



# Brain Wave Patterns

*Master Teacher Training Anatomy  
Assignment*

*Written by Tomoko Gregory*

## **My understanding of the different brain wave patterns, how they relate to yoga and their overall effect on my practice on and off the mat**

I understand that we have four categories of brain wave patterns. Beta, alpha, theta, and delta. Beta is the fastest pattern and delta is the slowest. The extreme of the beta range is also associated with “fight or flight response”. At the higher end of alpha, range produces “super learning” state. Theta is associated with enhanced creativity, memory, healing and integrative experiences. In delta, we make contact with “collective unconscious”. A great feeling of unity and oneness is experienced in delta. Now I would like to think about the relation between yoga practice and brain wave patterns.

Firstly, let’s think about asana practice. When we do asana practice, if we don’t synchronize the breath and the movement and match the movement to the breath not the breath to the movement, we will activate the sympathetic nervous system and become “fight and flight state.” This is quite the wrong way to do the practice. To avoid that we should keep regular breathing and match the movement to the breath. It activates our parasympathetic nervous system and generates the “relaxation response”. Our brain wave pattern will be in the lower beta stage. Also, when we do savasana we close our eyes. It means our mind should be alert, and the body should be still. Our brain wave pattern is the alpha state. It leads us to the “relaxation response” and” super learning“ state. We can memorise everything into our cellular level.

Secondly, when we do pranayama, we should keep regular, deep and long breaths. It will lower brain wave patterns and we are in the alfa brain wave pattern.

Lastly, when we do meditation, we start from alpha brain state and in deeper meditation, our brain wave will change to theta and delta patterns.

Through yoga practice, we learn the technique to be conscious of our mind, body, and breath. It will make our brain wave slower and we can stay in the “relaxation response. We can use the exact same technique in our normal life and control our brain wave as well. Whatever happens, stay calm and avoid being in the “fight and flight” stage. It is the most important thing in our life.

## **How to explain brain wave to beginner students**

We have four categories of brain wave patterns. Beta, alpha, theta, and delta. Beta is the fastest pattern 13- 100+ Hz. This is the common pattern of normal waking consciousness and is associated with alertness, arousal, and concentration. The higher end of beta waves (30Hz and higher) occur during times of uneasiness, distress, and anxiety. The extreme of the beta range is also associated with “fight or flight response”.

Alpha is somewhat slower: 8-12.9 Hz and occurs soon after closing eyes and relaxing. Alpha brain waves are associated with introspection. In the alpha state, the body produces calming neurochemicals. Deep alpha (the low end of the alpha range) is also associated with peace and contentment and is the predominant brainwave pattern of traditional meditation. At the higher end of its range, it produces a “super learning” state.

Theta is slower still, between 4-7.9Hz. This is the pattern of the rapid eye movement (REM) dreaming sleep, sometimes called a hypnagogic state. Theta is associated with enhanced creativity, memory, healing and integrative experiences.

Delta is the slowest pattern, between 0.1-3.9Hz. It is the pattern of dreamless sleep. In delta, we make contact with “collective unconscious”. A great feeling of unity and oneness is experienced in delta.