

TBI THERAPY WEBINAR: OVERVIEW OF TBI THERAPY

By Dr. John Hughes

January 3, 2018

WHO I AM



- Dr. John Hughes, DO
- Practice osteopathic, integrative, and regenerative medicine
- Graduated from Arizona College of Osteopathic Medicine in 2007
- Opened Aspen Integrative Medicine in 2009
- Opened TBI Therapy in 2014


LEARNING OBJECTIVE

Learn about the individual mechanisms and benefits of each regenerative modality offered at TBI Therapy to treat TBI.



MAINSTREAM TREATMENTS

- Occupational and physical rehabilitation
- Speech therapy
- Pharmaceutical drugs
- Cognitive maintenance exercises

- 
- Do not regenerate the damaged brain
 - Do not combine regenerative treatments
 - Can be prohibitive for patients and their families, both in cost and time

= Simply cope with the condition

TBI THERAPY PROTOCOL

Hyperbaric
Oxygen
Therapy

Intranasal
Therapies

IV Nutrition

Cranial
Osteopathy

Ketogenic
Diet and
MCT Oil

- Allows the body to absorb about 10-15 times its normal supply of oxygen
- Stimulates the growth of tissue, bone and blood vessels, reduce inflammation, and mobilizes stem cells
- 2 hours of HBOT triples the patients own circulating stem cells
- 20 sessions of HBOT increases circulating stem cells to 8 fold (800%)



HYPERBARIC OXYGEN THERAPY (HBOT)

- Improves brain ATP production
- Decreases CSF cortisol
- Improves neuronal viability in the hippocampus
- Increases the expression of anti-inflammatory microglia
- Reduces beta-amyloid and tau protein deposition
- Autologous plasma contains growth factors and cytokines to aid the injured brain



INTRANASAL PRP/INSULIN

- Peripheral blood derived pluripotent stem cells
- Plasma contains hundreds of thousands of these cells per mL
- Have regenerative and reparative properties
- Have been used to treat ischemic brain damage by reducing gray and white matter loss
- Downregulate neuroinflammatory cytokines



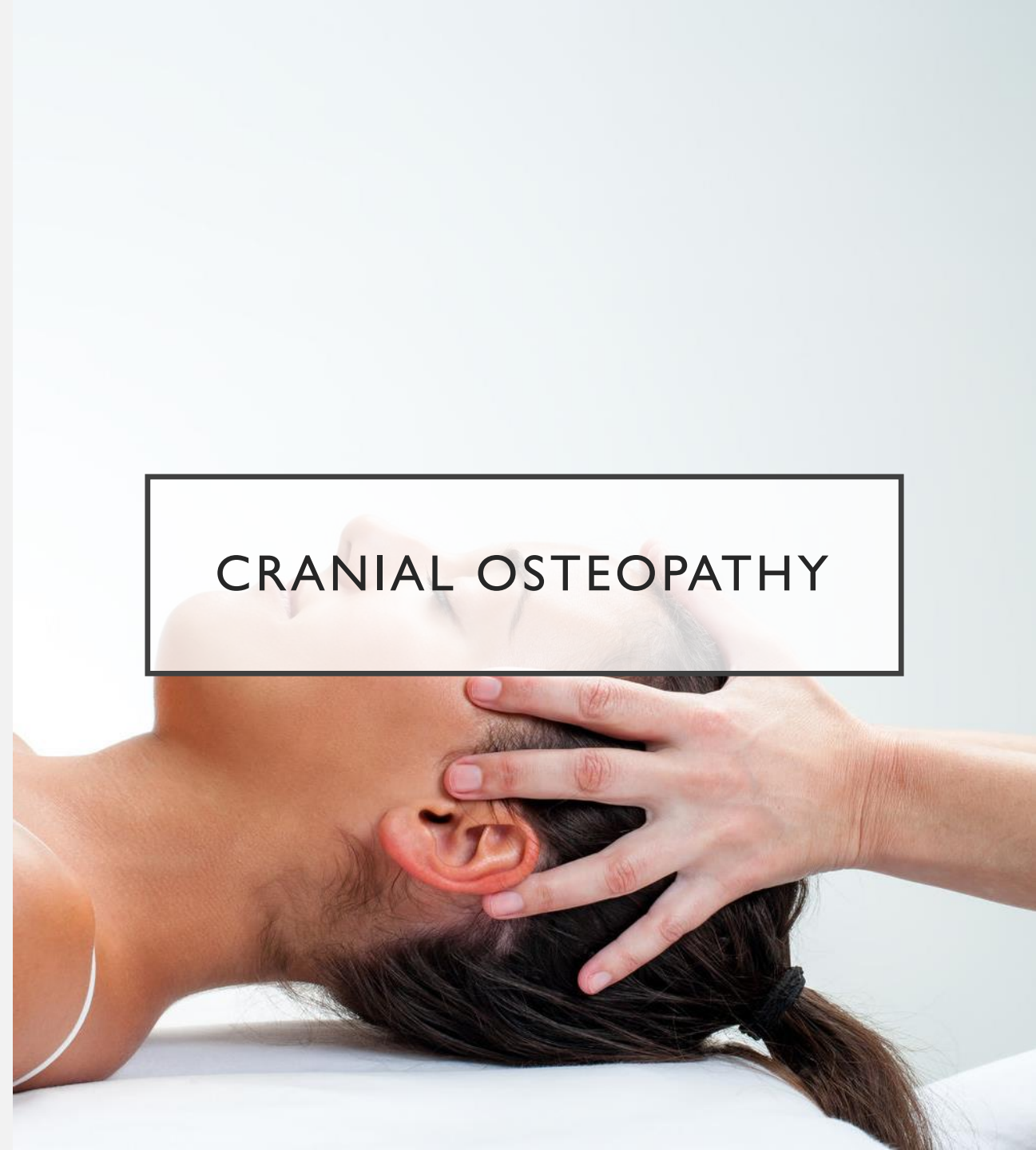
INTRANASAL STEM CELLS

- Includes PRP, stem cells, NAD+, Myer's cocktail with potassium, magnesium, calcium, B-complex, B5, B6, and B12, ascorbate followed by a glutathione push
- Vitamin D deficiency has been found in over 65% of TBI patients
- B vitamin supplementation improves memory, mood, and energy levels

A close-up, vertical view of a clear plastic IV drip chamber. The chamber is partially filled with a clear liquid. A white plastic tube enters from the top, and another tube exits from the bottom. A white rectangular box with a black border is superimposed over the center of the chamber, containing the text "IV NUTRITION" in a bold, black, sans-serif font.

IV NUTRITION

- Manual manipulation of the cranial bones and membranes to allow the cerebral spinal fluid to flow properly
- The central nervous system, including the brain and spinal cord, has a subtle, rhythmic pulsation
- This rhythmic pulsation can be blocked in brain injuries - impedes CSF and blood flow
- Effective at treating vertigo and headaches associated with TBIs



CRANIAL OSTEOPATHY

- Proven treatment for patients suffering from epileptic seizures
- Produce cortical sparing and less apoptotic neuro-degeneration
- Overall improvements in cognitive and motor functioning
- Increase the available calming neurotransmitter GABA
- With less glutamate, there is less oxidative stress and improved neuroprotection
- MCT oils are a rich source of ketone bodies



2 DAY PROTOCOL

60 Minute Physician Consultation

Cranial Osteopathy

Ketogenic Diet

Hyperbaric Oxygen Therapy (2 sessions)

Intranasal PRP (Platelet Rich Plasma)

Intravenous PRP (Platelet Rich Plasma) + Nutrition

Intranasal PRP-PDSC (Plasma and Platelet Derived Stem Cells)

Intravenous PRP-PDSC (Plasma and Platelet Derived Stem Cells) + NAD

Take home supplements: Brain Octane MCT Oil by Bulletproof, Elk Antler by High Wire Ranch, BrainOn by E3 Live, Stem XCell, and *Fat for Fuel* by Dr. Mercola

Take home drugs and devices: insulin for personal administration and brainwave training player

CLINICAL RESULTS

- More mental clarity
- Improved memory
- Improved executive function/decision making
- More stable emotions and less stress
- Better ability to cope with pain
- More physical and mental energy



CASE REPORT

46 YEAR-OLD MALE FROM BOULDER, CO

- Presented with:
 - Light and sound sensitivity
 - Could not drive
 - Emotionally unstable
 - Headaches daily
 - Inability to carry on conversation
 - Inability to do math or read
 - Loss of libido
 - Depression and anxiety
 - Insomnia
 - Memory loss
- After Treatment:
 - “Memory download”
 - “An awakening”
 - Mood and personality improvements
 - Improvements intellectually, physiologically, and psychologically
 - Improved ability to read
 - Able to turn on lights and get on computer / TV
 - Able to drive
 - Sleep normalized

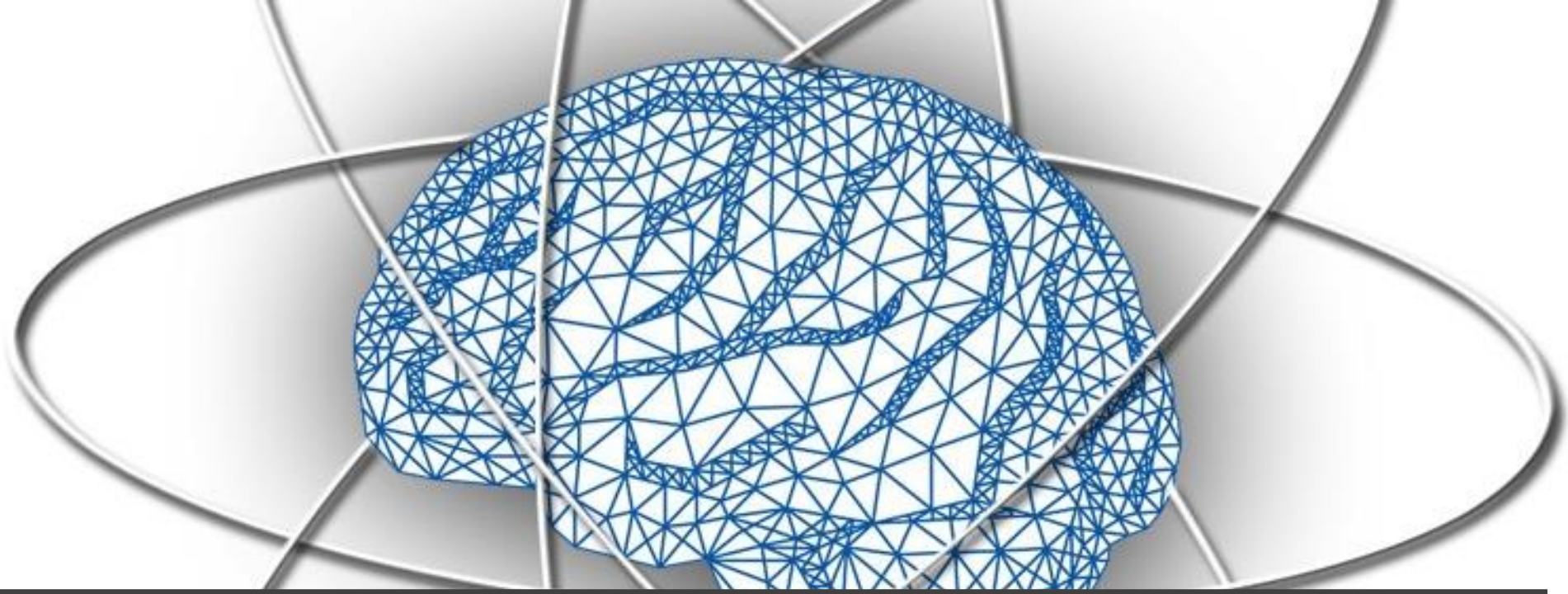
CASE REPORT

46 YEAR-OLD MALE FROM BOULDER, CO

“Dr. Hughes then administered the plasma into the right nostril. After this it was like a stream of information had been let loose like a dam that had busted. I saw clips of memories such as faces, numbers, and letters. After 5 minutes the stream of thoughts slowed down. I needed sugar during the process due to slight hypoglycemia.

Upon completing the second treatment for the day I had the same reaction and results except the stream of information slowed down and I could recognize images and conversations I had with people. It was almost like a computer file had been opened full of letters, numbers, and words. I started having expanded thought. I felt for the first time in a year that I had some clarity. The initial feeling of bubbly effervescent seemed to give me life. The light was on in the back of a dark warehouse.

I was excited to read more than 2-3 sentences without triggering a migraine. I found that I was able to get back on the computer and learn more about my trauma and recent treatment. Within the following days it was like an awakening. I could turn on lights for a few minutes and keep the TV on. It seemed like a light switch was turned back on inside my head even though it was dim. There was new activity occurring.”



Q&A

Learn more at tbitherapy.com

or call 303-447-1257

- Boussi-Gross, R., Golan, H., Fishlev, G., Bechor, Y., Volkov, O., et al. (2013) Hyperbaric Oxygen Therapy Can Improve Post Concussion Syndrome Years after Mild Traumatic Brain Injury – Randomized Prospective Trial. *PLoS ONE* 8(11): e79995. doi: 10.1371/journal.pone.0079995.
- Brabazon, F. P., Khayrullina, G. I., Frey, W. H., & Byrnes, K. R. (2014, June). INTRANASAL INSULIN TREATMENT OF TRAUMATIC BRAIN INJURY. In *JOURNAL OF NEUROTRAUMA* (Vol. 31, No. 12, pp. A106-A106). 140 HUGUENOT STREET, 3RD FL, NEW ROCHELLE, NY 10801 USA: MARY ANN LIEBERT, INC.
- Danielyan, L., Beer-Hammer, S., Stolzing, A., Schäfer, R., Siegel, G., Fabian, C., ... & Novakovic, A. (2014). Intranasal delivery of bone marrow-derived mesenchymal stem cells, macrophages, and microglia to the brain in mouse models of Alzheimer's and Parkinson's disease. *Cell transplantation*, 23(1), S123-S139.
- European Society of Endocrinology. (2010). Vitamin D deficiency associated with chronic fatigue in brain injured patients. ScienceDaily. Retrieved August 15, 2016 from www.sciencedaily.com/releases/2010/04/100427182609.htm
- Gladstone Institutes. (2008). Collagen May Help Protect Brain Against Alzheimer's Disease. *ScienceDaily*. Retrieved August 15, 2016 from www.sciencedaily.com/releases/2008/12/081210150713.htm
- Gunther, N. & Queen, E. (2013). What Physical and Cognitive Rest Really Mean After a Concussion. *Brainline*. Retrieved from <http://www.brainline.org/content/multimedia.php?id=9022>
- Haller, H., Cramer, H., Werner, M., & Dobos, G. (2015). Treating the sequelae of postoperative meningioma and traumatic brain injury: a case of implementation of craniosacral therapy in integrative inpatient care. *The Journal of Alternative and Complementary Medicine*, 21(2), 110-112.
- Huskisson, E., Maggini, S., & Ruf, M. (2007). The role of vitamins and minerals in energy metabolism and well-being. *Journal of international medical research*, 35(3), 277-289.
- Kurtz, S. (2008). *U.S. Patent Application No. 12/077,296*. Retrieved August 15, 2016 from <https://www.google.com/patents/US20090012039>
- McNally, M. A., & Hartman, A. L. (2012). Ketone bodies in epilepsy. *Journal of neurochemistry*, 121(1), 28-35.
- Mischley, L. K., Conley, K. E., Shankland, E. G., Kavanagh, T. J., Rosenfeld, M. E., Duda, J. E., ... & Padowski, J. M. (2016). Central nervous system uptake of intranasal glutathione in Parkinson's disease. *npj Parkinson's Disease*, 2, 16002.
- Moskalenko, Y., Frymann, V., Kravchenko, T., & Weinstein, G. (2003). Physiological background of the Cranial Rhythmic Impulse and the Primary respiratory Mechanism. *Am Acad Osteopath J*, 13(2), 21-33.
- Rho, J. M., & Stafstrom, C. E. (2012). The ketogenic diet as a treatment paradigm for diverse neurological disorders. *Frontiers in pharmacology*, 3, 59.
- Sun, D. (2014). The potential of endogenous neurogenesis for brain repair and regeneration following traumatic brain injury. *Neural regeneration research*, 9(7), 688.).
- Thom, S. R., Bhopale, V. M., Velazquez, O. C., Goldstein, L. J., Thom, L. H., & Buerk, D. G. (2006). Stem cell mobilization by hyperbaric oxygen. *American Journal of Physiology-Heart and Circulatory Physiology*, 290(4), H1378-H1386.
- Tithon Biotech (n.d.). Retrieved from <http://tithonbiotech.com/index/>
- UHN Staff. (2015). Vitamins for Memory Loss and Stroke Prevention – These 3 Are Critical. University Health News Daily. Retrieved August 15, 2016 from <http://universityhealthnews.com/daily/memory/vitamins-for-memory-loss-and-stroke-prevention-these-3-are-critical/>
- Van Velthoven, C. T., Kavelaars, A., van Bel, F., & Heijnen, C. J. (2010). Nasal administration of stem cells: a promising novel route to treat neonatal ischemic brain damage. *Pediatric research*, 68, 419-422.