



Patient Name
ID: 314567
Gender: F
DOB: 12/30/1964

Practitioner Name

ID: 54161

Date Collected

8/20/2016

Date Received

8/23/2016

Report Final

9/06/2016

| Marker | Values | Optimal | Reference |
|------------------------------|-----------|---------------------|------------------|
| INHIBITORY NEUROTRANSMITTERS | | | |
| SEROTONIN | 42.5 (L) | 200 - 415 mcg/g Cr | 50-250 mcg/g Cr |
| GABA | 137.2 (L) | 600 - 1100 mcg/g Cr | 150-700 mcg/g Cr |
| EXCITATORY NEUROTRANSMITTERS | | | |
| DOPAMINE | 104.7 | 250 - 400 mcg/g Cr | 100-350 mcg/g Cr |
| NOR-EPINEPHRINE | 27.0 | 30 - 50 mcg/g Cr | 13-70 mcg/g Cr |
| EPINEPHRINE | 4.1 | 10 - 15 mcg/g Cr | 3-20 mcg/g Cr |
| GLUTAMATE | 20.3 (H) | 5 - 10 mg/g Cr | 2-12 mg/g Cr |
| ADRENAL ADAPTATION INDEX | | | |
| NOREPI/EPI RATIO | 6.6 | n/a | <13 |
| OTHER MARKERS | | | |
| CREATININE, URINE | 100.0 | n/a | mg/dL |

Creatinine is used to calculate results and is not intended to be used diagnostically.

(L) & (H) are based on optimal range intervals.

This test was developed and its performance characteristics determined by Dunwoody Labs or third-party reference affiliates. FDA clearance is not currently required for clinical use. Results are not intended to be used as the sole means for clinical diagnosis. Clinical correlation is required.

Practitioner Name

ID: 54161

Date Collected

8/20/2016

Date Recieved

8/23/2016

Report Final

9/06/2016

Overview

This test is a functional test, not a diagnostic test. Please note this service offers a non-invasive assessment of underlying neurochemical imbalances which may manifest as patient symptoms. The goal is to support and “rebalance” the system and thus move the patient forward on the path toward more optimized health. This test will allow the practitioner to have a window into the neuroendocrine system that has heretofore not been available.

Testing will also allow the healthcare provider to have a reference point or baseline from which to begin therapy. Subsequent testing will allow them to see the result of their therapeutic choices and the patient’s progression toward system rebalance.

This test becomes a “piece of the puzzle” as the practitioner pulls together all they know from the patient’s history, physical exam, and other laboratory assessments and again, allows them to get a glimpse into the inner workings of the neuroendocrine system.

In addition to the information gleaned from this test, there will be other contributing factors, such as other HPA-T Axis dysfunction, inflammation, immune imbalances, toxins, heavy metals, as well as dysbiosis or digestive imbalances. It is important to explore and understand all these complex factors when treating the whole person.

Inhibitory Neurotransmitters

The inhibitory neurotransmitters serotonin and GABA function to modulate mood, promote calm and rest, and balance excitatory excess. GABA is the primary inhibitory neurotransmitter. Serotonin helps balance excitatory neurotransmitter signals and supports GABA function. Serotonin is the biochemical precursor to melatonin and as such can support sleep.

It also functions as a neuromodulator for a number of neurotransmitters and can assist the catecholamines in pain modulation. Serotonin has also been shown to reduce stress levels as it provides down-regulation of the HPA Axis by limiting the secretion of high levels of cortisol. Additionally, serotonin is released upon carbohydrate/glucose intake.

If serotonin and/or GABA are suboptimal or low, symptoms such as imbalanced moods, anxiety, sugar cravings, irritability, depression with nervousness, and poor sleep may be more prone to occur.

Excitatory Neurotransmitters

Glutamate is the primary excitatory neurotransmitter and can exert powerful stimulatory effects. Although adequate amounts of glutamate are important for nervous system and thyroid activity, as well as learning and memory, elevated levels of glutamate may become neurotoxic and can damage the nervous system. The catecholamines (dopamine, norepinephrine, and epinephrine) are generally excitatory, particularly norepinephrine and epinephrine, and can be important for focus, pleasure, motivation, sex drive, energy, and pain modulation.

Dopamine is the primary neurotransmitter involved with reward, pleasure, and salience. It is also involved (along with GABA and glutamate) in the addiction cycle.

An elevated norepinephrine-epinephrine ratio may be the result of inadequate methylation and/or low cortisol. Insufficient excitatory function may manifest as fatigue and/or decreased stamina, depression with exhaustion, chronic pain, and even poor cognitive function.