



VITAMINS / SUPPLEMENTS

## Feed a Concussion: Speedy Nutrient Support Offers the Hope of Better Healing

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A concussion is a traumatic brain injury that may cause symptoms ranging from a bad headache to altered levels of alertness or unconsciousness. It temporarily interferes with the way your brain works. Concussions are on the rise in high-school sports and can occur in any sport or collision activity. Contrary to popular belief, most people who suffer a concussion do not pass out,<sup>1-2</sup> so it is vital that all coaches and parents have an athlete medically evaluated when they receive any kind of blow to the head.

Standard treatment for a mild concussion includes avoiding strenuous activity and overstimulation of the brain. Recovery could take days to months and even years.<sup>3</sup> Fortunately, the healing process can be aided and sped along with the use of a nutritional regimen.

The first priority nutritionally is to help heal the current injury; in this case, the part of the brain injured by the concussion. Speeding the healing process reduces the intensity and duration of pain, thereby lessening the amount of substance P released within the thalamus of the brain. [Substance P](#) acts as a neurotransmitter and plays a key role in the regulation of inflammation.<sup>4-7</sup> Lowering the level of substance P decreases the activation of the brain's immune cells, which are the source of inflammatory cytokines.<sup>8</sup>



Reviewed studies reveal that speedy intake of the following macro- and micronutrients should be common practice "almost immediately."<sup>9</sup> These nutrients should be taken right after a concussion and for two weeks following.

#### Nutritional Support Immediately After Injury

- Protein: Helps heal the injury. Take 1g/kg of body weight, starting within a day of the injury.<sup>10</sup>
- Creatine: Helps give the brain an intense and immediate hit of energy needed to help cells heal right after an injury.<sup>11</sup>
- Reduce inflammatory damage to the brain by consuming: a) DHA: an omega-3 fish oil which is an essential brain lipid, critical for maximal brain health and protection;<sup>12-17</sup> b) grape seed extract, bromelain, quercetin, ginger; and c) polyphenols - turmeric, resveratrol.
- Antioxidants: Alpha-lipoic acid protects both the fatty and water-soluble part of the cells.
- Choline: Critical for brain development.
- Vitamin D: Has many known benefits, but is now considered neuroprotective as well.<sup>18</sup>
- Zinc: An enzyme for central nervous system (CNS) health, including the brain.<sup>19</sup>
- Magnesium: One of the best weapons against delayed brain injury, magnesium is a vital mineral that plays a role in a number of biological processes. It is involved in more than 300 metabolic reactions, reduces inflammation, and elevates glutathione (a major antioxidant) in cells. Low levels of magnesium in the brain have been shown to greatly increase the vulnerability of the brain to injury.<sup>20</sup>

#### A Game-Changing Nutrient

As published in *Sports Illustrated* on [April 17, 2014](#), studies have shown that administering glutathione after a concussion reduces brain-tissue damage by an average of 70 percent.<sup>21</sup> To nutritionally support the glutathione pathway, additional nutrients are required: vitamin C,

selenium, niacinamide, N-acetyl-L-cysteine and broccoli extract.<sup>22</sup>

## Other Considerations

If symptoms persist past a reasonable amount of healing time, then it is likely the thalamus of the brain is struggling. This means the ratio of substance P to Brain Derived Neurotrophic Factor (BDNF) is excessive. To decrease substance P, continue using DHA, bromelain, quercetin, ginger, vitamin D, algal liponic acid and magnesium, which aids brain function. To build up BDNF, use zinc, turmeric and resveratrol, as well as L-carnitine. Using these nutritional supplements after a concussion will enhance the healing process.

Finally, it is important to note that in September 2011, a legislative bill was signed here in New York state that prevents students from participating in sports after a diagnosed concussion until they have been cleared by a physician. Hopefully this requirement is replicated nationwide.

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