

Injury Prevention Checklist for Sports-Related Concussion

The following checklist has been prepared for schools to utilize as part of a concussion management and injury prevention program, as well as help schools complying with the Nebraska Concussion Awareness Act which went into effect July 1, 2012.

1. Concussion Training for Coaches

All coaches should complete one of the free, online Concussion Training Programs and submit a Certificate of Completion to school administration. Links to either of the concussion training programs at NFHS, CDC, ACTIVE, or ConcussionWise can be found on the "Resources" page at www.NebSportsConcussion.org. The content of the coaches' concussion training is to include:

- a. How to Recognize the Signs & Symptoms of a concussion or brain injury.
- b. How to seek proper medical treatment for a concussion or brain injury.

2. Concussion Information for Athletes & Parents

On an annual basis, all athletes and parents are to be provided concussion and brain injury information prior the beginning of an athlete's participation. The content of the information is to include the following:

- a. Signs & Symptoms of Concussions
- b. Risk posed by sustaining a Concussion
- c. The actions a student should take in response to a concussion injury, including notifying their coach.

Another means to provide concussion information is encourage all students, as well as parents, watch any of several educational videos about sport-related concussions found on the "Resources" page at <http://www.nebsportsconcussion.org/resources.html> prior to the start of sports participation each year. There are links to the following recommended videos on the NSCN website:

- "Concussion 101 – by Dr. Mike Evans"
- "ConcussionWise SPORT for Athletes"
- "ConcussionWise SPORT for Parents"

3. www.NebSportsConcussion.org

Utilize this website as your goto educational & informational resource on sports-related concussions and neurocognitive testing for coaches, athlete & parents, and for youth sports programs in your community. It is also recommended everyone involved in athletics view the 2 short videos available on the NSCN home page.

4. Computerized Neurocognitive Baseline Testing (ImPACT)

Implementation of a computerized neurocognitive baseline testing program in school's athletic programs.

5. The Nebraska Concussion Awareness Act

School & Athletic Staff are to be familiar with all measures mandated July 1, 2012 by the Nebraska Concussion Awareness Act. This new law is explained in greater detail and can be viewed on the [Nebraska Sports Concussion Network](http://www.NebSportsConcussion.org) home page. Components of the law include:

- a. Education training must be made available for Coaches, and concussion information is to be provided to Athletes prior to sports participation annually, as well as to Parents on an annual basis.

- b. Removal of any athlete reasonably suspected of having sustained a concussion or presenting with signs or symptoms of a concussion, where the athlete is directed to and evaluated by an appropriate licensed healthcare provider, i.e. M.D./D.O., Neuropsychologist, Athletic Trainer.
- c. Schools must notify a parent of a concussed athlete on (i) the date and time of the head injury, (ii) the observed signs & symptoms, and (iii) action taken to treat the student.
- d. Athlete must present with written and signed clearance from a licensed healthcare provider, and written permission from a parent, before a school or coach can allow a concussed athlete to return to play.
- e. Schools must establish a return to learn protocol for students having sustained a concussion needing formal and informal accommodations and modifications of curriculum, and monitoring until the student is fully recovered.

6. Management of Sports-Related Concussion

Easy access to concussion materials and educational resources for coaches, athletes, and parents is essential. Numerous forms and educational materials are available on the “Resources/Forms” pages at www.NebSportsConcussion.org:

Sideline Assessment Tool – for coaches to have immediately available and use as a guide at all practices & games. See “NSCN Laminated Sideline Assessment Card”.

Return to Play Progression – once an athlete is cleared to resume participation, typically after being symptom-free and when post-injury neurocognitive scores have returned to baseline (normal), athletes are then progressed through a stepwise, Return to Play Progression before resuming any competition.

Concussion Symptom Inventory - Graded Symptom Scale – coaches should utilize this tool where athletes complete the form to assist coaches in the recognition of concussion symptoms, and for establishing a “symptom score” for monitoring symptoms on a periodic basis during recovery.

Home Instructions for Parents and the Concussed Athlete – schools and coaches can use this form to notify parents when an athlete was removed from activity due to a concussion or following concern for a potential head injury. Information to be provided to parents is to include:

- a. date and time of the injury,
- b. observed signs and symptoms, and
- c. action taken to treat the student

7. Proper Fitting of FB Helmets In-Service

All coaches involved with fitting football helmets should document having attended a Helmet Fitting In-Service.

8. In-Season FB Helmet Checks

Athletes are to be instructed on and reminded how to inspect their helmets daily and report any issues to a coach immediately. Schools/Coaches should perform a weekly “helmet check” where a coach(s) is designated to physically check the fit of each athlete’s helmet while fully snapped and secured on head. This can be performed at the conclusion of the last practice preceding each FB contest, or prior to each contest. Ensure helmets are well positioned/aligned on the head with air liners sufficiently inflated & functioning properly, jaw pads & chin straps are snug, snaps are secure, and helmet does not slip on athlete’s head while the coach attempts to manipulate the facemask/helmet up/down, side-to-side on the athlete’s head. Utilize proper air needle lubrication. Prohibit players being allowed to self-inflate theirs or other’s helmets.

9. Duty to Warn Athletes & Parents of Inherent Risks of Playing Sports, particularly FB

In addition to obtaining Informed Consent from Parents for student participation, schools/organizations should post “Warning Statements” provided by helmet manufacturers in locker room area, and have student recite statement aloud during helmet-fitting each season. Coaches should designate time on multiple occasions during team meetings/practices to address inherent risks of participating in a particular sport, read aloud the helmet manufactures’ “Warning Labels/Statements”, and demand that students and parents understand the

importance of immediately reporting symptoms of a head injury/concussion experienced by themselves, as well as by teammates, to coaches and school personnel. Schools should also post concussion information in various locations relating to:

- a. Signs & Symptoms of Concussions
- b. Risk posed by sustaining a Concussion
- c. The actions a student should take in response to a concussion injury, including notifying their coach.

10. Neck Strengthening & Conditioning

There is little evidence to suggest an association between neck strength increases, and reduction in concussion risk or incidence. While this doesn't necessarily mean there is no potential association, the evidence just doesn't exist in the medical literature specific to concussions, and it's a difficult area to study. However, the importance of neck strength to cervical spine injury risk is rather obvious, and may mitigate the head snapping back and hitting the ground when falling backwards. Neck strengthening routines should be incorporated into year-round strength and conditioning programs, while avoiding the excessive or extreme "bridging of the neck."

11. Checklist of Concussion Educational Materials & Resources available on the NSCN website:

- NSCN Concussion Brochure
- Handouts/Flyers for Coaches, Athletes, and Parents:
 - CDC-Concussion Fact Sheet for Coaches
 - CDC-Concussion Fact Sheet for Athletes
 - CDC-Concussion Fact Sheet for Parents
 - CDC-Concussion Information for School Staff
 - NFHS- A Parent's Guide to Concussions in Sports
 - NFHS - Suggested Guidelines for Management of Concussions in Sports
 - AOSSM Sports Tips - Concussions in Athletics
 - NSAA - When In Doubt, Sit Them Out flyer
- Free, Online Concussion Training Courses
 - NFHS, CDC, ACTIVE, ConcussionWise
- View concussion video segments on NSCN Homepage & Resources webpage
- NSCN laminated Sideline Assessment Card - field kits & medical kits
- NSCN Coaches Clipboards
- Concussion Poster
- Event Program Ad
- Concussion Symptom Inventory - Graded Symptom Scale
- Return to Play Progression
- Home Instructions for Parents and the Concussed Athletes
- Letter to Parents
- School Newsletter - NSCN News Release
- PA Announcements - Concussion Testing Program
- Link to NSCN website from School's website
- Educational Seminar for Coaches, Athletes, and/or Parents:
 - Coaches Meeting
 - Team Meeting
 - Parents Meeting
 - School In-Service
- Coaches complete ImpACT Demo Test

12. Minimize Exposure to Head Contacts

For obvious reasoning, reducing the number of impacts an athlete experiences is likely to reduce the risk of concussion injury. On average, high school FB players sustain ~600-800 impacts per season. Someone experiencing 500 impacts over the course of a season has half the risk of sustaining a concussion than one who experienced 1,000 impacts in a season. So reducing the exposure to impacts by limiting the number of contact drills, the frequency of contact drills, and the overall time spent in each practice and games played is the most practical means for reducing impact exposure.

Games have a far higher incidence of impacts than practices, and those playing in only 4 quarters in games per week have half the risk than those that play in 8 quarters per week. More attention should be placed on those players that participate in multiple games each week, specifically sub-varsity players. The practice of playing in games on back-to-back days (Friday varsity game, Saturday JV game) should be discouraged.

13. Use of Protective Gear for Reducing Concussion Risk

1. There is currently no evidence that standard or fitted **Mouth Guards** decrease the rate or severity of concussions in athletes.
 - Sports Related Concussions in Youth: Improving the Science, Changing the Culture. Institute of Medicine and National Research Council Committee on Sports-Related Concussions in Youth, Graham R, et al. National Academies Press, 2013.
 - American Medical Society for Sports Medicine position statement: Concussion in Sport Br J Sports Med 2013;47:15-26 .
 - Wisniewski JF, et al. Incidence of cerebral concussions associated with type of mouthguard used in college football. Dent Traumatol 2004;20(3):143-9
 - Winters JE Sr. Role of properly fitted mouthguards in prevention of sport-related concussion. J Athl Train 2001;36(3):339-41.
2. There is currently insufficient independent evidence that exists to show that **Soccer Head Gear** reduce the incidence and severity of concussions.
 - American Medical Society for Sports Medicine position statement: Concussion in Sport Br J Sports Med 2013;47:15-26.
3. **Helmet Add-On Products.** NOCSAE News (8/7/13) The addition of such products to a certified helmet, changes the model, by definition, under the NOCSAE standards. When this happens, the manufacturer which made the original certification has the right, under the NOCSAE standards, to declare its certification void.
4. NOCSAE News. "Rating System Cannot Predict Helmets' Ability to Prevent Concussions" (5/27/2014). While the **Virginia Tech STAR Rating System** suggests the purchase of specific football helmets, scientific evidence does not support the claim that a particular helmet brand or model is more effective in reducing the occurrence of concussive events.
5. Recent studies on **Helmet Brands and Models** have revealed, 1) No difference in incidence of concussion, or severity (days lost), between players wearing Riddell, Schutt, or Xenith helmets; 2) Helmet Age & Reconditioning status did not affect incidence of concussion; and 3) the rate of concussion was higher in players wearing custom mouth guards compared to those with generic mouth guards (McGuine, et al 2014). Collins et al 2016 findings were that the avg. number of concussions symptoms, specific symptoms, symptom resolution time, and time until return to play were similar for concussions sustained by FB players wearing the most common helmet models (Schutt & Riddell; there were insufficient quantities of the Zenith helmet in the study).