

COACHING

1961 30 1991

Vol. 32, No. 1

For coaches, by coaches for three decades

September 1993

clinic

Weight Loss in Amateur Wrestling: Is The Practice Justified?

by

Nick Cipriano

McMaster University

The practice of "cutting weight" by amateur wrestlers has been under intense scrutiny by the medical community and sport administrators for many years. It became a concern when it was learned that young wrestlers were losing excessive amounts of weight to qualify for a lower weight class by indulging in dangerous dehydration practices and depriving themselves of adequate food intake for long periods of time (Webster, 1990). The medical community

feared long term adverse affects as a consequence of repeated weight loss while the sport administrators debated the merit of offering wrestling as a scholastic activity in light of the potential abuse. Although some 60 years have passed since these issues were first raised, and while it appears that amateur wrestling has managed to survive the most stringent of scrutiny, the problem of excessive weight loss continues to exist. More discouraging, is that all the available evidence

suggest that the practice is not about to disappear (Steen, 1990). This condition is somewhat discouraging given the effort put forth over the years to educate the wrestling community of the dangers associated with excessive weight loss.

In 1976, the American College of Sport Medicine following an intense review of the research literature presented guidelines which aimed to minimize the risks of

Strength Training Q & A

#3

by
Matt Brzycki
Strength & Conditioning Coach
Princeton University

What precautions should I take for my football players when we practice in hot, humid weather?

The importance of safeguarding your athletes against heat-related injuries cannot be overemphasized. Overweight individuals and those who are unaccustomed to laboring in the heat are most susceptible to thermal disorders. Football practice can heighten the effects of heat and humidity since the helmet, pads and uniform tend to retard heat loss.

Each of us is equipped with about 2 million sweat glands which bring water to the surface of our skin. As this water -- or "sweat" evaporates it cools your skin; this in turn cools your blood and that cools your internal body. (To illustrate the effects of evaporation, wet your finger and blow on it. You'll quickly note a cooling sensation as the evaporative process withdraws heat from your skin.).

It's hard to believe, but we are constantly perspiring. In cool, dry weather we produce a relatively small amount of sweat and the rate of evaporation can keep up with the rate of perspiration. In this case, your skin is dry to the touch and you're not aware you're sweating -- even though this alone may involve about a quart of water per day.

This cooling mechanism doesn't work well when the heat or humidity is high. When the humidity is high, there's a lot of moisture already in the air. At higher levels of humidity, evaporation of your sweat is hindered because the air is virtually saturated with water vapor and, subsequently, there's no place for the extra moisture to go. This situation causes the body to overheat and may result in a heat-related injury -- heat cramps, heat exhaustion or heat stroke. In fact, a temperature of only 81 degrees becomes dangerous if the humidity reaches 100 percent. Other dangerous combinations range from 86

degrees with 60 percent humidity to 95 degrees with 45 percent humidity.

If you're about to start fall practice for football -- or any other sport -- allow your athletes to gradually become acclimatized to the heat and humidity. This may necessitate practicing initially during the cooler parts of the day (i.e. early morning and late evening). As your players adapt to hot, humid conditions, they'll be able to practice at greater levels of intensity while maintaining safe body temperatures. Remember, most adverse reactions to heat and humidity occur during the first few days of practice. Also, make sure you provide for adequate rest intervals and allow your players to rehydrate with cold liquids as needed. (There's growing evidence to indicate that drinks containing carbohydrates and electrolytes -- particularly sodium -- are more effective than plain water and better absorbed by the body.) By denying liquids

to a player under adverse conditions, you're putting the athlete at risk and setting yourself up for a lawsuit that you won't believe.

Have your athletes wear lightweight, light-colored clothing that is loose fitting to promote heat loss. (Lighter colors will reflect the sun's rays; darker colors will absorb them.) Under no circumstances should anyone be encouraged or permitted to practice (or exercise) in rubberized clothing or the so-called "sauna suits." Covering your body in this manner can be lethal since these garments trap your perspiration and cause your body to overheat rapidly. Finally, have your athletes weigh themselves each day before and after practice. In this way, you'll be able to monitor water loss to determine if adequate rehydration is taking place. Have them drink about 2 cups of water for every pound of fluid they've lost.

Isn't it better to exercise my bodyparts on alternate days instead of doing all of them on one day?

You've described what's known as a "split routine." This has been a popular training method of bodybuilders and recreational lifters for many years. In this type of routine, you work out on consecutive days but exercise different muscles. For example, you might "split" your muscle groups such that you exercise your lower body on Mondays and Thursdays and your upper body on Tuesdays and Fridays.

It's certainly true that a person using a split routine doesn't usually exercise the same muscles two days in a row. However, it takes a minimum of 48 hours in order for the body to replenish its stockpiles of carbohydrates (or glycogen) following an intense workout. (Carbohydrates are your principal fuel during intense exercise.) So, if you worked out your lower body on Monday you depleted your body's carbohydrate stores. Even if you train different muscles on Tuesday you haven't had the necessary 48 hours to fully recover those carbohydrate stores.

There may be some individual variations in recovery ability but split routines are generally inappropriate, inefficient and unreasonable for the majority of the population. If you're like most people, time is a precious commodity. Because of this, you should emphasize the quality of work done in the weight room rather than the quantity of work. Don't forget, the most efficient program is one that produces the maximum possible results in the least amount of time.

About the Author

Matt Brzycki has been the Strength Coach and Health Fitness Coordinator at Princeton University since August 1990. Coach Brzycki has authored more than 90 articles on strength and fitness and a book, *A Practical Approach to Strength Training*, which is in its second edition. He has also coauthored the book *Conditioning for Basketball* with Shaun Brown, Strength Coach for the University of Kentucky basketball team.

Coach Brzycki will answer questions about strength training and conditioning in this column. If you have questions, you can write to him at the following address:

**Matt Brzycki
Strength Coach
Princeton University
Dillon Gym
Princeton, New Jersey
08544**

Coaching Clinic is published monthly except during July and August by **Princeton Educational Publishers, P.O. Box 280, Plainsboro, NJ 08536**. Annual subscription rate: \$35.00 postage paid in United States. \$10.00 additional for foreign postage and handling.

Manuscripts are solicited from practicing professionals. Write for editorial guidelines.

Claims accepted up to six months after issue in question. All claims beyond six months adjusted with subscription extensions only.