

Oxygen, Stress and the Brain

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So, you think it's obvious just how important oxygen is to our brains? Everyone knows that you can't live without oxygen just like you can't live without light or water. However, our bodies must be in balance and at peace to take up the proper amounts of oxygen and then utilize it. When our cells don't get enough oxygen, they degenerate and die. We, as humans, are degenerating and dying, but some of us are doing this faster than others! Why? Perhaps it would help to explain how oxygen affects our bodies or rather, how a lack of oxygen affects our bodies. Stress is a huge factor in preventing our bodies from receiving sufficient oxygen. When we're stressed our oxygen levels go down and that is very detrimental to our brains. In looking for different articles, books, CDs, etc. on oxygen and "how to" get more of it, since it is one of those really "important things" in life, I discovered a few things. My "how to" efforts turned my thoughts to how adversely we're affected by stress and in turn low oxygen levels. My conclusions are fairly simple but I want to take you along on a short ride to see how I got to those conclusions without too much technical information.

In reading many of those books I referred to above, I read one called, Stop Aging or Slow the Process Exercise with Oxygen Therapy. It was an interesting book. The author wanted me to go out and buy an oxygen tank and exercise with it, something I don't think I'm quite ready to do because I now know a more excellent way of doing things! There was some good information though to be gained in this book about our blood oxygen levels. Your blood oxygen level should be at 100. Did you know that? Young people, for the most part, have oxygen levels that stay in the 90's. As we age our oxygen levels tend to get lower; but that doesn't have to be the case.

There are certain things that we do that actually *decrease* our oxygen levels. One of them is very surprising! It is strenuous exercising. If we exercise vigorously it seems like our oxygen level would go up; it does not. In fact, it acts as a big stressor to our bodies. Exercising in moderation, for instance, walking at a moderate pace for about 15 minutes a day or being on a stationary bicycle, peddling at a moderate pace can increase oxygen levels. A person starting out on a marathon with a blood oxygen level of 92, has a severe drop of over 20 points in their oxygen levels within the first three hours of starting the race and it stays down until the race is completed. It can take days for a marathon runner's oxygen levels to go back up. Most athletes engaging in extreme physically stressful sports like marathon runners, boxers, or weight lifters do not, overall, live a long life. The low levels of blood oxygen lead to a weakened immune system. This brought to mind what the Bible has to say about doing *all* things in moderation. When our activities, no matter what they may be, are done in moderation, our body can greatly benefit.

So what else can lower your oxygen levels thus lowering your immune system? Some of these, like strenuous exercising, might surprise you. I won't go into detail for obvious reasons. I just want to give you food for thought. The following activities are oxygen killers: worrying and being anxious, going through a major operation, chemotherapy, X-rays, having an extensive burn, getting a vaccination, smoking, or even being in a noisy environment which, of course, includes rock music. All of these are very stressful to the body, lowering the oxygen levels, with the potential of cutting our lives short.

"After a rock concert in a smoke-filled room, there's probably not enough oxygen among the kids to keep a debilitated sloth alive...one wonders how anyone could watch "Roseanne," "In Living Color," and "Beavis and Butthead," with the Grateful Dead playing in the background, and come out of it alive... William Campbell Douglas, MD
Stop Aging or Slow the Process Exercise with Oxygen Therapy pg. 34

Did you know that cancer thrives in an oxygen starved environment? That's why some tout taking antioxidants daily. However, we can take all the supplements we want but if we have a

compromised immune system those expensive pills and potions will end up in the toilet. Our bodies cannot use them because of the cell membrane rigidity as a result of being worried, anxious, and stressed. Our supplements simply cannot be absorbed well. When I was in this state many years ago, stressed out all the time, my doctor showed me exactly what my cells looked like. It was not a pretty picture as they were not healthy. Although I drank a lot of water and took a ton of supplements, he explained that my cells were unable to take in the nutrients because I was so stressed out all the time. That was the first time I heard the term “cell membrane rigidity”. Thankfully I’m not who I used to be nor am I who I’m going to be! This is good news! We are ever-changing!

In another book, *Smart Moves* by Carla Hannaford, Ph.D., there is an amazing chapter on “Fight or Flight”. She has this to say about the brain and oxygen.

Balanced aerobic activity, where we don't go beyond our bodies' messages and over secrete endorphins or diminish dopamine, increases oxygen intake so important to learning (and our health). Carla Hannaford, Ph.D., Smart Moves pg. 193

There's that thing about not over doing the exercise again. It's just not good to over do anything whether it is good or bad. Physical activity is good for everyone as it increases our oxygen levels. It can help us to learn and think more efficiently. Stress, however, (and this does include fear and anxiety) can have big, bad consequences on our health. For one thing it increases cortisol levels, which in turn affects the following body systems:

- *Stress (which includes fear and anxiety) produces upper beta brain waves. Blood flow decreases to the cerebral cortex especially to the frontal lobes and non-dominant hemisphere causing learning and memory to decrease and can produce incoherency.*
- *The amygdala activates the sympathetic nervous system*
- *Cellular potential decreases and the sensory system goes on hyper alert.*
- *The cortisol that is released supplies energy to muscles, depresses the immune system, breaks dendritic connections and decreases learning and memory*
- *Stress (or fear & anxiety) activates the hypothalamus, which triggers the pituitary gland to release adrenocorticotrophic hormones (ACTH) through the blood stream to the adrenal glands.*

Adrenaline then causes these problems:

- *Eyes move laterally to see where the danger is. Pupils dilate.*
 - *Breathing becomes fast and shallow.*
 - *Heart rate increases. Incoherent heart rate variability pattern occurs.*
 - *Digestion slows or stops.*
 - *Tendon guard reflex at the back of the knee locks to protect the Achilles tendon, forcing body forward or backwards off balance. This can cause you to walk up on your toes. Tightened muscles decrease cerebral spinal fluid flow.*
 - *Blood pressure rises*
 - *Blood flow increases to big muscles, arms and legs. Muscles contract for fight or flight.*
- Carla Hannaford, Ph.D., *Smart Moves* pg. 177

By the way, Dr. Hannaford also agrees with the experts about how fear and stress can open us up to diseases like cancer. She says that when you have “...unresolved emotions where they build up over time into fear, the stress response is stimulated, leaving the system vulnerable to disease and inhibiting the learning process.” She goes on to say that, “...research has found a connection with people and personality types who are unable to express their emotions and the increased chance of cancer and heart disease.” pg. 187

In the book, *A More Excellent Way* by Henry Wright, which personally has changed my life, tells us about all the ways our disobedience, like stressing out every day, has adversely affected our bodies. We've allowed disease to enter through an open door, robbing us of the life we so desire. Here is an excerpt from page 236.

...In the case of allergies we have a combination of less oxygen or too much carbon dioxide coming out of anxiety, specifically hyperventilation, because in MCS/EI (Multiple Chemical Sensitivities and Environmental Illnesses) when we have stress our heart starts to race, we have repetitive breathing and the respiratory rate increases. We also have potassium levels that have been depleted, and the third stage of an anxiety disorder called the exhaustion stage sets in...

Since a compromised immune system gives you a much greater chance of getting the dreaded disease of cancer, I wanted to give you the following information. It is the cancer profile from Pastor Henry Wright that he has found to be true in over 20 years of research and ministry:

Cancer Profile: *Denies certain strong needs and represses a lot of feelings – shuts down; poor ability to develop and maintain meaningful, long-term relationships without fear; hopelessness and despair; holding resentment; tendency towards self-pity and introspection; unresolved grief from the loss of a love object; getting fired or being rejected in a vocational pursuit.*

Now is a good time to check ourselves to see if any of the above statement sounds familiar. Are we holding onto bitterness, self-pity (the “why me?” syndrome); do we have unresolved grief? We've just heard about a few ways that stress and fear can affect the body like cancer, premature aging, digestive issues, breathing, and heart disorders just to name a few. It's a good idea to check our thoughts and see if any of this rings true in our own life.

What causes us to have less stress (fear and anxiety)? Short of living with an oxygen tank and trying to live a more peaceful life, what can we do? Well, that oxygen tank does have its positives. If I didn't know a *more excellent way*, I might consider it. So what is that better way of doing things?

The Bible tells us around 365 times, *“Do not fear; do not be anxious about anything; do not worry; do not be dismayed.”* There's a reason for that, don't you think? Our bodies just weren't meant to take it! It causes us to age before our time and opens us up to all manner of disease. There are two things that can be of great help to us: 1. do all things in moderation. 2. there should be an absence of stress, fear and anxiety in our lives. We will find the peace we are looking for in our obedience to the Word of God. We need to cast all our cares on Him because He cares for us! “Do not fear”; that's what we need for the ability to take in sufficient oxygen and to have a strong immune system. Our brain and body systems will function as they were intended, pulling in all the oxygen they need.

Hopefully, by now we all have a greater understanding as to the importance of oxygen, stress and our brains. Perhaps you have a clearer picture as to why your immune system may be in need of help; I know I do! The Bible does not say, “You are what you eat”; but it does say, *“As a man thinks in his heart, so is he.”* It is important to examine our own life, taking our thoughts captive, making sure that we are not anxious and worried; and being obedient and following “Our Maker's Instruction Book” thus increasing our ability to live a long, healthy life as God intended. If we are obedient and at peace, our immune systems will be strong, our bodies will automatically take in all the oxygen it needs and you will be healthier. Your brain will have the ability to function optimally and we can live in peace. How wonderful is that!