

1. KEY NEUROTRANSMITTERS:

THEIR ROLES & HOW THEY FEEL

→ WHEN IMBALANCED ←

ROLE

WHEN LOW, YOU
MIGHT EXPERIENCE:



SEROTONIN

Mood • Anxiety
Sleep • Appetite

Regulates mood, well-being, sleep, appetite, and emotional stability.

- Sadness, hopelessness
- Anxiety, worry
- Irritability
- Sleep disturbances
- Cravings, poor appetite



DOPAMINE

Motivation • Reward
Focus • Pleasure

Drives motivation, reward, focus, and the experience of pleasure.

- Low motivation
- Anhedonia (loss of interest/pleasure)
- Fatigue
- Poor focus, indecision



NOREPINEPHRINE

Alertness • Energy
Stress Response

Supports alertness, energy, concentration, and the body's stress response.

- Fatigue, low energy
- Poor concentration
- Low stress tolerance
- Feeling "flat" or slowed down



GABA

Calm • Relaxation
Reduce Anxiety

The brain's primary calming neurotransmitter; helps quiet fear and worry.

- Anxiety, restlessness
- Racing thoughts
- Muscle tension
- Trouble relaxing
- Insomnia



GLUTAMATE

Learning • Memory
Neuroplasticity

The brain's main excitatory neurotransmitter; essential for learning and memory.

- Anxiety, agitation
- Overstimulation
- Muscle symptoms
- Migraines
- Difficulty sleeping



Neurotransmitters work together—not in isolation. Imbalances in one system can impact many others. That's why treatment often takes a comprehensive, personalized approach.



Brain Chemistry, Hormones & Medications



UNDERSTANDING THE CONNECTIONS
THAT IMPACT MOOD, ENERGY
& WELL-BEING



Your mental health is influenced by many interacting systems—neurotransmitters, hormones, and life experiences. Medications can help restore balance, while understanding your unique patterns can empower you to make informed choices.



2. HORMONES & THEIR IMPACT ON BRAIN CHEMISTRY

Hormones can enhance or disrupt neurotransmitter function. Fluctuations are normal—but can still cause noticeable shifts in mood and behavior.



ESTROGEN

Boosts serotonin, dopamine & GABA. Drops (e.g., before menstruation, postpartum, perimenopause) can lead to mood swings, anxiety, and irritability.



PROGESTERONE

Converted to allopregnanolone, which enhances GABA. Low levels may increase anxiety and worsen sleep.



CORTISOL

The stress hormone. Chronically high cortisol can lower serotonin, dopamine & BDNF (brain resilience).



THYROID HORMONES

Essential for brain energy, serotonin activity, and cognitive function. Low thyroid can mimic depression.



INSULIN & BLOOD SUGAR

Spikes and crashes can affect mood, energy, and concentration.

HORMONES FLUCTUATE THROUGHOUT LIFE

Normal changes can impact neurotransmitters—and how you feel.



MENSTRUAL PHASE

Estrogen & progesterone rise
→ improved mood
& energy for many.



LUTEAL PHASE

Progesterone drops; some experience PMS, irritability, fatigue, or low mood.



POSTPARTUM

Sharp drop in estrogen & progesterone + sleep deprivation
→ risk for anxiety or depression.



PERIMENOPAUSE & MENOPAUSE

Fluctuating then declining estrogen
→ can cause mood changes, anxiety, brain fog, sleep disturbances.

Always work with a qualified healthcare provider to find the best plan for you. ♥

3. HOW COMMON MEDICATIONS WORK

Medications don't create happiness—they help restore balance and give your brain the support it needs to heal.

HOW THEY WORK

MAY HELP WITH

EXAMPLES



SSRI
(Selective Serotonin Reuptake Inhibitors)

Increase serotonin by blocking its reuptake, making more available in the brain.

- Depression
- Anxiety disorders
- OCD
- PMDD
- PTSD

- Sertraline (Zoloft)
- Fluoxetine (Prozac)
- Escitalopram (Lexapro)
- Citalopram (Celexa)
- Paroxetine (Paxil)



SNRI
(Serotonin Norepinephrine Reuptake Inhibitors)

Increase both serotonin and norepinephrine by blocking their reuptake.

- Depression
- Anxiety
- Chronic pain
- ADHD symptoms
- Fatigue

- Venlafaxine (Effexor)
- Duloxetine (Cymbalta)
- Desvenlafaxine (Pristiq)



NDRI
(Norepinephrine Dopamine Reuptake Inhibitors)

Increase norepinephrine and dopamine by blocking their reuptake.

- Depression
- ADHD
- Low motivation
- Fatigue

- Bupropion (Wellbutrin)



TCA
(Tricyclic Antidepressants)

Increase serotonin and norepinephrine and block other receptors (varies by medication).

- Depression
- Anxiety
- Chronic pain
- Insomnia

- Amitriptyline
- Nortriptyline
- Imipramine



MAOI
(Monoamine Oxidase Inhibitors)

Prevent breakdown of serotonin, norepinephrine & dopamine—making more available.

- Treatment-resistant depression
- Social anxiety
- Atypical depression

- Phenelzine (Nardil)
- Tranylcypromine (Parnate)
- Selegiline (EmSAM patch)

OTHER OPTIONS



ATYPICAL ANTIDEPRESSANTS
(e.g., Mirtazapine, Trazodone)

- Work on multiple receptors (serotonin, norepinephrine, histamine)
- May help with sleep, appetite, anxiety



MOOD STABILIZERS

(e.g., Lithium, Lamotrigine)

- Support mood regulation and reduce extreme ups and downs



Medication can be a powerful tool—especially when combined with therapy, lifestyle support, and addressing underlying medical or hormonal imbalances.



4. HORMONE FLUCTUATIONS THROUGHOUT LIFE

Normal changes can impact neurotransmitters—and how you feel.



Menstrual Phase

Estrogen & progesterone rise → improved mood & energy for many.



Luteal Phase

Progesterone drops; some experience PMS, irritability, fatigue, or low mood.



Postpartum

Sharp drop in estrogen & progesterone + sleep deprivation → risk for anxiety or depression.



Perimenopause & Menopause

Fluctuating then declining estrogen → can cause mood changes, anxiety, brain fog, sleep disturbances.



These shifts are real—and treatable. You are not “too sensitive.” Your body is responding to powerful biological changes.

FACTORS THAT CAN INTENSIFY IMBALANCES



Stress & Poor Sleep



Blood Sugar Spikes & Crashes



Thyroid Imbalance



Gut Health Issues



Genetics & Life Experiences

Small shifts can create big changes. You deserve support every step of the way.



5. WHAT THIS MEANS FOR YOU



You are not “broken.” Your brain and body are always adapting.



Symptoms are real—and often have biological roots.



Treatment may include medication, therapy, lifestyle changes, and addressing hormone or medical imbalances.



It may take time to find the right combination—small changes can lead to meaningful progress.



Tracking your cycles, sleep, stress, and triggers can help you and your provider create the best plan for you.



Advocate for yourself. You know your body and mind best.

You deserve to feel like yourself again.



REMEMBER

Healing is not linear, and you are not alone. The right support can help your brain and body find balance again.



SOURCES

1. Stahl, S. M. (2021). *Essential psychopharmacology: Neuroscientific basis and practical applications* (5th ed.). Cambridge University Press.
2. Kalueff, A. V., & Nutt, D. J. (2007). Role of GABA in anxiety and depression. *Depression and Anxiety*, 24(7), 495–517.
3. Merik, A., et al. (2016). The role of glutamate in depression and the glutamate-modulating agents. *Current Neuropharmacology*, 14(1), 1–19.

4. Schmitt, P. J., et al. (2011). Estrogen modulation of mood and behavior: The role of serotonin. *Frontiers in Neuroendocrinology*, 32(4), 403–419.
5. Young, E. A., et al. (2004). The effect of progesterone on mood: A systematic review. *Archives of Women's Mental Health*, 7(1), 43–55.

6. Pariante, C. M., & Lightman, S. L. (2008). The HPA axis in major depression: Classical theories and new developments. *Trends in Neurosciences*, 31(9), 464–468.
7. Bauer, M., et al. (2008). World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for biological treatment of unipolar depressive disorders. *World Journal of Psychiatry*, 9(3), 141–174.
8. Sansone, R. A., & Sansone, L. A. (2010). Antidepressant adherence: Are patients taking their medications? *Innovations in Clinical Neuroscience*, 7(1–2), 29–34.

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