

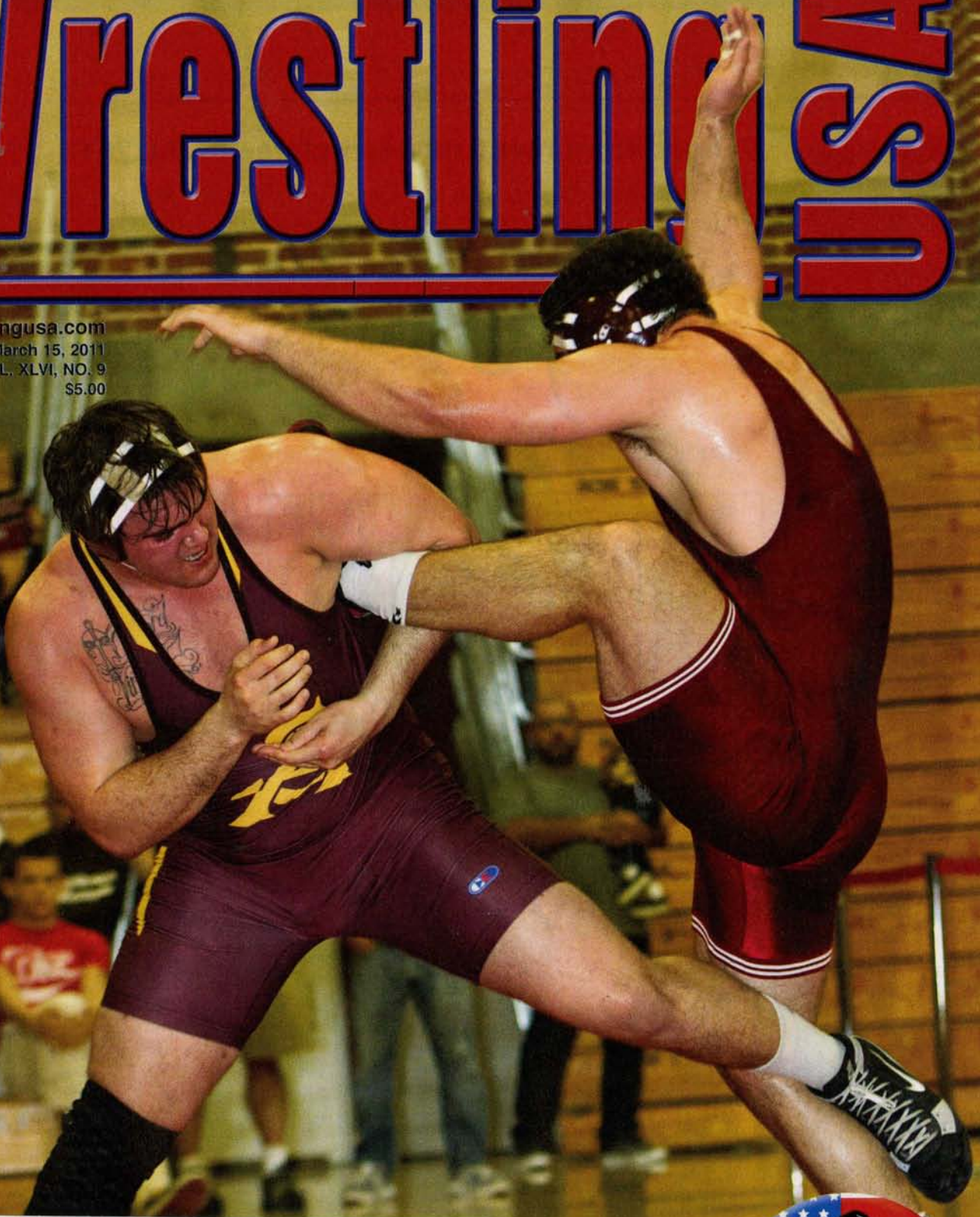
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THE SEVEN Rs OF CONCUSSION MANAGEMENT



By Matt Brzycki

2011 California ProVart Tournament - 145 lbs.
Devon Nanik (Bret Harte) has an armbar on
Jacob Virzi (Turlock). Nanik won by Technical fall
16-0. Photo by Amber Pappé.



awareness of sport-related concussions is on the rise. This is largely due to numerous high-profile injuries, particularly in the National Football League. Not to be overlooked, however, is the prevalence of concussions at the scholastic level.

WHAT THE RESEARCH SAYS

It has been estimated that every year, high-school athletes sustain at least 136,000 concussions. This is an alarming number of injuries.

One Internet-based injury surveillance system collected data on 544 concussions that occurred during the 2008-09 academic year in nine sports in a random sample of 100 high schools. Some quick math shows that this averages out to 5.44 concussions per school per year. Think about the significance of that statistic for a minute.

The concussions were fairly evenly distributed among freshmen (24.8%), sophomores (24.4%), juniors (28.1%) and seniors (22.6%). The majority of concussions were sustained by varsity athletes (51.7%) followed by junior-varsity athletes (30.1%). Also of interest is that most concussions occurred in competition (68.5%) as opposed to practice.

The two most frequent causes of concussions were contact with another athlete (76.2%) and contact with the playing surface (15.5%). The most common types of athlete-to-athlete contact were head-to-head collisions (52.7%) and collisions between the injured athlete's head and a different body part of another athlete (38.9%).

Of the 544 concussions that were reported in nine sports, 309 occurred in football (56.8%) followed by 65 in girl's soccer (11.9%) and 40 in wrestling (7.4%). Remember, the 40 concussions in wrestling were only at 100 high schools during one academic year. Extrapolate that to the thousands of schools that sponsor wrestling and it's clear that concussions are a major concern in the sport.

WHAT IT IS

A concussion is a traumatic injury of the brain that temporarily disrupts its normal functioning. Concussions happen when the brain is moved violently back and forth inside the skull as a result of a blow or jolt to the head or body. Make no mistake about it: A concussion is a serious injury that can lead to permanent disability or death.

MANAGING THE INJURY

Proper management of concussions is crucial in decreasing the possibility of long-term complications. It's imperative that coaches know how to handle concussions since an athletic trainer might not be readily available at the time of the injury. Coaches should follow these seven Rs of concussion management:

1. READY your athletes.

Preparation is absolutely critical for wrestling. And nowhere is preparation more critical than its role in reducing the risk of injury.

With respect to concussions, the best preventive measure that

wrestlers can take is to strengthen their neck. Remember, concussions involve a violent movement of the head. By training the neck, the support system of the head becomes stronger and more stable. In the event of a collision with another wrestler or an impact with the mat, this added stability reduces excessive movement of the head.

Therefore, strength training for wrestling must involve exercises that address the neck area. This includes neck flexion for the front part of the neck and neck extension for the back part. Not having access to a neck machine is no excuse; neck flexion and neck extension can be done with manual (partner) resistance. If a neck machine is available, wrestlers should also perform neck lateral flexion for the side part of the neck. Finally, the shoulder shrug should be included for the trapezius. This exercise can be done with a barbell, dumbbells and a trap bar.

2. RECOGNIZE the signs and symptoms.

For years, it was thought that an athlete must be "knocked out" to have been concussed. But in reality, only a small number of concussions involve a loss of consciousness. In the aforementioned study of 100 high schools, a loss of consciousness was reported as a symptom in only 4.6% of concussions. Nevertheless, losing consciousness, no matter how brief, must be taken seriously; it's considered a life-threatening condition that requires immediate medical attention.

The most typical symptom of a concussion is a headache. Other common signs and symptoms include dizziness, inability to focus, blurry or double vision, sensitivity to light/noise, nausea or vomiting, drowsiness and irritability.

In addition, a concussed athlete acts dazed, disoriented or confused and has trouble recalling what happened just before or after the injury. The athlete responds to questions slowly and with hesitation. And when asking a question, the athlete repeats it (even if his question has already been answered).

Concussed athletes may have difficulty with balance, coordination or walking in a straight line. Slurred or incoherent speech, a vacant stare, numbness or tingling in the extremities, ringing in the ears, neck pain, seizures, feeling sluggish or groggy and general fatigue and weakness are additional signs and symptoms.

The symptoms of a concussion may be immediate or develop over time. Therefore, it must be stressed that all wrestlers and their parents should become familiar with the signs and symptoms of a concussion. Teachers, too, should be "in the loop" since an athlete might show signs and symptoms in the classroom. For instance, a wrestler might not remember his class schedule or assignments.

3. REMOVE the athlete from the mat.

Whenever a wrestler receives a bump or blow to the head, look for signs and symptoms of a concussion. Dizziness, disorientation, difficulty with balance and other physical signs will be fairly easy to spot. To assess their cognitive state, athletes can be asked several questions. Examples: What's the score of your match? What period is it? What team are we wrestling? Where are we wrestling? Besides considering his specific answers, pay attention to how quickly the athlete responds to these questions.

For a variety of reasons, most wrestlers don't want their coach to "throw in the towel" during their match. But if there seems

to be some telltale signs of a concussion, the wrestler must be removed from the mat. In fact, a wrestler should come off the mat even if there's only a slight possibility that he has a concussion. Here's a good rule of thumb: When in doubt, sit him out.

Once "sidelined," the wrestler shouldn't be left alone; he should be monitored every 5 to 10 minutes for the next few hours in the event that symptoms worsen.

4. REPORT the injury to his parents.

The athlete's parents should be informed of what happened and the possibility or probability of a concussion. As mentioned earlier, make sure that they know the signs and symptoms of a concussion. Parents should also be aware of the next three steps of concussion management.

5. RECOMMEND an evaluation.

Coaches shouldn't try to evaluate the extent of the injury. The athlete should be evaluated by a healthcare professional who has experience with sport-related concussions.

Evaluations should involve "field tests" for cognition and balance as well as computerized neuropsychological testing. To assist the healthcare professional with the evaluation, coaches should note the cause of the injury along with any loss of consciousness (and if so, the duration), loss of memory immediately following the injury, seizures immediately following the injury and previous concussions.

On a related note, it's extremely important that all wrestlers receive a baseline evaluation. In this way, comparisons can be made between pre- and post-concussive health. Information should include a history of previous injuries (noting such things as the symptoms that were experienced and the duration of those symptoms) along with cognitive and balance testing. Baseline evaluations can be conducted as part of pre-participation medical examinations.

6. REST the athlete.

The best treatment for a concussion is rest. The vast majority of sport-related concussions resolve within 7 to 10 days. However, the symptoms of a concussion can last several months.

Before returning to action, the athlete must be completely free of symptoms as judged by a healthcare professional. Returning to wrestling too soon can impede recovery and put the wrestler at risk for another concussion which could have dire consequences.

Rest after a concussion should be mental as well as physical. This means no computers, video games, television, schoolwork or other mental exertion until all of the symptoms have dissipated.

7. RETURN the athlete to action.

Preparing a wrestler to return to the mat should be a multi-step process of activities that gradually build to greater levels of intensity and exertion. Once the athlete is free of symptoms, he should follow these steps (which are adapted from the 2008 Consensus Statement on Concussion in Sport):

- do low-intensity aerobic training such as walking or pedaling a stationary bike.
- perform non-contact drills beginning with simple ones and progressing to complex ones.
- do low-intensity strength training (light weight, stopping short of muscular fatigue).
- participate in regular practices.
- return to competition.

Important:

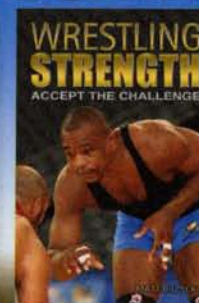
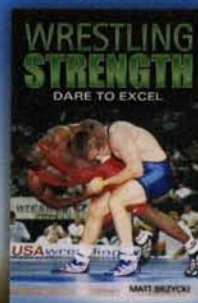
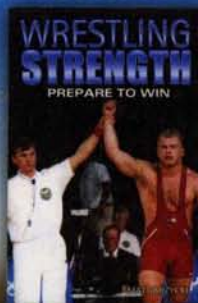
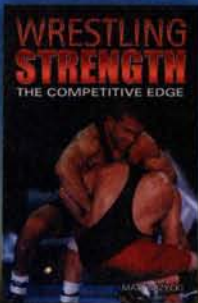
Wrestlers can proceed from one step to the next as long as they're without symptoms. The duration of each step depends on the nature of the concussion. Some athletes may only need a few days at each step before progressing; for others, it may take longer.

THE LAST REP

Nothing can be done to prevent a concussion from happening. But if a concussion does occur, coaches can go a long way in protecting the long-term health of their athletes by following the seven Rs of concussion management.

Matt Brzycki has authored, co-authored and 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*.

WRESTLING STRENGTH



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