Is STRESS Really the Problem?

We all talk about it! It is a daily challenge! It affects all aspects of our lives! But what do we really know about STRESS?

The most important aspect is that STRESS is the body's response to a STRESSOR. While you express that you are STRESSED in your life, the important factors are discovering what your STRESSORS are, and then how to improve your STRESS RESPONSE to those STRESSORS. STRESS will always be part of life, but what we can change is how we deal with it and how to undo the damage that we have created in the past.

Your STRESS RESPONSE is controlled by your nervous system. Various physiological states such as: alert response, fight/flight, relaxed, drowsiness, light sleep and deep sleep, are directly nervous system controlled. When the physiological state is inappropriate for the external environment, we have a dangerous stress situation.

An example: let's say that you are involved in a "near miss" automobile accident – your nervous system would normally stimulate your physical response up to fight/flight, a high activity level.

A neurological response, would normally include brain activity at a high frequency; hand temperatures would drop below the ideal of 95º F (34.4º C); respiration rate would increase above the norm of 12 to 15 breaths per minute; muscle activity would tighten (especially in the neck and head region); heart rate would increase above the normal 60 beats per minute; and other even more damaging responses, such as the release of adrenalin (that terrible shaking weak knee feeling) and cortisol.

All of these responses are normal during the life threatening event, even though they are very demanding on the body. The real problem starts with the duration of the threat response beyond the immediate need. If this highly aroused state remains in effect and the body does not return to a normal relaxed state in a short period of time, it creates severe damage to the normal function of the body's systems.

The Nervous system starts to get out of balance and then reads everything as a threat. The system can then continue to go into an over attack mode or shut down to protect itself. One leads to an exhausted nervous system; the other to withdrawal and depression. The unbalanced states lead to other health consequences which today we call disease. Your STRESS RESPONSE is the all important factor in your past, present and future health potential.

The Real Challenge!

The real challenge of STRESS RESPONSE is that you are wonderfully made as individuals with your own unique response mechanisms and while we may know the ideal responses, it doesn't mean that everyone follows the rules.

Brain function and ADD

An example of bending the rules is the ADD response. Attention Deficit Disorder has gained much publicity in the last few years but is still greatly misunderstood. It is not, as presented, a challenge of an overactive nervous system, but rather an under-active nervous system, so that instead of the nervous system moving into high brain activity (Beta or flight/fight response) it drops into the light sleep/subconscious response (Theta). In other words, this nervous system is so unbalanced that it is stuck in withdrawal, light sleep mode all the time – it wants to shut down. The individual needs further alternative stimulation (Ritalin is a stimulant) to remain alert. This is like putting gasoline on a fire to keep it burning - not the best way to solve the problem. There is a direct link between Post Traumatic Stress Disorder and ADD response patterns. ADD children grow up to be ADD adults.

So how do we know if your nervous system is functioning normally?

The NeuroIn niti STRESS RESPONSE EVALUATION is a very effective and accurate method of measuring your physiological stress response.

It is a 12 minute computerized, totally non-invasive exam using an instrument found in research facilities around the world. Sensors are attached to your skin in areas such as your shoulder muscles, the top of your head, your forearms, and your hands. There are no needles or any form of skin penetration. From this computerized interactive test, we can compare your neurological response and recovery to three different types of stress challenges.

The NeuroInfiniti

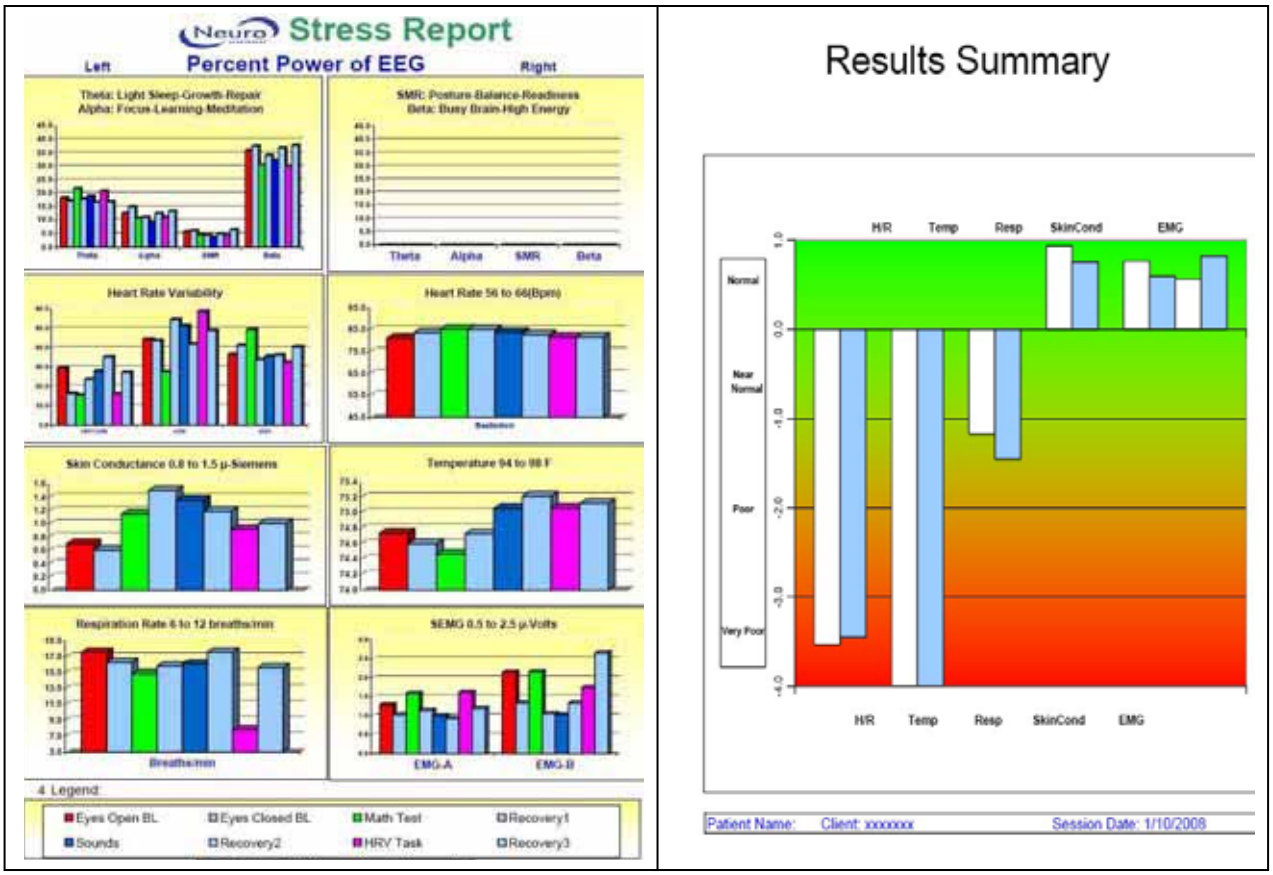
What does the SRE tell us?

This simple test gives us a detailed picture of how your nervous system is functioning. It looks at 7 different nervous system activities and what happens to them during stress. It also tells us if or how well the activities recover after a stressful situation, which gives us information regarding the type of care you need. There is also the opportunity to actually see the changes in your neurological function at the end of care, no matter what type of care you receive. The equipment and its results are of research quality and pass all government approval standards.

The Relationship Between the STRESS Response and Chiropractic!

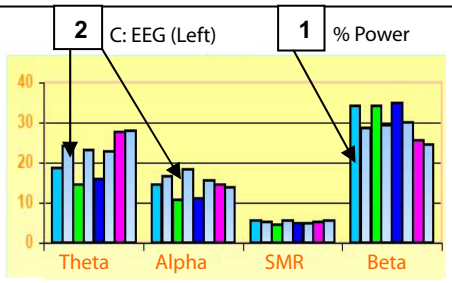
The public's misconception of what the Chiropractic Adjustment does is the greatest challenge of the Chiropractic profession. Most people think that the adjustment moves joints and/or bones. While that appears to be what we do, it is far from the real benefit of the Chiropractic Adjustment. The Adjustment stimulates a complex nervous system response. The important factor is that the adjustment has the power to alter the body's physiology so that it can return to a normal healthy state. We are able to demonstrate this with pre-care and post-care stress tests (SREs).

Thanks to the NeuroInfiniti tests we can now finally prove what Chiropractic has been doing for the last 100 years – helping the body's nervous system restore natural balance and healthier function.

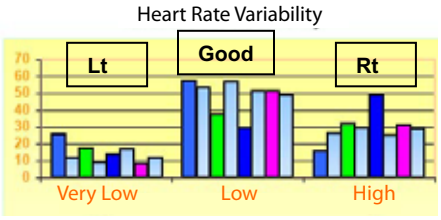


The above charts are the reports from the NeuroInfiniti instrument. The one on the left is the Stress Response Evaluation and is meant for the Doctor's files. Each box is labeled as to the information found. The colored bars are the findings during the stressor part of the test and the light blue bars are the recovery portions. The ideals are also listed within the boxes with the exception of the EEG study. The Summary Chart on the right is for the patient and clearly shows if their systems are working in the normal or abnormal range all the way down to very poor. The white bars are during the stressors and the blue during recovery.

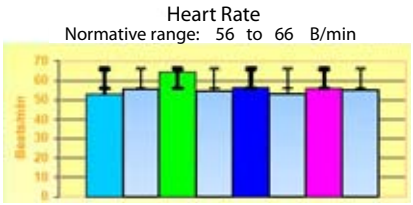
Stress Response Evaluation Ideals



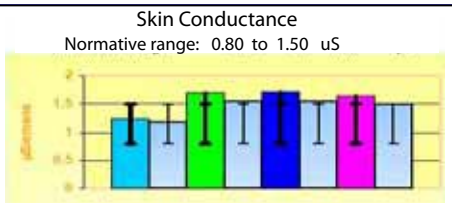
Brain Waves - This scan concerns the ability of your brain to be busy when necessary and to rest when necessary. Stress events like the math test, noises and breathing exercise require brain activity (increased Beta) (1) and when relaxed, increased Alpha/Theta (2). i.e. in the math test Beta (1) should be taller (Green higher than light blue); and at the same time, Theta/Alpha (2) should decrease (green shorter). During relaxation the reverse should occur; if not, then we have altered brain activity.



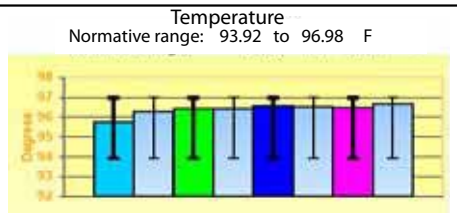
Heart Rate Variability - With HRV we are looking for high bars in the center column. Ideally there should be low readings in the Lt. and Rt. groups. An ideal profile should look like the example. (Bell curve) High activity in the Rt. group suggests cardiac distress; if the Lt. is high, it suggests a heart dysfunction. HRV is a very effective method of measuring stress effects in your life. Research has established that HRV is a good method of measuring the effectiveness of Chiropractic care.



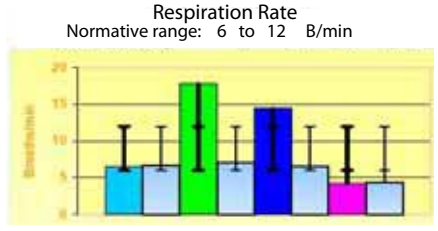
Heart Rate - We have long been aware of the importance of heart rate in maintaining good health responses; however, just taking a person's pulse isn't enough information to tell us what happens during stress situations. The stress test gives us a chance to see what speeds up the heart rate, and how quickly it can return to normal. There is a direct relationship between breathing and heart rates.



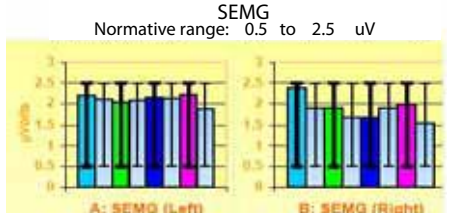
Skin Conductance - The amount of moisture produced by the sweat glands in the hands is a direct result of stress. More hand moisture means a higher stress response. We can measure your ability to reduce the effects of your stressors. This means improved neurological responses. Below 0.5 (dry) suggests chronic stress. **Normal - 0.8 to 1.5**



Temperature - The normal response to stress is for the body to withdraw blood volume from the extremities and pool it in the organs. This action reduces the temperature in the hands and feet. There are normal temperatures for the hands when in a relaxed safe atmosphere. They run between **94° to 97 °F (34.4° – 36.1°C)**



Respiration Rate - While we are aware of changes in respiration rate during exertion, we seldom use it as a measurement of health. The normal range falls between **6 to 12 breaths per minute**. As there is a relationship between stress and oxygen requirement, the respiratory rate is very important. The pattern of breathing is equally as important such as chest elevation breathing versus diaphragmatic breathing.



Muscle Balance - We can measure muscle activity throughout the body in both relaxed resting mode or in active motion mode. The trapezius (lower neck and shoulder region) and the muscle of the face are good indicators of over-tightened muscles due to stress responses. **Normal 0.5 to 2.5 µ-Volts** 12/12/07

Normal/Average

Examples are "Ideals"

Eyes Open BL | **Eyes Closed BL** | **Math Test** | **Recovery 1**

Noise Test | **Recovery 2** | **HRV Test** | **Recovery 3**