

Head Injuries and Recovery:

An Interview With Brandon Brock, DC



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By MICHAEL DREGNI

Brandon Brock was working as a professional stuntman during summer months in college when he suffered a major concussion, temporarily losing his vision.

The incident inspired him to help others recover from traumatic brain injuries (TBIs), and he became a functional neurologist and doctor of chiropractics at Cerebrum Health Centers in Dallas-Fort Worth.

He explained some of the latest, proven treatments being used by integrative physicians.

Q&A

Experience Life: What are some of the protocols that you use in treating people with TBIs?

Brandon Brock: Treating head injury requires a multifaceted approach. Sometimes it requires medication to control symptoms. Sometimes it requires diet and nutrition to allow healing. Sometimes it requires the appropriate neurological exercises to give the brain harmony and symmetric function. It is important to make sure there's no underlying unnoticed triggers that were there beforehand that would keep the

person from healing, like type 2 diabetes, thyroid problems, or infectious diseases—those things can make the inflammation so sustained that people don't recover properly or in a timely fashion.

So, a well-rounded integrated practitioner should be dealing with a mild injury that's not recovering. If you have a moderate or severe injury that requires acute care, go to the hospital and see an emergency-room practitioner where they can make sure you don't have a bleed or damage that needs to be handled with an emergency procedure or further neurological care.

EL: Can you describe some of the nutritional approaches you use for treating TBIs?

BB: We have various nutrition protocols that we use that help cells recover, and we can help cells heal when they've been damaged and possibly create a greater chance of cellular survival.

There's no one, single protocol because there are different scenarios, and we give different dietary components for each individual if needed. We tend to give a lower-calorie, higher-protein diet because it tends to allow the cells to undergo something called

autophagy — which can help a cell repair itself if there are no contraindications to doing this. We like to give higher amounts of antioxidants, good essential fatty acids, and things that make the mitochondria — the energy producers — function better so that a cell has energy and the capacity to recover.

EL: How can gut inflammation affect the brain after a TBI?

BB: A large and important portion of our immune system is in your gut, so if somebody's badly inflamed in the gastrointestinal system, inflammation can become systemic and cause damage in other areas of the body including the brain. This can lead to a greater loss in brain function. This mechanism of penetration into the blood-brain barrier from gastrointestinal inflammation can perpetuate a lack of regulatory control over multiple organ and glandular systems.

In some instances of trauma, inflammatory glial cells in the brain turn on because they've got to clean up debris or areas of damage. It is possible to activate these inflammatory cells with repeated or severe injury or inflammation to the point that they stay on and they start creating enough damage to where you start losing cell volume or collateral damage away from an area of injury.

In some situations, you can have pre-existing or resultant gut pathology, which can range from infection to intestinal overgrowth

of the gut microbiome. This can result in undigested food molecules that go through your normal gut lining due to damage, and your immune system may react and generate inflammation. This systemic inflammation can travel into your brain and activate glial cells. Microglial cells activation that is sustained may produce more inflammatory byproducts and start to destroy the surrounding tissue or cause global inflammation within the brain.

Typically, if there's another injury, those microglial cells that create inflammation will just stay on longer with possibly less damage. We are seeing this repeated inflammatory mechanism with NFL players. Some of the literature on head injury is suggesting that if you have too many head injuries repeatedly, the inflammatory glial cells never turn off, so you may have inflammation your entire life and you start to get atrophy or brain-volume loss due to ongoing damage to the cellular components. This is one theorized mechanism that relates to the onset or development of chronic traumatic encephalopathy (CTE).

This vicious process can come from one severe event or the accumulation of trauma over time, without good recovery or other simultaneous inflammatory conditions in your body that would prolong the inflammation, preventing recovery.

EL: TBIs can cause hormonal disruption. How do you treat these endocrine problems?

BB: We have a series of lab combinations that we look at to determine if a given condition is related to the end organ, like the thyroid's inability to have adequate releasing hormones from the brain to the thyroid. In this instance, it might not be necessary to treat the glandular disorder related to a head injury until after function can be monitored of that glandular system again after resolution of the head injury. Many times we treat the brain first to see if a clinical situation resolves, and if it does, great. If it doesn't, that's a different matter and medication or other methods may be necessary to restore normal physiology in the body. We have figured out better and more accurate methods to look at various labs and diagnostics to see if many conditions are brain based after an injury or not related at all. Many times, ongoing complaints can be brain based due to the trauma, autoimmune based, inflammatory based, age based, or neurodegenerative based; there are multiple reasons why people have these issues or ongoing complaints that can become chronic and (post-concussive). The best clinicians can link up all the dots, prioritize treatment, and attack each person's individualized pathology in a way that will best address their set of clinical circumstances. 🧠