

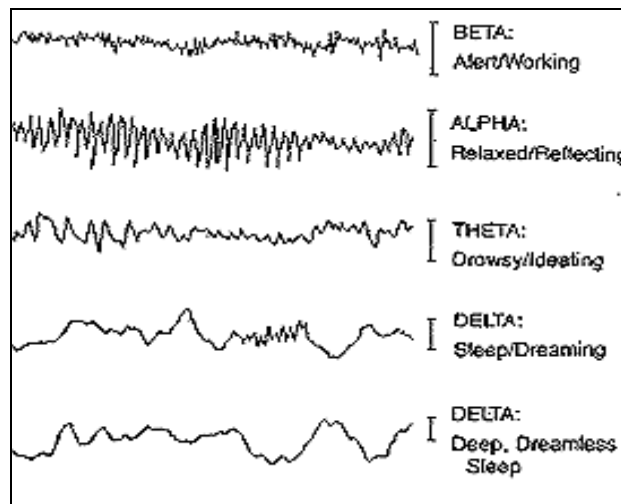
Brainwaves – Meditation & Hypnosis

(Excerpts from": <http://www.toolsforwellness.com/medscience.html>)

When you drop a small stone in water, you see waves. Similarly our heart and brain have wave patterns that can be measured by machines called ECG (electro cardiographs) for the heart and EEG (electro encephalograph) for the brain

Using the brain wave studies, scientists have discovered that there are four types of brain waves.

The brain waves also have peaks that are similar to the peaks we see in water waves. The number of times the peak appears in one second is called "cycles per second" (cps).



1. **Beta** (13 to 25 cps) – wide awake, the conscious mind is in control.
2. **Alpha** (8 to 12 cps) - relaxation and **meditation**. It is a state of relaxed alertness good for inspiration, learning facts fast. Link to the subconscious mind.
3. **Theta** (4 to 8 cps) - **deep meditation/hypnosis**. This is best for suggestibility and inspiration. This brain wave is dominant in children of age 2 to 5. The subconscious mind is tapped.
4. **Delta** (0.5 to 4 cps) - Deep dreamless sleep. Deep relaxation.

Left brain and right brain working together

Usually the left-brain and the right brain waves are independent. They reach peaks independent of each other. During meditation and deep relaxation, the waves from both sides of the brain happen together. This is called synchronization.

Scientists now believe that synchronization makes much greater mind power available. This is associated with learning large

amounts of information very quickly. It is also associated with creativity.

Scientific Research on Meditation

Recent scientific research **has shown that meditation can influence body functions such as heart rate and brain wave activity once thought to be purely involuntary.** Scientists had long believed that brain activity such as brain waves and secretion of brain chemicals were beyond conscious control. But experiments on Swami Rama of the Himalayas and on biofeedback have now changed that belief. **Now it is proven that some people can control their brain waves, blood pressure, heart beats, etc.**

- 1. Researchers in India found that adults with epilepsy who were medication-resistant were able to have a significant decrease in the number and length of their seizures after a year of practicing meditation for 20 minutes a day**
- 2. An Iowa study found Transcendental Meditation practitioners were able to lower high blood pressure and cholesterol.**
- 3. A study from the University of Texas at Austin reported that prayer created a relaxation state that boosted the immune system.**
- 4. Researchers at Emory University report on a preliminary association between meditation and elevated melatonin production, and the possible positive effect of melatonin on breast and prostate tumors.**
- 5. Dr. Herbert Benson and colleagues at Beth Israel Deaconess Hospital in Boston have been investigating the “relaxation response” elicited by meditation for some time. The effects of “relaxation” as an antidote for stress are wide-reaching, including a decrease in hot flushes for women during menopause.**

(All excerpts found at: <http://www.toolsforwellness.com/medscience.html>)

- 6. The May 24 2003 edition of the New Scientist reported on studies undertaken on meditating Buddhist monks. It showed that when the brain resides in a state of meditation (alpha state) it actually can make us happier. Through years of practice these monks have ‘trained’ their left pre-frontal lobes to be far more active than the rest of us. This area of the brain sits just behind the forehead and is known to control emotion and temperament. When the right side of the lobe is active it indicates negative emotion and the left indicates positive emotion creating a happier outlook on life. These monks showed consistently active and very merry left pre-frontal lobes even when they were not meditating. (All this time we thought it was only Benedictine Monks who were a little ‘merry’. (Copyright ‘Be Wildly Happy & Wise by Maggie Wilde 2006)**