

# Role of Pranayama on Physical and Mental Health

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**Abstract:** *Yoga is a Way of life and enables us to have multi dimensional approach to life. 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. 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. Pranayama, a vital branch of yoga, involves the conscious regulation of breathing to control the flow of prana, or life energy. It influences the autonomic nervous system through controlled lung and diaphragmatic movements, supporting stress reduction, relaxation, and overall physical and mental health. Regular practice has been linked to improved brain function, cardiovascular health, oxygenation, and respiratory efficiency.*

**Keywords:** Yoga, Pranayama, Physical Health, Mental Health, Breathing Techniques

## 1. Introduction

Yoga is a traditional practice that aims to improve an individual's physical, mental, emotional and spiritual well-being. The human body is not the aim of yoga but is considered means of going beyond physical form of body. Unbalanced state of cause and affect result in ill health. Equilibrium of two is the basic aim of Yoga. A healthy body, therefore may be called as the foundation of Yoga.

Yoga is both an art and science. It can alone save the modern man from personal determination and circumstantial frustration. In other words the practice of 'Yoga' postulates keeping the body healthy and the mind calm and peaceful. Health is our birth-right, and to remain healthy, it is not necessary to depend upon any health centre, physician or medication. It is entirely in our hands to keep healthy. However, in the present-day conditions keeping good health is becoming more and more difficult, and diseases are proliferating. Certain yogic principles have to be observed for maintaining sound health. If we follow these principles and regularly practice yoga, yogasanas and pranayama it would not be a problem to enjoy full strength and vigour.

Our Rishis and munis have mentioned eight-fold process, Ashtang yoga to attain the purification of body, mind and soul as well as to achieve union with the Supreme Being. This includes Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi. The Sanskrit word "Pranayama" is created by combination the terms. "Prana" which means life breath or vital energy. and "ayama" which means expansion, regulation or control.

It is the yogic art of breathing which consists of purposeful adjustments to the breathing mechanism, usually performed in a seated position. These adjustment include rapid diaphragmatic breathing slow/deep breathing, alternate nostril breathing and breath holding /retention.

Pranayama incorporate four key breathing techniques: Antah kumbhaka (retention of the internal breath), Bahir

kumbhaka (retention of external breath) and Puraka (inhalation) and Recaka (exhalation).

## 2. Method and Methodology

### Types of Pranayama

#### 1) *Nadi shodhana Pranayama* or alternate nostril breathing:

##### Procedure:

Sit in any comfortable posture. *Padmasana, Siddhasana* or *Sukhasana*. Make your breathing normal. Close your right nostril with your right thumb and fill the breath through the left nostril. When the breath has been filled inside. Close the left nostril with your third finger. Then lift the thumb from the right nostril and exhale slowly keeping the left nostril closed. Repeat the process by inhaling through the left nostril and exhaling through the right nostril. This will complete one full round of *Nadi Shodhana Pranayama*.

##### Benefits:

- Calms the Mind -reduces stress, anxiety, and mental chatter, promoting mental clarity.
- Balance Nervous System
- Reduces Blood Pressure
- Respiratory Health-Strengthens the respiratory system and purifies energy channels.
- Increases the amount of oxygen within the body.

#### 2) *Kapalbhati*

- Sit comfortably in *Padmasana* or *Siddhasana* and normalise your breath.
- Try to throw your breath out through your nose with force.
- First do it slowly and then increase your speed as per your own capacity.
- Do it for 15 to 20 min.
- After doing the Pranayama, perform the three Bandhas the *Moola Bandha*. The *Jalandhar Bandha* and *Uddiyan Bandha*.

**Benefits****Physical Health Benefits:**

- **Detoxifies & Cleanses:** Flushes toxins, cleanses sinuses, purifies blood, and clears respiratory passages. **Boosts Metabolism & Digestion,** Enhances Respiratory System: Strengthens lungs, increases lung capacity, and improves oxygenation. **Improves Circulation:** Better blood flow delivers more oxygen and nutrients, **Strengthens Core:** Tones abdominal muscles. **Supports Other Systems:** May help manage diabetes, balance hormones, and support thyroid/lymphatic function.

**Mental & Emotional Benefits:**

- **Reduces Stress:** Calms the mind, reduces anxiety, and promotes relaxation. **Increases Clarity** **Glowing Skin:** Improved circulation and detoxification lead to clearer, more radiant skin. **Reduces Aging Signs:** Rejuvenates facial cells, potentially slowing aging.

**Precautions:**

- Avoid if you have high blood pressure, heart disease, hernia, or a slipped disc.
- Pregnant women and those menstruating should avoid it.

**3) Bhastrika Pranayama**

*Bhastrika* is an important *Pranayama*. A large amount of *Prana Vayu* is supplied to the body by this *Pranayama* and at the same time impure air (carbon dioxide) is driven off the body and blood is purified. *Bhastrika* means bellows. Its working is similar to that of the bellows of the blacksmith. Hence the name. *Ida, Pingala and Sushumna*, all the three *Nadis* are influenced by it.

**Caution:** Those suffering from high or low blood pressure the ailments of the heart and the lungs should not do Healthy persons should generally do it.

**Technique:** Sit in *Padmasana* and make the body erect. right nostril with your right thumb, inhale and exhale with take the mind thought-free and relaxed. Now close the foll force. First do this slowly, then increase your speed and do it quickly for about 20 times. In the end, inhale ub close the left nostril with your third finger, and according to your capacity. Now open the *Bandhas* slowly. perform all the three *Bandhas*. Increase the *Kumbhaka* ift the thumb from the right nostril and exhale through it slowly Relax for a moment.Repeat this process by closing the left nostril.

Now place your hands on your knees and do *Bhastrika* with both nostrils simultaneously. Do it slowly; increase your speed with practice.

**Benefits**

Its benefits include reducing stress, enhancing focus, detoxifying the body, balancing doshas (*Vata, Pitta, Kapha*), improving oxygenation for brain health, and potentially alleviating anxiety and depression by calming the nervous system.

**Physical Benefits:**

- **Respiratory Health:** Clears lungs, strengthens respiratory muscles, and helps with sinus/bronchitis issues.
- **Detoxification:** Expels toxins and impurities through deep respiration.
- **Circulation:** May improve blood flow and clear arteries.
- **Energy Boost:** A natural energizer that vitalizes the body and mind.
- **Dosha Balance:** Harmonizes Vata, Pitta, and Kapha, promoting overall health.

**Mental and Emotional Benefits:**

- **Stress Reduction:** Balances the nervous system, reducing stress and promoting relaxation.
- **Mental Clarity:** Sharpens focus, increases alertness, and improves perception.
- **Mood Enhancement:** Helps relieve depression and anxiety by promoting positive effects.
- **Enhanced Oxygenation:** The rapid, forceful breaths increase oxygen intake and carbon dioxide expulsion, revitalizing cells.

**Nervous System Regulation, Brain Health.****Important Consideration:**

Practice on an empty stomach, Avoid if pregnant or with certain conditions (detached retina, fever), Supervised practice is recommended for hypertension, panic disorders, or chronic respiratory issues. Start slowly and listen to your body; stop if dizzy.

**4) Ujjayi Pranayama:**

- Ujjayi Pranayama* involves sitting comfortably in *Jnan Mudra* with a straight spine and gently constricting the back of the throat (glottis) to create a soft, ocean-like, hissing sound on both inhale and exhale through the nose, focusing on a smooth, continuous breath that warms the body and calms the mind.
- Start with a deep inhale through the nose, feeling the air in your throat, then exhale slowly, maintaining that slight constriction and sound, often described as "Darth Vader" or "ocean breath," keeping facial muscles relaxed.

**Benefits:****Mental & Emotional Benefits**

- **Reduces Stress & Anxiety:** Activates the relaxation response, calming the nervous system and releasing frustrations.
- **Enhances Focus:** Promotes mental clarity and concentration, aiding meditation.
- **Improves Sleep:** Relieves insomnia and promotes restful sleep.
- **Balances Energy:** Can either calm or energize, depending on practice, and balances hemispheres of the brain.

**Physical Benefits:**

- **Cardiovascular:** Lowers blood pressure and heart rate, potentially reducing heart disease risk.
- **Respiratory:** Clears phlegm, helps with colds, coughs, asthma, and opens sinuses.

- **Thyroid:** Stimulates and balances the thyroid gland, helping with related issues like hypothyroidism.
- **Digestion:** Aids with indigestion and liver problems.
- **Immunity:** Boosts the immune system.

### 5) Sheetali Pranayama:

This Pranayama has a cooling effect on the body and Mind. It is very effective in relieving the heat of summer days. It is also good in ailments like high blood pressure and the diseases of the skin. It help to purify blood. It relieves the feeling of thirst and is specially useful for hot tempered people.

#### Technique:

- Sit in a relaxed manner in the state of Jnan Mudra.
- Bring your tongue out, turns its edges and give it the shape of a drain.
- Do Rechaka and then inhale deeply with effort through the tongue drain
- Do Antrik kumbhaka and perform all the three Bandhas.
- First open the Uddiyan Bandha, the Jalandhar Bandha and After that Mool Bandha, and exhale through the nose slowly. In this way, do it for eight to ten times. Concentrating on the Vishuddhi Chakra.

#### Benefits:

##### Physical Health Benefits:

- **Cools the Body:** Reduces internal body heat, great for summer or fever.
- **Aids Digestion:** Soothes acidity, heartburn, and indigestion.
- **Regulates Blood Pressure:** Helps lower high blood pressure.
- **Controls Hunger & Thirst:** Alleviates excessive thirst and hunger.
- **Purifies Blood:** Cleanses the blood, says Kaivalyadhama.
- **Reduces Inflammation:** Calms inflammation, including skin issues.

##### Mental and Emotional Benefits:

- **Calms the Mind:** Induces tranquility, clarity, and focus.
- **Reduces Stress & Anxiety:** Activates the relaxation response, easing tension.
- **Balances Emotions:** Helps release anger, irritability, and frustration.
- **Improves Focus:** Clears mental fog, promoting alertness

### 6) Seetakari Pranayama:

Its effect are similar to those of the Sheetal Pranayama. It relieves heat and has a cooling effect on the body and the Mind.

#### Technique:

- Sit in Padmasana or Siddhasana.
- Fix with force the front part of your tongue at the roots of your teeth and touch the palate with its tip.
- Now lock your teeth and jaws fixing firmly one upon the other and inhale through the sides of the mouth, producing a sizzling sound. De Antrik Kumbhaka and use all the three Bandhas, as in Sheetal Pranayama.
- Increase the duration of the Antrik Kumbhoks gradually. Do it right to ten times.

#### Benefits

- **Cools Body & Mind:** Reduces internal heat, great for fevers, inflammation, and hot flashes, notes this and this.
- **Lowers Blood Pressure:** Helps calm the nervous system, reducing hypertension, state these and these.
- **Improves Digestion:** Pacifies Pitta (heat/acidity), soothes digestion, and balances stomach function, say these and these.
- **Oral & Skin Health:** Strengthens gums and teeth, reduces bad breath, and provides a natural glow to the skin.
- **Reduces Hunger & Thirst:** Creates a feeling of satisfaction, helping to manage appetite, say these and these.

#### Mental and Emotional Benefits

- **Calms Nervous System:** Activates the parasympathetic system, reducing stress, anxiety, anger, and irritability, according to this and this.
- **Improves Focus:** Enhances concentration and mental clarity, beneficial for meditation, say these and these.
- **Fights Insomnia:** Promotes relaxation and mental tranquility, helping with sleep issues, note this and this.

### 7) Surya Bhedan Pranayama:

This is a Pranayama as well as a technique of arousing the kundalini Shakti.

#### Technique:

- Sit in Padmasana.
- Place the first two fingers of your right hand on the middle of the eyebrow and close the left nostril with the third finger.
- Inhale deeply and quickly through your right nostril. Now close the right nostril also with your thumb and do Antrik kumbhaka.
- Perform all the three Bandhas also. Open the Bandhas one by one first Uddiyan Bandha then Jalandhar and lastly Mool Bandhas.
- Now throw the breath out slowly during this Pranyama.
- Do it Five times Try to increase the duration of the *Antrik Kumbhaka*. This *Pranayama* should be *Manipooraka Chakra*. i.e. *Nabhi Chakra*.

#### Benefits:

Improve Digestion, Increase energy and Warmth, Clears Respiratory Issues. Enhances Mental Capacity.

### 8) Murcchna:

Full inhalation through both nostril is followed by a slow exhale that create chin lock.

#### Benefits

Deep Relaxation, Stress relief, and Mental clarity by calming the Nervous system.

### 9) Plavini Pranayama:

Is an advanced yogic breathing technique where you swallow air to fill your stomach.

#### Benefits

Cleanses digestive system, helps with constipation, Activates Manipura Chakra, Increase life force.

**Precautions:**

This is advanced technique and should not be attempted without guidance from an expert yoga master.

**3. Results****Advantages of Pranayama:**

- 1) Increase quality of life
- 2) Enhances the quality lung capacity-Lung function can be improved by Pranayama Practice.
- 3) Calmness of mind-Pranayama helps improve mindfulness.
- 4) Enhances the quality of Sleep.

**4. Discussion**

The present study highlights the beneficial effects of pranayama on the human body and mental health. Regular practice of pranayama was found to improve respiratory efficiency, cardiovascular regulation, and overall physical relaxation. These physiological changes contribute to better oxygen supply and enhanced bodily functions.

In addition to physical benefits, pranayama showed a significant positive impact on mental health by reducing stress, anxiety, and emotional disturbances. Controlled breathing helps balance the autonomic nervous system, promoting mental calmness and improved concentration. These findings support earlier research suggesting that pranayama is an effective mind-body intervention.

It is not necessary to practise all types of Pranayama described above everyday. It is very important that *Pranayama* should be done under the guidance of an expert in this field, because a wrong step can mean more harm than good.

Excessive practice beyond one's capacity can also be very harmful. The golden rule is to do it according to your capacity. Also, choose the right *Pranayama* suitable for you and increase your practice very gradually. Generally, the practice of *Nadi Shodhana* and *Ujjayee* for 10-15 minutes daily is sufficient for a normal man. *Kapalbhati*, *Bhastrika* and *Sheetali* are usually done according to the season.

**5. Conclusion**

Overall, pranayama appears to be a holistic practice that positively influences both physical health and mental well-being when practiced regularly.

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