

# KEEPING YOUR AUTONOMIC NERVOUS SYSTEM HEALTHY



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The human nervous system has two major divisions, the voluntary and the autonomic systems. The voluntary system is concerned mainly with movement and sensation. It consists of motor and sensory nerves, among many others.

The autonomic system mainly controls functions over which we have less conscious control. These include the digestion of food, maintaining the blood pressure and heart rate, and much more. Its nerves leave the spine and connect to all the major organs and glands, either inhibiting or stimulating their activity. This article is an in-depth look at the autonomic nervous system.

## THE AUTONOMIC NERVOUS SYSTEM

The autonomic system has two branches. These are called the sympathetic and the parasympathetic branches.

### **The Sympathetic Branch**

This activates the glands and organs that defend the body against attack. It is called the fight-or-flight system. Its nerves direct more blood to the muscles and the brain. The heart rate and blood pressure increase, while it decreases the blood flow to the digestive and eliminative organs. It also activates the thyroid and adrenal glands to provide extra energy for fighting or running away. Nervousness, stress or feelings of panic are what one feels when in a sympathetic state of readiness.

The sympathetic system is catabolic, which means it tears down the body. Energy is used to prepare for defense, rather than for nourishment or for elimination of wastes. An excellent analogy is to imagine placing all of the nation's resources in its military defense. While helpful in an emergency, if continued too long, the nation becomes much poorer for lack of productive commercial activity. The feeling of an "adrenalin rush" is a product of the sympathetic system. It may feel good at first, but is always followed by a feeling of fatigue, as this system uses up energy and depletes the body.

### **The Parasympathetic Branch**

This is concerned with nourishing, healing, elimination and regeneration of the body. It is somewhat more anabolic, or concerned with rebuilding the body.

Its nerves stimulate digestion, and the immune and eliminative organs. These organs include the liver, pancreas, stomach and intestines. The parasympathetic nervous system, when activated by rest, relaxation and happy thoughts, is essential for balanced living and for all healing.

Moving yourself into a healthy parasympathetic state, and staying there as much of the time as possible, helps heal all health conditions, both physical and emotional ones as well. The feeling often associated with the parasympathetic state can be one of lethargy or fatigue, as you are so relaxed. Do not, however, believe this is unhealthy. Rather, it indicates a state of repair and rebuilding in progress.

### **Antagonism of The Sympathetic And Parasympathetic Branches**

Only one or the other system can be active at a particular time. The sympathetic branch powerfully inhibits the parasympathetic system. This is, of course, a survival mechanism because the emergency system, the sympathetic, takes precedence over the relaxation and healing.

Thus, either one or the other is activated most all of the time. To promote balance and healing, the goal is to keep the sympathetic system turned off as much as possible. This allows the maximum healing to occur. Simple ways to do this are to rest, relax and think happy thoughts. As soon as you think fearful or angry thoughts, or become too physically active, the body shifts into a sympathetic stance.

The sympathetic nervous system may be roughly likened to the gas pedal of a car. The parasympathetic is more like the brake. Unlike a car, however, when the 'brake' is applied to the body, it begins to heal itself.

## **AUTONOMIC STATES**

Relatively few people today have a strong and balanced autonomic system. Most people favor the sympathetic branch over the parasympathetic branch. Before discussing these types of individuals, let us discuss the ideal situation.

### **The Balanced Individual – A Flexible Oxidizer**

When the sympathetic and parasympathetic systems are working as they should, the tendency is to rest often and easily. One can, however, perform at "top speed" with equal ease. When challenged by stress, the balanced person is able to respond with vigor and fortitude.

The parasympathetic system reduces the activity of the brain, the muscles, and the adrenal and thyroid glands. When no situation is pressing, the balanced person can comfortably choose to rest and can go to sleep easily and deeply. Babies often have this ability. However, few adults have this capability today because they overuse their sympathetic system, which is the emergency alert system that inhibits rest and sleep.

In hair analysis terms, the balanced individual will be a flexible oxidizer. This means the person is able and comfortable slowing down at bedtime and yet also able to run, play and even fight when needed. These activities tend to speed up the metabolism. Thus the

balanced individual may be somewhat of a slow oxidizer or somewhat fast, but fairly balanced or neutral.

It is important to note that just because a hair analysis reveals a fairly balanced oxidation rate, however, does not mean the person is a flexible oxidizer. In fact, the test may be skewed in many ways by toxic metals, living habits or other factors that can make it appear balanced or flexible.

For example, cadmium will raise up the sodium and to some extent the potassium levels on the test. So if a person is a slow oxidizer, but they smoke cigarettes or have some other source of exposure to cadmium, the test may superficially appear balanced or flexible.

In fact, this is the reason why some people enjoy cigarettes, so in this sense only, they are not all bad. However, the point is that many factors can cause the body to compensate for its imbalances at a superficial or even deeper levels. Thus we never regard a first or even later hair test as the deepest reality. Later tests will show deeper layers of adaptation and compensation in all cases.

In fact, there is no limit to how many layers of compensations and adaptations may be unloaded in a person who desires the greatest level of health and well-being.

## **HEALTHY FAST OXIDATION = A MORE SYMPATHETIC STATE OF BODY CHEMISTRY**

Early in life, all of us are fast oxidizers. This means that our adrenal and thyroid activity is excessive, in general terms. This also corresponds to an alarm stage of stress in the stress theory of disease. On average, that is, very young bodies tend to be in a sympathetic state of body chemistry most of the time.

Medical science is well aware that newborns, for example, have a high heart rate, and even their body temperature tends to be a little higher than older adults. These are symptoms of fast oxidation.

Babies do well on lots of dietary fat and the high level of calcium found in mother's milk. These are other indicators of fast oxidation. They also are usually warm and pink and have rather loose bowel movements. These, also, are indicators of fast oxidation.

On their hair tissue mineral analyses, in general, they have low levels of calcium and magnesium and elevated levels of sodium and potassium. This is what we call fast oxidation. It is a critical concept in our healing work, although it is still quite controversial. Others use blood, urine or other tests to determine the oxidation rate. However, it is not usually the same as the hair level determination we use.

Babies are in a sympathetic state because they are new to the world with a lot to learn in a very short time. There are also many hormonal reasons for this condition in babies that are beyond the scope of this article.

## **SLOW OXIDATION, A MORE PARASYMPATHETIC STATE OF BODY CHEMISTRY**

The other common states of body chemistry we call slow oxidation. In theory, these can be of two types, healthy and unhealthy.

### **Healthy Slow Oxidation**

The healthy state is encountered only rarely. It occurs only in the spiritually developed people. They live most of their lives in the present moment. They are almost always relaxed, do not react to stress, and live in a state of peace and contentment.

They must stay very relaxed and inactive, as any activity tends to enhance sympathetic activity to some degree. Healthy parasympathetic dominance is due to what may be called spiritual development. This is the discipline to think and live differently. One reduces stress and strain on the body by resting and nourishing it so that it can rebuild

and maintain a super healthy state. This is so rare it is hardly worth knowing about, except as a theoretical state.

### **Unhealthy Parasympathetic States = Most Slow Oxidizers**

This is very common. It is revealed on up to 90 % of adult hair mineral analyses, for example. It is basically the end stage of sympathetic burnout. People in this condition have exhausted their sympathetic systems so much, their bodies flip into a default parasympathetic state we call slow oxidation.

It is a condition in which the sympathetic organs, the thyroid, adrenals and the muscles and brain, in fact, are operating more sluggishly. These people are often tired, apathetic, and tend to get depressed easily.

This state is far more common in adults than it is in young children. However, it is seen more and more commonly in children, as they are born far more toxic and depleted today. This state corresponds to an exhaustion stage of stress according to the stress theory of disease, another important concept to master if one is to use hair analysis properly.

In this condition of body chemistry, one cannot fight back as well as in fast oxidation, so they do not tend to fight at all. They are essentially in a state of give-up at one level, although few are aware of this. However, it often manifests in behavior patterns such as fearfulness, depression, apathy and even despair and suicide when in the extreme case.

The hair analyses of these people have elevated calcium and magnesium levels and often low sodium and potassium level.

This is, of course, the exact opposite of the fast oxidizer hair analysis. The causes of this unhealthy parasympathetic states are quite a few. Recall that it is just a late stage of excessive sympathetic activity. This causes nutritional depletion, excessive tissue breakdown and eventually general destruction of the body tissues and organs.

It is made far worse by lack of rest, improper diet, poor eating habits, worry, fears, angers and more. Other causes include victim thinking, electromagnetic pollution, toxic metals and toxic chemicals in the food, air and water.

## **OTHER AUTONOMIC IMBALANCES USING HAIR MINERAL ANALYSES**

### **Sympathetic Dominance**

Most people today overuse their sympathetic nervous system. They do not spend enough time in a parasympathetic state to fully rebuild their bodies. Their bodies eventually become nutritionally depleted and they become quite literally 'burned out'. Today, even children are often burned out, in this sense, due to stress, poor diets and nutritional deficiencies they are born with.

#### **Hair analysis criteria for sympathetic dominance**

As of March 2011, sympathetic dominance seems to be reliably revealed on a hair mineral analysis in the following ways:

A hair potassium of 4 mg% or less. If the potassium is 4 mg%, it is a single indicator. If the potassium is 3 mg%, it is considered a double or more severe indicator. If potassium is about 2 mg%, it is considered a triple indicator. If it is 1 mg%, it is considered a quadruple indicator of sympathetic dominance.

Additionally, and only if the potassium level is 4 mg% or less, the pattern is more severe if the sodium/potassium ratio greater than about 4.

Additionally, and only if the potassium is less than 4 mg% and the sodium/potassium ratio is greater than about 4, the pattern is even more severe if the calcium/magnesium ratio is greater than about 9.5.

Additionally, the pattern is present regardless of the potassium reading if: A) three or four of the macrominerals (calcium, magnesium, sodium and potassium) are elevated above their ideal levels, and B) the sodium/potassium ratio is above about 3.

### **Causes for Sympathetic Dominance**

Some people take on too much work. Others analyze too much or worry excessively. Others live in fear, anger or resentment too much of the time. A person in this condition

may also talk, think, eat or work at a rapid pace, faster than the optimum for that person. They become toxic and nutritionally depleted, which makes the condition much worse.

Once they are used to sympathetic dominance, a vicious cycle often occurs. They become so used to being tired that if, by chance, they get a lot of rest one day, they use up their energy the next day, instead of continuing to rest. They do not allow their bodies to use the energy they accumulated for healing and rebuilding. As a result, they tend to stay depleted and out of balance.

One may not have overt signs of sympathetic dominance. It is not about fatigue, at least not a first. One may just power through any fatigue by stimulating the adrenals and thyroid to put out more hormones. However, eventually one will become quite tired and out of sorts.

### **Parasympathetic Dominance**

This is less common. It may be described as a mental and emotional tendency to remain relaxed or in a parasympathetic state most of the time.

More extreme examples might be found in some advanced meditators, monks and yogis who have been specifically trained to remain calm and unperturbed no matter what occurs around them. Meditation is a very useful tool to help this occur, and these people often meditate properly for hours each day to develop their minds and bodies in this way. They are very oriented toward a more regenerative or parasympathetic lifestyle, diet and mentality. They are rarely ill, generally, and usually live a very long and healthy life.

A more common parasympathetic dominant person that we encounter is one whose sympathetic nervous system is in such poor shape that the person has either learned or must, for physiological reasons, remain in a parasympathetic state most of the time. These people may be relaxed and fall asleep easily, but it is not due to excellent health,

but rather to a damaged body that just needs a lot of rest and cannot be aroused as much as some others.

The cause of their parasympathetic nature might be a combination of physical and emotional factors. For example, the presence of a toxic metal, nutrient deficiencies, or perhaps emotional traumas effectively prevents the sympathetic nervous system from activating properly. As a result, the person is 'stuck' in a parasympathetic mode of autonomic functioning. This helps explain some 'couch potatoes' type of individuals who seem lazy, and perhaps uncaring and unproductive. I believe that many poor nations where nutrition is very inadequate have many people like this who are relaxed, but it is because they lack the energy to function in a more balanced way. This can be due to a combination of biochemical imbalances, childhood traumas, oppression, and perhaps even genetics.

Some people exhibit a combination of all of the above. They are people who seem more able to remain at peace in the face of stress, and they relax more easily and may be able to drift off to sleep more easily, for example. At times this is due to intelligence, a well-developed personality, healthful lifestyle habits and good self-esteem. In other cases, there may be more underlying physical, mental or emotional pathology that accounts for their behavior and attitudes.

A properly performed and properly interpreted hair mineral analysis might help identify the true nature of this situation. Those who are wise and balanced in their habits and attitudes will often have a more balanced oxidation rate with good mineral ratios. Those who are less healthy will often have higher levels of toxic metals, lower levels of nutrient minerals, and more imbalanced oxidation rates – either fast or slow, but usually slower.

Learning about the many possible aberrations that can occur in the autonomic nervous system is a fascinating research area in which hair mineral testing can help greatly.

## **WHAT TO DO TO BALANCE YOUR AUTONOMIC NERVOUS SYSTEM**

There is much anyone can do to keep the autonomic system functioning well.

### **Rest Often**

Nap often, and sleep at least 8-11 hours or more each night. The hours before midnight are by far the best for sleeping. Avoid excessive activity of any kind. Even exercise is often overdone. Exercise is a powerful sympathetic stimulant. Avoid getting exhausted by any activity you engage in. Be careful when using exercise to “run away” from stress, for example. More rest is often what is really required.

### **Eat Well**

The nervous system must be properly nourished to function correctly. Animal protein is particularly helpful for the brain and nervous system as it contains fats and proteins essential for the nerves. These include the omega-3 and omega-6 essential fatty acids. Excellent foods for the nervous system are eggs, meats, nuts, root vegetables and oily fish such as sardines and salmon.

Supplemental nutrients that calm the sympathetic system are calcium, magnesium, kelp, selenium, manganese and zinc, among many others. Other calming nutrients include GABA, L-tyrosine and a product called ICMN from Endomet Laboratories in Phoenix, Arizona that contains inositol, choline, methionine and niacinamide. Herbs that calm the nervous system are many, including valerian, passionflower, skullcap and hops.

### **Reduce your Stress Level as Much as Possible**

Stress is a major activator of the sympathetic nervous system. It can arise from within the body due to fatigue, muscle tension, spinal misalignment or nutritional deficiencies, among other reasons.

Stress can also come from outside, such as financial, work or family stress. Other types of stress to minimize or avoid are living in a noisy environment, or in one with contaminated air and water.

Electromagnetic stress is also very real, although it cannot be seen. Reduce your use of computers if possible, and do not keep televisions, computers and other electrical devices on when not in use. Be sure to turn them all off when you sleep, and keep even clocks and radios away from your head in the location where you sleep.

Activities like driving and even exercise are also stress-producing, even if you are not aware of it at the time. A simple lifestyle and gentle exercise is a step in the right direction to reduce or limit your stress.

*Keep your thoughts and your emotions as uplifted and positive as you possibly can, all of the time.*

### **Cultivate Contentment**

This is different from feeling you need to be ecstatically happy all the time. This type of happiness, as most people know it, is often short-lived. It is often an attempt to overcome feelings of unhappiness. Contentment or joy, in contrast, is a state in which you are at peace with yourself and the world, even if the world around you is not to your liking. You can learn to let the world go and choose contentment and joy rather than attempting always to control the world around you.

### **Train you Mind to Stay Out of Negative Emotions**

These include worry, fear, anger and guilt. These emotions turn on the sympathetic system and keep it active. Meditation, affirmations, counseling and other natural therapies all can help. Also, surround yourself only with uplifting books, tapes and other forms of media. Pick your friends and relationships carefully. Work, school and all your activities either contribute to your contentment or detract from it.

## **Practice Breathing Deeply**

This is one way to control the autonomic system with a voluntary action. Slow, deep breathing by itself turns off the sympathetic system.

## **CONCLUSION**

The health of the autonomic nervous system is a critical aspect to healing that is often overlooked. Most people today have some degree of sympathetic nervous exhaustion. It is, in fact, a major cause of all disease that should receive much more attention.

On a brighter note, nervous exhaustion can also cause a person to begin searching for answers deep inside. This can lead to changing your lifestyle and eating habits, and developing your inner potential. As more people become willing to change their thought patterns and lifestyles, they will experience a state of contentment that comes with having a balanced autonomic system.

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