FUNDAMENTALS OF FUNCTIONAL MEDICINE

Fundamental #1 Our Body And Environmental Toxins

Detox is the process of cleansing toxins from the body. Toxins usually come from a poor diet, drug use, and environmental exposure. The body is overloaded with toxins and pollutants causing a weakened immune system.

Food is contaminated by chemicals, preservatives, antibiotics, hormones, fertilizers, pesticides, polluted groundwater, additives, industrial chemicals, plastic packaging, leaded cans, aluminum containers, mercury in fish, etc. It is important to read the labels of the foods you consume.

Most of these chemicals were introduced in the 1940's. The pesticides used by farmer have increased, along with hormones given to animals.

Detox can make a difference with the health problems that exist. The liver is the primary detox organ. It continually tries to remove toxins from the body.

If the body is overloaded with toxins; sickness, disease and weight issues will be encountered. The toxins will penetrate back into the bloodstream where the liver will have to filter again and again.

A healthy way of eating may not be enough if you have been exposed to other toxins and pollutants. Some of the disorders in a toxic body include allergies, arthritis, asthma, autoimmune conditions, colds, cancer, fatigue, flu, and heart disease.

The more toxins in the body will also make it harder to lose weight. The benefits of detoxing include anti-aging effects, clearer skin, emotional clarity, heal sickness, increased energy, optimism, restful sleep, self-confidence, and weight loss.

It is important to have healthy eating habits along with a healthy lifestyle of exercise and reducing stress.

Try to avoid chemicals found in the foods you eat and the goods you use. Incorporate probiotics by consuming yogurt or a supplement with live bacteria, and live cultures called lactobacillus acidophilus. An effective detox will help the body stay in optimum health.

Fundamental #2 Our Hormonal System

Hormones belong to the body's endocrine system. They are directly involved in weight loss efforts. Hormones are chemical messengers that are produced by glands such as the pancreas, adrenals, thyroid, and the pituitary. When hormones are released into the bloodstream, they have the purpose of creating some effect in some area of the body. Hormones tell the body what to do. The glands that produce these hormones regulate effects in designated areas of the body.

Certain hormones are responsible for the type of fat that is stored. These hormones also designate where on the body that fat is placed. The combination of these two things to a significant part leads to distortions in body shape. Hence, it also poses challenges in weight loss given the differences in the types of fat that is being stored along with the non-even distribution of that stored fat throughout the body.

This non-even distribution of stored fat is also driven by the fact that fat, in reality, is stored energy. The body tends to place fat stores around vital organs to ensure that these organs are always backed up by a ready reserve of energy so that they can always function.

The human body is a complex organism with the ability to heal itself if only we'd listen to it and respond with proper care and nourishment. To do this, we need to realize that there are functional foods, supplements, and nutrients for specific areas of our body. Although the body works in total synergy throughout, particular systems within our body require specific nutritional needs.

Our hormones decline with age, but we can do something about it.

Our hormones regulate and control most of the functions of our bodies. Testosterone and estrogen, the major sex hormones in men and women respectively, give us the urge and ability to reproduce and continue the survival of our species.

But once we're past our reproductive prime, our hormone levels drop. It results in a lack of sex drive, insomnia, impotence, weight gain, and countless other potential health problems that significantly decreases our quality of life.

Fundamental #3 Digestive Health

Pancreas:

The pancreas has two functions:

a. Exocrine gland - Glands that discharge hormones into ducts

b. Endocrine gland - Glands that secrete hormones into the bloodstream

The pancreatic endocrine function is to release the hormones insulin and glucagon into the bloodstream to regulate glucose levels.

The pancreas is a long, narrow gland which stretches from the spleen to about the middle of the duodenum. It has three primary functions. Firstly, to provide digestive juices for everything that goes through the duodenum. These digestive juices contain pancreatic enzymes in an alkaline solution to provide the right conditions for the digestive process to be completed in the small intestine.

Secondly, the pancreas produces insulin, the hormone which controls blood sugar by the metabolism of sugar and other carbohydrates. Thirdly, it produces sodium bicarbonate to neutralize acids coming from the stomach and so provide the right environment for the pancreatic enzymes to be active.

Many people with food and chemical allergy problems have an inability, either to produce a particular enzyme or to produce enough enzymes for the digestive process to work efficiently. In conjunction with this is a failure to produce enough sodium bicarbonate essential for the pancreatic enzymes to function properly.

As a result, partially digested peptides (protein particles) are absorbed into the bloodstream and attach themselves to other proteins, thereby inducing further allergic reactions. The inflammation in the system, resulting from continuing allergic reactions, can focus on a 'target' organ, causing injury and, finally, severe disease.

It can often happen to the pancreas. Thus the first malfunction may, not only accentuate an allergic response but may also lead to further inflammation of the pancreas itself.

Clinical ecologists have discovered that production of insulin by the pancreas is directly related, not only to the intake of carbohydrates, but also to the ingestion

of all types of food. They have also noticed that insulin production is altered by allergenic foods.

Accordingly, this unusual insulin reaction can be used to identify the offending allergen, by giving a person a standard dose of the suspected food, or chemical, and observing his blood sugar level after a measured time.

The pancreas, therefore, is an important organ in the mediation of both addiction and allergy. Very often it is the first organ in the body to be significantly affected by any allergen.

Small Intestine:

The small intestine is a narrow tube, about six meters long, which empties into the large intestine or colon. It is a vital organ of the body as it carries out most of the digestive processes.

After being mixed with hydrochloric acid in the stomach, food passes through the duodenum into the small intestine. Here, enzymes secreted by the intestinal wall set about the biochemical process of breaking down the food into its various chemical components.

Absorption of these elements then takes place through the villi, which are tiny finger-like projections in the intestinal wall. In this way, the body receives its essential nutrients of vitamins, minerals, amino acids, and enzymes.

Food allergy problems usually cause some damage to the small intestine. In the case of grain allergies, this can be severe and even result in death, through intestinal cancer.

At best, damage to the villi and the abdominal wall will cause malabsorption: a reduction in absorption of essential nutrients. It leads to exacerbation of the allergy problem with further food intolerance developing.

The intestinal wall becomes porous and allows undigested food particles to enter the bloodstream, causing further havoc to a floundering immune system. Eventually, a complete breakdown in health can occur.

Fundamental #4 Chronic Stress And Your Body

Estimates have revealed that over 43% of adults suffer adverse health effects due to stress. The figures are alarming especially in the present day when stress has become a part of daily existence. Although the human body is capable of dealing with stress, when stress continues without any relief it might lead to adverse reactions or distress.

Your body is prone to internal and external stress. While internal stress is a result of various emotions which you might have experienced in the past, external stress could be a result of the different triggers in your daily life. Both cause some physiological changes in your body which may vary.

For example, some individuals experience shooting headaches when stressed while others complain of severe back pain. However, these aches might be temporary. On the other hand, chronic stress might affect people who experience stressful situations on a daily basis.

Effects Of Stress On Your Body

Extreme stress can cause indigestion, gas, diarrhea or constipation and chronic symptoms will increase your risk for ulcers and irritable bowel syndrome. Women might experience longer or shorter menstrual cycles and painful periods. Most importantly, stress can lead to narrowing of arteries, rise in cholesterol levels and increase the risk of heart disease and stroke.

Hence, the next time you are faced with tight deadlines at work or feel caught in financial troubles remember that it can wreak havoc on your physical well-being. In reaction to the stress, our bodies release the hormone cortisol, epinephrine, and norepinephrine. These hormones could interfere with your immune system, heart, and metabolism also.

Here are just some of the ways that prolonged, or chronic, stress can negatively affect your body:

Headaches, Hair Loss, Ulcers, High blood pressure, Skin problems, Depression, Anxiety, Weight gain and Heart problems.

Fundamental #5 Brain Function

Your lifestyle can either contribute to your having a healthy well-functioning brain or cause your brain to decline in powers such as memory, cognition, and focus. Bad habits like eating a poor diet, drinking too much alcohol, not getting enough sleep, and exposure to too much stress, can greatly affect brain function. It will become worse as you age.

Some lifestyle factors which can affect your brain function and cause it to decline are:

- **Lack Of Exercise**

If you live a sedentary way of life, you risk a reduction in brain function along with a decrease in your physical health. It all works together. Studies have shown that physical activity is connected to mental sharpness.

Physical activity has many positive effects on your brain. It provides a healthy flow of blood through the circulatory system, which includes the brain. It also produces endorphins which stimulate your brain.

- **Poor Diet Choices**

In addition to keeping your weight at a desirable level, a healthy diet provides nutrients that help your brain by fighting against free radicals that cause inflammation and deterioration of brain functions.

Obesity and bad health from a poor diet may result in long-term diseases such as Alzheimer's disease and other types of dementia. A diet like the Mediterranean is well rounded and keeps the oxygen flowing uninhibited through the brain.

- **Lack Of Sleep**

Sleep may become a problem, especially as you age. It can be caused by responsibilities which keep you up and going, stress that has you thinking negative thoughts, or physical or mental impairments.

Lack of sleep can significantly affect your brain function by causing lack of focus, memory loss, irritability, and fatigue. Your brain performs poorly when these factors keep you from getting enough sleep.

- **Lack Of Socialization And Feelings Of Isolation**

These two lifestyle factors go hand-in-hand when a person isolates him or herself and doesn't socialize with friends and family. It often happens with age. Retirement occurs, and friends and family drift away or pass away. The illness may also be a factor. Both can cause the brain to deteriorate.

- **Too Much Stress**

Stress comes in many forms. It's part of life, but if it lasts too long and is very severe, it can begin to cause both physical and mental problems. Think about ways to alter your lifestyle to get rid of some of the stress in your life.

Take time for your brain to rest and rejuvenate itself. You'll find that your focus and cognitive powers will be improved. And your brain will have the energy to function as it should.

Other bad habits that might contribute to a decline in brain function include smoking and drinking too much alcohol. Check your lifestyle. See if your brain might be suffering some decline because of bad habits you've developed.

Take Control Of Your Health

- **Physical/Structural**

What happens on a physical and structural level with Mature Onset Diabetes? The specialized beta cells of the pancreas, which produce insulin, become incapable of producing adequate amounts of the essential secretion. It happens over a period of years and can begin in our bodies, over time, by eating large quantities of insulin-provoking foods.

These insulin provocateurs, which are sugars and starches in the form of complex carbohydrates, require the pancreas to produce more insulin so that the sugars can be carried over the cell membranes to all parts of the body. Severe disturbances occur when we do not have enough insulin to bring the sugar over the cell membranes.

Insulin hooks onto the sugar molecule and acts like a lock and key mechanism to bring that sugar into the cell which is then used in the energy cycle of cell metabolism. The nervous system, brain, and the lungs cannot function without the proper metabolism of sugars.

- **Emotional/Social**

Just as diabetes is a lack of nourishment on a chemical/nutritional level, so is it a lack of emotional nourishment on an emotional/mental level. It relates to the "feel good" food component of your body. What do we know about carbohydrates and serotonin? Carbohydrates provoke the production of serotonin.

Serotonin is a neurotransmitter that produces a feeling of well-being. There is a direct relationship between what our body is doing chemically and how we feel emotionally. When we crave or build our diet around carbohydrates, this can be a way of "self-medicating" our emotional needs by eating carbs to provoke insulin production.

Sugar problems can affect us emotionally. Let's say you have a pancreas that is not working properly. What can happen somatic/psychically from the pancreas to the brain? If we are feeling the ups and downs of hypoglycemia, and its biochemical/neurological symptoms, it may undermine our sense of security, self-esteem, and produce anxiety and fear.

What are the emotional component of diabetes and the pancreas? Often, it can be a poor sense of self-esteem and a fear of not being "good enough" or not belonging. These feelings, mediated by the serotonin foods, can lead us not to allow the feeling/feeding cycle to continue.

- **Chemical/Nutritional**

On the nutritional side, the treatment for people with Mature Onset Diabetes is to decrease the stress on the pancreas by making changes in their diet decrease starches and sugars and reduce calories.

Eat less, eat right. What kind of a diet would be best for preventing Mature Onset Diabetes? Vegetables, herbs, and vegetables combined with lean proteins such as fish, chicken, water, a little fruit and a little fat. In a hypoglycemic situation, it is wise not to eat grain or sugar, but sprouted grain bread, and other substitutes can be healthy and satisfying.

Because hormones are chemicals, diabetes and hypoglycemia are both hormonal-based problems. What we know about the hormone system is that it works as a

balanced interdependent system. Diabetes is an endocrine-related, systemic problem. With a systemic problem like diabetes, you have a body system problem you do not just have a condition by itself.

It is known that the pancreas is related, through hormone interaction, to the adrenals, and the adrenals are in turn related to the reproductive system. It is known that these glands are linked through hormone interactions to the pituitary, and the pituitary is related to the thyroid gland, the thyroid is related to the thymus, and the thymus is linked to the immune system.

- **Environmental/Internal & External**

The environment that we work in live in the walkthrough, live near how does that environment have an impact on the way that we feel and the way we feel about ourselves?

How do we learn to trust in the order of the universe? By behaviors that come from trusting the order inside ourselves. We do this by setting boundaries codes of conduct of how we are going to behave, eat, work exercise and live.

If we don't violate our boundaries, we are less likely to let anybody else break our boundaries. We have to start with ourselves. Our experience of victimization can begin with our self-victimizing behavior.