Concussion – The Basics

This document is to provide our athletes, parents, coaches, and support staff basic information regarding concussion and a defined set of recommendations for good management. The purpose is to supplement concussion management protocols that have been established by the schools of SD 51.

1. Definition
   ‘Concussion is a brain injury and is defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces.’ [1]

2. Symptoms (range of symptoms may vary from a single symptom to all symptoms [2-6]
   - Physical
     - Headache, confusion, disorientation, staring, appears dazed and/or stunned, light sensitivity, blurred vision, double vision, nausea, dizziness, ringing in the ears, balance problems, noise sensitivity, incoordination, slurred speech, neck pain, loss of consciousness.
   - Cognitive
     - Concentration and/or memory difficulty, feeling mentally ‘foggy, groggy, and/or hazy’, forgetfulness, slowed processing of basic information and/or answering questions.
   - Emotional
     - Sadness, nervousness, unusually angry and/or irritable.
   - Sleep / Energy
     - Mental fatigue, drowsiness, sleeping too much or too little, difficulty initiating and/or maintaining sleep.

3. Recommendations for Parents
   - Tips for Restful Sleep
     - Encourage nighttime sleep and morning wake-up on a regular schedule.
     - Limit morning and afternoon naps.
     - A warm bath or shower one hour before bedtime and stretching and/or deep breathing exercises at bedtime may be helpful.
     - Reduce exposure to light from either inside or outside the bedroom – including alarm clocks, cable boxes, and/or electronics devices.
     - Refrain from watching TV or the use of electronics, including your phone in the bedroom.
   - Fluids and Diet
     - Adequate hydration is essential; limit caffeine intake, especially in the afternoons.
     - Avoid all ‘energy drinks’, eat healthy meals and avoid sugars, refined or processed foods.
     - Eat breakfast regularly and healthy snacks frequently throughout the day.
   - Be a Partner in Your Child’s Recovery
     - Communicate frequently with your child’s school staff (counselor, nurse, teacher’s) to ensure that your child has the necessary academic adjustments during recovery.
     - Encourage compliance with medical recommendations – including activity modifications and follow-up visits with their health care provider.
     - Encourage your child to avoid physical activity until medical cleared by their health care provider.

4. School Adjustments (based on classification of ‘Symptoms’ from Section #2 above) [6]
   - Physical
     - Remove from PE, physical recess and/or dance classes.
     - Permit the use of sunglasses while indoors and outdoors.
     - Encourage use of a quiet room for lunch and during recess.
     - Encourage ‘quiet passing’ in halls.
   - Cognitive
     - Reduce academic workload (classroom and homework).
     - Avoid repetition of work with focus on quality not quantity.
     - Adjust ‘due dates’ and facilitate ‘extra time’ for assignments.
     - Provide and explain written instructions for assignments.
     - Permit student to ‘audit’ classwork as needed.
     - Postpone large test/projects.
     - Adjust testing environment (e.g., quiet testing, one-on-one testing).
   - Emotional
     - Empower student to leave classroom as needed using a ‘signal’ to inform teacher.
     - Educate staff regarding the influence of mental fatigue on ‘emotional meltdowns’.
     - Encourage student to visit with supportive adult (counselor, nurse, or advisor).
Pay attention to symptoms of depression and anxiety related to social isolation and concern over ‘catch-up work’ and/or deteriorating grades.

- **Sleep / Energy**
  - Allow for frequent rest breaks as needed – in classroom (e.g., ‘brain rest’ breaks = head on desk; eyes closed for 5 to 10 minutes).
  - Require scheduled 15 to 20 minute breaks in a quiet space during the mid-morning, mid-afternoon and as needed at other times during the ‘school day’.
  - Permit student either to start school later in the day or to leave school early, if needed.
  - Interchange ‘mental challenges’ with ‘mental rest’.

5. **Miscellaneous Facts**
   - A concussion is a concerning injury that needs management through good education using a unified ‘team approach’ and strict practice of the School District 51 Concussion Management Protocol is highly recommended.
   - Individuals should not return to school on the same day they sustained a concussion.
   - Health care providers should communicate with the school staff and family on symptoms before making treatment / clearance decisions.
   - Early referral to Neuropsychology and Vestibular Therapy.
   - ‘Sound judgment’ by trained, experienced, knowledgeable clinicians is critical to good recovery.
   - Catastrophic outcomes after concussion are very rare; yet, there is an increased susceptibility to repeat concussion in the days following injury.
   - History of multiple concussions may lead to longer recovery times for subsequent concussions; those with multiple concussions should be treated more conservatively.
   - Most uncomplicated concussions resolve within a few days to weeks.
   - Injury and stress can play a role in persistent, prolonged symptoms and poor ImPACT™ test scores; thus if symptoms persist beyond 3-4 weeks and ImPACT™ test scores are persistently abnormal, specialist consultation with Neuropsychology is recommended.
   - Rest is recommended for the first few days after concussion.
     - Physical and Cognitive rest may reduce ‘brain strain & drain’.
     - Therefore, physical activity when individual is symptomatic should be avoided.
     - There is no research that ‘complete or persistent rest’ beyond a few days is an effective form of treatment.
     - Removing individuals from school for prolonged periods (weeks) can prolong or worsen symptoms.
   - Request academic adjustments based on physical, cognitive, emotional and / or sleep / energy symptoms.
   - Neurocognitive Tests (ImPACT™):
     - Is not a diagnostic tool.
     - It is simply one of several clinical measures used for thorough evaluation and management of concussions during recovery.
     - Should not be used in isolation as a return-to-play measure.
     - Without a good baseline study, tests administered after concussions are of limited value.
     - These tests can be less valid in the pediatric population.
   - Return to full participation in sports and physical activity is highly recommended only after all steps of the School District 51 Concussion Management Protocol have been completed.

**Selected References**


Information in this document was adapted and used with permission from the Center for Concussion, Rocky Mountain Hospital for Children.