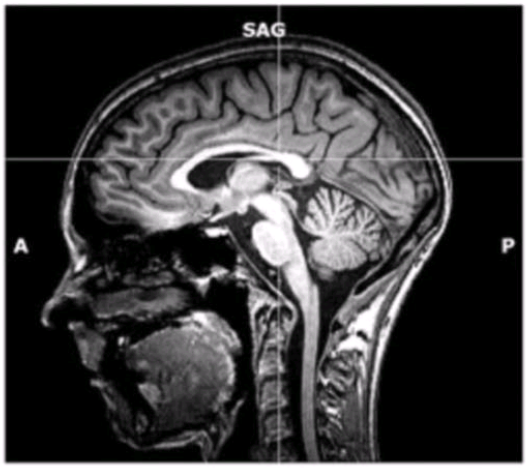
Peaceful Meadows Recovery Center

Mission Statement: We wish to provide a safe place for women and girls who are struggling with an eating disorder while providing physical, emotional, and spiritual healing in a conservative Christian setting.

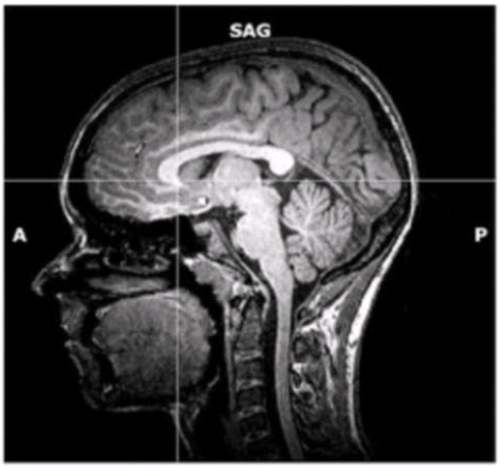
Bear ye one another's burdens and so fulfill the law of Christ. Gal. 6:2

Food Restriction and Brain Atrophy

In the beginning when God created people, He created our bodies to function on fats, proteins, starches, vitamins, and minerals. The black and white picture below is of brain atrophy.



patient with AN



healthy control

Since our brains are 60% fat, any food restriction will affect our brain and thus our ability to think clearly. Taking a closer look at the photo... if we follow the spinal cord up through the neck, we will come to the thalamus gland (which looks like an egg). If you notice the thalamus gland on the patient with AN (anorexia), you will see it is mostly black, meaning it has almost disappeared.This is damage caused by the restriction of food. Now look at the cortex (which is just above the thalamus). Do you see the difference between the brain of the healthy person with healthy control and the patient with AN?

Now let's look at what happens in these parts of the brain. The thalamus gland is responsible for processing 4 of our 5 senses; only smell does not go through the thalamus gland. This means that everything we see, hear, taste, or feel is distorted if we have a malnourished brain/thalamus gland.

How long does it take for a brain to become malnourished? This type of damage can happen in a few months' time; it will not happen by restricting for a day or two. When we reach the point of having a malnourished brain, everything we see is distorted.This is why someone who is severely underweight can look into the mirror and see a person who needs to lose weight; this is why they do not always hear what we say. This malnourishment is also

why their food does not taste good, and why their feelings of touch are not accurate.

Now look at the prefrontal cortex, which is the thinking part of the brain. Do you see how much shrinkage is in that part of the brain compared to a brain with healthy control? With this amount of shrinkage, it is easy to see why a person with disordered eating struggles with anxiety and depression, and has all sorts of physical problems.

When we have a malnourished brain, the first thing we need is food. We must repair the damage done to our brains so that we can then look at the reason that caused us to restrict food in the first place. Remember that God made our body and brain to function on a balance of fats, proteins, starches, vitamins, and minerals. If we do not have a balance of these foods in our bodies, we will not be able to absorb many of the nutrients in our foods. It will also affect our ability to absorb medication or supplements that we take. To repair the damage, we must first restore the body to a healthy weight while giving the brain a balance of fats, proteins, starches, vitamins, and minerals from food. When we have restored the body to a healthy weight, it will take approximately 24 months for the brain to heal from the restriction damage.

Severely restricting the amount of food eaten can be a very dangerous habit. Cerebral atrophy (photo below), also referred to as a "starved brain", is a common complication of eating disorders and describes a loss of brain mass due to starvation. Our brains are able to process about 70,000 thoughts daily. They are able to accomplish all of these things due to the body's chemical messengers called neurotransmitters. Neurotransmitters are directly affected by the quality of our nutrition and the food that we consume. Examples of neurotransmitters that are negatively impacted from restricted nutritional intake include the following:

* Serotonin: responsible for controlling one's mood and happiness
* Dopamine: responsible for energy and focus
* Norepinephrine: helps with energy and alertness
* Acetylcholine: aids in learning and memory
* Melatonin: which aids in sleep
* Gamma-aminobutyric acid (GABA) which helps calm anxiety