

CONCUSSION INFORMATION

Spring 2025

Concussions can occur with any sport. At this point, we have few treatments except rest and sometimes physical/vestibular therapy. New diagnostic tools and treatment options are being researched with future exciting advances on the horizon. Until then, most athletes "would do anything" to get back to sport safely a little faster if possible. Here are some dietary options that have been researched and could be considered. Be well.



Dr. Randy Goldstein Board Certified Pediatrician with a Practice in Sports Medicine In this Newsletter-

Diet that can possibly help with Concussion

Food for thought... literally!

Concussions cause a pause in sport, school, and normal daily life. Athletes may report physical, cognitive, and emotional changes after an injury. Treatments vary, but most consider rest and avoiding reinjury the most important. Wouldn't it be great if there were other things that could be done while recovering to safely progress back to sport?

The following are dietary options that have been researched in concussion treatment. None are guaranteed– but they could decrease your symptoms and in one case, may even decrease the risk of some symptoms before a head injury occurs.

Realize every concussion is different. Even the same athlete will report a second concussion felt different than their first.

In every case, discuss treatment options with your health care

provider. This newsletter is meant to inform you of possible options – but isn't diagnosing you or giving you recommendations for a specific treatment plan. Medicines you are on, allergies/sensitivities, and more can make a particular supplement great for one athlete – and the same supplement restricted for another athlete.

Lastly, these don't make up your complete diet – they are only supplements – to be considered additions to an already healthy diet.

There is additional research being done on the Mediterranean diet and Keto diet in regard to concussion. Consider fruits and vegetables, whole grains, nuts, legumes, olive oil, fish and lean meat. During recovery from a concussion limit caffeine, fried foods, fatty foods, red meat, high sugar foods, cheese, and processed foods.



. Opinion and recommendations are those of Dr. Randy Goldstein. Al was not used for content, editing, or layout of this newsletter.

wellbodykc Food for thought... literally!

Here are just a few supplements studied during a concussion. They aren't guaranteed to workand every concussion is different- always discuss with your health care provider the right diagnosis and treatment plan for you. Adapted from Lecture given by Sara Arnold, MS, RD, CSSD, LD, ACSM-CPT ; "Feeding the mind", University of Kansas Health System, 3/8/25 Check with your health care provider before starting- Dosage in a study is not proven safe/effective in every case.

Fish Oil and Omega	3: Now and after possible concussion amount:		Magnesium glycinate (or malate): After possible concussion amount:		
increase cerebral blood flow, nutrients, and BDNF(brain derived neurotrophic factor), and decrease inflammation.	2-4 grams/ day Get it naturally with salmon (4g/7 ounces)		May help decrease headaches and help regulate BDNF and neurotransmitters		400mg/ day Get it naturally with pumpkin seeds, almonds, and spinach
Riboflavin (Vitamin B2): After possible concussion amount:			Blueberries (Anthocyanins): Now and after possible concussion amount:		
May help decrease headaches; may help with making the antioxidant glutathione and with ATP (energy production)	Best when taken with omega 3s 400-800mg in the morning Get it naturally with beef liver (3mg/3.5oz) yuck!		May help with memory, attention, cognition, be an antioxidant and improve BDNF.		500mg anthocyanin/day Get it naturally with 2/3 cup blueberries/ day
Creatine: Stored in the brain, creatine is a quick energy source that can be depleted after a concussion and if stored ahead of time, might be protective in some ways before one. May belo with energy stores Pre-risky activity amount: After possible concussion amount: Research with adolescents suggests					
(which helps recovery from current concussion but also an upcoming one possibly), increase cognition, may help sleep & mood	5-10g/ day baseline and 20-30g/day 7 days prior to "high risk event"-split into 2-3 doses/day		0.35 mg/kg/day (0.4g/kg for 6 months studied in children 1-18 years old) —	safe so long as well hydrated and no prior kidney disease. Creatine is found naturally in meat but amounts would be difficult to consume	

Not in lecture above, but one more to consider:

Melatonin:

May help with sleep, cortisol effect, and cognition. Several studies with positive results and several without improvement in sleep results After possible concussion amount:

2-10mg/night (for 4 weeks) depending on the study

Not discussed here, but also being studied in concussion: Choline, BCAA, DHEA, Vitamin D, Vitamin E, turmeric, and resveratrol to name a few.

A few more resources:

Potential for use of creatine supplementation following mild traumatic brain injury. Concussion ; 2017 Mar 21;2(2):CNC34. doi: 10.2217/cnc-2016-0016, Philip John Ainsley Dean

The impact of riboflavin on the duration of sport-related concussion: A randomized placebocontrolled trial, Journal of Concussion; 2/1/23; https://doi.org/10.1177/2059700223115370; Jeremy B. Kent

Dietary Effects of Anthocyanins in Human Health: A Comprehensive Review, Pharmaceuticals (Basel). 2021 Jul 18;14(7):690. doi: 10.3390/ph14070690; Goncalves

Concussions, Traumatic Brain Injury. and the Innovative Use of Omega-3s; J Am Coll Nutr, 2016 Jul;35(5):469-75., doi: 10.1080/07315724.2016.1150796; Lewis

<u>Melatonin Linked to Improved Brain Function in Child Concussion</u>, Neurology, August 19.2020, Kartik Iyer Poole, V. N., Abbas, K., Shenk, T. E., Breedlove, E. L., Breedlove, K. M., Robinson, M. E., ... Dydak, U. (2014). MR Spectroscopic Evidence of Brain Injury in the Non-Diagnosed Collision Sport Athlete. Developmental Neuropsychology, 39(6), 459–473. https://doi.org/10.1080/87565641.2014.940619

without supplementation.

Gordji-Nejad A, Matusch A, Kleedörfer S, et al. Single dose creatine improves cognitive performance and induces changes in cerebral high energy phosphates during sleep deprivation. Sci Rep. 2024;14(1):4937. Published 2024 Feb 28. doi:10.1038/s41598-024-54249-9 Sakellaris G, NasisG, Kotsiou M, Tamiolaki M, CharissisG, Evangeliou A. Prevention of traumatic headache, dizziness and fatigue with creatine administration. A pilot study. Acta Paediatr. 2008;97(1):31-34. doi:10.1111/j.1651 2227.2007.00529.x Borchio L, Machek SB, Machado M. Supplemental creatine monohydrate loading improves cognitive function in experienced mountain bikers.

Pottala JV, YaffeK, Robinson JG, Espeland MA, Wallace R, Harris WS. Higher RBC EPA + DHA corresponds with larger total brain and hippocampal volumes: WHIMS-MRI study. Neurology. 2014;82(5):435-442. doi:10.1212/WNL.0000000000000080 Patan MJ, Kennedy DO, HusbergC, et al. Supplementation with oil rich in eicosapentaenoic acid, but not in decosahexaenoic acid, improved global cognitive function in healthy, young adults: results from randomized controlled trials. AM J Clin Nutr. 2021;114(3):914-924. doi:10.1093/ajrn/nqab174

Doughty KN, Blazek J, Leonard D, et al. Omega-3 index, cardiorespiratory fitness, and cognitive function in mid-age and older adults. Prev Med Rep. 2023;35:102364. Published 2023 Aug 6. doi:10.1016/j.pmedr.2023.102364Schoenen J, Jacquy J, Lenaerts M. Effectiveness of high-dose riboflavin in migraine prophylaxis. A randomized controlled trial. Neurology. 1998;50(2):466-470.doi:10.1212/wnl.50.2.466 Kent JB, Diduch BK, Statuta SM, Pugh K, MacKnight JM. The impact of riboflavin on the duration of sport-related concussion: A randomized placebo-controlled trial. Journal of Concussion. 2023;7. doi:10.1177/20597002231153707

Standiford L, O'Daniel M, Hysell M, Trigger C. A randomized cohort study of the efficacy of PO magnesium in the treatment of acute concussions in adolescents. Am J Emerg Med. 2021;44:419-422. doi:10.1016/j.ajem.2020.05.010

Whyte AR, Schafer G, Williams CM. Cognitive effects following acute wild blueberry supplementation in 7- to 10-year-old children. EurJ Nutr. 2016;55(6):2151-2162. doi:10.1007/s00394-015-1029-4



Opinion and recommendations are those of Dr. Randy Goldstein. Al was not used for content, editing, or layout of this newslet-