

# Effect of Inverted Yoga postures on Intra Ocular Pressure: Clinical Study

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**Abstract:** A prospective study conducted to evaluate the Effect of inverted Yoga postures on Intra Ocular Pressure. **Materials & Methods:** Intra ocular pressure measured in 34 individuals before and after the "Sarvangasana" an inverted Yoga posture for 3 minutes **Results:** The average raise of 3.53 mm IOP after completion of Sarvangasana for 3 minutes. **Conclusions:** inverted body postural Asanas are Risk factor for glaucoma.

**Keywords:** Intra ocular pressure, Asana, Glaucoma

## 1. Introduction

1622 Richard Bannister, MD in 1622, distinguished glaucoma from cataracts with clinical features of eye pressure.

- 1) Glaucoma, a group of diseases with progressive optic neuropathy with visual field changes leads to irreversible blindness. Glaucoma continues to be a major public health problem.
- 2) It is the second leading cause of blindness worldwide. It is typically asymptomatic until advanced visual field loss occurs. Elevated intraocular pressure (IOP) is a major risk factor.
- 3) Apart from advancing age, family history, African ancestry, myopia, and certain systemic diseases. Ocular hypertension (OHT) is another risk factor for Primary open angle glaucoma.
- 4) Reduction of IOP was shown to reduce the risk of progression of glaucoma. Yoga an ancient Indian procedure for physical, mental, and spiritual disciplines. It has developed into a posture-based physical fitness, stress-relief and relaxation technique.
- 5) Also used as an alternative medicine. Yoga includes many postures and breathing exercises know as Asanas and Pranayama respectively. They are mainly classified into standing, sitting, bending and inverted postures. Pranayama is a breathing exercise. Though the Yoga postures has transitional effects on Blood pressures, but well stabilised by auto regulatory system. Supine position – Restores cerebral artery blood velocity.
- 6) Body postures also have influence on intra ocular pressure. Intraocular pressure increased comparatively squatting position than standing posture.
- 7) Supine posture rises in intraocular pressure to a greater extent in ocular hypertensive eyes.
- 8) The mean values of IOP increased significantly in all eyes during Head down postures.
- 9) Seershasana. enhances IOP with in 5 minutes upto 16 – 32 in non Glaucomatous eyes and 21-37 in Glaucomatous eyes.
- 10) The mean values of IOP increased significantly in all eyes during Head down postures , Valsalva's manoeuvre

also raised intraocular pressure with substantial increase up to 9.5 mm Hg.

## 2. Materials & Methods

This study conducted in The Department of Yoga & Consciousness, a Yoga training school of Andhra University. 34 trained yoga students both males (27 members) and females (7 members) are selected for this study, with in the age of 18 – 56 years. The Sarvangasana whole body is balanced on the shoulders by keeping the lower limbs in a upright position in the air sustaining that position for 3 minutes. Intra ocular pressure recorded in Supine position with Perkin's Tonometer before and after the yoga posture.

### Exclusion criteria:

Glaucoma, Diabetes, Hypertension, Cardiac and Spinal problems are excluded.

## 3. Results

The average pre Asana intra ocular pressure 16.73 mm of Hg, with standard deviation 2.37. The IOP after Sarvangasana 20.04 mm of Hg. with standard deviation 2.41. Post Asana mean IOP according to age below 25 years 18.83 mm of Hg, 25 – 35 years 20.26 mm of Hg, and above 35 years 20.43 mm of Hg. With the "p" value 0.41. The mean raise of IOP among males 20.24 mm of Hg, and in females 19.29 mm of Hg.

## 4. Conclusions

The mean intra ocular pressure raised up to 3.53 mm of Hg after 3 minutes of Sarvangasana. IOP raised proportionately with the age, and more in male gender.

Glaucoma should be excluded before practicing inverted body position yoga postures. The glaucoma progression rate may be rapid as it transient raise in the intra ocular pressure.

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