Updated August 2024

# Concussion Management Protocol 2024-25

Duchesne Academy
Concussion Protocol

# Duchesne Academy of the Sacred Heart Concussion Management Protocol

# DUCHESNE ACADEMY OF THE SACRED HEART CONCUSSION MANAGEMENT PROTOCOL

The goal of this protocol is to safely return the student-athlete to academics and sport following a concussion through the implementation of a comprehensive concussion management program in accordance with Nebraska Legislative Bill 782 (LB 782) and is consistent with the current research and recommendations from the 6th International Conference on Concussion in Sport.

## NEBRASKA CONCUSSION AWARENESS ACT (LB 782)

The State of Nebraska Concussion Awareness Act (LB 782) is an extension of LB 260. It states:

- All schools need to make training available to coaches on how to recognize a concussion or brain injury and how to seek proper treatment.
- Concussion information needs to be supplied on an annual basis to athletes and parent/guardian prior to practices and competitions. This information should include, but is not limited to:
  - Signs and symptoms of a concussion.
  - Risks posed by sustaining a concussion.
  - Actions a student should take if they receive a concussion.
- A Return to Learn (RTL) Protocol shall be implemented for athletes who have sustained a concussion. This should include, but is not limited to:
  - Any formal or informal accommodations in school.
  - Modifications of curriculum. (i.e. extensions on homework, alternate testing dates)
  - Monitoring by medical and academic staff until athlete is fully recovered.
- Athlete needs to be removed from activity immediately if she is suspected of having a concussion.
  - The student-athlete shall not be permitted to participate in any school supervised team activities involving physical exertion, including, but not limited to, practices or games, until the student
    - (i) has been evaluated by a licensed health care professional (A **licensed healthcare professional** is defined as a physician, athletic trainer, neuropsychologist, or other qualified individual who is registered, licensed, certified or otherwise statutorily recognized by the State of Nebraska to provide medical treatment and is experienced in the diagnosis and management of traumatic brain injuries among a pediatric population.),
    - (ii) has received written and signed clearance to resume participation in athletic activities from the licensed health care professional, and
    - (iii) has submitted the written and signed clearance to resume participation in athletic activities to the school accompanied by written permission to resume participation from the student's parent or guardian (*Concussion Awareness Act. 2011*).
- If an athlete is suspected of having a concussion, the parent/guardian needs to be contacted with the date and approximate time of the injury.

## DEFINITION OF SPORT-RELATED CONCUSSION

A sport-related concussion (SRC) is a type of traumatic brain injury caused by a direct blow to the head, neck, or body that transmits either linear or rotational force to the brain which disrupts the way the brain normally functions. Concussions can occur in any organized or unorganized sport or recreational activity and can result from a fall or from players colliding with each other, the ground or obstacles. Symptoms can range from mild to severe and may be immediately present or can evolve over minutes or hours (Patricios, 2023, p. 697). Concussions occur with or without loss of consciousness, but the vast majority occurs without loss of consciousness.

## SIGNS AND SYMPTOMS OF A CONCUSSION

Below are listed some signs and symptoms of a concussion (Patricios, 2023, p. 699). This is *not* an exhaustive list of all signs and symptoms. If any of these are observed or reported, take the following actions listed in this protocol.

| SIGNS OBSERVED BY ATHLETIC TRAINER/COACH/PARENT/OTHER | SYMPTOMS FELT/EXPERIENCED AND/OR REPORTED BY STUDENT-ATHLETE |
|---|---|
| Appears disoriented: dazed or stunned | Headache or “pressure” in head |
| Nystagmus: Uncontrolled eye movement or “skipping” | Nausea or vomiting |
| Generalized confusion: forgets instruction, slowed responses, vacant/glassy stare | Balance problems or dizziness |
| Trouble concentrating: easily distracted, repeatedly asking the same questions | Vision Disturbances: Double or blurry vision |
| Uncoordinated movements, balance problems | Photosensitivity: sensitivity to light |
| Sleep disturbances | Tinnitus: ringing in ears, Hyperacusis: sensitivity to noise |
| Loses consciousness (even briefly) | Feeling sluggish, hazy, foggy or groggy |
| Shows behavior, mood, or personality changes such as: agitation, irritability, depression, emotional instability | Concentration or memory problems: fatigued, drowsiness, difficulty concentrating or remembering |
| Anterograde amnesia: unable to recall events prior to injury | Confusion |
| Retrograde amnesia: unable to recall events after injury | Just not “feeling right” or “feeling down” |
| Seizure activity or “posturing” | Increased emotions: nervousness, anxiety, sadness |

## DUCHESNE COACH REQUIREMENTS

Prior to student-athlete supervision, coaches are required to take the National Federation of State High School Association's "Concussion in Sports - What you need to know" (www.nfhslearn.com). Coaches will submit the completion sheet to the Athletic Director. Coaches will be required to retake the course every two years.

## PRESEASON BASELINE ASSESSMENT

Duchesne Academy uses Sway Medical, a FDA Class II medical device, for baseline assessments. Sway is a mobile app that gives an objective measure for balance, cognition, and function. Data gained from the baseline results will be a tool that assists in determining a student-athlete's ability to return to play after suffering a concussion. Sway platform complies with all HIPAA standards.

In accordance with Sway recommendations, student-athletes will be baseline tested every year. All student-athletes will complete the baseline assessment at the beginning of their first athletic season for the academic year.

## ACTION PLAN OF A SUSPECTED CONCUSSION

If the Athletic Trainer (AT) is NOT present:

Remove the student-athlete from the activity immediately.

- o If the following signs/symptoms are seen, 911 is to be called and the student-athlete transported to the nearest emergency department:
  - ▪ Loss of consciousness or decreasing level of consciousness
  - ▪ Deterioration of neurologic function: Difficulty in talking, swallowing and facial weakness
  - ▪ Pupils are different sizes
  - ▪ Decrease or irregularity in respiration and/or pulse
  - ▪ Any signs or symptoms of associated injuries, spine or skull fracture or bleeding

  Mental status changes: lethargy, difficulty maintaining arousal, confusion or agitation
  - ▪ Seizure activity or posturing
  - ▪ Any other signs/symptoms that the coach/parent/etc. feels require immediate medical attention (Patricios, 2023, p. 699)
- o The student-athlete is NOT permitted to return to activity that requires physical exertion until evaluated by a licensed healthcare provider who is experienced in the diagnosis and management of concussions.
- o The student-athlete will be kept under supervision by a coach, looking for signs of any change in mental status.
- o Once removed from the activity, the parent/guardian, Athletic Trainer, and Athletic Director will be notified by the coach of the date, time, extent of injury, and any actions taken.
  - ▪ The Athletic Trainer will perform a multimodal evaluation (Patricios, 2023, p. 700) of the student-athlete the next school day using Sway and/or Sport Concussion Office Assessment Tool-6 (SCOAT6).
  - ▪ The Concussion Management team will be informed via email immediately if the student-athlete needs to be entered into the Concussion Protocol.
- o Any student-athlete suspected of having a concussion should refrain from operating a motor vehicle on the day of the suspected concussion.
- o The student-athlete and parents should be advised to see the academic counselor before attending any classes.

If the Athletic Trainer (AT) is present:

Remove student-athlete from the practice or game immediately.

- o If the following signs are seen, 911 is to be called and the student-athlete transported to the nearest emergency department:
  - ▪ Loss of consciousness
  - ▪ Deterioration of neurologic function
  - ▪ Decreasing level of consciousness
  - ▪ Decrease or irregularity in respiration and/or pulse
  - ▪ Deterioration of PEARL (Pupils Equal And Reactive to Light)
  - ▪ Any signs or symptoms of associated injuries, spine or skull fracture or bleeding
  - ▪ Mental status changes: lethargy, difficulty maintaining arousal, confusion or agitation
  - ▪ Seizure activity
  - ▪ Any other signs/symptoms that the Athletic Trainer feels require immediate medical attention (Patricios, 2023, p. 699)
- o The student-athlete will be removed from play and given sideline testing or clinical evaluation as appropriate.
- o If the AT determines that the student-athlete is not permitted to return to the practice or game on the same day:
  - ▪ The AT will keep the student-athlete under supervision.
  - ▪ Once formally removed from the game or practice, the parent/guardian and the Athletic Director will be notified of the date, time, extent of injury and any actions taken.
- o Any student-athlete suspected of having a concussion should refrain from operating a motor vehicle on the day of the suspected concussion.
- o The student-athlete and parents should be advised to see the academic counselor before attending any classes.

Student Athletes who receive a medically confirmed concussion shall complete a return to learn and return to sport progression that has been approved by the Duchesne Academy athletic trainer, the athletic trainer's supervising physician, DASH administration, and is under the direction of the Duchesne Academy athletic trainer. The process of Return to Learn and Return to Sport at Duchesne Academy is a process that is consistent with best practices and effective as of August 1, 2024. Please note as research and best practices improve, this policy will be updated to reflect the changes.

## SOURCES

L.B. 260, 102 Unicameral, 1st Reg. Sess. (Neb. 2012). https://nebraskalegislature.gov/FloorDocs/102/PDF/Slip/LB260.pdf

Patricios, J.S., Schneider, K.J., Dvorak, J., *et al.* "Consensus Statement on Concussion in Sport – the 6th International Conference on Concussion in Sport-Amsterdam." *Br J Sports Med* (2023); 57:695-711.

Heads Up. (2024, April 5) Centers for Disease Control and Prevention. https://www.cdc.gov/heads-up/guidelines/recovery-from-concussion.html.

University of Nebraska-Lincoln Athletics Concussion Protocol (2024)

Nebraska School Activities Association. Sports Medicine. Suggested Guidelines for Management of Concussion in Sports. Nebraska School Activities Association. NSAA, April 2017. Web. 09 Jun. 2024.

**Appendix A**

**POST-CONCUSSION PROCEDURES**

1. When a student-athlete receives a medically confirmed concussion, Duchesne Academy's Athletic Trainer will notify all members of Duchesne Academy's Concussion Management Team (CMT) and document the incident. CMT will inform appropriate school personnel.
2. Some steps of the Return To Learn (RTL) Protocol and Return To Sport (RTS) protocol can occur in parallel based on student-athlete symptoms, tolerance, and compliance (Patricios, 2023, p. 706). Extended time away from academics is not recommended.
    - o *Progression is individual and based on student-athlete compliance.* Steps may be skipped or take longer depending on the student-athlete's physical, mental, and emotional response to those steps.
    - o Absences from PE while completing the RTL and RTS protocols will be excused from participation with no consequence to their grade.
3. A student-athlete who sustains a concussion will take the first post-injury Sway test as soon as possible. The SCOAT6 may also be used in the first week as another tool to determine RTS phase 1-3 progression.
4. While the student-athlete is in the RTL Protocol, she can begin the RTS Protocol under direct supervision of Duchesne Academy's Athletic Trainer.
    - o If signs or symptoms appear during the functional progression (phases 1-3 of RTS) that are more than "mild exacerbation" (>2 points on the 0-10 scale when compared to pre-exercise rating), the activity should be stopped. No further activity should be performed that day. The progression will begin again after 24 hours and resume in the phase where the student-athlete did not experience symptom exacerbation of more than 2 points.
    - o Each phase should be at the minimum 1 day.
5. The student-athlete will not be cleared for full participation in practice and competition until she has completed RTL Protocol AND RTS Protocol and has been given clearance from Duchesne Academy's Athletic Trainer. **Any additional notes received from another healthcare professional will be considered supplemental documentation in Duchesne Academy's Athletic Trainer's final decision.**
6. Upon being cleared for participation by Duchesne Academy's Athletic Trainer, the student-athlete and parent/guardian will acknowledge the clearance by signing a clearance to participate form.

**Appendix B**

**RETURN TO LEARN PROTOCOL**

Phase 1: Home: Cognitive and relative physical rest. 24-48 hours post-injury.
- o No driving; limited mental exertion: computers, texting, video games, homework; normal daily activities; casual walking.

Phase 2: School: Part-time: maximal adjustments with shortened day and scheduled breaks; light mental activity; light physical activity (RTS 1).
- o Increased mental exertion; no prolonged concentration based on student-athlete symptoms.
- o Provide quiet place for scheduled mental rest.
- o Lunch in quiet environment.
- o No standardized testing. No PE Class.
- o Modify, rather than postpone academics.
- o Provide extra time, help, and modified assignments.

Phase 3: School: Part-time, moderate adjustments with shortened day and breaks as needed; increased physical activity as tolerated by student-athlete (RTS 2a).
- o Provide quiet place for mental rest if needed.
- o Lunch in quiet environment.
- o No standardized testing. No PE Class.
- o Modify, rather than postpone academics.
- o Provide extra time, help, and modified assignments.

Phase 4: School: Full-time, minimal adjustments; increased physical activity (RTS 2b) as tolerated.
- o No standardized testing. No PE Class.
- o Modified classroom testing.
- o Minimal need of extra time, help, and modification of assignments.
- o May require more support in academically challenging subjects.

Phase 5: School: Full-time, no academic adjustments; increased physical activity (RTS 3) as tolerated.
- o No PE Class until RTS protocol has been complete.
- o All required homework and tests have been completed.

**Appendix C**

**RETURN TO SPORT PROTOCOL**

Phase 1: Symptom-limited activity: walking, no resistance training (RTL 1)
Phase 2: a: Light activity: stationary cycling, faster paced-walking, light resistance training (RTL 3)
b: Moderate activity: jogging, sport specific exercise (RTL 4)
Phase 3: Heavy activity: sprinting, continuous jogging 20 to 30 minutes (RTL 5)
Student-athlete should complete full RTL and see their PCP before progressing to final phases of RTS.
Phase 4: Non-contact sport specific drills
Phase 5: Full contact participation in practice
Phase 6: Full return to sport

**Appendix D**

| Mental Activity | Activity at each step | Goal of each step |
|---|---|---|
| 1. Daily activities that do not result in more than a mild exacerbation of symptoms related to the current concussion | Typical activities during the day (e.g. reading) while minimizing screen time. Start with 5-15 minutes at a time and increase gradually. | Gradual return to typical activities. |
| 2. School activities | Homework, reading or other cognitive activities outside of the classroom. | Increase tolerance to cognitive work |
| 3. Return to school part-time | Gradual introduction of schoolwork. May need to start with a partial school day or with greater access to rest breaks during the day. | Increase academic activities |
| 4. Return to school full time | Gradually progress school activities until a full day can be tolerated without more than mild symptom exacerbation. | Return to full academic activities and catch up on missed work. |

**Table 1 RTL strategy** (Patricios, 2023, p. 703)

| Exercise step | Functional exercise each step | Goal of each step |
|---|---|---|
| 1. Symptom limited activity | Daily activities that do not exacerbate symptoms (eg, walking) | Gradual reintroduction of work/school |
| 2. Aerobic exercise<br>**2A – Light** (up to approximately 55% maxHR) **then**<br>**2B – Moderate** (up to approximately 70% maxHR) | Stationary cycling or walking at a slow to medium pace. May start light resistance training that does not result in more than mild and brief exacerbation of concussion symptoms. | Increase heart rate |
| 3. Individual sport-specific exercise | Sports-specific training away from the team environment (eg, running, change of direction and/or individual training drills) No activities at risk of head impact. | Add movement, change of direction |
| **Steps 4-6** should begin after the resolution of any symptoms, abnormalities in cognitive function and any other clinical finding related to the current concussion, including with and after physical exertion. | | |
| 4. Non-contact training drills | Exercise to high intensity including more challenging training drills (eg, passing drills, multiplayer training), can integrate into a team environment. | Resume usual intensity of exercise, coordination, and increased thinking |
| 5. Full contact practice | Following medical clearance, participation in normal training activities. | Restore confidence and assess functional skills by coaching staff. |
| 6. Full Return to sport | Normal full speed play—no limitations | |

**Table 2 RTS strategy** (Patricios, 2023, p. 704)