

# Respiratory System: Shortness of Breath, Asthma & COPD

## Self-help Care & Relief from Respiratory Problems

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### Kind Attention Readers

More than a score of young individuals in our 100+ people community tested positive with Corona Virus. One 74 year old person complaining of shortness of breath was practicing 'controlled slow breathing' at my advice for about 10 weeks before his diagnostic test. He tested negative and firmly believes that the regular practice of the slow breathing technique was responsible for the negative result!

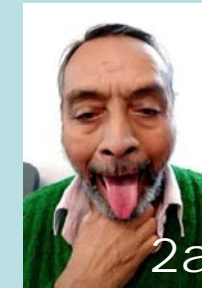
I, the author, am 77 years old and having practiced what is detailed in this document, regularly carry out 'controlled slow breathing': 15 breaths per 5 minutes!

**Please read on !**

# Precis of practical routines for Improved Respiration

## Cleansing airways:

1. Inhale steam, 1-2 minutes. Blow out nose thoroughly
2. Strengthen throat muscles
  - a) Throw out tongue,. Daily 3 sessions of 15 strokes
  - b) Puff up mouth with air. Daily 3 sessions of 15



3. **Make Abdominal Breathing habitual:** Lie on back and bend legs with raised knees. Left palm on abdomen, middle finger on navel. Make abdomen rise with inhalation and deflate with exhalation. Three 5 minute sessions daily, before breakfast and lunch, and before going to bed. At other times when conscious of breathing, inflate abdomen with inhalation and deflate abdomen with exhalation.



4. **Bhramari Pranayama:** Sit with back straight. Take a deep breath. Exhale *through the nose* by contracting abdomen with a jerk. Inhalation automatic. After 10 strokes, pause, and 10 strokes twice more. After a few days increase to 3X20 strokes in a sitting. Do 3 sittings a day: before breakfast, lunch and dinner, i.e. before meals. Gradually increase to a total of 400 strokes. No overstrain.



5. **Place oxygen-in-dark plants,** e.g. Snake plant, near bed at night.

## 6. **Make Slow Breathing Natural**

- Press ring fingers on sides of the start of nasal bone
- Push ear flaps up to block external sound
- Inhale normally
- Exhale slowly *through nose* while making mmm sound
- Do it 15 times per session
- 3 Sessions daily, each before a meal



## 7. **Minimize indoor pollution:**

- Chemicals leach from: paint on walls, gadgets, toys, carpets, soaps & detergents, pesticide repellants, synthetics. No smoking indoors. Avoid artificial colors, flavors & preservatives in foods. Be conscious about pollutants

**For details, go forward**

# Respiratory System: Shortness of Breath, Asthma & COPD

## Premature deaths due to air pollution

	<u>Global</u>	<u>China</u>	<u>India</u>
1990	2,200,000	577,000	366,000
2013	2,90,000	916,000	587,000
2016	5,500,000	(China + India : 3,025,000)	

## Prevalence of asthma & COPD

1. Asthma in 2018 worldwide : 358 million  
Asthma global deaths in 2015 : 383,000
2. Chronic Obstructive Pulmonary Disease (COPD) includes: *Bronchitis*, inflammation of air passages; *Emphysema*, damaged alveoli]  
COPD worldwide cases 2016 : 251 million  
COPD worldwide deaths in 2015 : 3.17 million

UPI Science News, Feb 12, 2016 [retr Dec 3, 2020]

[http://www.upi.com/Science\\_News/2016/02/12/Study-Air-pollution-kills-5.5-millionpeople-annually/8761455308392/](http://www.upi.com/Science_News/2016/02/12/Study-Air-pollution-kills-5.5-millionpeople-annually/8761455308392/)

# Respiratory System: Shortness of Breath, Asthma & COPD

## Why shortness of breath?

1. Air passage ways become narrow  
Temporary : Inflammation  
Permanent : Lose flexibility and become rigid
2. Air passage ways clogged by excess mucus
3. Balloon like air sacs (alveoli) of lungs in which gas exchange occurs, lose flexibility, get destroyed
4. Lungs insufficiently utilized, inefficient

## Causes

- ☞ Allergies to pollen, spores, dust, pet dander, pollution, chemicals indoor & outdoor, smoking
- ☞ Body tries to limit ingestion of harmful things by narrowing airways, by production of excess mucus and tries forcing out foreign matter by wheezing. Progressive damage to respiratory system over time.
- ☞ Lung apparatus weak

# Respiratory System: Shortness of Breath, Asthma & COPD

Q. : Can anything be done as preventive care and relief from conditions of the respiratory system through self-help?

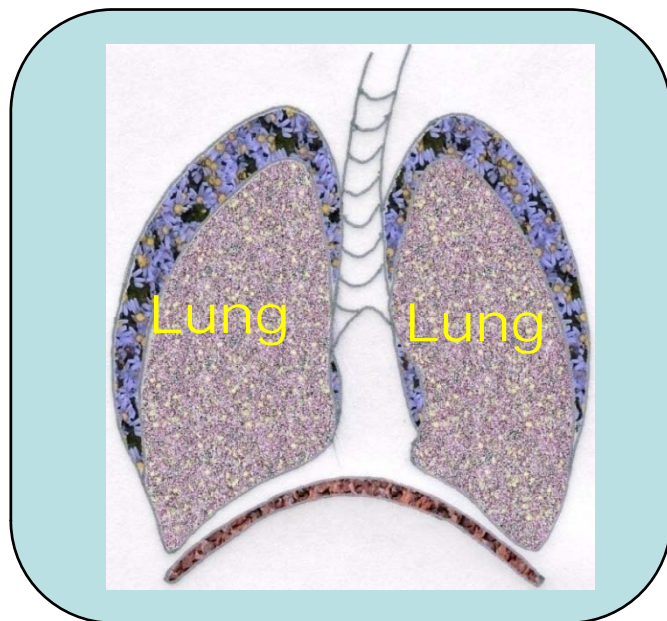
A. : The answer is a resounding yes!

Q. : What the doctors say about the process of breathing?

A. : Medical texts categorize types of breathing as follows:

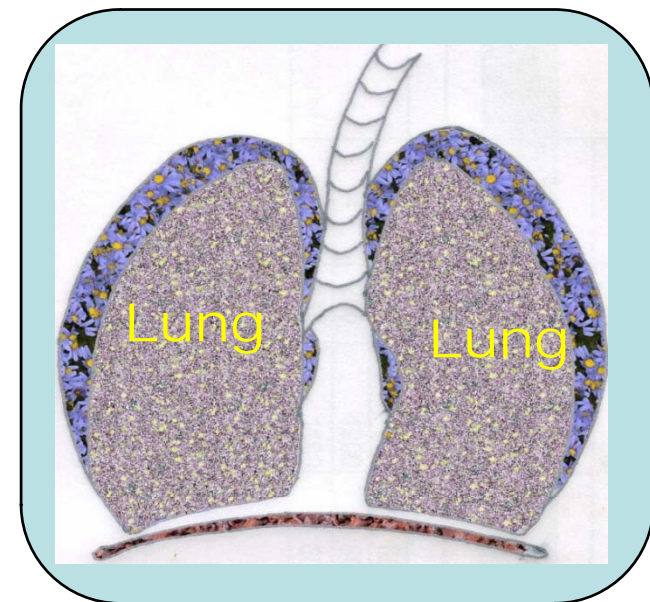
*Quiet breathing* (Shallow & Deep) and *Forced breathing*

## Shallow breathing (25%)



Muscles covering the outside of ribs contract, pulling the Rib-cage outwards, lungs flush against ribs expand, air sucked in. On rebound, air pushed out.

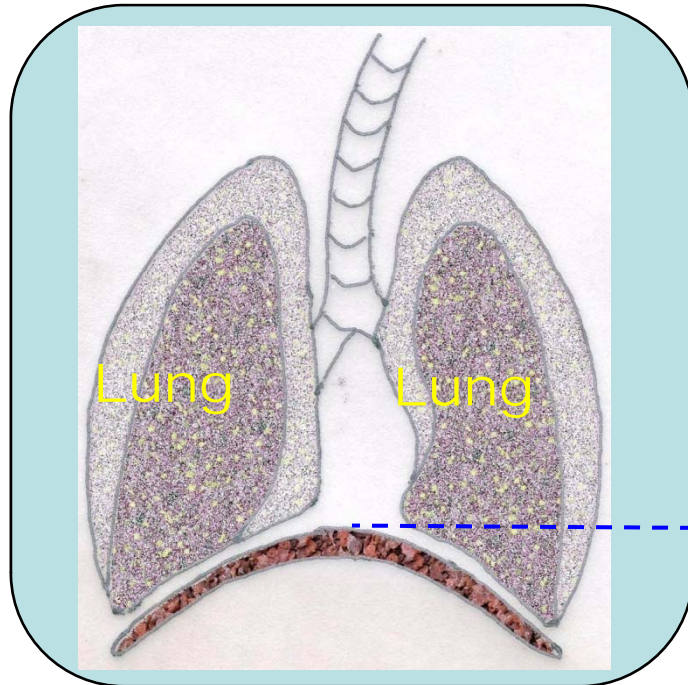
## Deep breathing (75%)



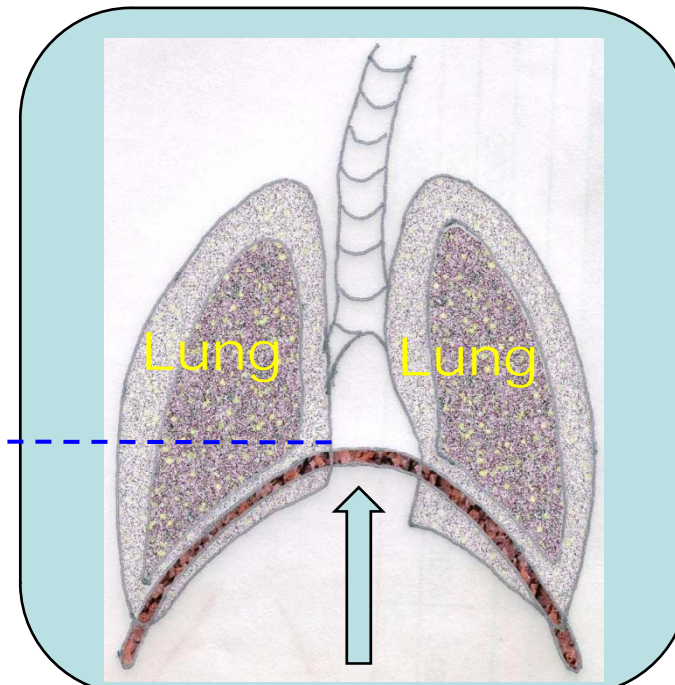
Dome shaped muscle Diaphragm contracts & flattens downwards by 1 to 2.5 centimeters; lungs sitting atop diaphragm expand creating vacuum and more air sucked in. On rebound air pushed out

# Respiratory System: Shortness of Breath, Asthma & COPD

In Forced Breathing, **inhalation** (see preceding slide) as well as **exhalation** are both active



Muscles covering the inside of ribs contract, pulling the Rib-cage inwards, lungs flush with ribs are squeezed, more air pushed out. On rebound, more air sucked in. Rib-cage contracts  
Air forced out



Abdomen contracts inwards, abdominal muscles push against diaphragm which expands upwards; lungs sitting atop diaphragm get squeezed and push out considerably more air. **On rebound, large amount of air sucked in.**

Abdominal Breathing

# Respiratory System: Shortness of Breath, Asthma & COPD

## Self-help Care & Relief from Respiratory Problems

### 1. Clear airways (page 8)

“Mucus, viscous fluid.. moistens, lubricates, and protects .. passages of the .. respiratory tracts” is a normal layering of the airways. When mucus is stuffed with virus, bacteria, inflammatory cells and other debris, it is called phlegm. Excess mucus (e.g. due to cold temperatures or pollutants) and phlegm cause airways to become narrow and impede facile breathing.

### 2. Make breathing habitually efficient (page 9)

“At absolute maximum levels of breathing, the abdominal muscles are used in exhalation” (*Anatomy & Physiology* by Frederic Martini) as depicted earlier under ‘forced breathing.’ This means that this mode of breathing provides maximal oxygen to the body. Can this ‘abdominal breathing’ become habitual even at rest? Oh, yes, through practice of some procedures it is entirely doable.

### 3. Strengthen lungs and increase capacity (page 10)

Kapalbhati pranayama, a yoga technique of “forceful breathing .. Strengthens lungs and increases its capacity. Practicing Kapalbhati helps in removing blockages in the heart and lungs.” (NDTV 1414298)

### 4. Induce controlled slow breathing (page 11)

”Pursed lip breathing’ (inhale for a count of 2, exhale through puckered mouth for a count of 1) is recommended for alleviating shortness of breath [Cleveland Clinic 9443] and in such serious conditions as COPD. Also, “Controlled, slow breathing appears to be an effective means of .. decreased mortality in pathological states and longevity in the general population” (breathe.ersjournals 3/4/298)

A procedure based on Marma Therapy is detailed later may potentially be even more effective in inducing controlled slow breathing.

### 5. Minimize indoor pollution (page 12)

### 6. Sleep in oxygen rich ambiance (page 13)

# Respiratory System: Shortness of Breath, Asthma & COPD

## Cleansing of airways of the Respiratory System

### Use steam to flush out debris from nostrils

Add 2-3 drops of eucalyptus oil to steaming hot water. Breathe normally while inhaling steam vapors for 1-2 minutes. Thereafter thoroughly blow the nostrils out to remove foreign matter.

Apply **pure mustard oil** with tip of index finger inside the entire right nostril with circular motion of the finger. Similarly, apply pure mustard oil with tip of ring finger inside the entire left nostril with circular motion of the finger.



### Clean tongue and throat

Dip a toothbrush with long rows of soft bristles in lukewarm saline water. Lightly rub the tongue all the way back to the throat. Rinse and repeat. Rub the tongue with fingers (index, middle, ring) 2-3 times and rinse and gargle with warm saline water.



## Stimulating & strengthening the throat muscle

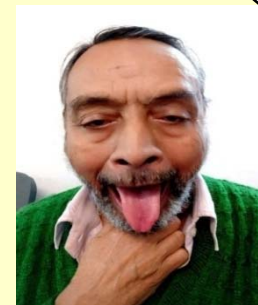
### TECHNIQUE:

1. Eject the tongue to the full extent. Do it 15 times. Lightly grip the throat with fingers to feel the movement & exercise of the muscles and associated nerves.
  2. Puff up the mouth like a balloon. Do it 15 times. Feel movement & exercise of throat by lightly gripping the throat.
- Do both of these exercises 3 times a day. **Excellent preventive care.**

### BENEFITS:

Toning up throat muscles helps remove excess mucus and phlegm (mucus encapsulating bacteria, virus, and other debris) much more efficiently and aids in clearing airways.

- [Wikipedia] "During illness like the flu, cold, and pneumonia [and acute bronchitis], phlegm becomes more excessive as an attempt to get rid of the bacteria or viral particles within the body."





# Respiratory System: Shortness of Breath, Asthma & COPD

## Abdominal Breathing

### TECHNIQUE:

Lie down flat on your back. Bend and raise knees sliding soles of feet towards the hips until knees face up. Place left palm on the abdomen with tip of the middle finger resting on the navel.

Shut eyes for concentration, breathe in slowly & steadily and make your abdomen rise up. Slowly breathe out with the abdomen gradually deflating.



- **Three sessions of 5 minutes each, better on empty stomach, that is, preferably before breakfast, Lunch & dinner.**
- **During the day whenever you become aware of breathing, try consciously inflating abdomen while breathing in, and deflating the abdomen when exhaling.**
- **With regular practice, deep breathing ought to become natural to you in 4-10 weeks.**

# Respiratory System: Shortness of Breath, Asthma & COPD

## *Kapaabhati* (Forehead shining *kriya* or *pranayama*)

### TECHNIQUE :

Sit in Padmasana, Vajrasana, cross-legged, or on a straight-backed uncushioned chair. Loose or no clothing around the abdominal area. Palms on knees, thighs, or on floor (helps curtail bounce of backbone) adjacent to hips. Take a deep breath. Exhale forcefully through the nostrils by contracting your abdomen with a jerk. Do not pay attention to incoming breath.

- Initially do 10 exhalations, and then rest for a few seconds.
- Do this 5 times for a total of 50 per day the 1st week.
- Gradually increase number of exhalations, say, 20x4=80 the next week, 20x6 the week after until you get to 100x4=400 per day.
- With practice it should be possible to accomplish 100 exhalations per minute.
- Do not force the pace, however. Do not overstrain your lungs.



- ***Kapaalabhati* should be done on an empty stomach, in open air or near a window. Afterwards relax quietly for some time.**

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## Relief from shortness of breath – Pursed Lip breathing, Medical Experts' way

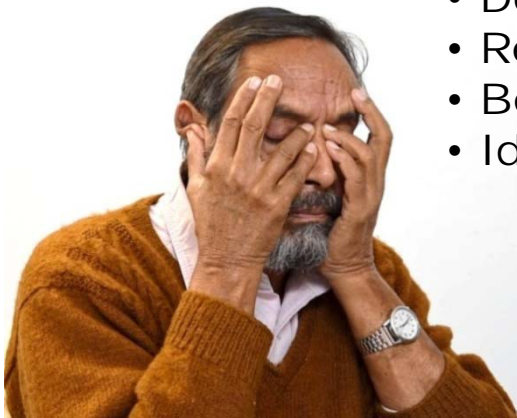
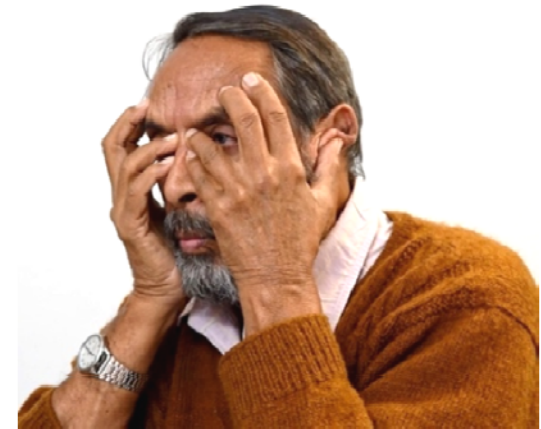
(A good way to get relief in public places)

1. Inhale through nose for a count of 2
2. Pucker your lips as if you were blowing a candle out or whistling
3. Breath out through mouth with puckered lips for a count of 4 or more
4. Repeat until relief from shortness of breath

## Make Slow breathing Natural

(Regular daily practice)

- Press ring fingers on both sides of the beginning of the nasal bone
  - Push ear flaps up by thumbs to block outside sound
  - Pucker lips as in blowing out a candle or whistling
  - Inhale normally
  - Exhale slowly *through nose* while making mmm sound
  - Do it 3 times
- Do above steps with unpuckered lips
  - Repeat the whole regimen (a total of 12 breaths)
  - Best on comparatively empty stomach
  - Ideally before breakfast, lunch and dinner, and at need



### NOTEWORTHY IMPACT OF SLOW BREATHING

- Increased time for oxygen/carbon dioxide exchange
- Therefore, decreased number of heart beats per minute
- Therefore, decreased work-load on lungs and heart
- Therefore, less wear & tear and significant saving of energy

# Respiratory System: Shortness of Breath, Asthma & COPD

## Pollution problem: What can you do?

1. One can't remove outdoor pollution.
2. But one can minimize indoor pollution.

## Minimize indoor pollution

"...indoor air pollution was 8-10 times more important as a source of chronic illness in susceptible people..." Dr. Theron Randolph, pioneer allergist

1. Paint on walls leach chemicals. Lime paint is best
2. Gadgets: TV, computer, furniture leach chemicals
3. No smoking indoors
4. Use cotton sheets & mattress
5. Most Soaps & detergents have harmful chemicals
6. No toys in bedroom
7. Carpets can leach chemicals
8. Pesticide repellants harmful. Use mosquito nets
9. Animal pets increase risk of asthma
10. Avoid artificial colors, flavors, preservatives in foods
11. Rule of thumb: If you can smell it, you are inhaling it

# Respiratory System: Shortness of Breath, Asthma & COPD



Keep a pot or two of the plant near your bed while you sleep for richer oxygen environment

**Scientific Name:** Sansevieria trifasciata  
Common Names: Snake Plant, Mother-in-Law's tongue, Viper's Bowstring Hemp

**Hindi Name:**

**नाग पौधा – शुद्ध हवा के लिए**

You can choose other plants for their air-purifying and oxygen-at-night ambiance. Following is one of the websites:

<https://www.fnp.com/article/do-you-know-which-plants-release-oxygen-at-night>

**Aspiration**

विश्वं पुष्टं ग्रामे अस्मिन्ननातुरम् ।। – *Yajurveda* 16:48

In this village [global village], may all sentient beings be robust and healthy