

## NEUROTRANSMITTERS & YOUR HEALTH

- ▶ Do you suffer with anxiety or depression?
- ▶ Do you struggle to fall asleep or stay asleep throughout the night?
- ▶ Men, has your libido fizzled?
- ▶ Women, do you dread the weeks before your period?

If you answered yes to these questions, an underlying neurotransmitter imbalance may be the cause. Simple testing may help you find personalized solutions.

### Neurotransmitters & Their Impact

Neurotransmitters are chemical messengers used by the nervous system to relay information from one nerve to another.

The body relays information through the nervous system about anything that it experiences, hears, touches, smells or ingests – continuously communicating back and forth between the brain and the body.

Optimal neurotransmitter balance is required to maintain proper health. Imbalances can cause the brain and the body to be over- or under-stimulated, producing neurological or psychological symptoms.

### Can a Dysregulated Nervous System Impact Health?

Like hormones, neurotransmitters require a delicate balance to keep the body functioning at a peak level.

Genetics, environment, chemicals and nutritional deficiencies are a few factors that can result in over- or under-production of neurotransmitters. Once out of balance, the nervous system begins to compensate – which, in time, can lead to neurological or psychological symptoms.

Some of the more common psychological conditions today are known to be accompanied by neurotransmitter imbalances. However, it's also possible for individuals to present with similar symptoms yet have unique foundational imbalances. Testing helps clarify these root issues.



### DISORDERS ON THE RISE

16 million US adults have had at least one major depressive episode or experienced depressive symptoms. (NIMH 2014)

Anxiety disorders – including OCD, PTSD, generalized anxiety & phobias – affect about 18% of adults annually.

### NEUROTRANSMITTERS PLAY A KEY ROLE

Mental conditions, such as depression & anxiety, can occur when neurotransmitter levels are out of balance.

### ARE YOU AFFECTED?

It's estimated that 86% of Americans have suboptimal neurotransmitter levels. Stress, diet, toxins, drugs, alcohol & nicotine are just a few causes.

# Neurotransmitters & Symptoms

## Neurotransmitters You Should Know

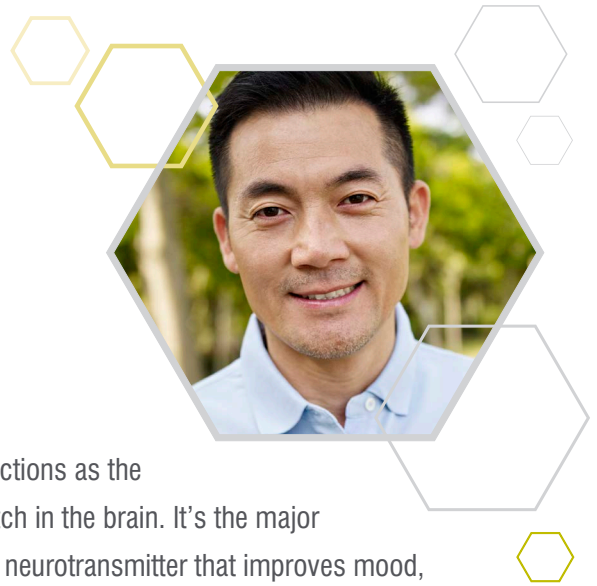
There are many neurotransmitters in the body. The primary messengers are divided into two groups.

### Excitatory:

- ▶ **Dopamine**, generally regarded as the brain's pleasure and reward center, plays the central role in addiction, improves attention, focus and motivation, and modulates movement control.
- ▶ **Epinephrine** and **Norepinephrine** regulate the "fight or flight" response, elevated blood pressure and heart rate, stimulate wakefulness and reduce digestive activity.
- ▶ **Glutamate** functions as the "on" switch in the brain. It's the major excitatory neurotransmitter that decreases sleep, optimizes learning, memory and mood and improves libido.
- ▶ **Histamine** plays a role in the body as a neurotransmitter that increases metabolism, promotes wakefulness and suppresses appetite.
- ▶ **PEA** (phenylethylamine) promotes energy, elevates mood, regulates attention, aggression and serves as a biomarker for ADHD.

### CONVENIENT FOR PATIENTS

ZRT offers discrete home collection kits for dried urine samples. Simply collect your samples on the filter cards provided, let them dry and ship to ZRT.



### Inhibitory:

- ▶ **GABA** functions as the "off" switch in the brain. It's the major inhibitory neurotransmitter that improves mood, relieves anxiety and promotes sleep.
- ▶ **Glycine** plays a dual role as a neurotransmitter and amino acid that serves as a building block to proteins, improves sleep quality, calms aggression and serves as an anti-inflammatory agent.
- ▶ **Serotonin**, generally regarded as the "happiness molecule," contributes to the feeling of calm and well-being that eases depression and anxiety, supports sleep and decreases appetite.

## Do These Symptoms Sound Familiar?

If you regularly suffer from 3 or more of these symptoms, you might have a neurotransmitter imbalance.

- ▶ ADD/ADHD
- ▶ Aggression
- ▶ Anxiety
- ▶ Depression
- ▶ Fatigue
- ▶ Forgetfulness
- ▶ Hyperactivity
- ▶ Impulsive behaviors
- ▶ Insomnia
- ▶ Low libido
- ▶ Mood swings
- ▶ Obsessive-compulsive disorder (OCD)
- ▶ Panic attacks
- ▶ Poor concentration
- ▶ Pre-menstrual dysphoric disorder (PMDD)
- ▶ Severe PMS
- ▶ Sleeping problems



# Imbalance & Chronic Conditions



## Neurotransmitter Imbalance & Chronic Conditions

Numerous neurotransmitter imbalances may cause persistent health concerns:

- ▶ **Anxiety & Depression:** Imbalances are often associated with Glutamate (panic attacks), PEA, Histamine, Serotonin, as well as Epinephrine and Norepinephrine.
- ▶ **Fatigue:** An imbalance between excitatory and inhibitory neurotransmitters is likely.
- ▶ **Impulsivity:** GABA, Dopamine and Serotonin are three chemical messengers commonly linked to disorders like ADD, ADHD and OCD.
- ▶ **Insomnia:** Glutamate, Histamine, Dopamine, GABA and Serotonin are several chemical messengers often linked to sleep disturbances and insomnia.
- ▶ **PMS or PMDD:** Imbalances such as Serotonin, Dopamine, Norepinephrine and GABA are often involved.

## Patient Quiz

Answer these questions to learn whether you may be affected by neurotransmitter imbalance.

Share your answers with your health care provider to learn the next steps toward finding balance.

1. Do you often feel worried or anxious? ..... Y / N
2. Is your mood low – do you struggle to be happy? ..... Y / N
3. Are you prone to panic attacks – heart racing, difficulty breathing? ..... Y / N
4. Do you struggle with impulsivity issues? ..... Y / N
5. Do you have issues with addictions – food, medications, drugs or alcohol? ..... Y / N
6. Have you been diagnosed with a mental health disorder? ..... Y / N
7. Are you easily agitated, or prone to irritation and impatience? ..... Y / N
8. Do you harbor negative or critical feelings? ..... Y / N
9. Do you have a gloomy outlook or pessimistic thoughts? ..... Y / N
10. Do you feel overwhelmed by life or feel like your life is out of control? ..... Y / N
11. Do you find it hard to get out of bed most mornings? ..... Y / N
12. Is it impossible for you to get going without coffee or sugary drinks/foods? ..... Y / N
13. Do you often feel “tired and wired”? ..... Y / N
14. Do you often have sleep disturbances, restlessness or bad dreams? ..... Y / N
15. Do you have repetitive behaviors – like handwashing, cleaning or checking and straightening objects? ..... Y / N
16. Are you prone to hyperactivity or poor concentration? ..... Y / N
17. Do you get symptoms of excessive moodiness, tears, anger or depression around your period? ..... Y / N

