NeuroScience™ Assess & Address
373 280th Street, Osceola, WI 54020
1-888-342-7272 - www.neuroscienceinc.com

# Personalized Assess & Address™ Recommendation for John Doe

Lab Request ID: 123456
Panel 9128 (NeuroAdrenal Expanded)

| Health Care Professional | Patient | Reported on | Samples Received |
|---|---|---|---|
| | | 5/4/2015 2:59 PM | 4/22/2015 |

| | | Date of Birth (Age) | Gender |
|---|---|---|---|
| **NeuroScience, Inc.**<br>375 280th Street<br>Osceola, WI 54020 | **John Doe**<br>123 Anywhere St<br>New York, NY 10065 | Aug 29, 1977 (**37**) | Male |

## Network Interpretation

| | | | | | Commonly Associated Symptoms |
|---|---|---|---|---|---|
| Sympathetic Tone | **Very Low** | Low | Normal | Elevated | Immediate action is recommended to address concerns such as Cardiovascular health, Anxiousness, Fatigue, Sleep difficulties, Mood issues, Weight management problems, Constipation |
| Adrenal Function | **Very Low** | Sub-optimal | Normal | Elevated | Fatigue, Weight management problems, Difficulty managing stress. |
| Immune Activation | Normal | **Elevated** | High | | Fatigue, Sleep difficulties, Symptoms of endocrine imbalances, Weight management problems, Poor memory, Focus issues, Aches, Discomfort |
| Oxidative Stress | **Not Present** | Elevated | High | | |
| Central Imbalance | Not Present | **Elevated** | High | | Low mood, Weight management issues, Cravings, Anxiousness, Poor memory, Headaches, Sleep difficulties, Focus issues, Irritability |

## Network Explanation

**Sympathetic tone**

Sympathetic tone can be compared to the idling speed of the body. Sympathetic activity is responsible for the up/down regulation of organ and endocrine function in response to internal and external signals. It also initiates the 'fight-or-flight' response if necessary.

**Adrenal Function**

Adrenal function is linked to sympathetic tone. Sympathetic activity initiates HPA activity, which in turn, helps to regulate the stress response.

**Immune Activation**

Immune activation is the response of the immune system to internal/external challenges. This immune activation can impact sympathetic tone, adrenal function, and endocrine function. If immune activity is present, it may not be possible to restore balance to these other systems and resolve symptoms until immune health is restored.

**Oxidative Stress**

Oxidative stress is primarily a by-product of immune activation or life style. The impact of oxidative stress is widespread. Excess free radicals can interfere with various pathways in the body, including those that affect neurological and endocrine function.

**Central Imbalance**

Central imbalance primarily results from peripheral imbalances and may lead to various neurological manifestations. While central control directs the activity of the body and organs, it is also affected by events and imbalances in the periphery. Peripheral measurement of key neurotransmitters can provide insight into the function of central neurotransmitters: central and peripheral nervous systems are an integrated unit.

Note: Supplementation can lead to elevated results and can affect network interpretation. Please review the patient history for supplementation.

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## Single Neurotransmitter Interpretation

| Parameter | Low | Normal | Elevated | High | Commonly Associated Symptoms |
|---|---|---|---|---|---|
| Serotonin | | | | | Intestinal complaints, Low libido |
| 5-HIAA | | | | | |
| GABA | | | | | |
| Taurine | | | | | Anxiousness, Sleep difficulties, Sympathetic fatigue, Cardiovascular stress |
| Glycine | | | | | |
| Glutamate | | | | | Urges, Cravings, Focus issues, Low mood, Intestinal complaints, Discomfort, Sleep difficulties, Weight issues, Immune stress |
| Histamine | | | | | Intestinal complaints, Discomfort, Sleep difficulties |
| PEA | | | | | Sleep difficulties, Mind racing, Anxiousness |
| Dopamine | | | | | |
| DOPAC | | | | | No correlated symptoms available; correlations are still being researched |
| Norepinephrine | | | | | |
| Epinephrine | | | | | Focus issues, Fatigue, Low libido, Weight issues |

Note: Supplementation can lead to elevated results and can affect network interpretation. Please review the patient history for supplementation.

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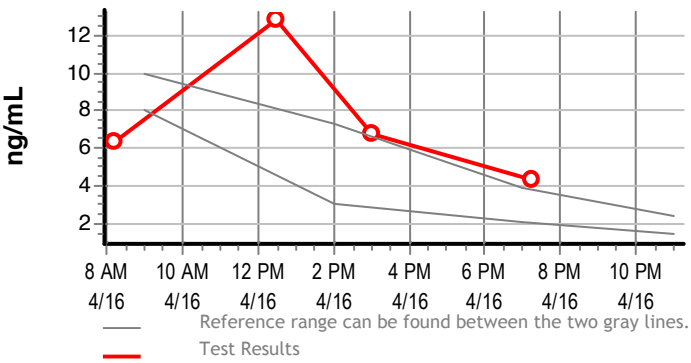
New York, NY 10065

| Date of Birth (Age) | Gender |
|---|---|
| Aug 29, 1977 (**37**) | Male |

## Diurnal Hormone Interpretation

Cortisol Graph




| Collected Time | Result | Commonly Associated Symptoms |
|---|---|---|
| 08:12 AM | Low | Fatigue, Low mood, Feeling stressed, Focus issues |
| 12:30 PM | High | Anxiousness, Changes in blood sugar, Irritability, Excess energy, Feeling stressed |
| 03:00 PM | High | Anxiousness, Changes in blood sugar, Irritability, Excess energy, Feeling stressed |
| 07:15 PM | High | Anxiousness, Changes in blood sugar, Irritability, Excess energy, Feeling stressed |

## Male Hormone Interpretation

| Parameter | Low | Normal | Elevated | High | Commonly Associated Symptoms |
|---|---|---|---|---|---|
| DHEA | | | | | Anxiousnesss, Anger, Sleep difficulties |

## HRT Hormone Interpretation (based on HRT ranges)

| Parameter | Oral HRT | Cream HRT | Patch | Comments |
|---|---|---|---|---|
| DHEA | Normal | Normal | - | If the patient is not using HRT, disregard. |

Pharmasan Labs™
373 280th Street, Osceola, WI 54020
1-888-342-7272 - www.pharmasan.com

Lab Request ID
**123456**

Reported on
5/4/2015 2:59 PM

Samples Received
4/22/2015

Health Care Professional

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Patient

**John Doe**
123 Anywhere St
New York, NY 10065

Date of Birth (Age)
Aug 29, 1977 (**37**)

Gender
Male

Wake up
N/A

* wake up time of 7:00 AM is assumed if not provided

Additional Contact information

## Order Details

Panel 9128 (NeuroAdrenal Expanded)

ICD code 780.50,784.0,780.79

## Results

# Neurotransmitters

| | Result | Collected | Reference Range | Units |
|---|---|---|---|---|
| Serotonin LDT | **149.5** | 04/16/2015 (8:07AM) | 34.2 - 208.2 | µg/gCr |
| 5-HIAA LDT | **3,477.5** | 04/16/2015 (8:07AM) | 915 - 7241 | µg/gCr |
| GABA LDT | **6.4** | 04/16/2015 (8:07AM) | 2 - 11 | µMol/gCr |
| Taurine LDT | **44.6 (L)** | 04/16/2015 (8:07AM) | 46.1 - 673 | µMol/gCr |
| Glycine LDT | **991.0** | 04/16/2015 (8:07AM) | 330 - 2342 | µMol/gCr |
| Glutamate LDT | **42.2** | 04/16/2015 (8:07AM) | 10.3 - 78.1 | µMol/gCr |
| Histamine LDT | **12.2** | 04/16/2015 (8:07AM) | 6.9 - 33.2 | µg/gCr |
| PEA LDT | **66.9** | 04/16/2015 (8:07AM) | 14.9 - 87.2 | nMol/gCr |
| Dopamine LDT | **137.9** | 04/16/2015 (8:07AM) | 72 - 297.2 | µg/gCr |
| DOPAC LDT | **411.7** | 04/16/2015 (8:07AM) | 150.5 - 1888.4 | µg/gCr |
| Norepinephrine LDT | **41.2** | 04/16/2015 (8:07AM) | 15 - 74.8 | µg/gCr |
| Epinephrine LDT | **4.3 (L)** | 04/16/2015 (8:07AM) | 4.7 - 20.8 | µg/gCr |

Reference Range is defined as the 95th percentile.

Range change effective 2/25/2015 for the following parameters: Serotonin, 5-HIAA, GABA, Taurine, Glycine, Glutamate, Histamine, PEA, Dopamine, DOPAC, Norepinephrine

Incorrect sample submission or shipment may affect results. Results cannot be used in Legal Proceedings. LDT = Laboratory Developed Test / Not FDA Approved. Results are not intended to diagnose, treat, cure, or prevent any disease or replace medical advice/treatment from a qualified healthcare provider. LDT** = Laboratory Developed Test with ASR: This test was developed and its performance characteristics determined by Pharmasan Labs. It has not been cleared or approved by the US Food and Drug Administration. RUO = Research Use Only. Test results are not to be used for treatment or diagnostic purposes.
Medication use may affect urinary neurotransmitter levels (www.pharmasan.com).
Laboratory tests performed by: [1] Pharmasan Labs, WI (CLIA# 52D0914898, NY Lab PFI # 7426)

Laboratory Director: Gottfried Kellermann, PhD

| Parameter | Result | Units | Collection | Reference Range |
|---|---|---|---|---|
| Creatinine FDA<br>Acidified Urine | **122.1** | mg/dL | 4/16/2015<br>8:07 AM | 28.0 - 259.0 |

A creatinine value less than 28.0 mg/dL may affect urinary neurotransmitter results.

| Parameter | Result | Units | Collection | Reference Range |
|---|---|---|---|---|
| Creatinine FDA<br>Non-Acidified Urine | **123.5** | mg/dL | 4/16/2015<br>8:07 AM | 28.0 - 259.0 |

A creatinine value less than 28.0 mg/dL may affect urinary neurotransmitter results.

# Hormones

## Adrenal Hormones

### Cortisol Graph

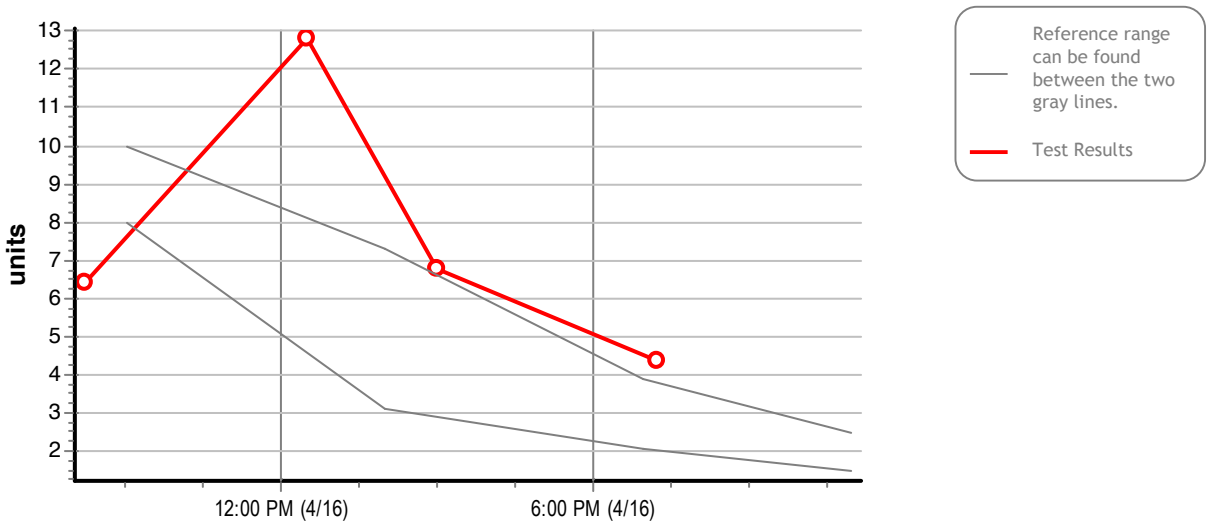


*Chart: Multipoint Cortisol*

### Results

| Parameter | Result | Units | Collection | Reference Range | Observed Range |
|---|---|---|---|---|---|
| Cortisol FDA<br>Saliva | **6.4** | ng/mL | 4/16/2015<br>8:12 AM | Morning: 8.0 - 10.0<br>Midday: 3.1 - 7.3<br>Afternoon: 2.1 - 3.9<br>Evening: 1.5 - 2.5 | |
| | **12.8** | ng/mL | 4/16/2015<br>12:30 PM | | |
| | **6.8** | ng/mL | 4/16/2015<br>3:00 PM | | |
| | **4.4** | ng/mL | 4/16/2015<br>7:15 PM | | |

| Parameter | Result | Units | Collection | Reference Range | Observed Range |
|---|---|---|---|---|---|
| DHEA LDT<br>Saliva | **512.3** | pg/mL | 4/16/2015<br>8:12 AM to<br>4/16/2015<br>7:15 PM | Female: <23.8 - 291.1<br>Male: <23.8 - 308.8<br><br>Range effective 10/1/13 | HRT-<br>Oral: 138.9 - 666.2<br>Cream: 189.3 - 818.4 |

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Date of Birth (Age)
Aug 29, 1977 (**37**)

Gender
Male

## Customized Recommendation

- Phase 1: Week 1

| | |
|---|---|
| **Calm-CP** | 1-2 capsules 30 minutes prior to the evening meal and 1-2 capsules an hour before bedtime. |
| **Kavinace** | 1-2 capsules at bedtime. |

- Phase 2: Week 2 on

| | |
|---|---|
| **AdreCor with SAMe** | 1-2 capsules 30 minutes prior to the morning meal. |
| **Calm-CP** | 1-2 capsules 30 minutes prior to the evening meal and 1-2 capsules an hour before bedtime. |
| **Kavinace** | 1-2 capsules at bedtime. |

## Physician Information

- Phase 1: Week 1

Phase 1 is the first step in balancing the Neuro-Endocrine-Immune (NEI) Connection© and may not target all neurotransmitters. Products recommended in Phase 1 are generally calming and commonly provide support for the serotonergic and GABAergic systems. The addition of catecholamine support too early may result in over-stimulation and therefore is only suggested during Phase 1 when symptoms of fatigue are present. During phase 1, improvements in anxiousness, mood, over-stimulation, behavior, and sleep may be observed. Side effects are generally mild, and may include: nausea, vomiting, GI upset or anxiousness. Most common side effects typically subside with continued product use, lowering of doses, or when products are taken with food. Extending Phase 1 may be necessary if the individual is still experiencing over-stimulation.

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- Phase 2: Week 2 on

Phase 2 introduces complete catecholamine support to promote energy, elevate mood, and improve concentration and focus. Phase 2 generally continues until neurotransmitter levels have been optimized and symptoms are improved. During this phase, doses may be adjusted, and a retest is recommended to achieve optimal results. The duration of Phase 2 is variable, with a minimum length of 3 months, and is dependent upon individual responses. Some individuals may require long-term maintenance dosing, which can be

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- Phase 2: Week 2 on

determined upon retesting.

***Retesting***

Retesting is recommended after the onset of intervention to modify treatment protocols and address an individual's symptoms. In general, a retest is recommended to be performed at 4-6 weeks after onset of clinical intervention if symptom relief is unsatisfactory, or sooner if desired. Regular biannual or annual reassessment is recommended to monitor patient outcomes and determine maintenance therapy.

## Product Information

- **Calm-CP**

Calm-CP is recommended to reduce stress and restore proper communication within the hypothalamic-pituitary-adrenal (HPA) axis. It is designed to reduce cortisol levels and support cortisol receptor sensitization.

Calm-CP is used to promote sleep, reduce anxiousness, and re-establish a healthy HPA axis. It is frequently recommended for patients with elevations in cortisol.

Key Ingredients:

- *Lagerstroemia speciosa* (Banaba)leaf extract (standardized to 2% corosolic acid) reduces cortisol levels by inhibiting the conversion of cortisone to cortisol. Banaba extract has been shown to have powerful antioxidant properties, help maintain healthy blood sugar levels, and support lipid metabolism.
- SerinAid® 50P is a high-quality preparation of phosphatidylserine-enriched soy lecithin. Phosphatidylserine helps maintain cell membrane fluidity and may restore sensitivity to desensitized cortisol receptors within the HPA axis.
- Glycine is included as additional calming neurotransmitter support.
- Taurine acts as a GABA receptor agonist and provides additional calming neurotransmitter support.

Calm-CP is available in vegetable capsules in a 60-count bottle.

- **Kavinace**

Kavinace is recommended to support GABA function. It is uniquely designed to enhance GABAA and GABAB receptor function, as well as promote GABA levels.

Kavinace is used to promote sleep, reduce anxiousness, and support healthy levels of GABA. It is also frequently recommended for patients with elevated levels of glutamate and PEA, and may be beneficial in some individuals with elevated epinephrine and norepinephrine.

Key Ingredients:

- Taurine is a GABAA receptor agonist
- 4-amino-3-phenylbutyric acid is a GABA receptor agonist and PEA antagonist
- Vitamin B6 is an important cofactor for the synthesis of GABA

Unlike traditional GABA supplementation, 4-amino-3-phenylbutyric acid easily crosses the blood-brain barrier. Kavinace is available in vegetable capsules in a 60-count bottle.

- **AdreCor with SAMe**

AdreCor with SAMe is recommended to support adrenal gland function and methylation processes. It is uniquely designed to enhance adrenal production of epinephrine. It also supports the synthesis of cortisol, norepinephrine, dopamine, serotonin, and PEA.

AdreCor with SAMe is used to promote energy and mood in addition to improving motivation and concentration. It is frequently recommended for patients with low levels of epinephrine, norepinephrine, and cortisol along with imbalances in serotonin, dopamine, or PEA.

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Key Ingredients:

- SAMe (s-adenosylmethionine) acts as a methyl group donor to facilitate the conversion of norepinephrine to epinephrine and the synthesis of monoamine neurotransmitters in the brain. SAMe supports oxidative stress management, the synthesis of cartilage components, and is important for the regulation of cellular enzyme activity and membrane fluidity. SAMe has been found to support mood and promote healthy joints.
- Rhodiola rosea extract (standardized to >15% rosavins and provided in a low dose) stimulates norepinephrine and epinephrine release from the adrenal glands.
- L-tyrosine enhances Norepinephrine production.
- Folic acid as 5-methyltetrahydrofolate and B-12 as methylcobalamin have improved bioavailability and support methylation reactions.
- Green tea leaf extract (standardized to 70% epigallocatechingallate) supports catecholamine levels by blocking the degradative enzyme, catechol-o-methyltransferase (COMT).
- Vitamins B and C support adrenal gland function, including cortisol production.

AdreCor with SAMe is available in vegetable capsules in a 30-count bottle.

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