

Concussions Awareness

Most recent data for NCAA concussion rates:

doi:10.1001/archneur.163.11.1642
Epidemiology of Sports-Related Concussion in NCAA Athletes From 2009-2010 to 2013-2014: Incidence, Recurrence, and Mechanisms
Arch Neurol. 2014;163(11):1642-1649. doi:10.1001/archneur.163.11.1642

Top 10 NCAA Sports Concussion Rates

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|-----------------------|-------------------------|
| 1. Men's Wrestling | 6. Women's Lacrosse |
| 2. Men's Ice Hockey | 7. Women's Basketball |
| 3. Women's Ice Hockey | 8. Women's Field Hockey |
| 4. Men's Football | 9. Men's Basketball |
| 5. Women's Soccer | 10. Women's Volleyball |

The literature shows that concussions create other concerns as well.

We know having one concussion can lead to chronic headaches, vision issues, head and neck pain, and other sensory and/or musculoskeletal issues. But having one concussion leads to the likelihood of a second concussion if precautions are not properly followed and the nervous system is not allowed to fully heal.

“Concussed students were almost 2 times as likely to experience an acute injury in their lower extremities in the year after the concussion...which may indicate they are still troubled by problems with posture, reaction time, and muscle coordination—lasted up to a year after the concussion.”
Lyall BCL, Marnett TC, Pichai SA, Mihalik JP. Acute Lower Extremity Injury Rates Associated With Concussion in College Athletes. Med Sci Sports Exerc. 2013 Jun 8

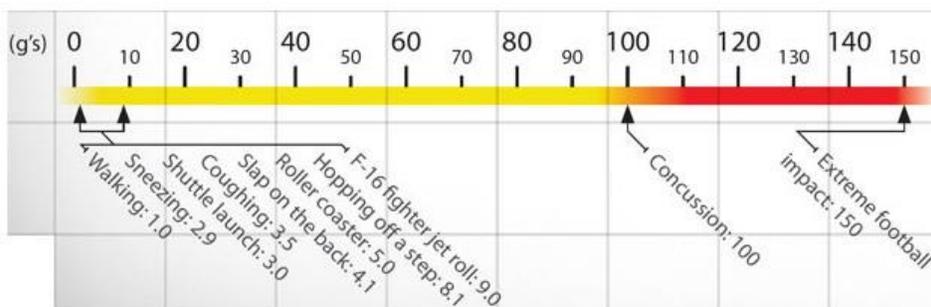
“Up to three fourths of patients with severe head trauma may develop some form of GI bleeding... even weeks after the traumatic event.”
Kevin Skole, MD, Nidal Deshpande, MD, and Harvey Licht, MD, Temple University Hospital, Philadelphia, Pa

With 70%-80% of our immune system living inside our gastrointestinal system, a GI bleed may contribute to further immune system compromise.

“Data suggest that even mild TBI, i.e., a concussion, can result in changes in the brain that increase the risk of suicide. The mechanisms underlying these TBI-associated behavioral changes are not known.”
Madsen, T, Erlangsen, A, Orlowska, S, Mofaddly, R, Nordentoft, M, Benros, ME. (2019). Association between traumatic brain injury and risk of suicide. JAMA. 120(6): 380-388.

Second Impact Syndrome (SIS): When a second concussion occurs before a first concussion has properly healed the individual may experience Second Impact Syndrome. This may cause rapid and severe brain swelling with potentially fatal consequences. Even a mild concussion that occurs days or weeks after the initial concussion may cause SIS and therefore proper assessment and care is critical to ensure the safety and health of the athlete.

LUGGING THE G-LOAD



Most people associate high g-forces with fighter pilots or astronauts. But common earthbound events can also boost g's. Few things can match the g-load of a wicked football hit.

Gravitational Forces and Concussion

Head injury expert Kim Gorgens, a neuropsychologist at the University of Denver says that most concussions deliver 95 g's to the human body upon impact. G-force is a unit of force equal to the force exerted by gravity. In addition, the average football player receives 103 g's when hit during a game. In comparison, the average g-force experienced by military fighter pilots is nine g's.

https://www.scribd.com/doc/230101005/4025231m

What can be done to facilitate healing?

“...clinicians should consider specific testing of exercise tolerance and perform a physical examination of the cervical spine and the vestibular/ocular systems to determine the etiology of post-concussion symptoms and to consider treating these accordingly.

JJ Leahy, JG Baker, A Mirzamani, "Assessment of Symptoms and Exercise Tolerance in Post-Concussion Syndrome: A Systematic Review," Clinical Journal of Sport Medicine, vol. 25, no. 1, pp. 27-34, 2015.

“Assessment and treatment of the cervical spine and vestibular system in the presence of persistent dizziness, neck pain, and/or headaches may facilitate functional and symptomatic improvements and shorten recovery in post-m TBI subjects.”

P.G. Bohannon, "Management of post-traumatic concussion: a review," Clinical Journal of Sport Medicine, vol. 46, no. 1, pp. 1-10, 2014. DOI: 10.1093/cjsm/46.1.1

Post-concussion “treatments such as vertebral manual therapy, cervical tractions, manipulations, and exercises can relieve neck pain.”

J.S. Hecht, "Occupational risks in post-concussion headaches: a retrospective analysis of patients," Journal of Head Trauma Rehabilitation, vol. 29, no. 1, pp. 9-13, 2014.

“Spinal manual therapy, physiotherapy, and neuromotor/sensorimotor training are more effective for mTBI recovery compared to programs of rest and exercises.

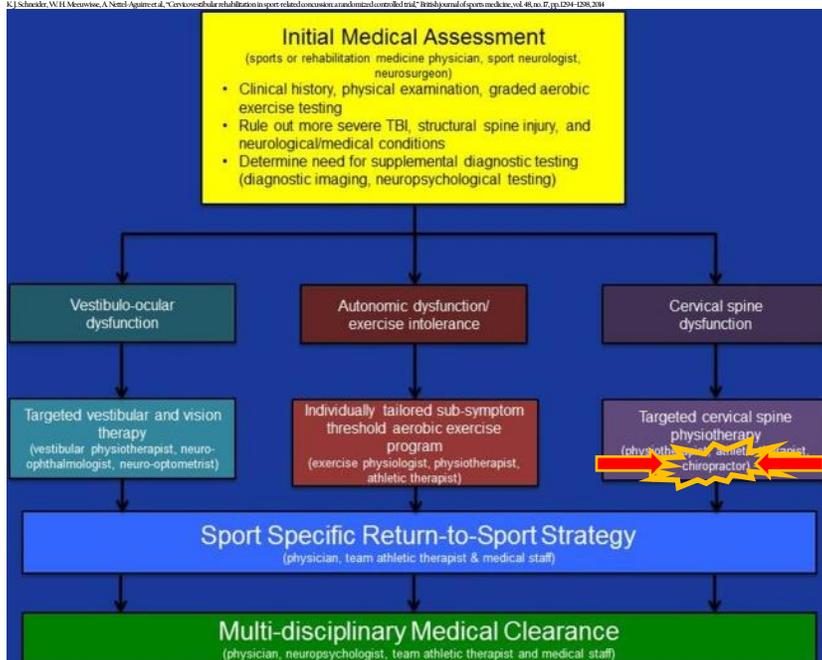
P.G. Bohannon, "Management of post-traumatic concussion: a review," Clinical Journal of Sport Medicine, vol. 46, no. 1, pp. 1-10, 2014. DOI: 10.1093/cjsm/46.1.1

“...the physical status of individuals with neck pain is improved with an exercise program combining manipulation, proprioceptive neuromuscular facilitation, acupuncture on trigger points, and range of motion exercises, along with proprioceptive exercises compared to a neck pain control group of similar patients treated with information and advice.

E. Kingma and J. Dijkster, "Sensorimotor facilitation and neck pain: implications for assessment and management," Journal of Orthopaedic and Sports Physical Therapy, vol. 36, no. 5, pp. 361-372, 2006.

While most concussions resolve within a week to 10 days, up to a third may have symptoms for as long as 6 months this is considered postconcussion syndrome (PCS). A 2014 study “established that a significantly higher proportion of post mTBI individuals (> 3 weeks post trauma) were medically cleared to return to sport within 8 weeks of initiating treatment if they were treated in physiotherapy with cervical spine and vestibular rehab. compared to control group.”

K.J. Schneider, W.H. Meeseba, A. Nemi, and J. Agnew, "Effects of a rehabilitation program on post-concussion syndrome: a randomized controlled trial," British Journal of Sports Medicine, vol. 48, no. 1, pp. 129-136, 2014.



Int J Neurosci. 2018;118(10):1038-1044. doi: 10.1080/00207179.2018.1488888. Epub 2018 Oct 10. PMID: 30300000.

A final few words

Everything the research shows suggests that having a specialist who understands the dynamics of the cervical spine and how to properly care for this part of our anatomy is critical for healing from concussion. Chiropractors perform very gentle and extremely safe and precise spinal adjustments which allow the spine and nervous system to properly heal. The vast majority of professional and Olympic athletes as well as some collegiate athletic programs utilize Doctors of Chiropractic as integral components of their medical team. Moreover, the athletes realize the big picture benefit of receiving regular chiropractic adjustments. While they've had exceptional results with respect to injury care for the spine and with concussion, they've also experienced the benefits of natural performance enhancement, reduction in overall injury occurrence, and more.

If you'd like to talk in more detail regarding how Chiropractic care will play a role in upgrading the level of performance, increasing healing times while decreasing injury rates please call Dr. Joe Manza at **585.334.7555** to get a jump on the season and the competition.

