to the others. I won’t take her to a training camp. He won’t need an analysis of his diet,” and so on; or, “Well, this one has real talent. She is worthy of my commitment and extra work—I’ll stay with her for some thirty minutes and we’ll work on more advanced skills.”

It is not difficult to imagine that an athlete categorized as no hope for a great career likely will not get from the coach the best possible preparation in terms of time, attention, or amount of instruction. As a result, this athlete will not progress quickly. Consequently, he or she probably will not make the first team or succeed in competition in individual sports. Even if this neglected athlete happens to perform well, the coach (again, based on his or her strong assumptions and expectations) will tend to think in this way: “Well, she got lucky today,” or, “He had his best day during the match.” All in all, after a while the performance and skill level of this athlete will conform to the coach’s expectations. This behavioral conformity reinforces the coach’s original expectations, and the process continues.

Naturally, not all athletes are susceptible to a self-fulfilling prophesy. This phenomenon, however, occurs often enough for many sports psychology books to discuss it extensively (e.g., Martens, 1987; Singer, 1986; Weinberg, 1988).

The mechanism of the self-fulfilling prophesy explains the sharp edge to this rhetorical question: How strong and mentally independent does an athlete have to be to believe in him- or herself when his or her own coach does not have belief in him or her? Believing in someone is conveyed unintentionally in almost every interaction—in gestures, words, body posture, and so on. If you happen to be a coach keep this

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Self-Confidence

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fact in mind when you start a practice session.

Naturally, the athletes themselves have expectations about the upcoming performance. The coach's influence has an incredible power in shaping these expectations. As R.N. Singer put it in this short explanation of the self-fulfilling prophecy: "What we think about ourselves is very much related to how well we might expect to do, and in fact will do in a situation."

1. Martens, R. *Coaches guide to sport psychology*. (Champaign, IL: Human Kinetics, 1987).
2. Singer, R.N. *Peak Performance... and More*. (Ithaca, NY: Movement Publications, 1986)
3. Weinberg, S.W. *The mental advantage*. (Champaign, IL: Leisure Press, 1988)

To be continued in the next issue

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.



Self-Defense Tip

What should your first reaction be when someone grabs you by the sleeve? Should you first attempt to shake off the grip or to twist the attacker's arm? Or perhaps you should first protect yourself from the attacker's free hand?

Let's say that the attacker has grabbed your right sleeve with his or her left hand. If the attacker is facing you, you should first put your free left hand on the wrist of his or her free right hand. If he or she holds a knife, you may be able to control it. As soon as you can (in a blink of an eye), reinforce your

Overtraining

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is taken from body fluids and phosphorus is taken up from bones, which causes their demineralization and loss of calcium (McArdle, Katch, and Katch, 1991).

A sequence that is good in a single workout may be bad in a sequence of workouts. For example, the following sequence of workouts within a microcycle—speed, strength, speed-endurance, and endurance—stresses the neuromuscular system on the first two days and the vegetative system on the following two days and leads to overtraining.

A healthier sequence would be speed, or speed-strength, or a strength workout, followed by an endurance workout, which is then followed by a day of active rest or complete rest.

There are two types of overtraining: basedowic (its symptoms resemble those of Basedow's disease) and addisonic (with symptoms resembling those of Addison's disease). In this issue I will write about basedowic overtraining. It occurs mostly among athletes in speed-strength sports and results from too high an intensity of stimuli in training (too much anaerobic efforts or in such a sequence that it produces excessive amounts of lactic acid) and great mental concentration.

Symptoms of basedowic overtraining

- 1) Mental and physical fatigue
- 2) Sleepiness, difficulty waking up
- 3) Longer reaction time
- 4) Lowered coordination and technical skill
- 5) Injuries
- 6) Irritability, apathy, depression, anxiety, even phobias
- 7) Increased metabolism
- 8) Accelerated resting heart rate

left hand's grip on the attacker's knife hand with your right hand. As soon as you do that, the attacker will likely let go of your sleeve and try to punch you with his or her now free left hand. Hold on to the knife hand and close in to protect yourself from punches, headbutts, and kicks.

If the attacker's right hand is empty, you can move your left hand up toward the attacker's right elbow to thwart any punches from his or her free right arm and then free yourself or subdue the attacker with any of the techniques shown in *Basic Instincts of Self-Defense*.

In any case keep your mouth closed and chin pressed to your sternum to minimize potential dam-

- 9) Slightly increased temperature
- 10) Hypertension
- 11) Profuse sweating even with small efforts
- 12) Weight loss
- 13) Headaches.

You may notice the similarity of these symptoms to those of Aerobic Deficiency Syndrome (see "Exercise, Nutrition, and Athletes" in *Stadion News* of Summer 1996). This is because both basedowic overtraining and aerobic deficiency result from an excessive production of lactic acid.

Aerobic deficiency may result from eating too much carbohydrates ("good" or "bad"—doesn't matter), not eating enough of the right fats and protein, and doing too much anaerobic exercise or too little aerobic.

To learn how nutrition and intensity of exercise affects your athletic form and health, order *In Fitness and in Health: Everyone Is an Athlete* by Dr. Philip Maffetone. Send check or money order for \$17.95 (shipping is included) to:

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To learn how to sequence your exercises and workouts to get the most from your training, how to avoid overtraining, how to recognize its early signs, and how to treat it, order *Science of Sports Training* by Thomas Kurz. Send \$26.95 plus \$3.00 for airmail shipping to the address above. You can also use the order form on page four.

1. McArdle, W.D., Katch, F.I., and Katch, V.L. *Exercise Physiology*. (Philadelphia, PA: Lea & Febiger, 1991)

age from the attacker's headbutts and to cover the front of your throat. Do not let your attacker turn you so you do not face him or her and thus have no control of the situation and no defense against stabs, slashes, or punches to your exposed sides and back, and low kicks. And do not forget to kick the attacker's shins, knee the inside and outside of his or her thighs, and the groin.

To learn more techniques, order *Basic Instincts of Self-Defense*. Call 800-873-7117 or send your check or money order (see the order form on page four).

Q&A on STRETCHING (continued from previous issues)

Study these typical questions on stretching carefully. Among them may be just the one that you wanted to ask.

■ Question: *I have found your book both inspiring and very helpful with my flexibility training. I weight train four times per week and I do gymnastics twice per week. After I do leg exercises (leg presses, hack squats, but no regular squats due to the risk of injury) in my weight workout, my flexibility seems to go for about three to four days. Also my flexibility goes and then comes back again even without training. I do not know what causes it. I do not weight train excessively—one hour-and-a-half maximum per workout. I would like to achieve side and front splits and to be constantly flexible. Below I have written out my training schedule (obviously I am doing something wrong).*

Sunday: *Gymnastics (workout ends with relaxed stretches)*

Monday: *Weights (workout ends with static active flexibility exercises followed by isometric stretches)*

Tuesday: *Weights (workout ends with relaxed stretches)*

Wednesday: *Gymnastics (workout ends with relaxed stretches)*

Thursday: *Weights (workout ends with relaxed stretches)*

Friday: *Weights (workout ends with isometric stretches)*

Saturday: *Rest*

Answer: You do not tell me how much you lift and on what days you do which lifts. You also do not tell me what exercises you do in your gymnastic workouts. Your problem may be caused by doing leg exercises too often, or not often enough. Here is a weekly schedule of workouts that you may want to try, to see if it helps with your flexibility problems.

Sunday: Gymnastics (dynamic stretches in the warm-up; static active as needed; at the end of the workout, do isometric stretches for side splits with moderate tensions or, if legs too tired, do only relaxed stretches)

Monday: Weights (adductor exercises, leg presses, hack squats, good mornings, deadlifts, back extensions; do isometric stretches with strong tensions for side split either after adductor exercises or after hack squats but before lower back exercises)

Tuesday: Weights (arms, chest, upper back—use exercises that do not put compressive loads on your spine; end workout with relaxed stretches)

Wednesday: Gymnastics (dynamic stretches in the warm-up; static active as needed; at the end of workout do isometric stretches for side splits with moderate tensions or, if legs too tired, do only relaxed stretches)

Thursday: Weights (adductor exercises, leg presses, hack squats, good mornings, deadlifts, back extensions; do isometric stretches with strong tensions for side split either after adductor exercises or after hack squats but before lower back exercises)

Friday: Weights (arms, chest, upper back—use exercises that do not put compressive loads on your spine; end workout with relaxed stretches)

Saturday: Rest

Resources for Further Study

Science of Sports Training: How to Plan and Control Training for Peak Performance by Thomas Kurz.

This comprehensive text delves deeply into topics such as speeding up recovery, using time- and energy-efficient training methods, avoiding overtraining and injuries, applying proven methods of training to specific sports, and maintaining a high level of condition and skills for years. The reader will learn ways to plan and control training for each workout, over a span of years.

Secrets of Stretching: Exercises for the Lower Body (VHS, 98 min.) featuring Tom Kurz.

This video features an introduction to general conditioning and follows that with four exercise routines—one for beginners, one for intermediate, and two for advanced athletes. Viewers will learn plenty of how-tos. The focus is on flexibility and strength training.

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- #3 How You Can Stretch Fast for High Kicks with No Warm-Up (13 p.) @ \$7.95
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