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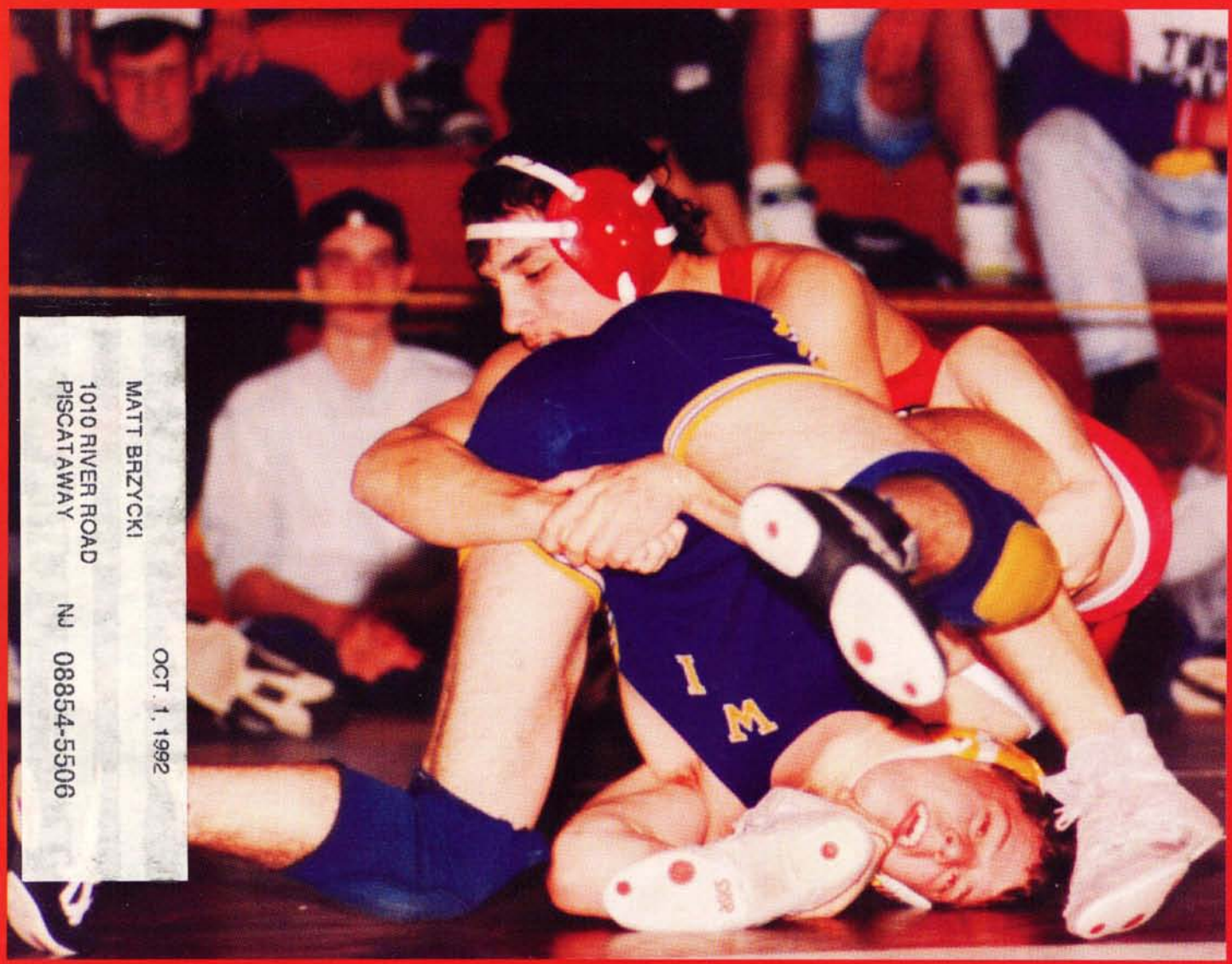

Stress Reduction And Anxiety Control
What It Feels Like To Wrestle
A Seatbelt Rule For Wrestling

The "Twenty Hour Rule" A Strength Coach's Perspective

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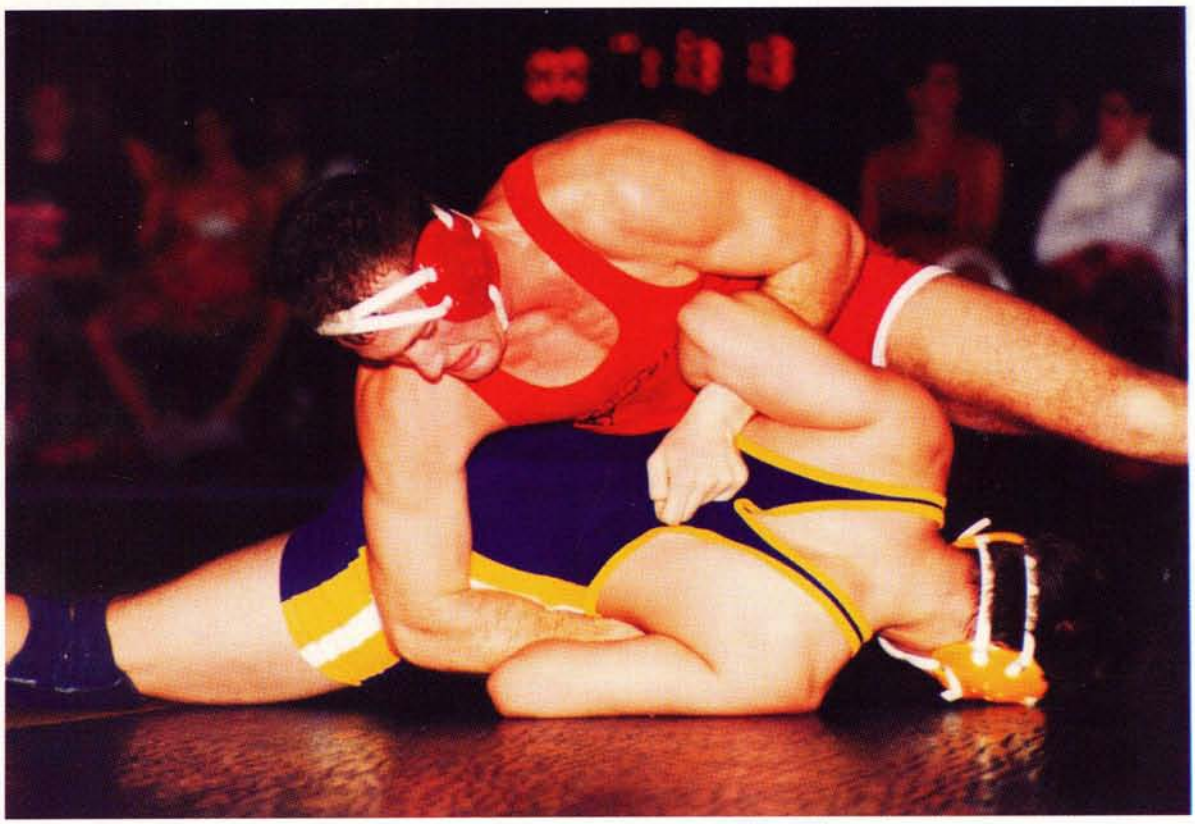
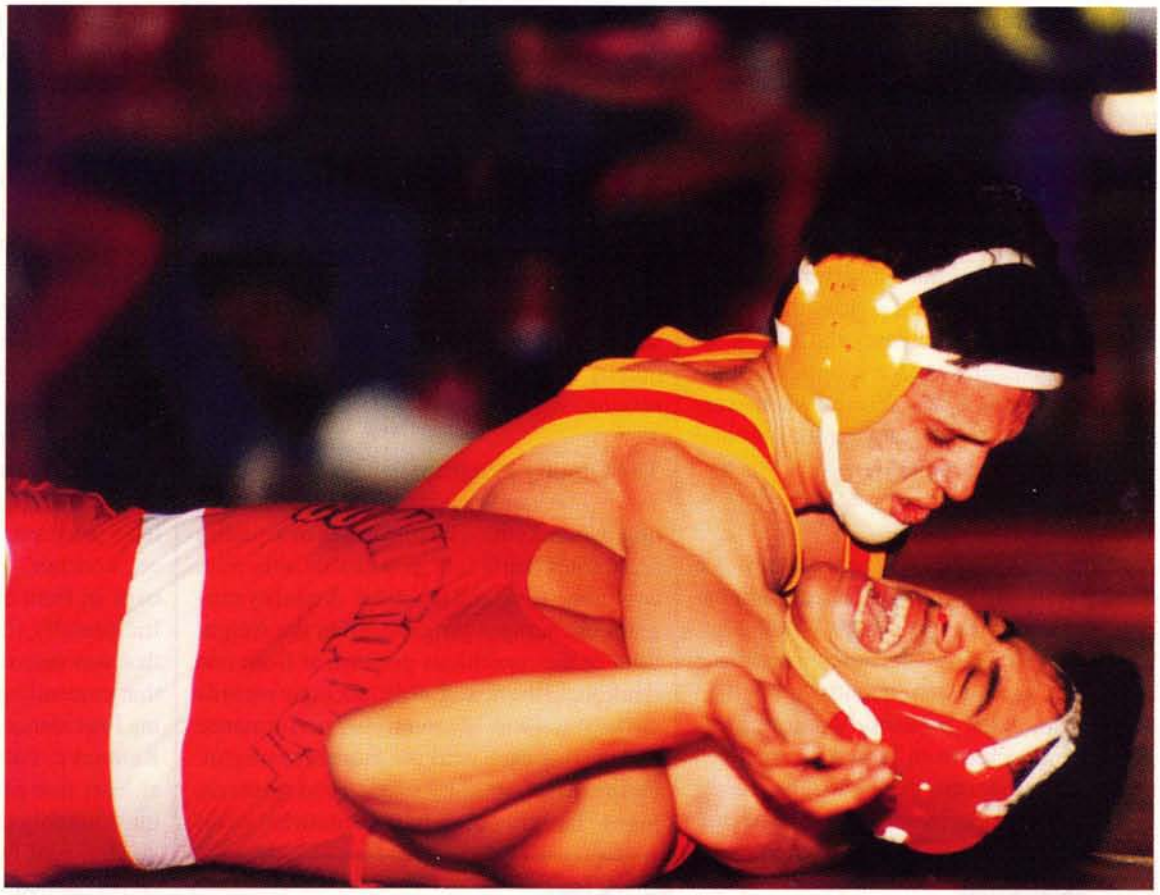
The 85th National Collegiate Athletic Association (NCAA) Convention adopted a new regulation that governs all sports. It became effective on August 1, 1991 for every Division I and II school and will become effective on August 1, 1992 for all Division III programs. Officially, the rule is designated in the 1991-92 NCAA Manual by the decimal number 17.1.5 and by the topic subsection of "Time Limits for Athletically Related Activities." Essentially, the new rule states that during the playing season "a student-athlete's participation in countable athletically related activities shall be limited to a maximum of 4 hours per day and 20 hours per week." During the season, athletes must also receive at least one day off per week. When out of season, a student-athlete's participation in permissible activities is limited to a maximum of 8 hours per week. In the coaching community, this recent legislation is often referred to as the "Twenty Hour Rule." Regardless of the name, it's content will have an immediate and major impact on the time that a collegiate athlete is involved in his chosen sport.

With the current restrictions on the number of hours that an athlete is permitted to spend in sports-related activities, there will be a new emphasis on "quality time." More than ever before, coaches will try to produce the maximum possible results in the minimum amount of time. Quality and efficiency will be the latest buzzwords for those activities that are considered "athletic related." These activities include practices, coach-initiated meetings on athletic matters, required individual workouts and supervised videotape/film reviews of athletic performance. In addition, coaches will be searching for a time-efficient means of administering strength and conditioning programs to their athletes. Indeed, instead of being concerned with the quantity of work done in the weight room, coaches will be emphasizing the quality of work done in the weight room. Let's face it, gone are the days when a coach "encouraged" an athlete to lift 4 - 6 days per week for 1 1/2 - 2 hours per session. And those hours didn't even count some type of conditioning activity.

How can we make strength workouts more time-efficient without sacrificing results? Well, let's look at the requirements for increasing muscular strength. In order to increase in size and strength, you've got to fatigue the muscle. It's that simple. It really doesn't matter whether you fatigue the muscle in one set or several sets — as long as the muscle experiences a certain level of fatigue. In fact, this is supported by numerous research studies that have shown that there are no significant differences when performing either one, two or three sets of an exercise . . . provided, of course, that the muscle was sufficiently fatigued. When performing multiple sets (i.e. more than one), the cumulative effect of each successive set creates the muscular fatigue; with a single-



New York - East Meadow Tournament
177 lb Final - Craig Amarando (Connetquot High School) vs. Mark Sromszewski (East Meadow High School)
Photo- Peter Venier



New York - 138 lb Chaminade High School's Gerry Donahue has Connetquot High School's Anthony Cruz on his back for a technical fall in 3:37. Photo-Peter Venier

set-to-failure (i.e. a quality set), the cumulative effect of each successive rep creates the muscular fatigue.

The following is a brief overview for administering a quality strength training program:

The Quality Repetition

A quality program begins with a quality repetition. Indeed, the repetition is the most basic and integral aspect of a strength program. A repetition consists of raising the weight to the mid-range position and returning the weight to the starting/stretched position. (Raising a weight is typically referred to as the positive phase of a movement and involves a concentric muscular contraction; lowering a weight is also known as the negative phase of a movement and involves an eccentric muscular contraction.)

But, what exactly is a quality repetition? Well, a quality rep is performed by raising the weight in a deliberate, controlled manner in about 1 - 2 seconds. Lifting a weight in a rapid, explosive fashion is ill-advised for two reasons: (1) it exposes the muscles, joint structure and connective tissue to potentially dangerous forces which magnify the likelihood of an injury and (2) it introduces momentum into the movement which makes the exercise less productive and less efficient. Additionally, the weight is lowered under control to the starting/stretched position in about 3 - 4 seconds. The lowering of the weight should be emphasized because it makes the exercise more efficient: the same muscles that are used to raise the weight concentrically are also used to lower it eccentrically. Furthermore, lowering the weight in a controlled manner ensures that the exercised muscle is being stretched properly and safely. Finally, a quality rep is done throughout the greatest possible range of motion that safety allows — from a position of full stretch to a position of full muscular contraction and back to a position of full stretch. In general, a muscle must be exercised over a full range of motion in order to receive a full range effect. When exercising throughout a limited or partial range of movement, only a portion of the muscle is fatigued thereby making the movement less efficient. Exercising through out a full range of motion is also necessary so that the flexibility of the joint is not compromised.

The Quality set

A series of quality repetitions is a quality set. A quality set is one that involves a relatively high level of intensity. This level of intensity is best achieved when training to the point of concentric muscular failure — when the muscles are exhausted to the extent that the weight cannot be raised for any additional repetitions. What happens during concentric muscular failure and why is it so effective and efficient? Let's say that the task is to perform a set of leg extensions with 100 pounds. In order to overcome inertia and provide impetus to the 100 pounds of resistance, the quadriceps must exert slightly more than 100 pounds of force. The weight will not move if a force less than or equal to 100 pounds is applied. During the first repetition, only a small percentage of the available muscle fibers is being worked — just enough to move the weight. As each repetition is performed, some muscle fibers will fatigue and will no longer be able to keep up with the increasing metabolic demands. Fresh fibers are simultaneously recruited to assist the fatigued fibers in generating ample force. This continues until the last repetition, when concentric muscular failure is finally

reached. At this point, the available muscle fibers cannot collectively produce enough force to raise the weight. During this final repetition, the cumulative effect of each preceding repetition has fatigued the muscle thereby providing a very sufficient and efficient stimulus for muscular growth.

It should be noted that attempting a one-repetition maximum or performing low-repetition movements (i.e. less than three reps) significantly increases the risk of an injury. In general, concentric muscular failure should occur in 15 - 20 reps when exercising the hips, 10 - 15 reps for the legs and 6 - 12 reps for the upper torso.

The Quality Workout

A group of 14 - 19 quality sets comprises a quality workout. A quality workout emphasizes the major muscle groups — the hips, legs and upper torso — because those are the areas that are most frequently injured in sports. Moreover, a quality workout exercises the muscles from largest to smallest: the hips, legs (hamstrings, quadriceps, calves/dorsi flexors), upper torso (chest, back, shoulders), arms (biceps, triceps, forearms), abdominal and lower back. If an athlete is involved in a combative sport — such as wrestling or football — a quality workout includes an additional 2 - 4 neck exercises to strengthen the cervical area against possible injury. A quality workout is performed 2 - 3 times per week on nonconsecutive days to allow for adequate recovery. Finally, the transition/recovery time between exercises should be minimal so that the duration of a quality workout is less than one hour per session.

The Quality Program

A quality program is composed of quality workouts. The trademark of a quality program is being safe, productive, efficient, comprehensive and practical. A quality program encourages progression in the weight used or the repetitions performed from one workout to the next. Lastly, accurate records are kept as a way of monitoring performance and making each workout more meaningful. Despite its support by science and research, many strength coaches are somewhat cynical of this type of program. Numerous coaches still cling to the traditional program of endless sets and marathon workouts with an almost religious fervor and often justify these methods by saying, "Well, you're Princeton. You have to run that kind of program because of the time involved with academics." Statements like this miss the point entirely. Many schools — including Princeton University — have a rich and proud tradition of both academics and athletics. These schools place a high priority on academics yet they're still quite competitive in numerous sports on a national level. At any rate, shouldn't every school be concerned with making all aspects of their athletic programs more time-efficient? Come on, coaches, let's put the word "student" back in front of "athlete" where it belongs. Incidentally, the quality strength program that was described earlier is very similar to that currently used at many schools including Providence, Penn State, Michigan, SMU, Kentucky, Toledo and West Point as well as at least five professional football teams — most notably the Washington Redskins. Indeed, a quality, time-efficient workout can be performed without sacrificing results.

Overtime

Does the large, agile right guard for the Pittsburgh Steelers (#77) look familiar to any of you guys? Believe it or not, he's former six-time NCAA Heavyweight Wrestling Champ Carleton Haselrig (three national titles in both Division I and II). Even though he didn't play any collegiate football at Pitt-Johnstown, the Steelers took a chance and drafted him in the twelfth round in 1989. Just two years later, Carleton has earned a starting position! Congratulations to an outstanding athlete!

Finally, I'd like to send additional congrats to Georgia State, San Diego State and Duquesne. In a period of time where axing programs has become the norm, these schools recently added wrestling. Way to go! O

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