#### **CRASH COURSE**

## **3 BRAIN TOPICS YOU NEED TO KNOW**

End The Infinite Google Searching Once And For All

Hope Brain & Body Recovery Center



### INTRODUCTION

The brain is such a complex organ that many times it can be confusing trying to learn about the intimate relationships it has controlling every part of the body both directly and indirectly. Scientists and Doctors are making new discoveries every day and knowledge about the brain and its neighbor organs are ever growing.

What if I told you there are only three topics about the brain that you need to know? Would the overwhelming feeling of endless google research stop? I can tell you with confidence if you comprehend these three topics you will have a better grasp on the brain than 90% of the world.

### The Brain Needs 3 Things to Survive



Oxygen



Nutrition



Stimulation

### OXYGEN DEVENSE VGEN

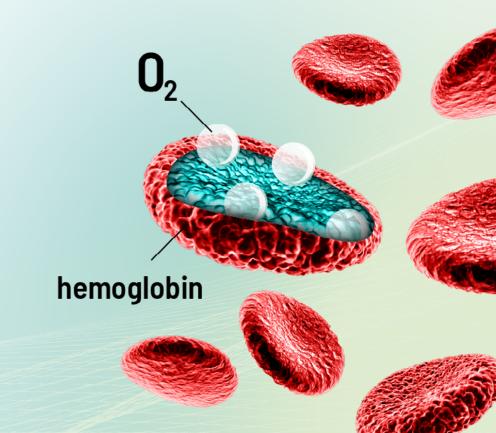
Increased oxygen and increased red blood cells allows the body to exponentially heal. **OXYGEN** 



The first and most **important** thing the brain needs to survive is **oxygen**. At sea level the earth's atmosphere contains about 21% oxygen. At high altitudes, air has 43% less oxygen than at sea level. This is why people who expose themselves to high altitudes without acclimating become dizzy. They are essentially starving their brain of oxygen.

#### Let's take a detailed look:

When oxygen is inhaled into our lungs the red blood cells within our lungs pick up the oxygen. But how does oxygen attach to the red blood cells? Specifically hemoglobin within the red blood cells has four binding sites and essentially gives four **oxygen molecules a bus ride to all tissues within the body.** 





### **OXYGEN'S JOURNEY TO YOUR BRAIN**

Here we will talk specifically about how oxygen rich blood gets to the brain. From the lungs the blood goes to the heart and is given a huge pump of energy to travel against gravity through the internal carotid arteries and vertebral arteries within the neck and skull. Once the blood perforates within the grooves of the brain and finds deoxygenated areas **the hemoglobin allows the oxygen to unbind and the brain tissue becomes oxygenated**.



### **OXYGEN THERAPIES**

At Hope Brain and Body Recovery Center we have therapies to directly and indirectly deliver oxygen to the brain. We directly deliver oxygen to the brain using a therapy called **Total 02** designed by Ergo Flex Technologies.

The therapy consists of the patient wearing an oxygen mask and riding a wind bike. The **computerized delivery** of oxygen allows the practitioner to modulate whether the patient is getting **high O2** or **low O2** during the exercise therapy.

This integrative form of high/low 02 therapy while exercising confuses the spleen and the spleen makes an overabundance of red blood cells. Increased oxygen and inc reased red blood cells allows the body to exponentially heal.





Indirect delivery of oxygen is rehabilitated by a treatment strategy called **Functional Neurology**. The Doctors at Hope Brain and Body Recovery Center have spent **thousands of hours studying** the most up to date science on how to modulate brain activity and turn on/off certain pathways to allow for maximum oxygen perfusion.

When the body cannot shunt oxygen correctly we call this Dysautonomia. With the use of Functional Neurology conditions like **Dysautonomia are commonly treated**.

### **THERE IS HOPE FOR YOU**

### Call us at (610) 544-9800

We would love to know you better and answer all your questions.

## NUTRITION

The brain is so dense with cells that it takes 50% of all glucose energy in the body.



The second thing the brain needs to survive is **good nutrition.** The brain is the most energy demanding organ in the body and therefore deserves the most nutritional focus.

**Glucose** is the primary source of energy for every cell in the body. **The brain is so dense with cells that it takes 50% of all glucose energy in the body.** This is why we feel "brain fogged" when we haven't eaten in a while.

The term **"HANGRY"** is actually evolutionarily printed into our DNA. The part of our brain that interprets **anger** (anterior medial thalamus) is located next to the part of the brain that signals **hunger** (hypothalamus). So when we are hungry we might feel angry or vice versa.



The huge amount of glucose is needed within our brain so nerves can signal to each other. The nerves signal by transport mechanisms of **Na+** and **K+** which control nerve impulses. The brain consumes about 120 g daily which is used for actions of both somatic and autonomic functions. Many times **humans consume more** than the daily average glucose needed which can actually cause the brain to have **cognitive delays**, seen in diabetes or **high blood pressure**.

Fat in the form of **Omega-3** is also important for the brain. Fats form the building blocks for all the cells of our brain. In the case of a concussed/TBI patients it is **important that the patient consumes Omega 3's** for **exponential** cellular recovery. The outer part of the cell, phospholipid fatty bilayer, is damaged during head injury and it is important for this fatty layer to repair quickly.

Fats form the building blocks for all the cells of our brain.



### At Hope Brain and Body Recovery Center the Doctors specialize in Functional Medicine.

Functional Medicine is the integrative approach to **analyzing the whole patient's body**. We recognize the body is connected from the brain first and we are able to interpret lab results through **Genova Labs** and supplement through **Metagenics**. This unique approach allows for the fastest and most encompassing full body recovery.

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We'll do a full work-up to see if your health complaint can be resolved with Functional Medicine.

# STIMULATION

The creation of new neurons has been proven true and is a viable treatment strategy for degenerative brain diseases.

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Classic science states that humans are born with a certain number of neurons, which is approximately 100 billion neurons, and once a neuron dies there is no opportunity for healing or re-growth of another neuron... which has been proven false. Cutting edge science states that neurogenesis, the creation of new neurons, has been proven true and is a viable treatment strategy for degenerative brain diseases like Alzheimer's & Parkinson's as well as traumatic brain injuries like concussions & hemorrhages.

Neurogenesis is the foundation at which Functional Neurologists work. The practitioners at Hope Brain and Body Center develop a unique treatment plan for each patient that maximizes the opportunity for positive neuroplasticity. **Neuroplasticity** is the term used for when a neuron can make new connections and ultimately reorganize a tract through the brain.





" The analogy I love to use with patients is as followed: when an accident occurs on a highway people always use side roads to get home. The journey might have taken a bit longer but the destination was still achieved. At Hope Brain and Body Recovery Center the Doctors will always make sure your neurons reach their final destination."

Dr. Joseph Schneider, Board Certified Chiropractic Functional Neurologist & Founder



So if you can remember the brain needs three things to survive: **oxygen**, **nutrition**, and **proper stimulation** your Google searching can stop.



## **THERE IS HOPE FOR YOU**

### Call us at (610) 544-9800

You have found the right home at Hope Brain and Body Recovery Center and we look forward to treating you.



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THE FIRST STEP IS HOPE



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