

**Title: Effect of *Preksha* Meditation on efficiency of Respiration- A review****Authors: Sujata Paikaray*¹, Anukul Chandra Kar², Neeru Nathani³**

1. Ph. D. Scholar, Dept. of Swasthavritta & Yoga
2. Professor & Head, Dept. of Vikriti Vigyan
3. Associate Professor & Head, Dept. of Swasthavritta & Yoga

Faculty of Ayurveda, IMS, BHU, Varanasi, India- 221005***Corresponding Author: drpsujata@rediffmail.com****Abstract:**

Our body requires oxygen for its activities and the oxygen is supplied to our body through the respiratory system. It is important to increase the efficiency of respiratory system to increase the sustainable supply of oxygen to the body. *Preksha* Meditation is a procedure by which one can know and observe the main characteristics of consciousness. Covered consciousness loses its capacity to observe. To awaken spiritual consciousness, one should start its study from breathing. The main aims of *Preksha* Meditation are purity of mind, search for the truth, to experience independent power of consciousness and finally to develop a complete personality. *Shvasa Preksha* is one art of *Preksha* Meditation in which the movement of breathing is observed. It is done by two methods i.e. *Dirgha Shvasa Preksha* (Slow and deep breathing) and *Samvriti Shvasa Preksha* (Alternate breathing). Both the procedure have effect on brain particularly on respiratory center in medulla oblongata and normal breathing rate also slows down resulting in improvement of respiration efficiency. Anger and anxiety get reduced as a result of

slow breathing rate. This helps in reducing the energy loss, concentration improves, which results in better efficiency.

Keyword:

Lung capacity, Lung volume, *Preksha* Meditation, Respiratory efficiency, *Shvasa Preksha*,

Introduction:

Our body tissues utilize oxygen for metabolic purposes and produce carbon dioxide as a result of metabolism. The major function of the respiratory system is to take the oxygen from the atmosphere to deliver to the tissues and to take out carbon dioxide from the tissues and discharge it into the atmosphere. Gas exchange between atmosphere, blood and cells is called respiration and is completed by two step process.

Types of respiration:¹

Respiration process consists of two sub processes i.e one at the lungs where air is taken by lungs from atmosphere, picked up by the blood and carbon dioxide is given by blood and delivered to

the lungs to discharge it to the atmosphere. This is called external respiration or Lungs respiration. Another gas exchange is at tissue level where bloods give away oxygen to the tissues and take up carbon dioxide and water vapour from the tissues. This is called internal respiration or tissue respiration.

External Respiration: This process takes place in lungs. Air from atmosphere enters lungs. The blood capillaries through which blood circulates are on the outer wall of air sacs. The gas exchange takes place at the walls of the air sacs which are very thin. Air from lungs diffuses to the blood in capillaries and carbon dioxide from the blood diffuses to the lungs. The activities which are happened in external respiration are

1. Ventilation: It means breathing through which carbon dioxide is thrown out of the lungs and oxygen is taken into the lungs.
2. Flow of the blood to the lungs for purification.
3. Distribution of air and blood in all parts of the lungs uniformly
4. Exchange of gases by diffusion between air sacs and blood cells

Internal Respiration: In internal respiration, hemoglobin in the blood absorbs oxygen and becomes oxyhemoglobin. It circulates through the blood and reaches to all the tissues. Blood flowing through the capillaries which terminate into tissues are very narrow having thin wall. Hence blood flow rate through the capillaries is slow and here oxyhemoglobin gives away oxygen to the cells of the tissue and receives the waste products of chemical reaction between oxygen and glucose or fat.

Gross features of respiratory system:²

The respiratory passage consists of nose, nasopharynx, oropharynx, larynx, trachea and the lungs. The inspired air enters the nasal cavity and proceeds through these passages to reach its destination, which are alveoli of the lungs. Alternatively, the inspired air can enter through the mouth in case of mouth breathing. This should be avoided as there are hairs in the nostril which act as filter to remove dust particles and bacteria from the air taken in.

The trachea divides into two main branches; right and the left bronchus, each of which branches repeatedly and ultimately become respiratory bronchioles. The respiratory bronchioles lead to atrium which in turn leads to air sacs and pulmonary alveoli.

Respiratory Process:³

The renewal of air in the lungs is done by two types of respiratory movements i.e. inspiration and expiration. The thorax alters its size and shape during inspiration and expiration. During inspiration, the cavity of thorax is enlarged and the lungs being elastic expand to fill up the increased space. This expansion of lungs causes air pressure inside lungs to fall which result in sucking of air into alveoli through upper passage and trachea.

During expiration, the thorax returns to its former size and also the lungs. This results in increase of pressure inside the lungs expelling air from alveoli. The increase in the size of the thoracic cavity during inspiration is brought by two factors i.e. upward movement of ribs and downward movement of the diaphragm. When at rest, the diaphragm is dome shaped having its

concavity towards abdomen. When the muscle of the diaphragm contracts during inspiration, it becomes flattened and therefore depressed towards abdomen. This results in increasing in volume of the thoracic cavity. During expiration, the chest returns to its resting size mainly on account of elasticity of inter costal muscles and diaphragm.

Lung Volumes and Lung Capacities:⁴

It is very important to know the capacity of lungs or respiratory volumes to understand the function of lungs.

Tidal Volume: This is the volume of air inspired or expired by an individual per respiratory excursion at rest which is about 500 ml in normal healthy young adult.

Inspiratory Reserve Volume: The amount of air that can be forcibly drawn in over and above the tidal volume, which is about 2000-3000 ml

Expiratory Reserve Volume: The amount of air that can be forcibly breathed out after an ordinary expiration and this is about 1000 ml.

Residual Volume: After forcible expiratory effort, the lungs still contain some air and this is about 1500 ml.

Vital Capacity: The volume of air breathed out by the most forcible expiratory effort after a maximal inspiration and the value in normal person is about 3.5-4.5 litres.

Total Lung Capacity: The maximum amount of air which can be held by lungs at any time and the normal value is 5.5 litres

Functions of Respiratory System:⁵

The main function of the lungs is exchange of oxygen and carbon dioxide at tissue level. Vapours of ammonia, alcohol and water produced in tissue are excreted to atmosphere through respiratory system. Lungs also play a vital role in maintaining the acid-alkali balance, temperature balance and water balance.

Preksha Meditation:⁶

The word “*Preksha*” is derived from two words i.e *Pra* + *Iksha*. *Iksha* means to see and *Preksha* means to see deeply. Since the main element of meditation is to see or to observe; therefore it is called *Preksha* Meditation. To know and to observe are the main characteristics of consciousness. Covered consciousness loses its capacity to observe. To awaken spiritual consciousness, one should start its study from breathing. Breath is the part of the body, so we see the breath first. As soul is in the body so, we see the body. By seeing it continuously, the mind becomes expert and subtle. Then it can see several vibrations. When the emotion or feeling rise, their vibrations get visible and become very clear.

Aim of Preksha Meditation:⁷

Before starting any activity, a person should determine his aim. The main aims of *Preksha* Meditation are purity of mind, search for the truth, to experience independent power of consciousness and finally to develop a complete personality.

Parts of Preksha Meditation:⁸

The main parts of *Preksha* Meditation are *Kayotsarga* (stopping of gross external physical activities), *Antaryatra* (Internal trip i.e. process of making the energy to go upwards), *Shvasa preksha* (to observe



movement of breathing), *Sharira praksha* (concentration of mind in each organ of body to feel vibration), *Chaitanya Kendra praksha* (control of neuro-endocrine system), *Leshya dhyana* (subtle flow of feelings in the consciousness), *Bhavana* (practice to get rid of affection, desire and fear) and *Anupreksha* (to break the delusion of mind). Out of these, *Shvasa Preskha* is most vital for efficiency of respiration.

Shvasa Preskha:⁹

Breathing and breath is an important part of our body. Breath and consciousness, breath and mind are linked together. One cannot control mind or consciousness directly. An individual has to go through the breath. The mental development can be achieved by transformation of breath. To concentrate mind for which the subtle device is *Shvasa Preskha*. It is very necessary to have calm and peaceful breathing to have peace of mind and concentration of mind. There are two forms of peaceful breathing i.e. subtle breathing-inhaling and exhaling, Slow or long breathing- inhaling and exhaling.

When we breathe, we should experience the breathing. The mind should be one with breathing with total devotion. This can be done through the nostrils. There are two forms of breathing

Dirgha Shvasa Preskha (Slow and deep breathing): Generally a person takes 15-17 breaths in a minute. This can be reduced to 10 or less by practicing *Dirgha* (long) *Shvasa Preskha*. Full use of abdominal diaphragm muscles is done to make the breathing long or slow. Abdominal muscles contract while exhaling and expand while inhaling. Mind becomes peaceful by making breathing long, slow or subtle. Due

to this the excitement subsides, the emotions and passions calm down.

Samvriti Shvasa Preskha (Alternate breathing): *Samvriti Shvasa Preskha* is also equally an important element. It means to inhale by the right nostril and exhale by the left one and vice versa. To see this, to do its *Preskha* and to connect the mind with it is very important. In the beginning with the help of a finger and later with one's own power of determination, the direction of breathing can be changed. Many centre of consciousness can be activated with this practice.

Effect of *Preskha* Meditation on efficiency of respiration:¹⁰

There are two exercises of perception of breathing i.e. Perception of slow and deep breathing (*Dirgha Shvasa Preskha*) and perception of alternate breathing (*Samvriti Shvasa Preskha*) the details of which are described above.

Perception of slow and deep breathing (*Dirgha Shvasa Preskha*): In this process an individual takes slow and deep breath and holds for convenient duration and then breathe out slowly completely and keeps his mind concentrated on watching the breathing processes i.e. abdomen expands while breathing in and abdomen contracts while breathing out. This process helps in improving efficiency as explained below.

- By breathing slowly and deeply an individual takes up to 4.5 litres of air i.e. Vital capacity of lungs in one cycle against 0.5 litre of air i.e. Tidal volume in normal breathing. Thus, by using the muscles of respiratory system once, an individual gets more air. So energy



consumed by muscles per litre of air taken is much less.

- When we hold the breath for some time, more time is available for exchange of gases. More oxygen is absorbed by the blood and hence more energy production in tissues.
- As more time is available for gas exchange, carbon dioxide transfers from the blood to the lungs completely and from there it is expelled to atmosphere completely by contracting abdomen i.e. forced expiration. Since carbon dioxide is a toxic gas, its complete removal from the body helps to feel energetic.

Perception of alternate breathing (*Samvriti Shvas Preksha*):

In this process one breathes slowly and deeply through right nostril, hold for convenient time and then exhale slowly and completely through left nostril and vice versa. In addition to advantage of slow and deep breathing mentioned above, one gets additional benefits of alternate breathing.

- Breathing through the right nostril stimulates left hemisphere and breathing through left nostril affects right hemisphere of the brain. Thus alternate breathing maintains balance between the activities of two hemispheres, which helps to avoid unnecessary wastage of energy for stimulation of anger, reaction etc.
- In alternate breathing, all muscles of respiratory system get used equally and hence all muscles are kept healthy which results in better efficiency of respiratory system.

Conclusion:

By consciously practicing slow and deep breathing for long time has effect on brain particularly on respiratory center in medulla oblongata and normal breathing rate also slows down resulting in improvement of respiration efficiency. Anger and anxiety get reduced as a result of slow breathing rate. This helps in reducing the energy loss, concentration improves, which results in better efficiency. A study conducted by Vyas, R. et al concluded that vital capacity, tidal volume and breath holding were significantly higher in the persons doing short and long term meditations than those not doing meditations. Long term mediators had significantly higher vital capacity and expiratory pressure than short term mediators¹¹. This finding substantiates the theory that perception of slow and deep breathing along with perception of alternate breathing help in improving the efficiency in respiration.

References:

1. Mishra, J P N, Applied physiology and Anatomy, lesson 13, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 60
2. Sujit K Chaudhuri, Concise Medical Physiology, section IV, Chapter IV.1, New Central Book Agency (P) Ltd., Kolkata, 2nd Edition, P. 143-144
3. Mishra, J P N, Applied physiology and Anatomy, lesson 13, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 64
4. Sujit K Chaudhuri, Concise Medical Physiology, section IV, Chapter

- V.6, New Central Book Agency (P) Ltd., Kolkata, 2nd Edition, P. 189-190
5. Mishra, J P N, Applied physiology and Anatomy, lesson 13, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 65-66
 6. Muni Dharmesh Kumar, Science of Living, Preksha Meditation and Yoga, lesson 8, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 104
 7. Muni Dharmesh Kumar, Science of Living, Preksha Meditation and Yoga, lesson 8, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 105
 8. Muni Dharmesh Kumar, Science of Living, Preksha Meditation and Yoga, lesson 8, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 107
 9. Muni Dharmesh Kumar, Science of Living, Preksha Meditation and Yoga, lesson 8, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 108-109
 10. Mishra, J P N, Applied physiology and Anatomy, lesson 13, Jain Vishwa Bharati Institute, Ladnun, 2012 edition, P. 66
 11. Vyas, R. Dikshit, N. Effect of meditation on respiratory system, cardiovascular system and lipid profile, [Indian J Physiol Pharmacol.](#) 2002 Oct; 46(4):487-91

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