

THE SCIENCE OF YOGA NIDRA

Deep relaxation and what it does to the brain. *By Stephen Marks*

If you look around today you will see that Yoga Nidra is growing in popularity. While some yogis seek more active and dynamic physical forms others are increasingly drawn to more relaxation-based yoga and meditative practices.

Let us simply see Nidra as a two-fold process involving deep relaxation and leading in some cases to a deep yet conscious sleep.

While the ancient yogis and sages used Yoga Nidra on a spiritual level to purify their Samskara - the scars of their former lives - today there is much more emphasis on the deep relaxation benefits of Yoga Nidra. This distinction or two-fold process is also important in demonstrating how the different brain states work during Nidra.

Looking at the physiological studies of the brain in the last 40 years helps us examine what is actually going on. First let us briefly look at the ranges of brainwave patterns and activity and what each means. Beta activity has a range of 14 to 30 Hz cycles per second. This is the typical level of daily mental activity where we are all awake and alert - although often stressed. Next comes Alpha state - showing a frequency of 8 to 13 Hz. Here we are relaxed and passive. We know that Alpha state is conducive to mental resourcefulness, creativity, problem-solving, efficiency and ultimately relaxation. The Theta state demonstrates 4 to 7 Hz and is often viewed as an unconscious or drowsy state. In this state there may still be images and streams of thought. Finally then we move to the Delta State, which is an unconscious, dreamless or deep sleep state.

Nidra states

Swami Rama, from the Himalayan Institute, in his article 'Yoga Nidra; Yogic Conscious Deep Sleep', draws a more simple distinction between waking, dreaming, deep sleep and consciousness. Or he also explains it in terms of being conscious, unconscious, subconscious and ultimately entering an absolute state of consciousness. A quick comparison of meditation and Nidra by Swami Rama is also helpful in understanding these different states. In meditation one remains in the waking state although peeling the layers of the unconscious and subconscious mind and accessing them. By contrast, in Nidra, the waking state of consciousness is left and one may enter a deep sleep state of consciousness but remaining fully awake somehow. This would be the purist form of Yoga Nidra or reaching the Delta State where one is asleep and awake at the same time. Here, similar to meditation, one may

be able to penetrate the depths of the subconscious mind and ultimately the universal form of consciousness itself. Before that state can be achieved many will reach a form of reverie or dream experience between the waking and deep sleep states where Theta waves may be present.

Research activity

After Yoga Nidra really arrived in the West in the 1970's two main themes have emerged in the results of research carried out on brain activity. Early research and experiments in the 1970's showed Swami Rama entering into a deep sleep or Delta state for about 10 minutes. Electrodes were placed on top of his scalp to measure brainwave activity through electrical impulses, otherwise known as EEG. During this 10 minute period he was able to recall exact details of conversations going on around him therefore showing he was aware of his surroundings. This was to some extent replicated in 2004 in an experiment on Swami Bharati again using EEG data. Here Swami Bharati was able to hold a conversation while in a Delta state.

Other more recent tests have shown results focused much more on the shift from Beta to Alpha state. One of the best studies was carried out in India in 2006 with 40 students over 40 days measuring the effects on the brain of Yoga Nidra. Two tests were carried out. The first involved the EEG tests. The second test known as galvanic skin response measures changes or GSR in the electrical properties of the skin in relation to stress or anxiety. The test results clearly showed the practice of Yoga Nidra increased Alpha dominance and ultimately relaxation. Through the practice what was visible was that Alpha waves replaced Beta activity.

Relax & enjoy

Another study carried out in 2009 on 20 individuals practicing Nidra showed participants displaying Beta activity replaced by Alpha wave activity. Then after a number of sessions Theta waves overtook Alpha waves. What was interesting though was that Delta waves were not recorded.

Ultimately, during the practice of Yoga Nidra whether you are able to reach a true Delta state and remain aware of what is around you does not matter. Just to get to the initial phase of deep relaxation and reach Alpha and Theta activity can be hugely beneficial and enjoyable. ॐ