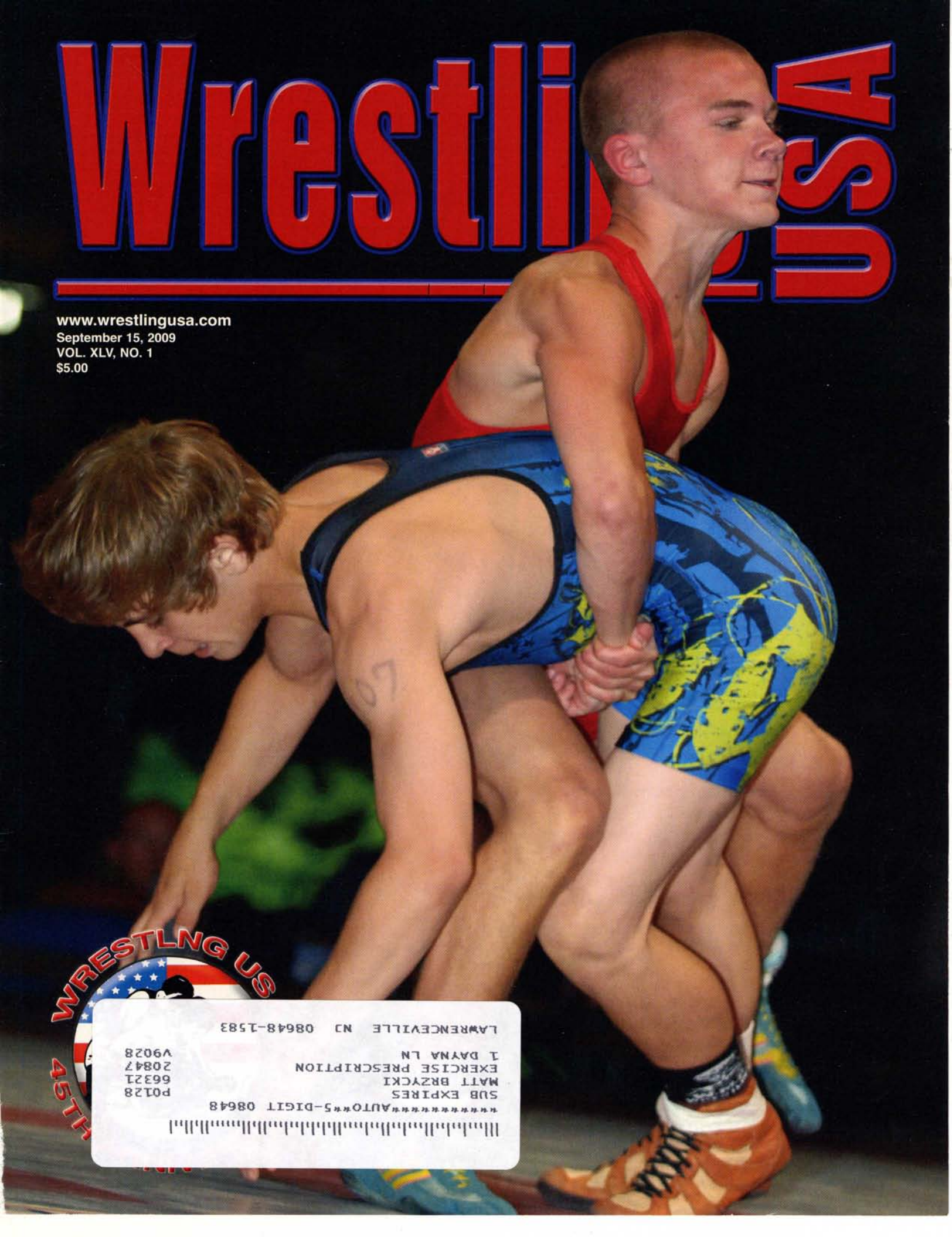
Wrestling USA

www.wrestlingusa.com
September 15, 2009
VOL. XLV, NO. 1
$5.00



CARDIO CONFIDENCE

By Matt Brzycki

2009 West Virginia High School Wrestling Championships - Tyler Green (Parkersburg South) with the underhook on Victor Panico (University). Green decision Panico 4-3 in the championship finals. Photo by Valerie Smith.

Last March, I watched the 2009 NCAA Division I Wrestling Championships on ESPN. As you may recall, the 125-pound bout between Troy Nickerson of Cornell and Paul Donohue of Edinboro was tied 1-1 at the end of the third period. A few seconds into overtime, Jeff Blatnick, a 1984 Olympic gold medalist and commentator for ESPN, remarked, "If you have cardio, you have confidence."

His point, of course, was that a wrestler's "cardio" – or conditioning – is very critical in overtime with respect to being confident about victory. It goes without saying that cardio is important in wrestling, especially as the match grinds on. A highly conditioned wrestler can perform at greater levels of intensity for longer periods of time at a lower heart rate than a poorly conditioned wrestler. This "cardio advantage" means that a wrestler won't have to expend as much energy as an opponent. And as cardio improves, the heart rate recovers more quickly after physical exertion.

Given its importance, let's take a look at how cardio can be increased for wrestling.

IMPROVING CARDIO

The term "cardio" is short for "cardiovascular" or "cardiorespiratory" and, as mentioned previously, refers to conditioning. Improving cardio in a comprehensive manner involves three types of training: aerobic training, anaerobic training and metabolic training.

Aerobic Training

In general, wrestlers should perform aerobic training three to five days per week. Those who have to lose weight may need to do aerobic training more frequently.

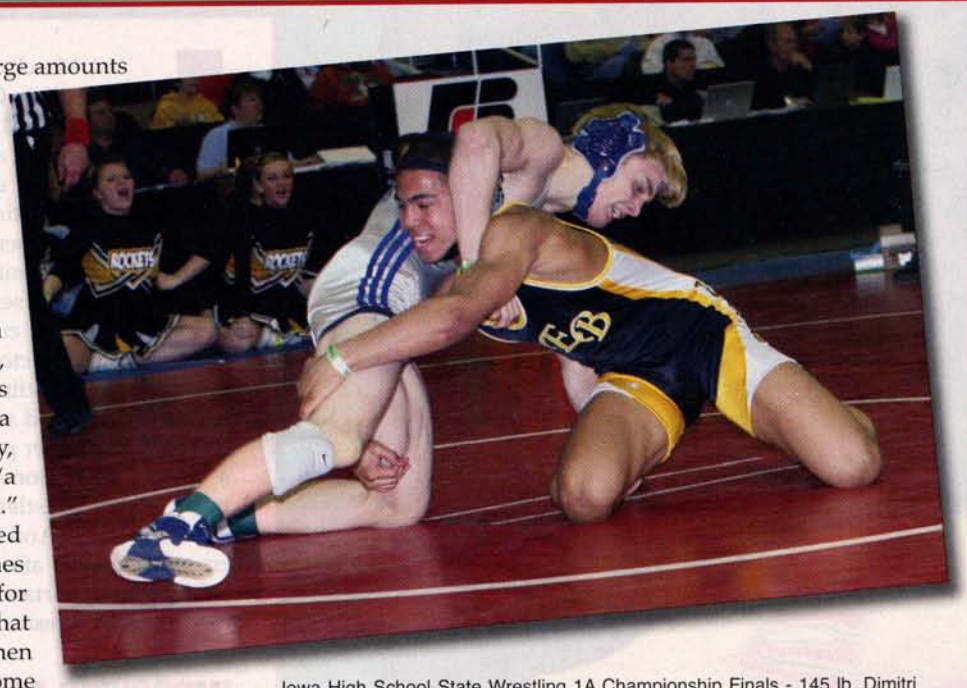
For aerobic training to be effective, it is necessary to keep the heart rate within a certain "training zone." According to the American College of Sports Medicine, youths up to the age of about 16 should use a training zone of about 170 to 180 beats per minute. After that age, a formula can be employed to first estimate the maximum heart rate and then a training zone. One often-used formula that is very easy to use and reasonably accurate is "220 – age." To determine an age-predicted maximum heart rate, simply subtract an individual's age from 220. To determine an appropriate training zone, multiply the resulting number by 60 - 90%. For example, a 20-year-old wrestler would have an age-predicted maximum heart rate of 200 beats per minute [220 – 20 = 200]. Multiplying this number by 60 - 90% yields a training zone of 120 to 180 beats per minute [0.60 x 200 = 120; 0.90 x 200 = 180].

Aerobic training should involve continuous exertion for about 20 to 60 minutes. Efforts of this length (and longer) target the Aerobic System. Longer durations may be needed by wrestlers who have to lose weight. In this case, the duration of their workouts might be in the neighborhood of 45 to 60 minutes.

A wide variety of activities can be used for aerobic training. The preferred types are those that require a continuous effort,

are rhythmic in nature and involve large amounts of muscle mass. Activities that fit this bill include jogging/running, rope jumping and swimming along with using specialized equipment such as stationary bikes, elliptical machines, rowers, steppers/stair-climbers and treadmills.

The most popular activity for wrestlers is probably running. And in the opinion of many, including me, the best type of activity for wrestlers is running. Unfortunately, running is a high-impact activity. In one study, researchers described running as "a series of collisions with the ground." The impact forces that are encountered when running are at least several times bodyweight. (The same holds true for rope jumping.) What this means is that wrestlers who take a pounding when they run should include at least some low-impact activities as part of their aerobic training such as stationary biking and swimming.



Iowa High School State Wrestling 1A Championship Finals - 145 lb. Dimitri Boyer (Eddyville-Blakesburg) in on a double leg on Joseph Atwell (Panorama Panora). Boyer major decisioned Atwell 12-3. Photo By Johnnie Johnson.

Anaerobic Training

As has been noted, wrestlers need to do aerobic training which involves a long-duration effort of at least 20 minutes. However, they also need to do anaerobic training which involves a series of short-duration efforts of no more than about three minutes (per effort). Efforts of this length target the two anaerobic energy systems: the ATP-PC System and Anaerobic Glycolysis. This is more specific to the brief, intense actions that take place on the wrestling mat. (Literally, the term "anaerobic" means "in the absence of oxygen.")

Wrestlers should emphasize anaerobic training as their competitive season nears (and only after establishing a solid base of conditioning through aerobic training). In this case, wrestlers should do anaerobic training once or twice a week. When anaerobic training is included in a wrestler's program, it can replace one or two aerobic workouts. In a given week, for example, a wrestler might do two aerobic workouts along with two anaerobic workouts.

For anaerobic training to be effective, the heart rate must reach near-maximal levels for short periods of time. Elevating the heart rate to 90% or more of the age-predicted maximum is usually a good indicator that the efforts are mainly anaerobic.

Any intense efforts that take less than three minutes to complete qualify as anaerobic training. Obviously, this leaves plenty of room for variety. Ultimately, though, anaerobic training should approximate the nature of a wrestling match. Wrestlers should do efforts that range from a handful of seconds (such as sprinting 50 yards/meters) to three minutes (such as running 800 meters or 880 yards) with appropriate recovery intervals between each effort.

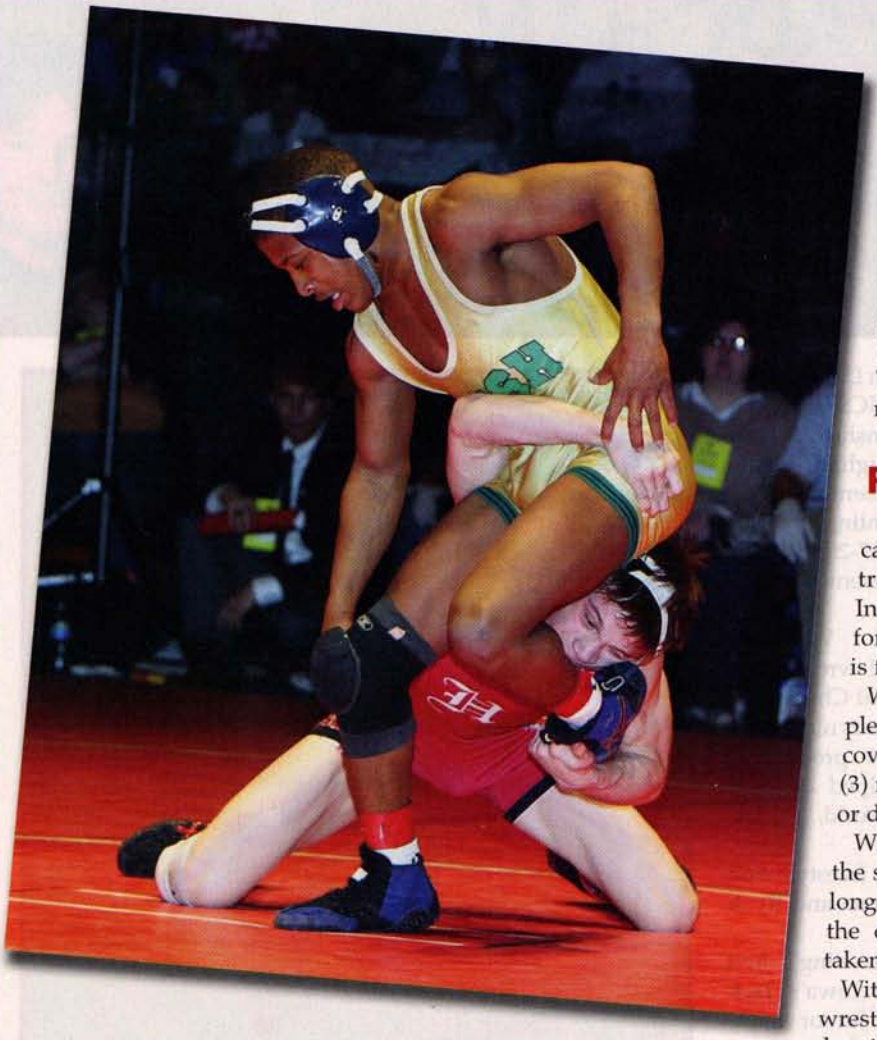
A sample anaerobic workout for running is 1 x 800, 2 x 400, 2 x 200 and 4 x 100. A comparable anaerobic workout for stationary biking is 1 x 3:00, 2 x 1:20, 2 x 0:35 and 4 x 0:15. (Note that "1 x 800" signifies one all-out effort of 800 meters and "1 x 3:00" signifies one all-out effort of three minutes.)

While on the subject, a great way to assess the conditioning or physical readiness of high-school wrestlers is to have them run 3 x 600 meters. This means that they would run 600 meters as fast as possible three times with an adequate amount of recovery between each 600-meter run. The goal of this test is for wrestlers to run each 600 meters in two minutes or less, thereby simulating the three two-minute periods of a match.

The same activities that can be used for aerobic training can also be used for anaerobic training. Here again, running is the best activity for wrestlers. If necessary, low-impact activities can be done occasionally to offset the pounding that is associated with running.

Metabolic Training

The third ingredient that is needed to improve cardio in a comprehensive manner is metabolic training. Essentially, metabolic training is a combination of aerobic training and intense strength training (or other anaerobic efforts). Think about it: In a high-school match, wrestlers must be active continuously for six minutes (three two-minute periods) which has an aerobic component while intermittently performing movements that have a strength/anaerobic component (such as executing a single-leg takedown and a stand-up).



2009 Indiana High School Wrestling State Championship Finals - 119 lb. Camden Eppert (Anderson Highland) trying to keep control of Brandon Wright (Indianapolis Cathedral) in the Championship Spotlight Finals. Eppert decisioned Wright 3-2 in overtime to win his second Indiana State Championship Title. Photo by Charles T. Bennett.

For metabolic training to be effective, the heart rate must be kept elevated. When strength training is done with a high level of effort and very little recovery is taken between exercises/sets, the heart is exposed to a meaningful workload and will respond favorably.

A classic example of metabolic training is circuit training. With circuit training, the idea is to perform a series of exercises/activities in a sequence (or "circuit") at different stations with a brief period of recovery between each station. It should be noted that the resistance that is used at each station should enable a wrestler to reach muscular fatigue within a prescribed amount of time.

Another version of circuit training is to integrate strength-training exercises with one or more activities for a total of about 20 to 30 minutes. For instance, a wrestler might do a set of dips to the point of muscular fatigue, pedal a stationary bike as fast as possible for two minutes, do a set of chins to the point of muscular fatigue, pedal a stationary bike as fast as possible for two minutes and so on.

Traditional strength training can be made to emphasize cardio more by performing each exercise to the point of muscular fatigue and minimizing the amount of recovery that is taken between exercises. Usually, strength training is done by stopping well short of muscular fatigue and taking with far too much recovery between exercises/sets. This is a relatively poor way to prepare for the requisite demands of a wrestling match.

PROGRESSION

Not to be forgotten in the quest to improve cardio is the need to make the different types of training progressively more challenging. Indeed, progression is one of the cornerstones for enhancing all physical attributes whether it is flexibility, strength or cardio.

With aerobic training, wrestlers can (1) complete the same distance in a shorter duration; (2) cover a greater distance in the same duration; or (3) maintain the same pace for a greater distance or duration.

With anaerobic training, wrestlers can (1) cover the same distances in shorter durations; (2) cover longer distances at the same pace; or (3) decrease the duration of the recovery intervals that are taken between efforts.

With metabolic training (and strength training), wrestlers can (1) increase the amount of resistance that is used in a given exercise; (2) increase the number of repetitions that are done in a given exercise; or (3) decrease the duration of the recovery intervals that are taken between efforts.

Regardless of the method of progression that is employed, a wrestler will make his aerobic system and/or anaerobic systems work harder than they are accustomed to working.

THE LAST REP

Jeff Blatnick made an excellent point in noting that cardio is connected to confidence on the mat. The importance of improving cardio is undeniable. Most wrestlers do aerobic training to improve their cardio. But a comprehensive approach to improving cardio also involves anaerobic training and metabolic training.

Matt Brzycki has authored, co-authored or edited 17 books on strength and fitness including four that are devoted to wrestling. His latest book is *Youth Fitness: An Action Plan for Shaping America's Kids.*