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Top Ten Reasons Why All Athletes Need to have Neuropsychological Testing

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ABSTRACT

Currently, we are more and more aware of head injuries, concussion and the risks and dangers of athletes being exposed to long term risk and injury. Twenty years or so ago, coaches relied on side line assessment to decide as to whether an athlete who"has had his/her bells rung" should return to play. Currently however, there is much more sophisticated sideline assessment (such as Impact) and other laptop instruments.There are many, many reasons why athletes should undergo pre-and post-test assessment as well as sideline assessment. These will be summarily discussed. These issues have also been discussed by:Arginteanu (2019) and others have clearly specified the need to be concerned and observant regardingthe concept of return to play and even return to the classroom. Hernandez, Giordano, Goubran, Parivash, Grant, Zeineh and Camarillo (2019) have discussed sports related concussions and Corman, Adame, Tsa, Ruston, Beaumont, Kamrath, Liu, Posteher, Tremblayand van Raalt, (2019) have published on sports related concussions. Rose, Yeates, Nguyen, McCarthy, Ercole, Pizzimenti, (2019)have written on youth tackle football.Engleman (2013) writing in The Rotarian pp 27-30 suggests that "youth football leagues should require coaches and en-courage all parents, to take the "Heads IUP" training course available at www.cdc.gov. The web site of the U.S. Centers for Disease Control and Prevention" There is much concern about CTE (Chronic traumatic encephalopathy- which is a progressive degenerative disease of the brain. This is usually discerned in individuals who have some type of history of repetitive brain trauma or injury. This could include soccer, basketball, baseball, softball (at least many players DO wear helmets) and wrestling (in terms of wrestling, players do wear protective devices for their ears, but still may suffer concus-sions and head injuries. Shaughnessy and Laman (2012) have provided an excellent review of evidence based intervention and treatment/rehabilitation of traumatic brain injury. This was published in the Research Journal in Organizational Psychology and Educational Studies and is a serious review of the literature in this realm.Volume 1| Issue 1www.onlinescientificresearch.comBrief ReportSRC/JPSR-101Journal of Psychiatry Research Reviews & Reports

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The NCAA has their own page and guidelines and best practices regarding concussion. That web page is at: http://www.ncaa.org/sport-science-institute/concussion-diagnosis-and-management-best-practicesInterested and involved individuals and coaches would do well to consult this page for additional information and insight.First, in most scientific research it is important to have a "baseline" of sorts to ascertain pre-athletic competition. This baseline may even show or determine some other type of neurological deficit such as attention deficit disorder, impulsivity, hyperactivity or distractibility. Baseline testing provides documentation as to pre-season functioning.Second, we now have the computerized technology such as TOVA (Test of Variables of Attention) Impact and Brain Check. Each one of these approaches has, obviously pros and cons, advantages and disadvantages. The Test of Variables of Attention has changed and improved over the years and Impact,while relatively newer has a bit more extensive documentation. Brain Check can be administered on alap top and is a relatively new instrument in the field.

Third, repeated testing can indicate deterioration over time. For example a student may enter freshmanyear of high school, but over time, depending upon what position they play, they may showdeterioration over time. Further, coaches can monitor players who show much slower reaction time over several seasons.Fourth, these ongoing testing instruments, along with the advice of a sport medicine physician or neurologist can provide substantive advice and guidance about the choice of certain physical activities. A football player, for example, could be counseled to divert his energies to baseball or basketball or soccer or perhaps even swimming.Fifth, even females who may engage in certain low impact sports such as soccer, could conceivably suffer some time of head injury and these should not be neglected. All too often, females are neglected in terms of in depth comprehensive assessment.

Sixth, coaches and other professional can monitor students over time. Sadly, in this day and age of drug and alcohol abuse, some student-athletes may abuse marijuana, alcohol and other drugs. An observant coach could sense deterioration of performance, slower reaction time or decreased performance and request some additional testing for comparative purposes. Seventh, documentation is important. We are in a very litigious society and all should be concerned about keeping adequate records and doing the reasonable thing, so to speak in terms of preventing injury.

Eighth, in some instances, some intervention may have been attempted. Some EMT's do have oxygen in their ambulance and

have been trained in administration. Oxygen is a drug and much has been written about HBOT (Hyperbaric Oxygen Therapy). Pre and post testing may lend some additional insight into what works with what type of injury at what age. Paul Harch has been interviewed with his work with HBOT and various cases of brain trauma. https://hbot.com/an-interview-with-paul-g-harch-md-case-study-of-dan-greathouse/

In addition, Shaughnessy and Greathouse (2005) have interviewed Kenneth Stoller regarding the use of hyperbaric oxygen in the treatment of head injury. Ninth- In a sense, pre- and post-testing using Impact or any other neurological test will soon be considered "best practices". We have this technology and it will provide us with some meaningful data to protect student athletes and to guide coach's decisions. Information gleaned my guide decisions and protect students and their wellbeing. Tenth–Very simply, some states may begin to require it. There are ongoing pidemiological studies that gather data to try to make some predictions or draw some conclusions about what may be transpiring in a certain district or under a certain coach or athletic trainers.

Further, often coaches move from city to city, state to state and often they move from elementary schools to high schools to colleges to professional sports. It is imperative that they leave behind a "paper trail "of sorts of their proteges and athletes so that incoming coaches have some kind of record and baseline and can simply continue their good work.

Summary and Conclusions

This brief paper has attempted to review some of the main reasons and rationales for pre- and post-testing and even continual monitoring of recovery for the safety of student athletes. Concerns and issues were summarily raised and discussed.

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