



Injury Trends In Wrestling

In 1982, the NCAA developed its Injury Surveillance System (ISS) to provide data on injury trends in intercollegiate athletics. Each year, injury data are collected from a representative sample of NCAA member institutions. The resulting data summaries are then reviewed by the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports. The committee then suggests changes in rules, protective equipment or coaching techniques to reduce the injury rates.

Although the data on injuries were gathered from collegiate wrestlers, the information is still quite applicable and useful to high school coaches and athletes.

SUMMARY OF THE WRESTLING DATA

During the 1997-98 season, data on wrestling injuries were collected from 53 NCAA schools: 20 from Division I (D-1), 18 from Division II (D-2) and 15 from Division III (D-3). What follows is a brief overview of the data from that season (unless otherwise noted) along with my contents as it applies to strength and conditioning.

Practice Injury Rates

Data: The highest rate of injuries in practice occurred at D-3 schools followed by D-1 and D-2, respectively. Actually, this was the fourth season in a row that the D-3 schools had the highest practice injury rates.

Comment: None.

Match Injury Rates

Data: D-3 schools also had the highest rate of injuries in matches followed by D-1 and D-2, respectively. This was the fourth season out of the last five that D-3 schools had the highest match injury rates.

Comment: None.

Pre-Season, Regular and Post-Season Injury Rates

Data: Injury rates were highest during the pre-season followed by the regular season and the post-season. This was the sixth year in a row that this occurred.

Comment: In my opinion, condi-

tioning is a factor here. Like most competitive athletes, wrestlers tend to be in better condition during the season than prior to it. The relatively high incidence of injuries during the pre-season can be attributed to poor conditioning. I think that the lower injury rate during the post-season is related to the fact that the wrestlers are more evenly matched in terms of skill, strength and conditioning. Generally speaking, wrestlers who qualify for post-season competition also have the highest levels of skill, strength and conditioning.

Home and Away Injury Rates

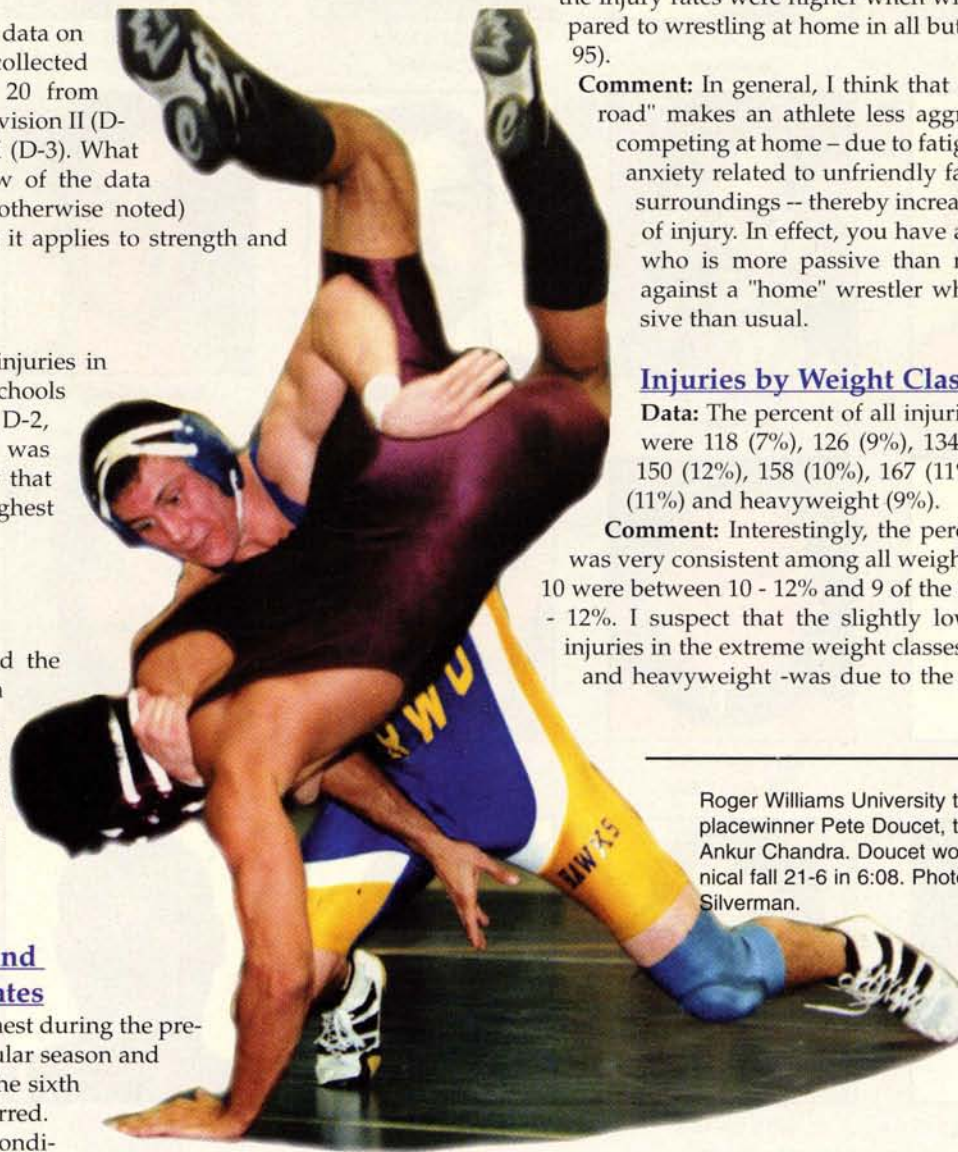
Data: There is no information available concerning home and away injuries beyond the 1995-96 season. In the 8 seasons that this has been reported upon -- that is, from 1988-89 to 1995-96 -- the injury rates were higher when wrestling away compared to wrestling at home in all but one season (1994-95).

Comment: In general, I think that competing "on the road" makes an athlete less aggressive than when competing at home -- due to fatigue from traveling, anxiety related to unfriendly fans and unfamiliar surroundings -- thereby increasing the likelihood of injury. In effect, you have an "away" wrestler who is more passive than normal competing against a "home" wrestler who is more aggressive than usual.

Injuries by Weight Class

Data: The percent of all injuries by weight class were 118 (7%), 126 (9%), 134 (11%), 142 (10%), 150 (12%), 158 (10%), 167 (11%), 177 (10%), 190 (11%) and heavyweight (9%).

Comment: Interestingly, the percentage of injuries was very consistent among all weight classes -- 7 of the 10 were between 10 - 12% and 9 of the 10 were between 9 - 12%. I suspect that the slightly lower percentage of injuries in the extreme weight classes -- that is, 118, 126 and heavyweight -- was due to the fact that there are



Roger Williams University two-time conference placewinner Pete Doucet, taking down M.I.T.'s Ankur Chandra. Doucet won the match by technical fall 21-6 in 6:08. Photo by David Silverman.

relatively few wrestlers competing at those weights.

Injuries by School Year

Data: The percent of all injuries by school year were freshman (32.0%), sophomore (28.5%), junior (22.63%), senior (12.86%) and fifth year (4.0%).

Comment: At first glance, it is tempting to speculate that younger wrestlers are more prone to injury because they are less physically mature than their veteran counterparts. While this may have some truth, keep in mind that the greatest number of competitors are from the freshman and sophomore classes. Very few athletes wrestle during all four years of college. Indeed, they may compete during their first one or two years of college but not during their final years. No doubt, the main reason why fifth-year athletes had such a low percentage of injuries is that there are relatively few who wrestle that long.

Practice and Match Injury Rates

Data: The data show that the injury rate during matches was more than four times that of practices which is roughly the average for the past 13 seasons. (Note: The total number of injuries was greater during practices but so were the number of exposures.)

Comment: I believe that the higher injury rates during matches is a result of both wrestlers competing with a continuous, all-out effort as compared to practices in which there are certainly all-out efforts but not as sustained. If so, the potential for injury can be reduced by being as highly conditioned as possible. This will allow wrestlers to put forth greater all-out efforts for longer periods of time.

Injury Rates by Period

Data: During matches, most of the injuries occurred in the second period (39.23%) followed by the third period (36.98%) and the first period (22.19%). One injury was reported during the warm-up and no injuries were reported during overtime periods. (Four injuries were classified as "other".)

Comment: I think that conditioning played a role here as well. As fatigue becomes a factor, athletes are more susceptible to injury -- particularly if their opponents have shown little signs of exhaustion. I suspect that the lower number of injuries in the third period is because some matches do not go the distance.

Activity When Injured

Data: Most injuries in both practices and

matches occurred during a takedown (42.07%). Other activities in which injuries were sustained included sparring (22.47%), riding (9.24%), an escape (5.74%), a reversal (5.49%) and a near fall (4.00%).

Comment: No real surprises here. The top two activities which result in the most injuries -- namely takedowns and sparring -- are when both wrestlers are on the offensive.

Position When Injured

Data: The majority of the injuries in both practices and matches occurred in the neutral position (51.28%) followed by the "bottom" position (33.11%) and the "top" position (9.56%).

Comment: Again, this would be expected. Both wrestlers are on the offensive in the neutral position (and it is also when takedowns and sparring -- the top two injury-producing activities -- are performed).

New Versus Occurring Injury

Data: The overwhelming majority of the injuries sustained by wrestlers in practices and matches were new ones (80.98%). Recurring injuries from the current season and the previous season that were sustained during practices and matches accounted for 6.44% and 10.60%, respectively.

Comment: No Comment other than the fact that this underscores the importance of rehabilitating injuries appropriately and adequately before resumption of wrestling activities so that the risk of experiencing a recurring injury is reduced.

The Loss Injury Summary:

Data: In terms of time lost from training, 30.0% of all injuries resulted in a loss of 1 - 2 days, 32.0% a loss of 3 - 6 days, 14.6% a loss of 7 - 9 days and 23.2% a loss of 10 days or more. These numbers are very close to the 13-year averages which are as follows: 29.9% of all injuries resulted in a loss of 1 - 2 days, 32.1% a loss of 3 - 6 days, 12.2% a loss of 7 - 9 days and 25.7% a loss of 10 or more days. This was the tenth time in eleven years in which the highest percentage of injuries resulted in a loss of 3 - 6 days of training; it was the thirteenth year in a row in which the lowest percentage of injuries resulted in a loss of 7 - 9 days of training.

Comment: No comment except that it is very fortunate that more than 60% of all injuries only result in a loss of training of less than one week.

Injuries Requiring Surgery

Data: Surgery was required in 0.7% of all injuries. Injuries requiring surgery were

highest during the season (0.5% of all injuries) and lowest during the post-season (0.2% of all injuries) -- a trend that has been the same for the past thirteen seasons.

Comment: It is my opinion that the lower percentage of injuries that require surgery during the post-season is related to competition between more evenly matched wrestlers in terms of skill, strength and conditioning.

Injury Involvement

Data: Most of the injuries sustained in practices and matches involved contact with another wrestler (51.65%). The second greatest number of injuries were incurred



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from contact with the mat (22.53%). A significant number of injuries (17.49%) were sustained without any apparent contact of any kind -- such as rotation with the foot planted.

Comment: None.

Top Three Body Parts Injured

Data: Of the 973 injuries reported, the top three body parts injured were the knee (20%), the shoulder (13%) and the ankle (7%). In fact, the knee and the shoulder have been the top two body parts injured every year since 1985-86. The ankle has been the third most frequently injured body part in all but three of the past thirteen seasons -- the others being the head (once) and the face (twice). It should be noted that the next four body parts most frequently injured during the 1997-98 season were the head, elbow, neck and lower back.

Comment: It's obvious that the body parts that are most frequently injured while wrestling should be emphasized in a strength and conditioning program. Specifically, exercises should be done regularly to target the knee (e.g., leg press, leg curl, leg extension), shoulder (e.g., multi-joint "pushing" and "pulling" movements,

internal/external rotation), ankle (e.g., calf raise, dorsi flexion), elbow (e.g., bicep curl, tricep extension), neck (e.g., neck flexion, neck extension, lateral flexion, shoulder shrug) and lower back (back extension).

Top Three Types of Injury

Data: Of the 973 injuries reported, the top three types of injuries were sprains (29%), strains (17%) and infection (15%). Sprains have actually been the most frequently reported injury every season since 1985-86 (13 seasons) while either strains or infections have been either the second or third most frequently reported injury every year since 1986-87. (In 1985-86, strains and contusions ranked 2 and 3 respectively.)

Comment: These data underscore the importance of strengthening the muscles and connective tissue that surround joints as a precautionary measure against sprains and strains. Stronger biological tissue can tolerate greater stress which reduces the potential for injury.

Comparison to Other Sports

Data: During the 1997-98 season, data collected by the NCAA ISS revealed that wrestlers had a higher injury rate during practices than all but two other athletes:

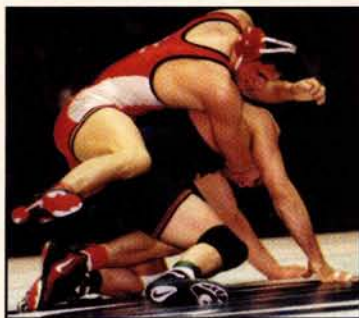
football players (in the spring) and female gymnasts. During actual competition, wrestlers had the highest injury rate of any athletes other than football players. Also, 39% of all injuries sustained by wrestlers were severe enough to restrict or miss participation for 7 or more days and 6.1% of all injuries required surgery.

Comment: The risk of sustaining an injury while wrestling is a grim reality.

BE PREPARED!

Strength and conditioning for wrestling should be a year-round endeavor -- not just immediately prior to the season. Further, it is extremely critical that wrestlers engage in strength and conditioning activities during the season since this is the time when they need to be as strong and as highly conditioned as possible. Engaging in strength and conditioning activities throughout the year will also help wrestlers stay at or near their competitive body weights. Finally, athletes should practice proper wrestling technique thousands and thousands of times. The skills should be practiced perfectly and exactly as how they would be used in competition.

What can wrestlers do to reduce their risk of injury? It all comes down to being prepared.



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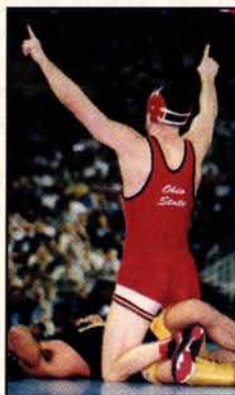
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