

# Pranayama Effects Physically and Mentally on Human Body

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**Abstract:** *The motion of the lungs, which controls the heart and the vagus nerve, can be altered by pranayama. There are recommendations for inhalation and exhalation in Pranayama, which are done by the ability to insert a pause between inhalation and exhalation or by dissipating it through retention. As a result, the science of pranayama respiratory is intimately linked with the autonomic nervous system and brings its activities under conscious control through breathing techniques and movements of the diaphragm and lungs. Nasal tissue is erectile and extremely sensitive to airflow. Controlling one's breathing is an evident first step in controlling one's autonomic nervous system. It appears to have desirable outcomes for omental adipocytes, the brain, heart, lungs, liver, and other Functions of the kidneys The vagus nerve provides potential to the left nostril, diaphragm, and stomach. Due to increased vagal activity, verbalization of mantras (i.e., om-manipadme-om) can reduce breathing rate, resulting in longer nitric oxide release when the respiration rate is reduced down to much less than six breaths per minute, according to a clinical study conducted in Italy. It's possible that breathing manipulations of the left nostril have an effect on pituitary function, the hypothalamus, the pineal gland, and the suprachiasmatic nucleus. More study is needed to establish the role of pranayam respiratory activities in the treatment of diseases.*

**Keywords:** Human body, anxiety, stress, pranayama, yoga, breath

## I. INTRODUCTION

The term “pranayama” refers to the practise of controlling one’s breath. Although this interpretation may further appear appropriate in light of the actions involved, it does not bring up the entire meaning of the term. The term pranayama is made up of two roots: ‘prana’ and ‘ayama.’. Prana is the ‘vital energy’ or ‘life force’ of the body. It is the pressure that exists in all things, whether or not they are animate or inanimate. Despite its close resemblance to the air we breathe, it is more subtle than either air or oxygen. As a result, pranayama should no longer be thought of as a form of respiratory exercise targeted at increasing oxygen levels in the lungs.

Pranayama is a breathing technique that affects the flow of prana in the nadis (electrical energy channels) of the pranayama. Koslw, which means “energy body,” is a term used to describe a person’s The term yama ability means ‘control,’ and it refers to a set of rules or regulations of conduct. However, this is no longer the word that is combined with prana to form pranayama; instead, the preferred phrase is ‘ayama,’ which has far-reaching ramifications. Ayama’s description is as follows:

‘extension’ or ‘expansion’ are two different words for the same thing. As a result, the term “pranayama ability” was coined. ‘the increase or extension of the dimension of prana’ The Pranayama techniques provide a mechanism for activating and regulating the existence Force in order to transcend one’s regular boundaries or boundaries and achieve a multiplied state. There are four aspects to pranayama. There are four fundamental parts of breathing that are used in pranayama activities. These are the following:

1. Inhalation, or pooraka
2. Rechaka or exhalation
3. Interior breath retention is also known as antar kumbhaka.
4. Bahir kumbhaka, which is also known as exterior breath retention

The pranayama special practises include a variety of approaches that make use of these four breathing aspects. Another type of pranayama is called kevala kumbhaka, which means “spontaneous breath retention.” This is the most crucial stage of pranayama, and it occurs at the end of the period of excessive meditation. The volatility of prana stops in this stage. The veil that obscures one’s view of existence’s finer details is lifted. At this point, a better imaginative and clairvoyant of truth has been achieved. Kumbhaka, or breath holding, is without a doubt the most important phase of pranayama. However, in order to correctly perform kumbhaka, there must be a progressive improvement in control over the attribute of respiration. As a result, inhalation and exhalation are given special attention in pranayama techniques. In order to improve the lungs and steadiness The concerned and pranic structures in preparation for the kumbhaka workout These preceding practises have an effect on the flow of prana. They come in.

The nadis, purifying, regulating, and activating them, resulting in physical and mental balance. The prana physique According to yogic physiology, the human structure is made up of there are five unique sheaths or bodies that account for the many functions of our bodies. Human existence's elements or dimensions. These five sheaths are known as

1. Annamaya kosha, the meal or physical form
2. The intellectual physique, Manomaya kosha
3. Pranamaya kosha, the bioplasmic or required electrical strength of the body.
4. The psychic or higher mental body, kosha Vijnanamaya.
5. The transcendental or bliss body, Anandamaya kosha.

Although these five sheaths are attributed at the same time to form an important whole, pranayama practises operate with Pranamaya kosha in every second. Pranamaya kosha is composed of the five most important pranas, also known as the pancha, or five, pranas: prana, apana, samana, udana, and vyana.

## **II. TYPES AND BENEFITS OF PRANAYAMA**

**1-Suryebhedi**-Close your left nostril with your ring and little fingers, just like we did without the bandha. Inhale gently, deeply, and silently now. While inhaling, make no noise. Close your right nadi (right nostril) using your right thumb while also closing your left nadi.

**Benefits**-Anxiety, depression, and other mental diseases are being reduced. Surya Bhedi is traditionally said to stimulate the brain. And raise body temperature

Increases the body’s Prana, or vitality, especially when you’re feeling down. Removes blood impurities and heals skin disorders.

**2-ujjayi**-Keep your lips shut. Constrict your throat until your breathing sounds rushed, almost like snoring.

Use your diaphragm to control your breathing.

Make your inhalations and exhalations the same length.

**Benefits**-Improve your ability to concentrate.

Release tension all around the body

Regulates body temperature by warming the core from the inside out.

**3-sheetkari**-Connect the upper and lower dental rows.

Now open your lips and inhale while making the See-See sound. Close your lips after inhaling and exhale through your nose. Rep for at least 8 to 10 times.

**Benefits**-Calms the mind and aids with chaotic control.

Spleen health is maintained. Indigestion is relieved. Cools the body, which is very useful if you have a fever.  
Reduces stress levels. High blood pressure is controlled.  
Treats problems with the mouth, tongue, and teeth. Aids in the treatment of depression.

**4-sheetali**-Sit comfortably in any position. In the Gyan Mudra, place your hands on your knees. Close your eyes and roll your tongue into a tube form. Maximum inhalation through the tongue. Close your mouth and place your tongue inside.

**Benefits**-Excess pitta is balanced. Removes excess heat and cools the body. Activates the digestive fire and aids with digestion. Reduces the amount of acid in the digestive tract. Inflammatory skin problems are relieved. Aids in the reduction of inflammation throughout the body. Supports mental tranquillity by calming and soothing the mind.

**5-Bhastrika**- Take a deep breath in and forcefully exhale through your nostrils without straining. Inhale with the same force as you exhale. Use the diaphragmatic muscles with energy to inhale and exhale frequently, deeply and fully. The movements described above should be slightly overdone.

**Benefits**-It helps to oxygenate the brain. It is beneficial to both the neurological and motor systems. It revitalises both the body and the intellect. Good for depression and anxiety sufferers. It aids in the treatment of fibrosis.

**6-Bhramari**-Close your eyes and sit in a calm, well-ventilated corner. Place your index fingers on the cartilage of your ears. Inhale deeply, then gently press the cartilage with your fingers as you exhale. Continue breathing in and out in this way for about 6-7 times.

**Benefits**-It is the most effective stress reliever. It helps you achieve inner calm, which leads to self-healing. The Bhramari Pranayama helps to relieve hypertension by lowering blood pressure. It is recommended as a nightly routine yoga for better sleep since it relieves cerebral strain. It relaxes the nervous system. The pineal and pituitary glands benefit from Bhramari pranayama since it stimulates them and so supports their healthy functioning.

**7-Murcha**-Close your eyes and sit in a comfortable position with your chin comfortably stressed. Count to five and then inhale deeply through your nose. Raise your head backwards, gently towards your chin and chest. Hold your breath for 5 seconds or as long as you're comfortable doing so.

**Benefits**-Delivers mental peace, stability, and comfort. The joyful state created by swooning is one in which the mind is peaceful and clear. This technique increases the amount of prana in the body by energising the nadis.

**8-Plavni**-Unlike every other pranayama, this one is best done in Savashana, or the asana that looks like a corpse. Place your hands on your sides and lie down on the mat. Try to relax at the peak of your breath without placing any pressure on your heart.

**Benefits**-Open the chest and stretches the lungs allowing the Yogi to float in the water for hours. This method is also thought to promote the elimination of pollutants by improving blood circulation.

**PURAK**-After a short exhale, begin inhaling slowly and rhythmically in one long, uninterrupted breath. When inhalation begins, try to concentrate on the belly region. Keep track of the amount of time you spend inhaling.

**KUMBHAK**-Begin by sitting in a relaxed meditation position. For example, you can do Sukhasana. Begin by doing some simple natural breathing. Internal retention is known as Antara Kumbhaka... Exhale properly through both nostrils after releasing hand and lifting head. Repeat the routine for another 10 to 15 minutes.

**RECHAK**-Inhale deeply and rhythmically for 3 seconds in one long and uninterrupted breath. Keep the air you just inhaled for 6 seconds. For the next 12 seconds, exhale slowly and gently, avoiding abrupt or hurried movements. The goal is to increase the time of exhalation.

### III. IMPORTANCE

There is no penance greater than Pranayama. It blemishes the lack of information and helps the statistics to rise. Pranayama helps in decreasing awesome types of diseases. Moreover, due to the fact pranayama (breathing) is the imperative possible of offering our physique and it's a range of organs with prana (oxygen) it is quintessential for our survival. Another vital cause that pranayama is necessary is that it is due to the reality respiratory is one of the most quintessent methods that we are succesful to get rid of waste merchandise and toxins from our body.

Pranayam is thought to be the most effective penance structure. It's the same as cooking. For example, appropriate food is robotically ingested by the body, and the body examines the food, removing any parts that are no longer required. Similarly, Pranayam concentrates the mind on a certain subject and cleanses the body of impurities.

Pranayama is a technique for making the respiratory organs pass by and rise in a deliberate, rhythmic, and intensive manner. It is made up of a long, subtle waft of inhalation (puraka), expiration (rechaka), and breath retention (kumbhaka). Puraka activates the system, rechaka expels contaminated air and pollutants, and kumbhaka distributes energy throughout the body at some point. The moves represent the lungs and rib cage's horizontal expansion (dairghya), vertical ascension (aroha), and circumferential extension (visalata). This controlled breathing aids the concept's ability to listen and permits the sadhaka to live a long and healthy life."

Pranayama was found to lessen stress levels in healthy young persons. Pranayama, according to specialists, relaxes the nervous system, which improves your stress reaction. The stress-relieving qualities of pranayama may also help with sleep. Students who practised pranayama demonstrated higher levels of mindfulness than those who did not. The same students' emotional management improved as well. This has been connected to pranayama's calming effect, which aids your ability to be more aware. Hypertension occurs when your blood pressure rises to an unhealthy level. It increases the risk of some conditions that can be fatal, such as heart disease and stroke.

### IV. CONCLUSION

Breathing is a computerised approach that we can intervene and consciously modify at any time with our one-of-a-kind hand. Pranayama allows us to control our breathing using our willpower. This is a renewing strategy that appears everyday and banal at first, but quickly becomes huge and has a tremendous influence on the mind and body. Pranayama is a technique or strategy for calming the mind. Pranayama can help you maintain a healthy body and mind. Growing one's prana (vital energy) allows one to enjoy a healthy existence (in today's context) and pave the path for higher levels of renunciation. There are several strict guidelines that must be followed. Which should be accompanied in order to follow Yama and Niyama, for example. Yoga, as a complementary and alternative medicine, is thought to induce neurohormonal mechanisms that reduce stress and anxiety, improve autonomic functions, and hence improve reproductive health. However, there is a specific need for further focused scientific research to clarify the ramifications and processes of such yoga-induced effects on male reproductive physiology. Given the scientific evidence shown thus far, it is reasonable to conclude that yoga can be used to prevent infertility and improve male reproductive health.

### REFERENCES

- [1]. Paul-Labrador M, Polk D, Dwyer JH, Velasquez I, Nidich S, et al. Effects of a randomized controlled trial of transcendental meditation on components of the metabolic syndrome in subjects with coronary heart disease. *Arch Intern Med* 2006; 166:1218-24.
- [2]. Bernardi I, Spadacini G, Bellwon J, Hajric R, Roskamm H, et al. Effect of breathing rate on oxygen saturation and exercise performance in chronic heart failure. *Lancet* 1998;351:1308-11.
- [3]. Bernardi I, Gabutti A, Porta C, Spicuzza I. Slow breathing reduces chemoreflex response to hypoxia and hypercapnia and increases baroreflex sensitivity. *J Hypertens* 2001;19:2221-9.

- [4]. Bernardi I, Wdowczyk-Szulc J, Valenti C, Castoldi S, Passino C, et al. Effects of controlled breathing, mental activity and mental stress with or without verbalization on heart rate variability. *J Am Coll Cardiol* 2000;35:1462-9.
- [5]. Hewitt J. *The yoga of breathing posture and meditation*. London: Random House, 1983.
- [6]. Hymes A. *Respiratory psychophysiology*. Available at: [www.breathing.com/articles/respiratory-psychophysiology](http://www.breathing.com/articles/respiratory-psychophysiology)
- [7]. Singh V, Wisniewski A, Britton J, Tattersfield A. Effect of yoga breathing exercises (pranayama) on airway reactivity in subjects with asthma. *Lancet* 1990;336:1192.
- [8]. Nagarathna R, Nagendra HR. Yoga for bronchial asthma: a controlled study. *BMJ* 1985;291:1077-9.
- [9]. Flüge T, Richter J, Fabel H, Zysno E, Weller E, et al. Long-term effects of breathing exercises and yoga in patients with bronchial asthma. *Pneumologie* 1994;48(7):484-90.
- [10]. Slader CA, Reddel HK, Spencer LM, Belousova EG, Armour CL, et al. Double blind randomised controlled trial of two different breathing techniques in the management of asthma. *Thorax* 2006;61(8):651-6.
- [11]. Cooper S, Osborne J, Newton S, Harrison V, Thompson Coon J, Lewis S, Tattersfield A. Effect of two breathing exercises (Buteyko and prana-yama) in asthma: a randomised controlled trial. *Thorax* 2003;58(8):674-9.
- [12]. Rama S. *Exercise without movements*. Honnesdale, PA: Himalayan Int Inst Yoga Sci Philosophy, 1984.
- [13]. Ram FS, Holloway EA, Jones PW. Breathing re-training for asthma. *Respir Med* 2003;97(5):501-7.
- [14]. Holloway E, Ram FS. Breathing exercises for asthma. *Cochrane Database Syst Rev* 2004;(1): CD001277.
- [15]. Singh S, Singh G, Kartikey K, Singh RB. Effect of pranayama breathing patterns on nasobronchial diseases: The power of breath. In *Handbook of Pulmonary Medicine*, NovaScience Publishers, NY 2009;1-9.
- [16]. Rama S, Ballentine R, Hymes A. *The Science of Breath*. Honnesdale, PA: Himalayan Int Inst Yoga Sci Philosophy, 1984; 25-120.
- [17]. Pella D, De Meester F, Singh RB, Basu TK, Rastogi SS. How to reverse the risk of heart attack, hyper-tension and diabetes? *International College of Nutrition, Moradabad, India* 2008: 112-20.
- [18]. Bernardi R, Sleight P, Bandinelli G, Cencetti S, Fattorini L, et al. Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: comparative study. *BMJ* 2001;323:22-9.
- [19]. Singh RB, Wilkzynska-Kwiatk A, Fedacko J, Pella D, De Meester F. Pranayama breathing pattern: The power of breath. *Int J Disab Human Dev* 2009; 8:141-153.
- [20]. Upadhyay DK, Malhotra V, Sarkar D, Prajapati R. Effect of alternate nostril breathing exercise on cardiorespiratory functions. *Nepal Med Coll J* 2008; 10(1):25-7.
- [21]. Srivastava RD, Jain N, Singhal A. Influence of alternate nostril breathing on cardiorespiratory and autonomic functions in healthy young adults. *Indian J Physiol Pharmacol* 2005;49(4):475-83.
- [22]. Jain N, Srivastava RD, Singhal A. The effects of right and left nostril breathing on cardiorespiratory and autonomic parameters. *Indian J Physiol Pharmacol* 2005;49(4):469-74.
- [23]. Shannahoff-Khalsa DS, Sramek BB, Kennel MB, Jamieson SW. Hemodynamic observations on a yogic breathing technique claimed to help eliminate and prevent heart attacks: a pilot study. *J Altern Complement Med* 2004; 10(5):757-66.
- [24]. Harinath K, Malhotra AS, Pal K, Prasad R, Kumar R, Kain TC, et al. Effects of Hatha yoga and Omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion. *J Altern Complement Med* 2004;10(2):261-8.
- [25]. Sinha B, Ray US, Pathak A, Selvamurthy W. Energy cost and cardiorespiratory changes during the practice of Surya Namaskar. *Indian J Physiol Pharmacol* 2004;48(2):184-90.
- [26]. Stancák A Jr, Kuna M, Srinivasan, Vishnudeva-nanda S, Dostálek, C. Kapalabhati-yogic cleansing exercise. Cardiovascular and respiratory changes. *Homeost Health Dis* 1991;33(3):126-34.

- [27]. Singh S, Malhotra V, Singh KP, Madhu SV, Tandon OP. Role of yoga in modifying certain cardiovascular functions in type 2 diabetic patients. *J Assoc Physicians India* 2004;52:203-6.
- [28]. Raghuraj P, Nagarathna R, Nagendra HR, Telles S. Pranayama increases grip strength without lateral-ized effects. *Indian J Physiol Pharmacol* 1997;41: 129-33.
- [29]. Raghuraj P, Telles S. Immediate effect of specific nostril manipulating yoga breathing practices on autonomic and respiratory variables. *Appl Psycho-physiol Biofeedback* 2008;33:65-75.
- [30]. Ray US, Mukhopadhyaya S, Purkayastha SS, Asnani V, Tomer OS, et al. Effect of yogic exercises on physical and mental health of young fellowship course trainees. *Indian J Physiol Pharmacol* 2001;45:37-53.
- [31]. Telles S, Nagarathna R, Nagendra HR. Breathing through a particular nostril can alter metabolism and autonomic activities. *Indian J Physiol Pharmacol* 1994;38:133-7.
- [32]. Telles S, Raghuraj P, Maharana S, Nagendra HR. Immediate effect of three yoga breathing techniques on performance on a letter-cancellation task. *Percept Mot Skills* 2007;104:1289-96.