

A BIT ABOUT INVERSIONS

The Natha Siddhas and other Tantric schools, forebears of the Hatha Yoga tradition, believed that *amrita*, the nectar of immortality, was held within the cranial vault at the seventh chakra, *Sahasrara chakra*. The valued nectar, meting out our days, dropped down through the centre of the body and was consumed in the fire of the torso. Turn yourself upside-down, the reasoning went, and *amrita* would be retained, thus prolonging life and preserving one's prana.

So was born the yogic obsession with inversions.

Until very recently there has been little interest in the West in studying or documenting the effects of yoga on health. Studies are now underway for the benefits of practices such as meditation and pranayama, but there are very few that have been done on inversions. Those that do exist are predominantly Indian and usually too 'statistically underpowered' to draw clear conclusions. We have very few scientific means of determining just what impact regular inversions have on the body.

Known or believed benefits have been built upon expert opinion, small case studies and educated reasoning and we can cite biomechanical principles and measurement indices such as heart rate and blood pressure as well as witnessing the effects on those who practise regularly.

The biggest galvanizing effect that inversions have on the practitioner is the upending of one's relationship to gravity. Gravity has a profound effect on the body. NASA discovered that once in zero gravity, astronauts were subject to severe biomedical problems including a loss of sense of balance, muscle atrophy and loss of bone mass.

Gravity takes its toll on us over time with tissue 'moving South', veins struggling to cope with returning blood to the heart, heart weariness and sluggish lymphatic circulation. It stands to reason that upending this force on our bodies at least temporarily eases the effects of gravity.

We are between 60 – 80% water so we are sensitive to the fluctuations of gravity. All our cells float in a bath of interstitial fluid and we have a vast network of vessels moving fluids through valves, pumps and porous membrane – washing, cleansing and nourishing. Dr David Coulter PhD, anatomy teacher at the University of Minnesota, says that when we invert, tissue fluids of the lower extremities drain very effectively. He states that if you can remain in an inverted position for between 3 – 5 minutes the blood will not only drain quickly to the heart but fluids will flow more efficiently into the veins and lymph channels of the lower extremities, the abdominal and pelvic organs – creating a healthier exchange of nutrients and wastes between cells and capillaries.



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It is said that the practise of inversions positively influences the cardiovascular, lymphatic, nervous and endocrine systems of the body. Muscular movement is needed to keep blood and lymph pumping back to the heart. Inversions allow gravity to do the job for us. Lower lung tissue, which can become congested with blood, can be drained so that greater areas of lung tissue become more useable. It can give the heart a break so that it doesn't need to pump quite so hard. Baroreceptors close to the heart and in the carotid arteries of the neck receive the message that blood is plentiful and instruct the brain to reduce blood pressure and heart rate. Although not established that practising inversions over time can reduce blood pressure, it seems possible that it could do so. Lymph drainage becomes more effective in inversions helping to cleanse the body more efficiently as the lymph can carry the waste matter back to the heart and lungs for processing and elimination. One-way valves in the veins and lymphatic system take a break as inversions effectively allow gravity to open the 'locks' in the fluid network without the need for muscular effort.

Dr B Ramamurthi, an Indian neuroscientist, has shown that the brain is protected from an influx of blood that could overwhelm its delicate structures. However, if one experiences intense pressure in the head or eyes, one should modify the practice. It is possible that inversions also affect the movement of cerebrospinal fluid which flows around the brain and the spinal-chord. Promoting elasticity in the bones of the skull (which DO move and rock creating a rhythm) by practicing headstand may stimulate the cranio-sacral rhythm which induces the cerebrospinal fluid to flow up and down the spine.

The effect of inversions on the endocrine system is the least understood. Shoulderstand is widely recommended for menopausal and perimenopausal women as it is touted that it stimulates the Thyroid and Parathyroid glands in the neck. This has not been clinically proven by there is an argument to say that the general bath of blood to the upper chest *could* increase their efficiency. The pineal and pituitary glands in the brain are up-ended 180° in a full inversion. We know that the pituitary gland is the Master Gland of the endocrine system orchestrating our growth and sex hormones and that the Pineal gland appears to be responsible for our circadian (day/night) rhythms. As yet there have been no studies on how these sensitive and critical glands are affected by inversions.

So it all sounds promising: But a big word of warning: **DO NOT TRY TO PRACTISE CERTAIN INVERSIONS BEFORE YOUR BODY AND STRENGTH ARE READY.** Osteopaths have client lists stuffed with people who persist in trying to practise headstand and shoulderstand before they are ready or without using good technique. There are many modifications and gentler inversions that are accessible to those who are not yet ready for the big ones. Always remember *AHIMSA* and the importance of working within a range that is right for you.