



## MANAGEMENT OF BRONCHIAL ASTHMA BY YOGA

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### ABSTRACT

*“Asthma is a clinical syndrome characterized by increased responsiveness of the tracheobronchial tree to a variety of stimuli”.*

Asthma is one of the most common chronic diseases globally and currently affects approximately 300 million people. The prevalence of

asthma has risen in affluent countries over the last 30 years but now appears to have stabilized, with approximately 10-12% of adults and 15% of children.<sup>[1]</sup> There are many etiological factors for Asthma. Host factors include the genetic predisposition to the development of Asthma or allergic sensitization or Atopy or Airway hyper responsiveness to allergens. Pharmacologic management of Asthma are effective but with duration patient gradually becomes resistant for it. Yoga works on all aspects of the person: the physical, mental, vital, emotional, psychic and spiritual. It aims at bringing the different bodily functions into perfect coordination so that they work for the good of the whole body. If performed in right way with its remarkable effect has no side effects.

**KEYWORDS:** Bronchial Asthma, side effects, yoga, wholistic approach.

### INTRODUCTION

Asthma existed since ancient Egyptian times, and there is some evidence that asthma has been around even before that. The term ‘Asthma’ was described by Greek physicians. It is derived from greek word “aazein” which means sharp breath or to exhale with open mouth. The literary meaning of asthma is painting that is gasping for breathing. Defining bronchial asthma is difficult, because it is a multifactorial disease and a number of parameters can be used to make the diagnosis. The American Thoracic Society (1987) has also provided a definition - *“Asthma is a clinical syndrome characterized by increased responsiveness of the tracheobronchial tree to a variety of stimuli”.*<sup>[2]</sup>

Asthma is one of the most common chronic diseases globally and currently affects approximately 300 million people. The prevalence of asthma has risen in affluent countries over the last 30 years but now appears to have stabilized, with approximately 10-12% of adults and 15% of children.<sup>[3]</sup> As of 1998, there was a great disparity in the prevalence of asthma across the world, with a trend toward more developed and westernized countries having higher rates of asthma, with as high as a 20 to 60-fold difference. In 2009 there were 250,000 deaths per year due to asthma all over world. The WHO reports that some 10% of the Swiss population suffers from asthma today, compared with just 2%, 30 years ago.<sup>[4]</sup> Currently asthma is reported as 1.2 to 6.3% in adults in most countries. Asthma (*i.e.* asthma ever diagnosed by a clinician) in adults is generally reported as 2.7 to 4.0% in most European countries, 12.0% in England and 7.1% in the US and 10% in Australia.<sup>[5]</sup>

There are many etiological factors for Asthma. Host factors include the genetic predisposition to the development of Asthma or allergic sensitization or Atopy or Airway hyper responsiveness to allergens. Indoor Allergens include-House dust, animal dander, moulds, domestic mites and in outdoor Pollens. Other factors are drugs and diets environmental factors, smoking, outdoor pollution, socioeconomic status family history. Many of the factors are unavoidable, hence every asthmatic patient requires management Pharmacologic management of Asthma include Bronchodilators (Methylxanthins, Beta adrenergic agonists, Anti cholinergics), Anti-inflammatory agents (Corticosteroids, Cromolyn sodium or cromolyn like compounds) and antihistamines. These are effective but with duration patient gradually becomes resistant for it. Also they have many side effects which further add to patient agony. So we have to find an alternative way to combat this noxious disease. Here Yoga gives the answer. Yoga works on all aspects of the person: the physical, mental, vital, emotional, psychic and spiritual. It aims at bringing the different bodily functions into perfect coordination so that they work for the good of the whole body. If performed in right way with its remarkable effect has no side effects.

There are different set of Asanas and Pranayama for every disease and patient. Keeping in view the contraindications following yogic practices are beneficial for asthmatic patients.

- A. Preparatory procedure –Joint movement exercise
- B. Asanas- Padahasthasana, Trikonasana, Vajrasana, Pawanmuktasana, Bhujangasana, Shavasana
- C. Pranayama-Anuloma – Viloma, Bhramari

D. Kapalabhati

E. Dhyana- Omkar Dhyana

### A. PREPARATORY PROCEDURE<sup>[6]</sup>

The patients have to start with joint movement exercises, to loosen the joints, before starting Yoga. The toes of right foot should be moved slowly backward and forward for 5 times. Same procedure should be repeated with left foot also. The right ankle joint and Knee joint should be rotated in clockwise direction for 5 times and then anticlockwise direction for 5 times. Same procedure should be repeated with left joints and then with wrist joints, elbow joints and shoulder joints. The fingers of both hands should be loosened by clenching and releasing the fist for 5 times. The neck should be rotated in clockwise and anticlockwise direction for 5 times each.

### B. ASANAS

**1. Padhastasana**-Bend forward from hips until the fingers or palms of the hands touch the floor on either side of the feet. Bring the forehead as close to the knees as is comfortable, but do not strain. Keep the knees straight. Stay in this position for some time, then come to initial position. This asana improves blood circulation to head and face, tones the spinal nerves and makes the back supple<sup>[7]</sup> also it can be done as pre-pranayama practice as it opens up all the alveoli and helps drainage of stagnant mucous.

**2. Trikonasana**-Stand erect with the feet more than shoulders width apart and raise the arms sideways to the shoulder level. Bend to the right, taking care not to bring the body forward. Simultaneously bend the right knee slightly. Place the right hand on the right foot, keeping the two arms in line with each other. Turn the left palm forward. Look up at the left hand in the final position. Return to the upright position with the arms in a straight line. Repeat on the other side, bending the left knees slightly. It stimulates the nervous system and alleviates nervous depression. It reduces waist line adipose tissue. The chest expands during the practice leading to strengthening of lungs.

**3. Vajrasana**-Kneel on the floor with the knees close together. Bring the big toes together and separate the heels. Lower the buttocks onto the inside surface of the feet with the heels touching the sides of the hips. Place the hands on the knees and palms down. The back and head should be straight but not tense. Close the eyes, relax the arms and the whole body. It can be done for few minutes daily until strain is not experienced. The period can be gradually

increased. It increases the efficacy of the entire digestive system, relieving stomach ailments such as hyperacidity which in turn will be beneficial for asthmatics as Gastro-oesophageal reflux is also one of the causative factors of asthma.

**4. Pawanmuktasana-**Lie down flat in the supine position. Lift one leg from the hip without bending the knees upto  $90^{\circ}$ . Then flex the knee and bring it close to the chest and fix it with the help of arms. Keep the ankle dorsiflexed and breathe normally. Release the arms, extend the knees and straighten the leg. Slowly come back to the supine position. Repeat the same with the other leg and then with both the legs.

**5. Bhujangasana-** Lie flat on the stomach with the legs straight, feet together and the soles of the feet uppermost. Place the palms of the hands flat on the floor, below and slightly to the side of the shoulders, with the fingers together and pointing forwards. Rest the forehead on the floor and close the eyes. Relax the whole body, especially the lower back. Slowly raise the head. Gently tilt the head backward, so that chin points forward and the back of the neck is compressed, then raise the neck and then shoulders. Straighten the elbows, using the back muscles first, then the arms muscle to raise the trunk further and arch the back. In the final position, the pubic bone remains in contact with the floor and the navel is raised to a maximum of 3cm. Hold in the final position. To return to starting position, slowly release the upper back by bending the arms, lower the navel, chest, shoulders and finally the forehead to the floor. Pawanamuktasana and Bhujangaasana improve and deepens the breathing. It stimulates appetite, benefits in constipation and is also beneficial for all abdominal organs. There is movement of chest along with synchronized breathing thus help in strengthening of lungs.

**6. Shavasana-**Lie flat on the back with the arms about 15cm away from the body, palms facing upward. Let the fingers curl up slightly. Move the feet slightly apart to a comfortable position and close the eyes. The head and spine should be in a straight line. First concentrate on respiration. Relax the body starting from the tip of the toe, progressively relaxing the feet, ankle, calf, knees, thighs, hips, abdomen, chest, back, neck, face up to the head and stop all physical movements. Become aware of the natural breath and allow it to become rhythmic and relaxed. Along with relaxation the subject must concentrate as himself relaxing of the disease. By concentrating mind on each breath deepens the respiration and normalizes the respiratory rate. It relaxes the whole psycho-physiological system and thus helps in better

recovery. It refreshes the body and mind. It relieves the mental stress, tension etc. thus helping in counteracting the psychological aspect in Bronchial Asthma.

### C. PRANAYAMA

**1. Anuloma – Viloma (Nadishodhana) Pranayama**-Sit in any comfortable meditative posture. Keep the head and spine upright. Relax the whole body and close the eyes. Close the right nostril with the thumb and inhale deeply through the left nostril without strain. Close the left nostril with the ring finger and release the pressure of the thumb on the right nostril and exhale deeply. Next inhale deeply from the right nostril, at the end of inhalation, close the right nostril and open the left nostril and exhale deeply through the left nostril. It helps people with respiratory problems such as asthma emphysema and bronchitis.<sup>[8]</sup> Very helpful in cardiovascular and nervous disorders especially stress related conditions. Also lung, heart and stomach get purified.

**2. Bhramari Pranayama** -The word Bhramara means 'black bee', the *Pranayama* in which humming sound like black bee is produced, is called Bhramari Pranayama. Sit in a comfortable meditation asana. Close the eyes and relax the whole body. Raise the arms sideways and bend the elbows. Inhale through the nose. Exhale slowly and in a controlled manner while making a deep, steady humming sound like that of the black bee. The humming should be smooth, even and continuous for the duration of the exhalation. Bhramari relieves stress and cerebral tension and so helps in alleviating anger, anxiety and insomnia. Increases the healing capacity of the body and strengthens and improves the voice. The vibration of the humming sound creates a soothing effect on the mind and nervous system.

**D. KAPALABHATI** -Sit in any comfortable meditative Asana. The head and spine should be straight with the hands resting on the knees. Exhale through both nostrils with a forceful contraction of the abdominal muscles. The following inhalation should take place passively by allowing the abdominal muscles to relax. Inhalation should be spontaneous recoil, involving no effort. After completing 10 rapid breaths in succession inhale and exhale deeply. Allow the breath to return to normal. This is a highly energizing abdominal breathing exercise. It is especially effective in lowering alveolar carbon dioxide in the lower segments of lungs. Kapalabhati should be performed on an empty stomach, 3-4 hours after meals. It should not be practiced by those suffering from heart disease, high blood pressure, vertigo, epilepsy, stroke, hernia and gastric ulcer. It is not recommended during pregnancy. It has a cleansing effect on the lungs and is a good practice for respiratory disorders.

**E. OMKAR DHYANA (MEDITATION)**-Sit in a comfortable meditation asana. The hands resting on the knees. Close the eyes and relax the whole body. Inhale slowly and deeply. While exhaling start chanting 'AUM' in a low pitch. Try to adjust the pitch in such a way that a fine resonance is achieved. Feel the sound resonance throughout the body. Enjoy the beautiful vibrations. Repeat five times. Continue chanting Om mentally for at least 15 minutes. Rub the palms and gently keep it over the eyes. Blink the eyes slowly, gently open the eyes and come out of meditation. It gives a feeling of tranquility and freedom in daily life. Reduction in psychological disorders like anxiety, tiredness and depression. As it reduces the tension, airflow resistance and enhances the lung compliance, thus beneficial in respiratory disorders. Provides relief from various pains, such as headache and joint pains.

Yogic practices help in purification of the srotases (channels) which are filled with impurities in the form of pollutants or phlegm. Pranayama increases the lung efficiency which is a proven fact. Additionally they are not having any side effects if performed in the approved manner. So we can suggest them for betterment of asthmatic patients.

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