Concussions Awareness

Most recent data for NCAA concussion rates:

Top 10 NCAA Sports Concussion Rates

1. Men’s Wrestling
2. Men’s Ice Hockey
3. Women’s Ice Hockey
4. Men’s Football
5. Women’s Soccer
6. Women’s Lacrosse
7. Women’s Basketball
8. Women’s Field Hockey
9. Men’s Basketball
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.”

“Up to three fourths of patients with severe head trauma may develop some form of GI bleeding... even weeks after the traumatic event.”

“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.”

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.

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.
The cervical spine and concussion.

Our body is a delicately durable machine which is intricately designed for optimal function and performance. When we sustain an injury, from a minor muscle strain to a serious concussion, multiple tissues are impacted and many physiological processes occur at the same time. Some tissues are directly impacted from the injury while others sustain collateral damage, yet other tissues compensate from the insult to provide stabilization or protection. The physiological body processes that occur are designed to also protect the injured tissue while facilitating the healing process. When the healing process is not fully resolved and continues on with out resolution then chronic health concerns occur within the injured tissue and also in those other tissues that were secondarily impacted or were compensating from the initial insult.

We know the brain is negatively impacted through concussion, however injury sustained through concussion is not limited to the brain. What follows is the most recent research showing how the cervical spine is intricately tied to concussion. Understanding this information is critical if the pediatric and/or adult athlete is going to appropriately heal with little to no further complications.

Research suggests that those impacted by mild traumatic brain injury and post-concussion syndrome should have cervical spine assessed as persistent headache and post-concussion syndrome are often related to musculoskeletal pathology of the cervical spine.

“Females with a concussion had significantly higher odds of also sustaining a neck injury between the ages of 5–49 years for all concussion-related ED visits.”

“The important role of a co-occurring neck injury with concussion is reflected in the latest consensus statement on sports-related concussions. Literature supports that whiplash-associated disorders and concussions share similar clinical presentations and have been found to commonly co-occur...injury to the cervical spine region is particularly vulnerable to concurrent concussion due to its proximity to the head and the lack of protection relative to other regions of the spine.”

“Evaluation of the cervical region has been included as a new part of the SCAT3/Child-SCAT3, and a full clearance is essential before return-to-play... post-mTBI subjects must have no pain in the neck, full mobility, and an adequate bilateral general strength to restart their sporting activities.”

“These results support the consideration of increased screening for comorbid neck injuries, particularly for females, to allow for early intervention.”

“High prevalence of cervical spine impairments was observed in the subjects included in this study with muscle tension, joint mobility, and muscle strength being most commonly affected.”

“Symptoms after head injury, including cognitive symptoms, have traditionally been ascribed to brain injury, but they do not reliably discriminate between physiologic PCD and cervicogenic/vestibular PCD...specific testing of exercise tolerance and perform a physical examination of the cervical spine and the vestibular/ocular systems (should be considered) to determine the etiology of post-concussion symptoms.”
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.

“A 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-mTBI subjects.”

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

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

“...the physical status of individuals with neck pain is improved with an exercise program combining manipulation, proprioceptive neuromuscular facilitation, acupressure 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.

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.

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 preform 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.