

ImPACT Testing Information Sheet

The Mason Sports Medicine team has adopted the ImPACT testing program for concussions to help recognize concussions for our athletes. ImPACT is a user-friendly, Windows-based computer program that can be administered by a team coach, athletic trainer or physician with minimal training. Reaction time is reliably measured to one hundredth of a second across individual test modules (10 modules total) and allows for an assessment of processing speed as the player fatigues. The test battery consists of a near infinite number of alternate forms by randomly varying the stimulus array for each administration. This feature was built in to the program to minimize the "practice effects" that have limited the usefulness of more traditional neurocognitive tests. ImPACT takes approximately 20 minutes to complete. The program measures multiple aspects of cognitive functioning in athletes, including: subject profile and health history questionnaire, current symptoms and conditions, baseline and post-concussion neuropsychological tests (word discrimination, design memory, visual attention span, letter recognition and symbol matching), injury description, and graphic display of data.

The recognition and management of concussion in athletes can be difficult for a number of obvious reasons:

- Athletes who have experienced a concussion present with a wide variety of symptoms. Although the classic symptoms of loss of consciousness, confusion, and/or memory loss may be present in some athletes with mild concussion, there may or may not be obvious signs that a concussion has occurred. Symptoms of concussion are typically quite subtle and may go unnoticed by the athlete, team medical staff, or coaches.
- Current management guidelines (i.e. Grade 1, 2, 3 of concussion) are not evidenced-based and little to no scientific data supports the arbitrary systems that are in place to manage concussion. As a result, there are currently 19 different management criteria available for concussion management. As a result, they are often misused and misinterpreted.
- Traditional neurological and radiologic procedures, such as CT, MRI, and EEG, although helpful in identifying more serious concerns (e.g. skull fracture, hematoma, contusion), are not useful in identifying the effects of concussion. Such tests are typically unremarkable or normal, even in athletes sustaining a severe concussion. The reason for this issue is that concussion is a metabolic rather than structural injury. Thus, structural neuroimaging techniques are insensitive to the effects of concussion.
- Most importantly, athletes may not understand the potential consequences of concussion and often minimize or deny symptoms so that they can return to play. Such under-reporting of symptoms is a common practice at all levels of sport participation.

Given these outlined concerns and inherent difficulties in managing concussion, individualized and comprehensive management of concussion is optimal. At the forefront of proper concussion management is the implementation of baseline and/or post-injury neurocognitive testing. Such evaluation can help to objectively evaluate the concussed athlete's post-injury condition and track recovery for safe return to play, thus preventing the cumulative effects of concussion. ImPACT is a user-friendly computer based testing program specifically designed for the management of sports-related concussion. The instrument has been designed after approximately 10-years of University-based, grant-supported research. ImPACT is currently the most widely utilized computerized program in the world and is implemented effectively across high school, collegiate, and professional levels of sport participation.

Have your athlete complete this online test. This is a mandatory test for all collision and contact sports. You're athlete will not be permitted to participate without the completion of this assessment. We need to gather their baseline assessments before full contact participation begins in the event your athlete sustains a concussion.

If you have any questions about the assessment or do not have access to the internet at home contact Christina Hare or Kara Pritchard by e-mail/phone at:

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