

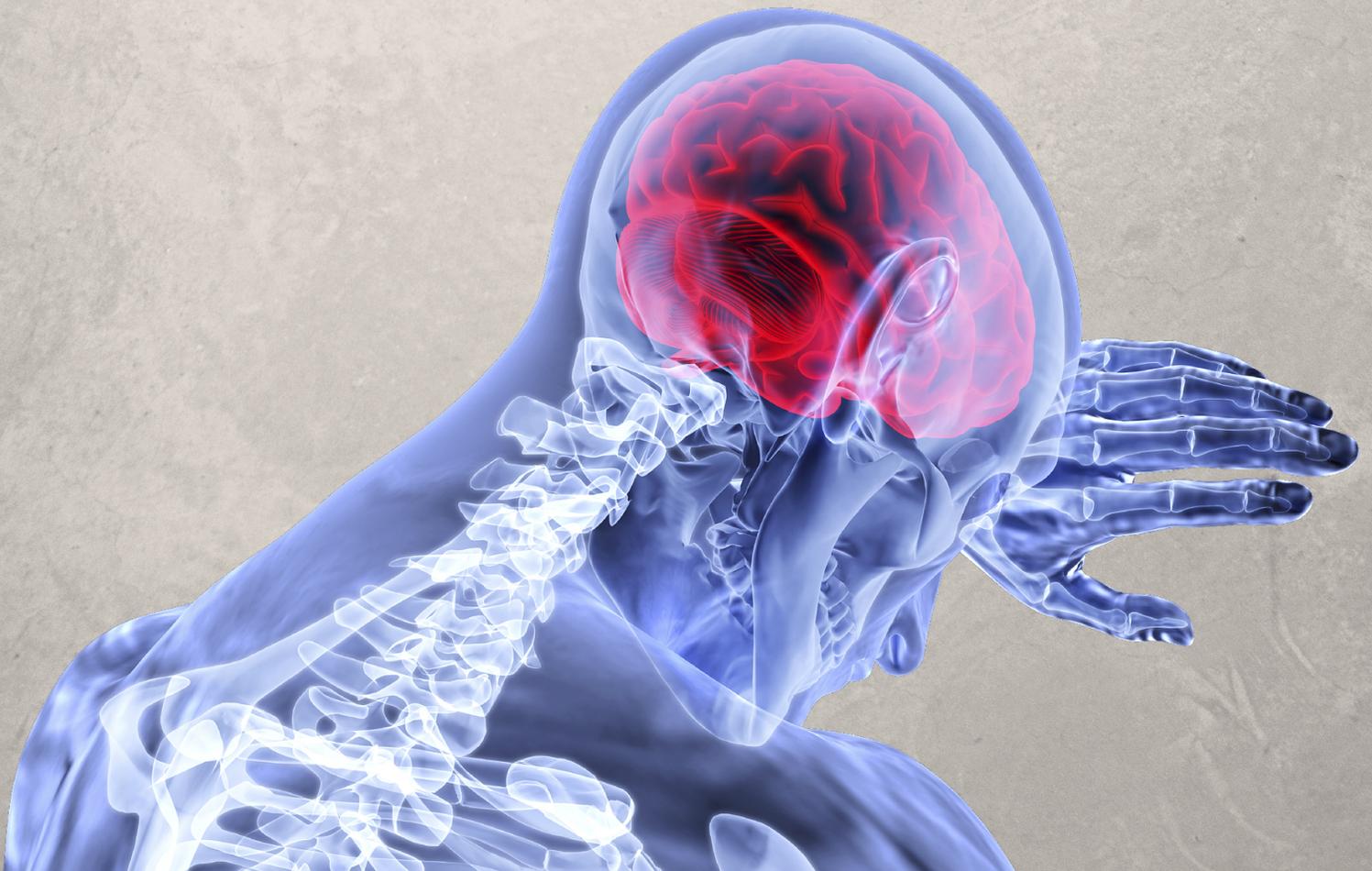


Hope Brain & Body  
Recovery Center

# CRASH COURSE

## 3 Brain Topics You Need To Know

"End The Infinite Google Searching Once And For All"



# 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

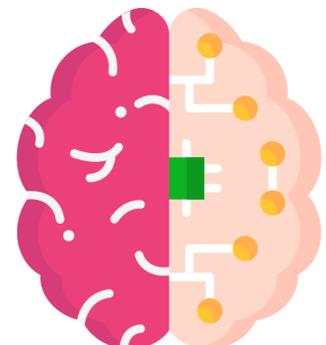
**OXYGEN**



**NUTRITION**



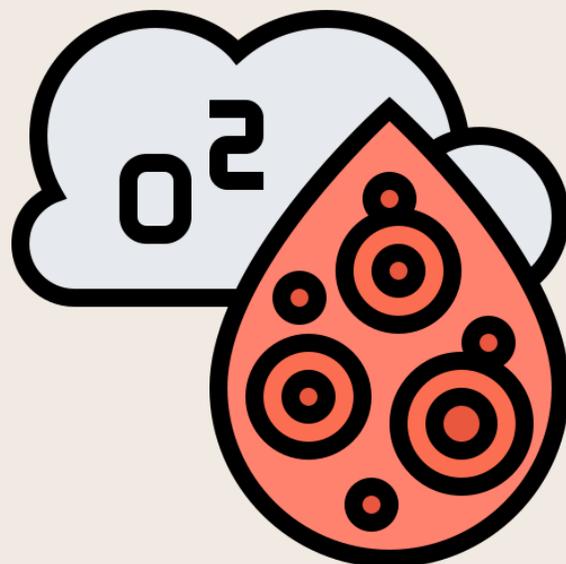
**STIMULATION**



# Oxygen

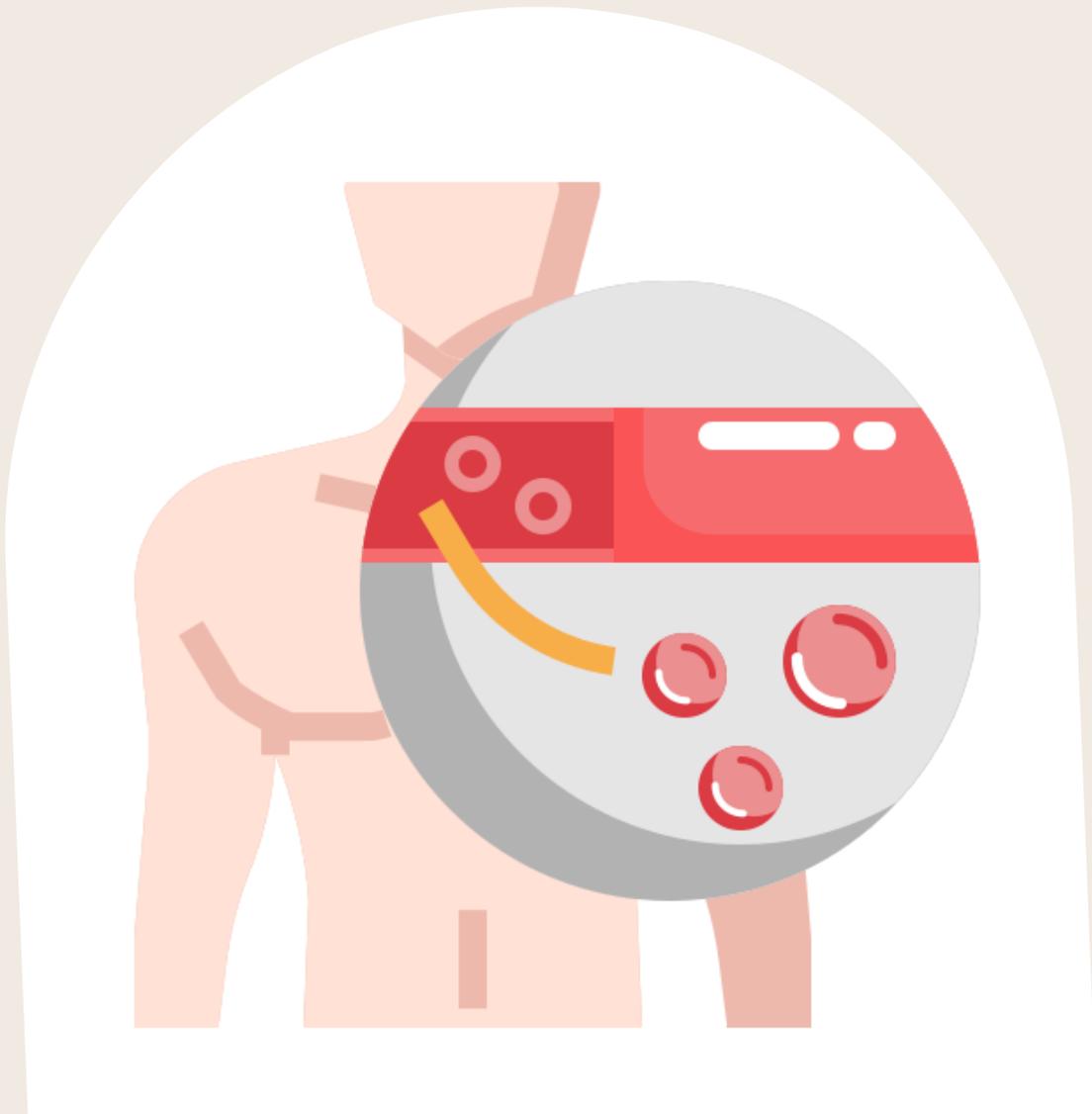
The first and most **important** thing the brain needs to survive is oxygen. At sea level the earth's atmosphere contains about 21% oxygen. At high altitudes, air has 43% less oxygen than at sea level. This is why people who expose themselves to high altitudes without acclimating become dizzy. They are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

Lets 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.**



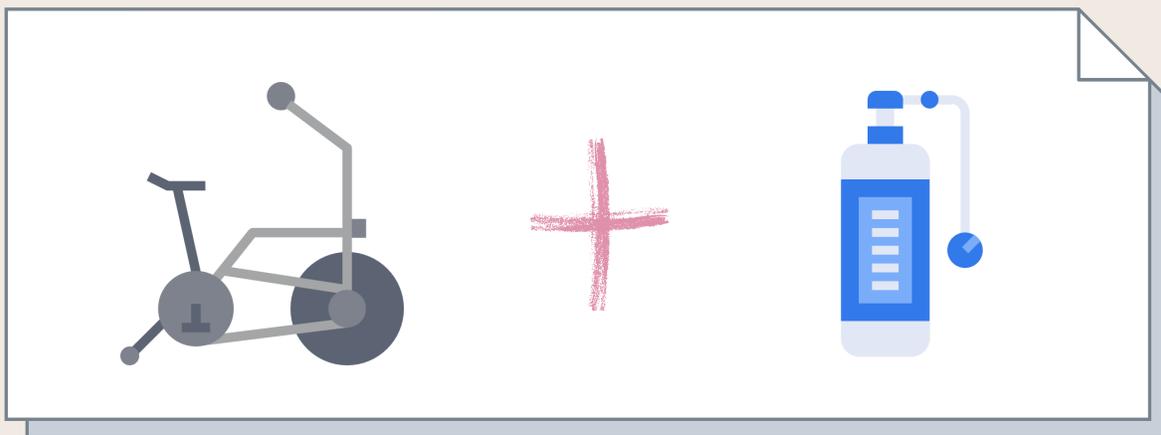
# Oxygen's Journey To Your Brain

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 de-oxygenated 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 O2** 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 O2 therapy while exercising *confuses* the spleen and the spleen makes an overabundance of red blood cells. **Increased oxygen** and **increased red blood cells** allows the body to exponentially heal.

# Oxygen Therapies

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.



# Nutrition

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.



**Need Help?  
Got Questions?**

Call Us At (610) 544-9800

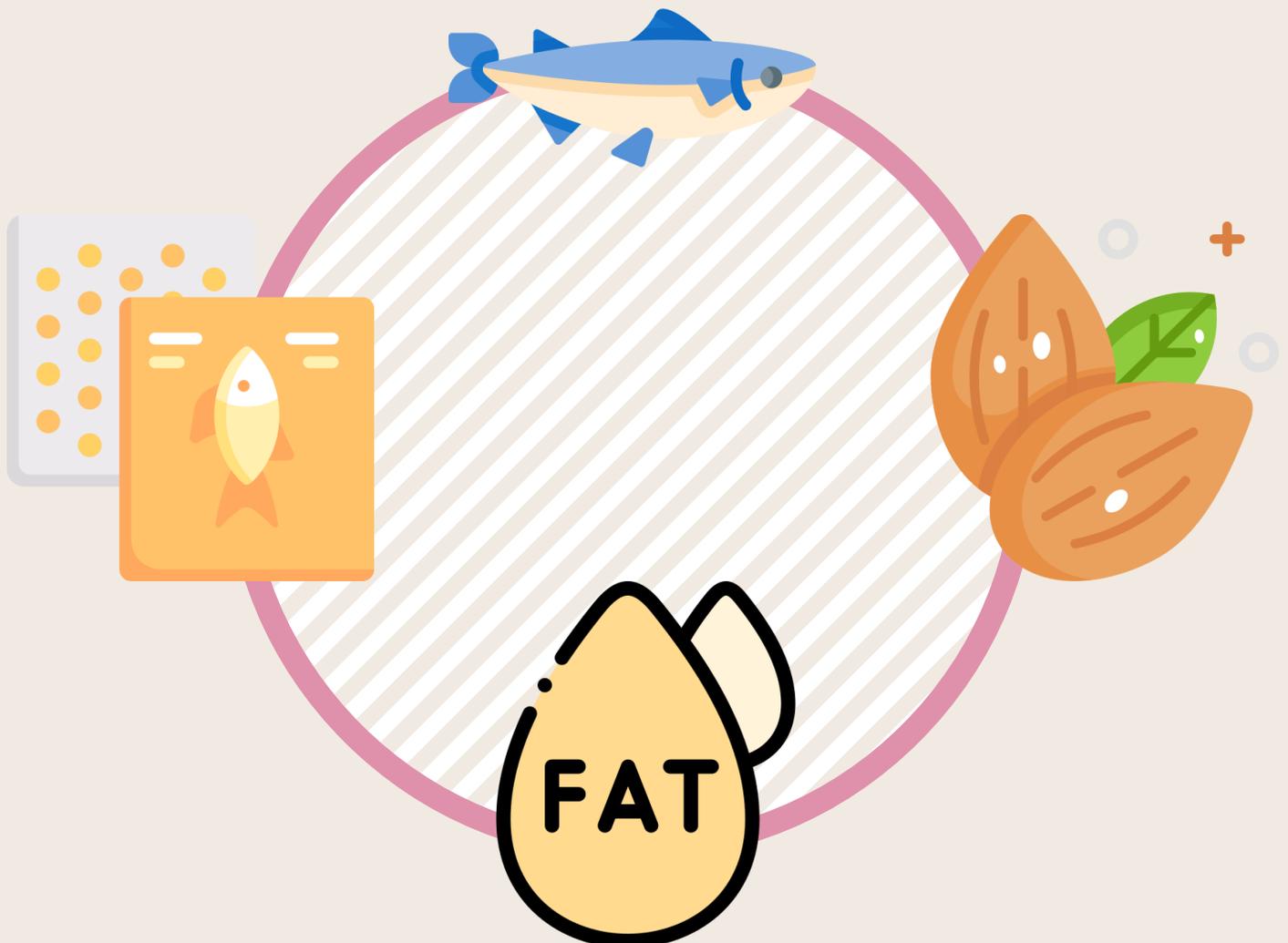
# Nutrition

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<sup>+</sup>** and **K<sup>+</sup>** 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**.



# Nutrition

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 bi-layer, is damaged during head injury and it is important for this fatty layer to repair quickly.



# Nutrition

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.



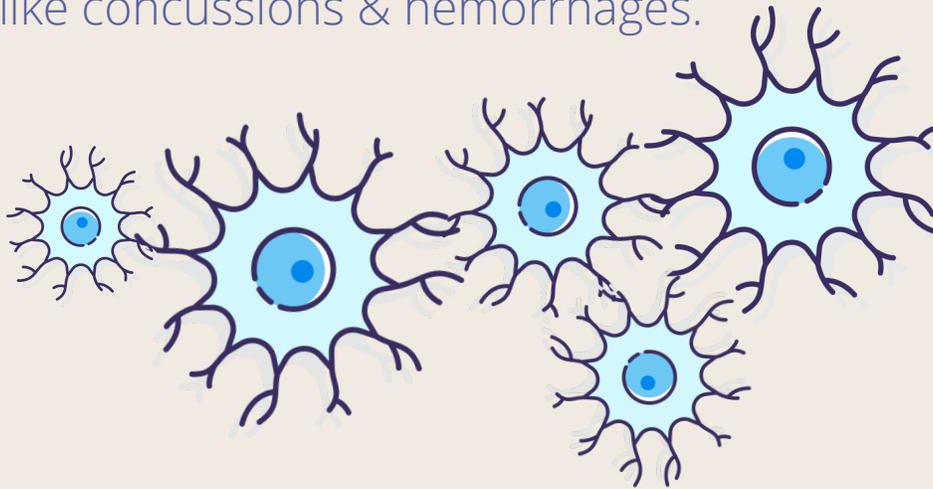
# Let's Get Started

Call Us At (610) 544-9800

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

# Proper Stimulation

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

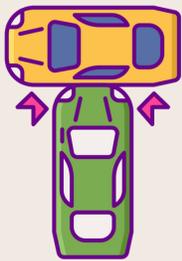
reorganize a tract through the brain.

# Proper Stimulation

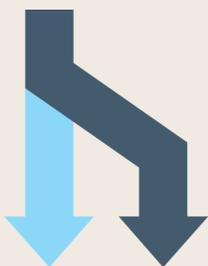
**The analogy I love to use with patients is as followed:**

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.



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



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

**Always remember the first step is HOPE!**



**Call Us At (610) 544-9800**



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