

## Comparison of Weight Training Injury Rates Before and After Hiring a Full Time S&C Coach: Sports Performance Team Ruem Malasarn, MA, ATC - Assistant Athletic Director for Sports Performance

### Sports Performance: Strength and Conditioning

The Cal Poly Pomona Sports Performance Team is centered around a holistic, multifaceted approach in developing and improving the student-athlete as an individual in order to optimize athletic performance and personal growth. One aspect of the Sports Performance Team in Strength and Conditioning, the primary goal of this area is to develop skilled athletes through the design and administration of a structured program that will improve the overall athletic performance and reduce the occurrence of injuries.

### Purpose of Assessment

Injuries are always an area of concern in the world of athletics. Acute traumatic injuries are often unavoidable. Minimizing injuries and promoting safe training practices in more controllable training situations is always a priority for our athletic training staff and coaches. In past years, we saw a notable number of back and shoulder injuries resulting from or related to weight training. Our goal in hiring a full time professional in the area of strength and conditioning was to create a safer and more effective training environment for our student-athletes. Our assessment question: Did hiring a full time strength and conditioning coach reduce the number of weight training related back and shoulder injuries?

### Methodology

Using our injury tracking system, we queried and identified all reported shoulder and back

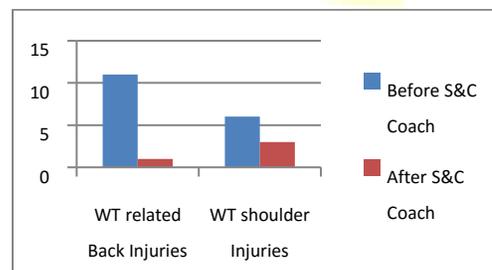
injuries\* between January 2014-June 2015 (*Baseline*) and compared them to January of 2016-June of 2017 (*Comparison*). Among these injuries, we identified a total of 17 back injuries and 11 shoulder injuries during the Baseline period. During the Comparison period, we identified 6 back injuries and 8 shoulder injuries. The reported histories were reviewed for a reported mechanism of injury related to weight training (WT). Each incidence was additionally reviewed to confirm that at least one training session or game was missed resulting from the injury.

\*Injuries were defined as injuries that were reported to the athletic staff, evaluated and resulted in at least 1 missed practice session or game.

### Results

Of the 17 back and 11 shoulder injuries in the *Baseline* period, 11 and 6 of those, respectively, were directly related to weight training according to the medical histories of the student-athlete. The *Comparison* period showed 1 of the 6 back injuries and 3\*\* of the 8 shoulder injuries were reported to be related to weight training.

\*\* 2 of the 3 injuries occurred while lifting weights outside of official team lifting sessions.



### Conclusion

Our first full year with our strength and conditioning coach showed significant decreases in the rate of back and shoulder injuries reported to be related to weight training. It is clear, seeing the numbers, as hypothesized, that having a full time professional, who is educated and trained in strength and conditioning, decreases the rate of weight lifting related injuries.

The importance of technique focused training, specifically weight lifting, is essential to reducing the risk of injury. Initial sessions each year and training cycles are focused on proper technique and form rather than increasing strength. Athletes who are younger or lifting for the first time are also placed in a different lifting group to acclimate their body to weight lifting while training with their respective teams.

### Implications

From an evidence-based research standpoint, a number of external factors may have potentially influenced the data. However, from a practiced-based knowledge standpoint along with over 20 years of empirical observation, proper education on technique along with continuous monitoring throughout a weight lifting session can significantly reduce the risk and rate of injury caused by weight lifting. In addition, constant communication with coaches and athletic medical staff regarding team practices and athlete injuries further adds to the successful development of the student-athlete.