

YOGA NERVES

The brain and its nerve pathways form an important system of the human being and again Yoga has some unique procedures to help the efficacy of the nervous system. The brain, the spinal cord containing the nerve fibers, the ganglions, the plexuses and the peripheral nerves form this system. We have already seen the benefit the yogic technique of meditation can bring to the brain. It helps to create new neural connections and reduce disturbances. This Raja Yoga technique works within the brain and transforms (parinama) it to a better functioning organ. The Hata Yogis through the Hata Yoga practices such as Pranayama, viparitanasana and some mudras help to maintain good health of the brain. The two postures that really help the brain are, as you can guess, the inversions, Sirsasana and Sarvangasana. Many people, when they start to practice Headstand, find that their faces flush and they feel a rush of blood to the face and the skull. After some regular practice for a short period of time, the body adjusts to the new posture and auto regulates the flow of blood. Even so when one practices this posture for a significant time, the blood circulation in the brain improves considerably, since the blood vessels in the brain do not contract or dilate the way other blood vessels do. This is very refreshing to the brain and normally people get a cleansed feeling. Equally important is that the cerebro-spinal fluid, which is a clear and colorless liquid surrounding the brain and the spinal cord, drains and pools upon the top portion of the brain. It enters the ventricles and small recesses in the brain and helps in the nourishment of the brain cells. The third ventricle conveys a small recess to the posterior portion of the pituitary gland. The pressure of the CSF, while staying in Headstand, helps the gland to secrete more of the hormones into the CSF which again is said to stimulate the sympathetic nervous system. So people who have a weak sympathetic system may benefit from remaining in Headstand for a considerable amount of time. The weak sympathetic is considered to be one of the causes of some ailments like bronchial asthma. Hence this exercise could be useful for those who suffer from such conditions as bronchial asthma, its cousin eczema and distant relative, epilepsy by stimulating the sympathetic.

Sarvangasana is similar to but yet different from Headstand. In this, instead of the crown, the occipital portion of the head is on the floor, and the CSF pools into the midbrain and the back of the brain

including the medulla. These areas are really stimulated by a good stint in Sarvangasana. It is said the Vagas nerve nuclei are stimulated by this exercise. Thus it results in the activation of the para sympathetic. It results in reduction in anxiety and insomnia. My Guru used to say that it helps normalize sexual functions. Thus a judicious mix of Headstand and Shoulder stand would help to bring about a healthy balance between sympathetic and parasympathetic nervous systems.

Yoga is particularly directed towards maintaining the integrity of the spine. The spinal cord is about 45 cm long for men and 43cm for women. The enclosing bony vertebral column protects the relatively shorter spinal cord. In fact, the spinal cord extends down to only the last of the thoracic vertebrae, or the thoracic spine, and then the tail flows down the lumbar region. The spinal cord is inside the neural canal -- almost the diameter of the thumb-- of the backbone. The nerves from the spine emanate on either side through openings called neural foramina and then proceed to the autonomic nervous system and then various organs. The slightest displacement of the vertebrae will result in chronic or acute pain. In Yoga, efforts are made to maintain the spinal column in proper position and mobility. There are fibers of both the central and autonomic nervous system. When there is some pressure on the nerves due to even the slightest displacement of the vertebrae, there is pain which inhibits the various impulses that pass through the brain, spinal cord, the various organs and muscles. This can be compared to 'noise' in the telephone transmission system. In such cases the signals do not properly reach the organs or the brain and spinal cord do not receive the signals properly resulting in the inefficiency of those organs. So Yogis take special care to see that the spinal column is properly exercised, mobile and supple. The exercises are designed to prevent any vertebral pressure on the nerves by maintaining a healthy inter-vertebral space. And then these spinal exercises help to circulate blood and CSF to nourish the spinal nerves. They also suggest strengthening the back muscles so that the spinal column is well supported. Paschimatanasana, as the name implies, will meet the requirement admirably.

The movements for the spine include side bending, forward bending, curving the back, back bending and of course twisting. These may be done in different postures as is usually done in Vinyasakrama. One of the simple sequences that helps achieve this is hasta vinyasas and thoracic exercises in Tadasana, which include all these movements. (See my book "Complete Book of Vinyasa Yoga, Chapter on Tadasana).

This stretching of the spine will be enhanced if one practices the scores of vinyasas in inversion poses like Sarvangasana and sirsasana. The spinal cord is inside the thoracic region of the vertebral column. So when we move the arms and do the various movements the spine at the thoracic region does not stretch as the ribcage moves up and down as one unit. The intervertebral discs in the region of the thoracic spine are much thinner than in the cervical and the lumbar regions. As a result there is generally less movement between the vertebrae of the thoracic spine. The yogis have found a unique way of stretching the thoracic spine. This is achieved by doing all the movements with deep breathing, especially inhalation. When we do deep inhalation, the chest expands side to side, front to back and also up and down which will help stretch the vertical thoracic spine and maintain a good intervertebral space for mobility and freedom for the nerves. Hence the vinyasakrama method of doing asanas with good breathing has this additional advantage. Again a good stint of Pranayama practice especially Nadisodhana (nerve cleansing) with an easy, graceful and secure Jalandharabandha should be very useful for the spinal cord. Pranayamic deep inhalation and the long breath holding (1:4:2) after inhalation (antah kumbhaka) directly benefit the nerves inside the spine.. So when you do deep inhalation, hold the breath and stretch the spine, the breathing itself acts as an internal traction of the thoracic spine.

With best regards
Srivatsa Ramaswami