

### **3 Year Objective Informational Study**

I was the biggest naysayer until I saw the results, not only in the lab but on the field and most of all what the players who wore it said! The only claim I make of my device, is exactly what it has done in the lab and on the field and that is to reduce helmet to helmet impacts. I DO NOT CLAIM SHOCKSTRIP® STOPS CONCUSSIONS. NO DEVICE OR HELMET CAN MAKE THAT CLAIM.

**REDUCTION of RISK is what Shockstrip® is about. Just as a safety belt in a car is.**

One last thing that should be known about this informational study. I was very fortunate to work with an intuitive and progressive Athletic Director, Jeff Martig. I had no control over return to game with either potential concussed players or return to play after a player was removed and diagnosed.

Examining the Potential for Concussions in High School Football Players Wearing the Most Current External Helmet Technology; Shockstrip® compared to a group of High School Football Players who wore Helmets without Shockstrip®

#### **THE BOTTOM LINE:**

The statistical analysis reveals that a player WITHOUT Shockstrip® on their helmet has a STAGGERING 16.9% chance of suffering a helmet to helmet impact every time the ball is snapped. The players with Shockstrip® on their helmet had a reduction to a MINUSCULE 2.9% chance of suffering a helmet to helmet impact injury every time the ball is snapped!

The purpose of this informational study was to compare the potential decrease of injuries associated with helmet impacts for high school football players wearing the most current external helmet technology, Shockstrip®, with a group of high school football players who did not wear any external helmet technology.

Over a three-year period, high school football players from Berlin Center, Ohio were monitored. The high school football players helmets for the 2012 season, (48 players), 2013 season, (45 players) and 2014 season, (46 players), were equipped with the external helmet device, Shockstrip® for a total of 39 games, inclusive of but not limited to practices, season and post-season play.

High school football players for the 2009 season, (35 players), 2010 season, (36 players) and 2011 season, (41 players) did not wear the Shockstrip® device for 34 games, inclusive of but not limited to practice, season and postseason play. However, there were three players from the 2011 team, which due to recent diagnosis of concussion equipped their helmets with the Shockstrip® device for the final four games of the 2011 season with no recurrence of incident.

The entire 2011 team helmets were equipped with the Shockstrip® device for the final two games of the season. As a side note, only games played without the Shockstrip® device from 2009, 2010 and 2011 team, with the exception of the three players was used in the study.

No pre-or post-baseline computerized neurocognitive testing is used by this school system. If at any time, a concussion was suspected either in practice or a game, in conjunction with the school systems zero tolerance concussion policy, the student athlete was immediately removed from the practice or game and directed to an urgent care, emergency room and or a physician of their choice, ensuring the student athlete receives objective care. The players return to play was dictated by an independent physician of the family's choice, other than Dr. Steven Novicky.

## **RESULTS:**

Only 4 of the high school players who wore the Shockstrip® device, in practice and 39 games from 2012 through 2014, suffered concussions.

While, 19 of the high school football players, in practice and 34 games over three seasons from 2009 - 2011 who wore helmets without the Shockstrip® device, suffered concussions.

## **SUBJECTS:**

This information was a comparison of concussion rates in two groups of high school football players from Ohio. One group, the intervention group, wore the enhanced impact absorption strips, Shockstrip® on their helmets while the comparison group did not. All players were equipped with NOCSAE approved helmets that were fitted by a certified equipment manager. This particular high school reconditions their helmets on a yearly basis. Records of the number of players, number of games played and the total number of concussions in both groups were examined.

For this study, all practices during preseason, in season, games and postseason games were included. During the 2012 - 2014 seasons a total of 39 games were played by the teams who wore Shockstrip®, an average of 13 games per season.

The comparison group players who did not wear Shockstrip® played a total of 34 games during the 2009 - 2011 seasons, an average of 11.3 games per season.

## **COMPARISON GROUP:**

In the 2009 - 2011 football seasons, there were a total of 19 diagnosed concussions during 34 practices and games. In 2009, 35 players experienced a total of 6 concussions (17.14%). In 2010, 36 players experienced a total of 6 diagnosed concussions (16.6%) in 2011, 41 players experienced a total of 7 concussions (17.07%).

## **INTERVENTION GROUP:**

High school football players who wore an external helmet device, Shockstrip® for 39 games, for the 2012 - 2014 season experienced a total of four diagnosed concussions. In 2012, 48 players experienced a total of 1 diagnosed concussion (2.083%). In 2013, 45 players experienced a total of 2 diagnosed concussions (4.4%). In 2014, 46 players experienced a total of 1 diagnosed concussion (2.17%).

No other factors were different between the groups in the terms of training, conditioning, or anything else that might have contributed to a lower rate of concussions.

## **STATISTICAL ANALYSIS:**

The statistical analysis from the information provided reveals that a player without an external helmet impact reduction device such a Shockstrip®, has a 16.9% chance of suffering a helmet-to-helmet impact injury whereas an athlete who is wearing Shockstrip® on their helmet decreases the probability of a helmet-to-helmet impact injury to 2.9%

**CONCLUSION:**

At this time advancements in football helmet designs have had a primary emphasis on the padding and air bladders on the inside of the helmet.

This information is the first to investigate an external helmet device. The incidence of injuries associated with helmet-to-helmet contact was lower in high school football players who wore the external helmet device, Shockstrip<sup>®</sup>, compared to another group of football players who wore a traditional football helmet with no external device such as Shockstrip<sup>®</sup>.

Adding an external helmet device to high school football helmets appears to substantially reduce the rate of concussion in those players. This information provides preliminary evidence of an external device such a Shockstrip<sup>®</sup> can potentially reduce the incident of concussions in high school football players.

Any and all information was obtained from Jeffrey Martig Athletic Director, Western Reserve local schools at the time of the study.