

Brain Waves

The brain is an electrochemical organ; researchers have speculated that a fully functioning brain can generate as much as 10 watts of electrical power.

There are four categories of brainwaves, ranging from the most activity to the least activity.

1. **Beta Waves.** When the brain is aroused and actively engaged in mental activities, it generates beta waves. They are the fastest of the four different brainwaves and of a relatively low amplitude. They are characteristic of a strongly engaged mind. A person in active conversation would be in beta. A debater would be in high beta.
2. **Alpha Waves** are the next most frequent brain wave. Alpha represents non-arousal. Alpha brainwaves are slower, and higher in amplitude. A person who has completed a task and sits down to rest is often in an alpha state. It is the state of mind of reflection or meditation. Walking in a garden is often an alpha state.
3. **Theta** brainwaves are typically of even greater amplitude and slower frequency. A person who begins to daydream is often in a theta brainwave state. A person who is driving on a freeway, and discovers that they can't recall the last five miles, is often in a theta state. People who get into this state often get good ideas during those periods when they are in theta. It is a state where tasks become so automatic that you can mentally disengage from them. A free flow of ideas occurs without censorship or guilt.
4. **Delta** brainwaves are of the greatest amplitude and slowest frequency. Deep dreamless sleep takes you down to the lowest frequency. When you go to bed and turn out the lights and close your eyes, brainwaves will descend from beta, to alpha, to theta and finally when we fall asleep, to delta.

Types of ADD - based on brain scans - 10 subtypes based on brainwaves Q-EEG (Quantitative Electroencephalograph) is a good way to do brain mapping - it's non invasive - it's inexpensive.

1. **Delta** - too much Delta. Learning disabilities, and processing problems inability to focus, sleepy, cognitive deficits, memory trouble. These kids might have panic attacks. Panic is a delta wave - the body is overwhelmed. There is a distinct difference between panic and anxiety.
2. **Theta** - normal situations - creativity, insight, spontaneity. Abnormal: associated with distractibility, inattention, daydreaming, depression and anxiety. This is the kids who don't complete their homework. "overwhelmed" Theta / Beta ratios should be 2.5:1 in children. 3:1 is indicative of ADHD These are the kids that respond well to the classic "stimulant" ADD medications.
3. **Alpha** - normal situations - meditation and inner calm or relaxed state. Abnormal: associated with daydreaming, fogginess, depression, OCD, ADHD, anxiety, low motivation, Traumatic Brain Injury.
4. **Beta Group** - classic anxiety type. Anxiety prevents them from focusing.

References:

ADHD - Attention and Focus - Mary Rondeau ND, RH(AHG) - 2019 Medicines from the Earth Conference notes:
Scientific American - Neuroscience - What is the function of the various brainwaves - December 22, 1997