

# Effect of Pranayama on Human Body and Mind

## Review Article

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### Abstract

A branch of yoga called *pranayama* is very helpful to people in maintaining good physical and mental health. As *prana* is the definition of life or energy, practicing *asana* entails controlling the flow of *prana* through the body. All aspects of breathing, including inspiration, expiration, and retention, are regulated in part by *pranayama*. One of the yogic practices for healthy people is *pranayama*, which can elicit a variety of physiological reactions for breathing exercises, stress reduction, relaxation, and control of psychophysiological conditions. *Pranayama* controls lung motion, which in turn controls the heart and vagus nerve. As a result, *pranayama* is closely related to the autonomic nervous system and uses breathing patterns and lung and diaphragm movements to bring its functions under conscious control. In disciplines like *yoga* and meditation, *pranayama* refers to the regulation and control of breath, also referred to as the life force. Numerous health advantages have been linked to it, such as enhancements in brain activity, heart function, blood oxygenation, and lung function. Different breathing techniques and habits can have a substantial impact on the autonomic nervous system, which can decrease negative reactions to stressors.

**Keywords:** *Yoga, Pranayama, Mental health, Diseases, Breathing techniques.*

### Introduction

Yoga is a traditional practice that aims to improve an individual's physical, mental, emotional, and spiritual well-being. It is a long-standing custom in India that is spreading throughout Western culture. "Yoga" refers to the superconscious state known as Samadhi, which is the union of our individual consciousness with the Universal Divine Consciousness (1) The Rigveda, the oldest book of the human race, speaks of the wise practicing yogic meditation, and the Yajurveda encourages us to practise yoga to improve our physical and mental well-being as well as our prosperity. Yogic ideas are widely present in the Upanishads. In addition, the Bhagavad-Gita frequently uses terms associated with yoga, such as pranayama and samadhi. The ancient Indian rishis realised that in order to perform Raja-yoga, which is a concentration technique used to free the soul or *atma* from the bonds of maya and transform it into *paramatma*, one must always have a healthy body. This is why they said, "*Sharirmadyam, khalu dharma sadhanam.*" Thus, they created "Hatha yoga," which consists of various asanas, mudras, and pranayama. According to "*Gharanda samhita,*" out of 84 lakh asanas, 16,000 are considered the best, and only roughly 300 are widely practiced(2). Once more, "*Hathayoga-*

*pradipika*" divides all asanas into four fundamental classes: padmasana, sinhasana, vadasana, and sidhyasana(3). Additionally, there are two types of asanas: *shasthyasana* (to achieve a healthy body) and *dhyanasana* (a posture that shifts the centre of gravity to the ribs and maintains the spinal cord free)(1).

The Sanskrit word "pranayama" is created by combining the terms "prana," which means life breath or vital energy, and "ayama," which means expansion, regulation, or control(4) It is the yogic art of breathing, which consists of purposeful adjustments to the breathing mechanism, usually performed in a seated position. These adjustments include rapid diaphragmatic breathing, slow/deep breathing, alternate nostril breathing, and breath holding/retention(5) Pranayama incorporates four key breathing techniques: *Antah kumbhaka* (retention of the internal breath), *Bahir kumbhaka* (retention of the external breath), and *Pūra* (inhalation) and *Recaka* (exhalation). The most authoritative book on yoga in India, the Yoga-Sutra of Patanjali, states that pranayama is the fourth limb of the eight-fold holistic process that is defined as yoga(6).

### Method & Methodology

#### Types of Pranayama

1. *Nadi shodhanam*- Three equal-length cycles of breathing out through the left nostril and breathing in through the right, followed by three cycles of breathing out through the right nostril and breathing in through the left.

**Benefits** - gives the body an oxygen boost, removes and discards toxins, lowers anxiety and tension, revitalises and soothes the nervous system, aids in hormone

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balance, promotes balanced and unobstructed breathing channels, reduces the irritation of the respiratory system.

**2. Kapalbhati** - forceful and vigorous breathing out through the diaphragm and abdominal muscles. After that, the abdominal muscles relax, causing the breath to enter slowly and passively.

**Benefits** - It elevates heart rate and contributes to better oxygen and blood circulation. It improves lung capacity and strength while unclogging the nasal passages.

**3. Bhastrika** - It means bellows, as in the bellowing action of the abdominal muscles. Here, there is a strong and forceful inhalation and exhalation. Hyperventilation is a potential complication, and the effects are comparable to kapalbhati.

**Benefits** - It facilitates the brain's oxygenation, it is advantageous to the motor and neurological systems alike, it revitalises the mind and body in equal measure, Beneficial for people with anxiety and depression, it helps with fibrosis treatment.

**4. Ujjayi** - It denotes mastery over triumph, resulting from an expansion process that improves lung ventilation. The glottis partially closes during slow, deep inhalation and exhalation. It eliminates expectoration, relaxes the parasympathetic nervous system, and infuses wellness throughout the body.

**Benefits** - warms the body's centre from the inside out to control body temperature. Make your concentration better. Let go of all the tension in your body.

**5. Bhramari** - It denotes the presence of a large bee and the sound produced by a bee exhaling. Take a deep breath in through both nostrils and release the air with a humming sound.

**Benefits**- The best stress reliever is Bhramari Pranayama, which lowers blood pressure and relieves hypertension. It is suggested as a regular yoga practice at night to improve sleep because it eases cerebral strain, relaxes the nervous system, and stimulates the pineal and pituitary glands, supporting their healthy functioning. Finally, it helps you achieve inner calm, which facilitates self-healing.

**6. Sitali** - The tongue becomes like a tube when it is fully curled lengthwise. The tongue's tip stuck out from the lips. The act of inhaling produces a hissing sound. Fully exhale through both nostrils.

**Benefits**- Pitta excess is balanced. reduces heat build-up and helps the body cool. helps with digestion by igniting the digestive fire. lessens the digestive tract's acid production. Skin inflammation is alleviated. helps to lessen inflammation all over the body. helps to maintain mental peace by relaxing and easing the mind.

**7. Sitkari** - The lips split and clench as the tongue rolls back towards the soft palate. Now take a deep breath through your teeth, letting out a hissing sound. Completely exhale through both nostrils.

**Benefits**- helps bring chaos under control and calms the mind.

**8. Suryabhedana** - The right nostril is used to breathe in, hold the breath, and then release it.

**Benefits** - There is a decrease in anxiety, depression, and other mental illnesses. It is conventional wisdom that Surya Bhedi stimulates the brain. and increase core body temperature boosts the body's vitality, or prana, particularly during times of depression. purges blood impurities and restores skin health illnesses.

**9. Murcchna**- Full inhalation through both nostrils is followed by a slow exhale that creates chin lock.

**Benefits**- provides comfort, stability, and mental serenity. The happy state that swooning produces is one in which the mind is calm and clear. By stimulating the nadis, this method raises the body's prana levels.

**10. Plavini** - Air first fills the stomach to capacity, and at the same time, air fills the lungs to capacity as well. After holding the breath, it is eventually released. It is a pranayama advanced mode.

**Benefits** - The Yogi can float in the water for hours by opening their chest and expanding their lungs. This technique is also believed to facilitate the removal of pollutants by enhancing blood circulation(7).

**11. Purak** - Breathe in slowly and rhythmically for a single, uninterrupted breath after a brief exhale. When you start breathing in, try to focus on your abdomen. Note the length of time you spend taking breaths(6).

**12. Kumbhak** - Sit in a comfortable position for meditation to start. One possible exercise would be Sukhasana. Start with some basic, natural breathing exercises. Antara *Kumbhaka* is the term for internal retention. Release your hand and raise your head, then take a proper breath out through both nostrils. For a further ten to fifteen minutes, repeat the exercise(6).

**13. Rechak** - Breathe in deeply and rhythmically for three seconds at a time, without stopping. Take six seconds to hold your breath. Breathe out slowly and gently for the next 12 seconds, taking care not to move quickly or forcefully. Exhaling for longer periods of time is the aim(6).

## Results

### Advantages of Pranayama

- **Increase quality of life** - One of the most common reasons people seek treatment with complementary therapies like yoga is for mental health issues like depression, anxiety, stress, and insomnia(8).
- **Enhances the quality lung capacity** - Lung function can be improved by pranayama practice. This includes strengthening your respiratory muscles and enabling you to hold your breath for longer. Pranayama can be beneficial for various lung conditions. It might strengthen asthmatic lungs and speed up the healing process from pneumonia(8).

- **Calmness of mind** - Similar to yoga styles that are more widely accepted, pranayama helps improve mindfulness. Its breath-focused, mindfulness-based meditation technique can help you become more adept at living in the present(9).
- **Disorders pertaining to the mind and body**- Psychosomatic disorders are mental and physical illnesses. Psoriasis, ulcers, and migraine headaches are a few psychosomatic illnesses. Pranayama may assist in managing these by tying the mind and body together through the breath(9).
- **Enhances the quality of sleep** - Pranayama's calming properties may also aid in your ability to fall asleep.

## Discussion

The purpose of pranayama is to raise and lower the respiratory organs in a focused, rhythmic, and deliberate manner. It consists of a long, delicate waft of breath holding (*kumbhaka*), expiration (*rechaka*), and inhalation (*puraka*). The system is activated by Puraka, contaminated air and pollutants are expelled by *Rechaka*, and *kumbhaka* distributes energy at some point throughout the body. The movements stand for the circumferential extension (*visalata*), vertical ascent (*aroha*), and horizontal expansion (*dairghya*) of the lungs and rib cage. The concept can listen better and live a longer, healthier life thanks to this controlled breathing. It has been observed that pranayama reduces stress in young, healthy people. Experts claim that pranayama enhances your stress response by calming your nervous system. Pranayama's ability to reduce stress may also aid in sleep. Practitioners of pranayama showed greater states of mindfulness than non-practitioners. Additionally, the emotional control of the same students improved. This has been linked to the calming effects of pranayama, which help you become more aware. When your blood pressure reaches an unhealthful level, you have hypertension. It raises the possibility of developing certain potentially fatal illnesses like heart disease and stroke. Pranayama is considered the most efficient penance system. It is analogous to cooking. For instance, the body automatically consumes the right food, inspects it, and discards any components that are no longer needed. In a similar vein, pranayama purges impurities from the body while focusing the mind on a particular subject. Pranayama is the greatest penance there is. It tarnishes the ignorance and propels the numbers upward. Pranayama contributes to the reduction of amazing diseases. Furthermore, because breathing, or pranayama, is the most essential thing we can do for our body and because it supplies all of our organs with prana, or oxygen, it is vital to our enduring. The fact that breathing is one of the most effective ways for us to successfully eliminate waste products and toxins from our bodies is another important reason why pranayama is essential(10).

## Contraindications

Additionally, those who have recently undergone abdominal surgery, high blood pressure, heart disease, hernia, gastric ulcer, epilepsy, vertigo, severe nosebleeds, detached retina, glaucoma, or are at risk of stroke should not use it.

## Conclusion

This calming breathing exercise, also referred to as alternate nostril breathing, balances the left and right hemispheres of the brain. Additionally, it facilitates the body's blocked energy channels to release tension and exhaustion. It brings us to a state of deep balance and balances all internal opposing forces.

## Acknowledgement

The authors kindly acknowledge Banaras Hindu University for providing valuable support and facilities.

## Conflict of interest

The authors have declared that no competing interests exist.

## References

1. Sengupta P. Health Impacts of Yoga and Pranayama: A State-of-the-Art Review. *Int J Prev Med.* 2012;3(7):444.
2. Basu A. (PDF) The Ancient Indian Texts and the Importance of Yoga in Incorporating Spiritualism. 2024;(May).
3. Dhakne RR. International Journal of Arts & Education Research Scientific basis of Yoga and Pranayama. 2020;(5):60–71.
4. Nivethitha L, Mooventhan A, Manjunath N. Effects of Various Prāṇāyāma on Cardiovascular and Autonomic Variables. *Anc Sci Life.* 2016;36(2):72.
5. Jayawardena R, Ranasinghe P, Ranawaka H, Gamage N, Dissanayake D, Misra A. Exploring the therapeutic benefits of Pranayama (yogic breathing): A systematic review. *Int J Yoga.* 2020;13(2):99.
6. B.K.S. Iyengar. *Light on Yoga: The Classic Guide to Yoga by the World's Foremost Authority.* 2006;544.
7. Shyam Karthik P, Chandrasekhar M, Ambareesha K, Nikhil C. Effect of pranayama and suryanamaskar on pulmonary functions in medical students. *J Clin Diagnostic Res.* 2014;8(12):BC04–6.
8. Woodyard C. Exploring the therapeutic effects of yoga and its ability to increase quality of life. *Int J Yoga.* 2011;4(2):49.
9. Torre G La, Ra A, Peruzzo M, Calabrese L, Cocchiara RA, Egidio VD, et al. Yoga and Mindfulness as a Tool for Influencing A ff ectivity , Anxiety , Mental Health , and Stress among Healthcare Workers : Results of a Single-Arm Clinical Trial. :1–13.
10. Thapliyal A, Sharma A. Pranayama Effects Physically and Mentally on Human Body. 2022;2(8):21–6.