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& The Business Shed

- A Creative Initiative

## Breath and Breathing Exercises

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### The singing fraternity is fraught with differing perceptions of how to take a breath.

Once the breath is in, how do you let it out?

The thorax or ribcage houses the lungs and heart. It consists of twelve pairs of ribs which are attached to the thoracic vertebrae through flexible joints that permit movement up and down.

The highest four pairs of ribs attach individually to the breastbone or sternum through the flexible connection of the costal cartilage.

Ribs give – 10 share a common cartilaginous connection to the sternum.

The bottom two ribs are free-floating with no connection to the sternum. We call these the floating ribs.

The flexible connections of the ribs to the spine and sternum allow for quite a lot of movement.

The lungs which lie within the thorax are organs, not muscles and therefore do not have the ability to move of their own accord.

However, they still must be enlarged for inhalation and made smaller for exhalation. This can occur because the lungs are coupled to the interior wall of the thorax by action of the pleural sac. The pleural sac is a serous membrane that causes the thorax and lungs to adhere to each other much in the same way a wet plastic bag will adhere to a window. Because of the pleurae, changes in the thorax are directly transferred to the lungs, if it gets bigger or smaller, the lungs do the same.

When air is contained in a soft-walled enclosure, its pressure and volume will be inversely proportional (if one goes up, the other goes down)

Take a balloon; if squeezed - its volume becomes smaller and the pressure of the air within it increases.

The most important muscle of inhalation is the diaphragm. This is the second largest muscle in the human body – in most people. Shaped like a dome or parachute with two small humps, the diaphragm bisects the body, separating the contents of the thorax from the abdomen. In this location of the diaphragm is transferred directly to the lungs. On contraction, the diaphragm lowers and becomes somewhat flatter.

It therefore increases the volume capacity of the thorax and therefore the lungs. This is much like withdrawing the plunger of a syringe.

Many people have misconceptions about the location and size of the diaphragm.

The diaphragm attaches in the front to the sternum, at the sides to the costal cartilages and ribs seven through twelve and at the back to the upper lumbar vertebrae through the pillars of the diaphragm.

On contraction the diaphragm lowers and becomes somewhat flatter. It is not a muscle over which most people have direct, conscious control. Singers learn to control its movement through sensations in the abdomen and ribcage. When it contracts the diaphragm lowers into the abdomen, pressing down against its contents which are the abdominal viscera – “Guts”.

The diaphragm is exclusively a muscle of inspiration, and it is normally relaxed during exhalation, quickly returning to its resting position.

Other muscles important in the breath procedure are the External intercostals muscles - in between the ribs. On contraction the lower rib is drawn upward and outward in a swinging motion. As a result, the entire thorax is lifted and expanded somewhat in diameter.

The external intercostals run in an oblique direction down toward the midline of the body.

Five other pairs of muscles are located in the abdomen.

These are the external oblique, internal oblique, rectus and transverse abdominus (abdominal) muscles and the quadratus lumborum, which lies in the posterior.

There are many other muscles and sets of muscles. Can total as many as 33.

Elastic recoil occurs when you are in negative pressure, you release and you allow the breath to flow back into the body.

Comments on sounds and breath:

- Louder sounds – increased resistance to breath NOT more breath.
- Softer breath – less resistance.
- Increase the effort – decrease the airflow.

Inhibitors to efficient breathing:

- Poor posture.
- Hydration.
- Spine out of alignment especially around the neck area – therefore larynx.
- Rib cage that collapses on the out breath.
- Tight enforcing = 6 pack.

Encouraging efficient breath:

- Good posture.
- Responsive abdominal wall.
- Not taking more than is needed.
- Don't save it up.
- Taking in too much breath.
- Not taking enough breath.
- Young girls tend to breath too high.

### Exercises and other thoughts:

Try this exercise:

- Raise hands high above their heads as they take a full breath.
- Then collapse their bodies as a rag doll, completely depleting themselves of air.
- Remain in this position, without inhaling, until they absolutely must take a breath.
- When they finally do take the much needed air, they will immediately feel it rush into the lower back.
- Expansion around their waists as the diaphragm distends.
- Repeat at various times standing up.

Try panting - noisily like a dog. Not with the shoulders but with lower muscles. Then ask them to pant without making a noise.

For those who take in too much air use "Counting":

- Have the singer take a comfortable high breath and prepare to speak 'one' in a firm voice.
- Continue counting 'one, two' then 'one' two' three' etc. until reaching 10.
- At 10 elongate feeling the open back and torso.
- The student will notice that by adding another number each time, virtually the same amount of air taken in is lasting increasingly longer.

Breathing problems can be: -

- Too much air
- Tone is too airy

Breathe out first.

Remember: That you have released the abdominal wall and NOT how much air you can cram into the body.

Attractor state of breathing is that – our habitual mode of breathing so it becomes of no consequence whether the breath is high or low, because you will be breathing according to need and not training, which may be contrary to actual requirements.

Speak a song out in tempo. How much air did you need?

Warm Up

- Body warm up – general getting the body going.

Diction

- Diphthonged vowels, harsh consonants, unmatched vowels, muddy diction, spread or overly dark diction, unintelligible text, uneven tone.
- Use a mirror to look at the tongue.
- Over mouthing.

Exercises for the body to distract the brain:

- Give them something to do while singing.
- Shaking hands.
- Speak words of song or sing but keep breathing.
- The most active hand in pocket.

- Give the other hand something to do.

Pitch issues:

This is invariably to do with muscular preparation, not the breath.

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## *Creating Possibilities and Finding Solutions*

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