

# Anxiety Disorders

Anxiety disorders happen when the brain misjudges situations and sees threats that are not actually there, then triggers a panic response. Anxiety disorders can be triggered by traumatic events or crop up on their own.

## Effects of Long-Term Anxiety

Our bodies were not built to be in fight or flight mode all the time. Someone with an anxiety disorder may have symptoms that seem disconnected from anxiety. These symptoms may include

Feeling exhausted for no apparent reason

Having trouble sleeping

Having trouble concentrating

Feeling irritable

Headaches

Digestive problems

## Parts of the brain that are affected by anxiety

**Frontal Lobe** Involved with behavior, emotions, reactions, motivation

**Cingulate Cortex** Connects structures involved with emotions and pain  
Affects emotional instability, depression

**Parietal lobe** Involved with locating things are in the environment

**Temporal lobe** Involved with telling what things are  
Connected to the brain misinterpreting the environment

**Amygdala** Involved with emotions  
Associated with the fight or flight response

**Hypothalamus** Connects brain to the endocrine system  
Let's the brain control what the body is doing

## Further Reading

*The Brain* by BrainFacts.org, 2022. <https://www.brainfacts.org/3d-brain#intro=false&focus=Brain>  
An interactive digital 3D brain

*Foundations of Neuroscience* by Casey Henley, 2021. <https://openbooks.lib.msu.edu/neuroscience/>  
A free textbook about how the brain works

*Psychiatric medication A to Z* by Mind, 2022. <https://www.mind.org.uk/information-support/drugs-and-treatments/medication/drug-names-a-z/>  
A list of medications and their side effects

*Nursing Pharmacology* by Chippewa Valley Technical College, 2020. <https://wtcs.pressbooks.pub/pharmacology/>  
A free textbook about medications are processed in the body

DSM-5, 2013.

The diagnostic manual for all mental disorders. It is not open access but can likely be found at your local library

## Medications often used for anxiety

Anti-anxiety medications work by calming the brain. These medications will send signals that can tell your brain to turn fight or flight mode off because you are not actually in danger.

### Barbiturates

- Increases GABA, inhibits glutamate
- Makes the brain less alert

### Benzodiazepines

- Increases GABA
- Receptors concentrated in cortex, thalamus, cerebellum
- Makes brain less alert
- More targeted than barbiturates, which is why they're more commonly prescribed

### Antihistamines

- Blocks histamine
- Makes the brain less alert

## Neurotransmitters: How Does the Brain Talk to Itself?

Parts of the brain will release chemicals that tell other parts of the brain what to do. Some chemicals will make the brain more active or calm it down, and some are connected with certain moods.

**Serotonin** involved with mood

**Norepinephrine** involved with excitement, "fight or flight"

**Dopamine** involved with motivation and movement

**Histamine** involved with excitement, helps tell the body to begin the fight or flight response

**Glutamate** involved with increasing brain function

**GABA** involved with calming brain function

## Panic Attacks vs Anxiety Attacks

Panic attacks and anxiety attacks share many symptoms, including increased heart rate, sweating, shaking, inability to breathe, and nausea. The difference is that panic attacks start unexpectedly and end quickly, whilst anxiety attacks are more long-term and often have clear triggers.

If you see these symptoms in yourself or a loved one, see a medical professional. You can text your zip code to 898211 to find local resources. If you are in an active crisis, call 911.

## Works Cited

Anthony, T. E., Dee, N., Bernard, A., Lerchner, W., Heintz, N., & Anderson, D. (2014). Control of Stress-Induced Persistent Anxiety by an Extra-Amygdala Septohypothalamic Circuit. *Cell*, 156(3), 522–536. <https://doi.org/10.1016/j.cell.2013.12.040>

Available at

[https://na01.alma.exlibrisgroup.com/view/action/uresolver.do?operation=resolveService&package\\_service\\_id=21754725170001853&institutionId=1853&customerId=1840](https://na01.alma.exlibrisgroup.com/view/action/uresolver.do?operation=resolveService&package_service_id=21754725170001853&institutionId=1853&customerId=1840)

Wang, H., Zhang, X.-X., Si, C.-P., Xu, Y., Liu, Q., Bian, H.-T., Zhang, B.-W., Li, X.-L., & Yan, Z.-R. (2018). Prefrontoparietal dysfunction during emotion regulation in anxiety disorder: a meta-analysis of functional magnetic resonance imaging studies. *Neuropsychiatric Disease and Treatment*, 14, 1183–1198. <https://doi.org/10.2147/NDT.S165677>

Available at <https://www.dovepress.com/getfile.php?fileID=41991>

Information compiled via Portland State University. Email [bharbury@pdx.edu](mailto:bharbury@pdx.edu) with any questions.