

Ananda Seva 300-Hour Yoga Therapy Program

RESEARCH PAPER

COPD & Asthma

Introduction

Chronic obstructive pulmonary disease (COPD) is an umbrella term used to describe several lung diseases including emphysema and chronic bronchitis. “Obstruction” in COPD means that the flow of air in and out of the lungs is less than ideal, meaning less oxygen gets into the body tissues and it becomes harder to get rid of carbon dioxide (waste gas). With chronic bronchitis the lining of the breathing tubes (bronchi) are swollen and produce mucus that is coughed up. With emphysema the walls of the air sacs in the lung are broken down and the air spaces get larger and air gets trapped. Some people have both chronic bronchitis and emphysema. COPD is the 4th leading cause of death in the U.S. and causes serious long-term disability. There is no cure for COPD. More than 12 million people have COPD and up to 24 million may have the disease but not know it. Smoking, air pollution and on-the-job fumes and dust are the primary causes.

Asthma is a similar/related lung disease for which there is no cure. It affects nearly 23 million Americans (about 3 percent), including 7 million children, or about one in 10. With asthma, the airways are often swollen and red (or inflamed), making them sensitive to environmental “triggers” such as the weather, dust, chemicals, smoke and pet dander. When an attack occurs, the muscles surrounding the airways become tight and the lining of the air passages swell. This reduces the amount of air that can pass by, and can lead to wheezing sounds. Sometimes, people have asthma when they are very young and as their lungs develop, the symptoms go away. Asthma tends to run in families, and certain allergies are linked to people who have asthma. Acute asthma attacks are medical emergencies that require immediate attention by a physician or at an ER. Most cases of asthma are caused by a combination of genetic and environmental factors. Asthma rates are rising due to increased stresses on the immune system from more pollution in air, water and food.

Western (allopathic) Medicine

Preventing attacks and severe episodes is key and recommendations include:

- 1) **Bronchodilators & long-acting pharmaceuticals.** Most Western treatments for asthma and COPD involve either (a) short-term, quick-relief bronchodilators that help reduce sudden-onset symptoms, or (b) long-acting pharmaceuticals that reduce inflammation and ease constriction of airways. Many medications are in the steroidal family and they help reduce airway inflammation. Those with mild or infrequent attacks typically use just quick-relief medications, while those with persistent problems take control medications.

- 2) **Controlling triggers.** Patients should know what substances and situations bring on an asthma attack or coughing with bronchitis, and avoid those irritants, stress, allergens, etc.
- 3) **Monitoring symptoms.** Patients should be alert as to what symptoms occur at what times of day, how often they use a rescue inhaler, what activities exacerbate symptoms, etc.
- 4) **Measuring peak flow rate.** Moderate to severe asthmatics are often encouraged to use a portable, inexpensive, hand-held device to measure how air flows from lungs in one "fast blast." This can help signal when asthma is getting worse, so that medications can be adjusted.
- 5) **Oxygen therapy** is a treatment option for people whose COPD is severe. It may improve exercise endurance and can help some people live longer.
- 6) **Pulmonary rehabilitation** might include exercise training, nutrition counseling, and education on special breathing techniques and other means of coping with COPD.
- 7) **Surgery** may be an appropriate treatment option for some with very severe COPD. Operations performed include lung-volume reduction surgery, where parts of the lung are removed to improve breathing, or a lung transplant, where the diseased lungs are removed and replaced with the lungs of an organ donor

Natural, Complimentary and Yogic Treatments

While conventional medical treatment may sometimes be necessary (especially quick relief medications), many of them come with potentially dangerous side effects and prolonged use of medications may lower immune system health, resulting in increased asthma attacks and reduced resistance to allergens, while also leaving the body more vulnerable to other illnesses. Used regularly, natural remedies can help improve respiratory health, and reduce the incidence and severity of acute episodes, while strengthening the immune system.

According to yogic tradition, asthma is linked to the digestive system. Improper digestion will lead to mucus and phlegm, which are produced in the stomach. This accumulates in the lungs. The accumulation occurs because structurally, breathing is inhibited due to weak respiratory muscles, rigid and inelastic structures of the chest and poor lung capacity.

Below are the key recommendations for patients with COPD and/or asthma:

Reducing allergans and triggers. The first step in a natural approach to asthma and COPD is to reduce the allergic threshold. Removing airborne allergens (pollen, dander, dust mites) is recommended including pets, carpets and upholstered furniture. In particular, since coughing often begins at night or the early morning, every attempt should be made to keep the bedroom and bedding allergy proof. The patient should avoid infections, nonspecific irritants such as cigarette smoke, emotional factors that trigger or intensify symptoms, and other factors that provoke attacks, and dust mite protectors and air purifiers are also beneficial.

Yogasana is an excellent treatment for asthma and COPD and can improve the free flow of air. Over time and with regular asana practice, asthma attacks may be reduced. Yoga also has a stabilizing effect on the body's immune system, raising the body's tolerance to infection as well as its local resistance to infections in the respiratory tract.

In particular, asana should be used to strengthen lower and upper erector spinae and intercostals –Bhujangasana and Salabhasna, for example, with a thoracic extension focus.

- Back bending postures open the chest to improve heart and lung condition in general.
- Practicing upper back bends and chest opening postures helps in exhaling during asthma attacks.
- Forward bends and lower back bending poses helps in inhaling, during the attack.
- Mucus can be removed by inverted postures.
- Jyesththa Prana Nadi Mudra: place tip of thumb at the root of the little finger and all other fingers encircling it like in a fist. Then place the hands fingers down on the thighs. This promotes more expansion of the lung tissues and is beneficial for asthma and other respiratory challenges.

NOTE: Some asthmatics may need to avoid poses with a chin tuck as this could create difficulty breathing, i.e. sasangasana (rabbit).

A typical COPD or asthma patient may exhibit the following in body reading:

- The head will be forward, the shoulders and thoracic spine will be forward and rounded, (kyphotic) posture. Chest/heart area may be sunken. There is restricted chest and rib cage mobility.
- There is limited thoracic spine flexibility and tight pectoral muscles.
- Forward head has tight SCM and weak upper trapezius.
- Round shoulders with tight pectorals, serratus anterior; weak middle/lower trapezius and latissimus dorsi.
- Kyphosis (hunchback) has tight rectus abdominis, pectorals and upper trapezius; weak thoracic erector spinae, middle and lower trapezius.
- Ribcage tightness may be present. This affects tidal volume which is the amount of air inhaled and exhaled when at rest. When tidal volume is decreased by ribcage tightness, there is a build up of carbon dioxide, or respiratory waste, in the bloodstream.

To counter a specific attack, asthmatics can use this yoga chair breathing series, as recommended by Dr. HR Nagendra and Dr. R Nagarathana in [A New Light for Asthmatics](#).

- ✦ Sit on the floor in front of a chair, with legs stretched out under the chair. Rest head and arms on the seat of the chair. Stretch through the entire body, toes to head, then relax from toes to head regionally.
- ✦ Hold onto seat of chair, lift head, move head into extension and flexion slowly 5x. Repeat same movements, inhale deeply into extension, exhale into flexion 5x.
- ✦ Kneel in Vajrasana without support. Perform neck flexion and extension slowly 5x. Repeat above, inhale on extension, exhale on flexion, 5x.
- ✦ Sasankasana while in Vajrasana. Bend forward from waist then backward (clasp hands behind back) 5x. Repeat above, exhale bending forward, inhale bending back, 5x. Repeat the movements, chant “MMM” (Brahmari pranayama) while bending forward 5x.

- ✦ Stand in tadasana for about one minute, flex and extend neck slowly 5x. Continue movement with inhale on extension, exhale on flexion 5x, repeat movements with breathing and Brahmari 5x.
- ✦ Forward bend to backward bend from tadasana. Move into forward bend slowly, then to back bend 5x. Repeat the above, exhaling into forward bend, inhaling into back bend 5x. Repeat 5x using breath and use Brahmari on forward bend.
- ✦ Savasana. Feel the abdominal movements 5 breaths. Feel the breath movement 5 breaths. Feel movement, breath, and use “AA” sound 5x.

NOTE: A person with advanced asthma should not do exercises supine, but instead do them seated, because fluid could fill in the lungs.

Pranayama, practiced regularly, can help. Normally, breathing is automatic, reflexive. The inhale phase is active and lasts about 2 seconds. The exhale phase is passive and lasts about 3 seconds. The normal rate of respiration for an adult is between 12 – 18 cycles per minute, but a person with asthma may breathe 23 or more cycles per minute.

Breathing exercises are very good to strengthen and relax the muscles of the lungs. During an asthma attack this proves to be very useful. It reduces the nerve activity in the airways causing fewer bottlenecks during the attack. It helps cleanse the air passage to breathe easily. It helps in stabilizing the autonomous nervous systems. Pranayama can ease anxiety, provides relaxation, and aids in bringing more oxygen to the blood stream. The exercises help open blocked airways caused by bronchitis or emphysema, and improve the function of circulation.

- Dirga pranayama is a multi-purpose asana and helps in slow and deep breathing exercises.
- Nadi Sodhana can help with stress and emotional turmoil.
- Asthma triggered by cold can be helped by Ujjayi pranayama.
- Allergic trigger patterns can be avoided by Sitt Kari or Shitali pranayama.
- Kapalhatti pranayama reduces mucus congestion. It is a kriya to purify the respiratory system. Intercostal breathing. Seated, hands push ribs on exhales (hands should come closer together), ribs push hands on inhales (hands should move further apart). Six repetitions, at least three times a week.
- Breathing through the nose slows down the breathing rate. The mucous membrane lining filters, warms and moistens incoming air.
- Asthmatics should avoid holding their breath or breathing through the mouth.

To develop the exhale:

- a. Breathing re-education. Abdomen out on inhale (abdomen relaxed), pulled in on exhale (abdomen contracts).
- b. Improve the ability to deepen and control the exhale. Exhale is a technique of relaxation. Use simple postures that facilitate and help the diaphragm move fully upward.
- c. Hold the breath after exhale.

To develop the inhale:

- a. For restricted chest mobility, progressively expand the structures of the rib cage.
- b. Strengthen the respiratory muscles (diaphragm, intercostals, abdominals).
- c. Deepen the capacity for the inhale.
- d. As breath control improves, use stronger positions that place a greater demand on breathing capacity.
- e. Then hold the breath after inhale.

Some COPD and asthmatic patients develop a protective breathing pattern that is shallow and ineffective because of a fear that deep breathing will bring on an attack of coughing and wheezing. They need help in breaking this pattern and learning to breathe deeply to fully expand the bronchi and lungs.

Diet people with asthma or COPD should make every attempt to eat a sattvic, organic, vegetarian diet that complements their dosha. They should avoid fermented food and dairy products, including all cheeses as this increases mucous. They should be encouraged to drink large quantities of fluids. The extra fluids are needed to replace those lost during respiratory distress and seizures of coughing. The increased intake of fluids also can help thin the bronchial secretions so that they are more easily removed by coughing and deep breathing.

- For vata: avoid raw, cold, rough and dry foods, nuts and dairy. Foods that help include moist, warm foods, sweet, sour and salty tastes. Increase fluid.
- For pitta: avoid deep fried, red meat, spicy foods and sour, salty tastes. Foods that help include more fruits and vegetables, less meat and dairy; bitter, astringent and sweet tastes, drink water.
- For kapha: Avoid deep fried, oily, heavy foods, dairy, nuts, seafood, mucous creating foods, red meat, sour, salty and sweet tastes. Foods that help include warm rather than cold or raw food, astringent, bitter and pungent tastes, whole foods, lentils, hot water with honey.

Asthmatics should eat a light evening meal to aid sleep. They also should eat light foods during and after an attack i.e. grapes, raisins, apples, honey.

Additionally, avoiding food allergens is important, and often elimination diets are needed to identify key triggers. An organic vegan diet without food additives or salt, for example, can be very effective in reducing asthma symptoms.

Other Ayurvedic approaches. Asthma is usually a kapha imbalance which causes allergies and congestion. So to treat an asthmatic, one should increase the tapas (heat), do headstands, eat pungent foods, and use a neti pot. In general a person with asthma has increased mucous and increased kapha. If driven by pitta, this would lead to inflammation and bronchitis. The person has more vata if there is dryness. Most of the information on asthma focuses on kapha (mucous) so recommendations will increase pitta.

Treatments include using a well-ventilated room, having warm food and drinks during the day, nothing cold. Apply heat to the chest to discharge phlegm. In hot months take a cold bath and in cold months take a warm bath. Take open air walks in the early morning. Encourage perspiration with hot baths, saunas, sunbaths, blankets, hot drinks to remove phlegm and wind. A good drink to give consists of equal parts of honey and ginger juice with some turmeric added. This removes phlegm and mucus and warms the body.

- Vatas should keep head, chest and back covered on cool days, avoid exposure to wind. Daily body sesame oil massage to add moisture and warmth.
- Pittas should avoid eating after 10 pm. Meditation and breathing exercises to reduce stress and anger.
- Kaphas should have daily exercise, keep chest, back and head covered on cold days, and use guided relaxation tape for yoga Nidra.

Neti pots should be used to remove obstructions from the nasal passages to facilitate nasal instead of mouth breathing.

Herbal ingredients such as *Matricaria recutita* and *Astragalus* contain antispasmodic and anti-inflammatory properties.

- For vata: bala, camphor oil rubbed on the chest, cardamom.
- For pitta: mullein, turmeric, red periwinkle, echinacea and dandelion root tea.
- For kapha: hot spices, apply cinnamon and eucalyptus oil, massage chest and back with mustard oil, balm of Gilead.

Homeopathic ingredients such as Mag. Phos. and Nat. Sulph are successful at easing chest and throat constriction and soothing mucous membranes while reducing the presence of phlegm in the chest.

Supplements such as Vitamin B6 is recommended (particularly if the asthmatic must take the drug theophylline), as well as antioxidants such as high doses of Vitamin C. Magnesium can help open the airways for those suffering from COPD.

Acupressure and Shiatsu are both finger pressure massage systems based on the thousands of years old principles of Traditional Chinese Medicine. The idea is to treat special points along meridians, invisible channels of energy flow within the body. The pressure unblocks the energy and restores comfort. Acupuncture achieves the same goal by using stimulating needles to the same points on the body to improve the function of different organs.

Stress Relief & Guided Imagery Techniques. Relaxation is key to helping COPD and asthma. This can be done through natural harmonious living combined with relaxation, exercise and a positive attitude to life combined with yoga and meditation. Relaxation is one of the methods of dealing with the anxiety and nervousness. Guided imagery is a meditative relaxation technique sometimes used with biofeedback. Audiotapes and books are available as well as interactive guided imagery, classes, workshops and seminars to help with this therapy. The patient should direct positive thoughts to the lungs, ribcage, spinal cord, vertebrae and nervous system to send healing energies to these areas.

Massage has come to be regarded as a complement to conventional medicine. Many of its positive effects seem to be mediated by increasing relaxation and decreasing stress hormones such as cortisol. For COPD, a massage can strengthen respiratory muscles, reduce heart rate, increase oxygen saturation in blood, decrease shortness of breath, and improve pulmonary functions.

Exercise Those who suffer from COPD or asthma may believe exercise will make their condition worse, but studies have shown that simple exercises helps improve endurance and reduce anxiety levels, which in turn helps them breathe more easily and improve their ability to perform normal activities.

Home Remedies Suggestions:

- For hacking cough that robs breath several times a day, a few drops of essential oil of frankincense on a handkerchief (or tissue) and inhaled every hour or so as needed may be helpful.
- Also for hacking cough, this acupuncture treatment with a partner may help: Apply pressure to points directly on either side of the bump in the spine where the neck and shoulders meet, the amount of times depends on the severity of the cough. This treatment can be repeated throughout the day.
- Massage gently the lung area meridian from the top of the shoulder to the end of your thumb to help clear chest of mucus. Also, massage between the shoulder blades. Then try applying a warm ginger compress to the chest and back. To make a ginger compress use 2 quarts of water and 5 ounces of grated ginger. Make the water very hot but do not boil it. Steep for 15 minutes, strain, apply as a compress by soaking a small towel in the tea, and then apply.
- Many COPD sufferers turn to tea for relief from tightening in the chest. Black tea contains chemicals related to the stimulant theophylline, which is also the basis of many modern medical remedies. Three or four cups of black tea can open airway passages and ease breathing.
- Ginkgo when used regularly has helped some patients cut down on prescribed medication. Ginkgo helps relax the lungs and keeps the breathing passage clear.
- Chewing on comfrey leaves stimulates new cell growth and supports quick healing. It inhibits the cough reflex, softens and soothes damaged and inflamed bronchial mucus membranes. It helps to loosen mucus from the bronchial tubes so that it does not accumulate.
- Steam inhalation of eucalyptus or lavender essential oils during an asthma attack and immediately afterwards can ease panic and help open airways.
- Half a teaspoon of bishop's weed in a glass of buttermilk, twice daily, can be an effective herbal remedy for asthma. Another is to mix 5 grams of gooseberry (amla) with one tablespoon of honey.

In summary, COPD and asthma are serious diseases for which there are no cures, but a yogic and Aurvedic lifestyle and practice can greatly alleviate symptoms. Patients will need to take their diseases and management of them seriously in order to gain the maximum benefit. In other words, an occasional chest opening asana practice all by itself won't do much. Instead, a regular asana practice must be combined with improvements in diet, lifestyle and stress reduction in order to truly manage these diseases.

Sources:

- Michael Murray & Joseph Pizzorno, *Encyclopedia of Natural Medicine*, 1998
- Sunil Joshi, *Ayurveda & Panchakarma*, 2005
- http://www.mysymbicort.com/copd/treatment.aspx?source=416&nr_pk=copd%20medicine&cmp_a3=search
- <http://www.natural-cure-guide.com/home-remedies/asthma.htm>
- <http://www.nativeremedies.com/ailment/natural-treatments-for-asthma.html?ysmchn=GGL&ysmcpn=Google+Content&ysmgrp=BronchoSoothe&ysmtac=PPC#question1>
- <http://www.bellaonline.net/articles/art34015.asp>
- www.lungusa.org
- <http://www.articlesbase.com/alternative-medicine-articles/natural-treatment-for-asthma-yoga-565723.html#ixzz0qqsGgUWp>
- “Asthma,” Mirabai Janice Rocker
- Dr. HR Nagendra and Dr. R Nagarathana, *A New Light for Asthmatics*.
- Richard Miller *Mudra - Gateways to Self-Understanding*
- www.yogaforums.com