

excerpt from : "LISTEN, FEEL and THINK" by Frits Leffe

Abdominal, chest and forced chest breathing

The best way to breathe is by abdominal breathing. The principle of abdominal breathing is in fact very simple:

1.
Pull in the lower part of your belly.

By doing so the bottom of the lungs will be first pushed in. In reaction to this the muscles between the ribs will contract; thus the chest will become narrower and the lungs are pushed in on the side.

The result is that your lungs become smaller, the air in them will be compressed and thus pressed out: you are breathing out!

2.
Relax your belly muscles instantly.

By doing so the bottom of the lungs will fall down and the volume of the lungs suddenly becomes greater. Consequently the air pressure in the lungs becomes lower than the air pressure outside of the body; thus air will flow into the lungs.

In reaction to this the muscles between the ribs will relax and now the incoming air can push the ribs away from each other. In this way the lungs can increase their volume on the side. This is breathing in!

The working of the ribs as part of this entire process is called chest breathing. Notice that this goes automatically.

When you ask somebody to take a deep breath, you will see in most cases that he or she will do the opposite: they breathe in with their belly pulled in, and their chest and shoulders pulled up; we call this forced chest breathing.

The advantages of abdominal breathing

1.

Abdominal breathing uses the full capacity of the lungs.

In forced chest breathing the belly is always flattened, and therefore the bottom of the lungs is pushed in while breathing in; thus you will

have less air. The ribs can only be moved apart by using great force.

2.

In abdominal breathing the muscles from the lower part of the belly are used to deliver breath pressure; the muscles in the chest are kept as relaxed as possible. In doing so there will be no tension in the throat, you can easily prevent the falsetto position, and breath will have the highest speed in the front of the windpipe and the lower part of the inner mouth. These are the right conditions to produce a good warm tone.

In forced chest breathing the muscles round the bronchi (the pipes that connect the lungs with the windpipe) are used to deliver breath pressure. This causes muscle stress and high blood pressure in the chest, shoulders, neck and head. The throat will become narrow and tense, and will often go into falsetto position; a shrill and nasal tone is the result. This effect will be reinforced by the fact that breath will have the highest speed in the back of the windpipe and the upper part of the inner mouth.

3.

Abdominal breathing costs less energy because muscle power is only used for breathing out. Forced chest breathing costs more energy because muscle power is used for breathing out, as well as for breathing in.

4.

There are many medical reasons why abdominal breathing is better than forced chest breathing. An important one is the stress reducing effect of abdominal breathing.

Is it difficult to learn abdominal breathing?

In abdominal breathing it is necessary that you can smoothly pull in and relax the lower muscles of the belly. If you are not capable to do this, try the following exercise:

1.

Lie down on your back with your hands firmly flat on the lower part of the belly, just beneath your belly button (Not above it, because then you will push on your stomach!).

2.

Breathe slowly in through your slightly opened mouth, while pressing your belly upwards against your hands. When you feel that your belly has reached its utmost position, you must hold your breath a short moment. After that you must pull your belly in as fast as possible while breathing out.

3.

Repeat this exercise ten times, do that each day during a week, and you are able to pull in and relax your belly muscles without the help of your hands. You will get quicker results if you do the exercise in the evening, just before you go to sleep. Both when you are in sitting or standing position, it will help you to relax the muscles when you get the feeling of "letting your belly fall down".

When you play a wind instrument breathing in through the nose in principal trickers forced chest breathing. Only very experienced players are able to do it right, although it even cost them much concentration and energy to combine it with abdominal breathing and to keep the throat open and relaxed. Therefore I strongly advise against it.

Stresskickers, having with certainty a lot of trouble with the exercise mentioned above, must practise also just after waking up. While breathing out they must close the mouth slightly so they can hear the airflow.

Super-stresskickers I advise also to practise before going to bed and just after waking up. But they must open the mouth by pulling down the lower jaw. While breathing out they must produce a weak humming sound, as low as possible, way yonder from their throat (don't force it!). Please tell the rest of the family that you are planning to do so (and maybe the neighbours also), for else they might get very strange thoughts about you!

Under normal conditions the Automatic Locomotory Nerve System (ALNS) will regulate automatically all muscle action needed to breathe. When you try abdominal breathing for the first time, it means that you must unlearn forced chest breathing. This will be the biggest problem because abdominal breathing is the opposite of forced chest breathing. So you must learn to think the other way around!

In the beginning the ALNS will cause you to do it automatically wrong and you will often get a kind of struggling feel in your brain, chest and belly. This is in fact a struggle between the Conscious Nerve System (CNS) and the ALNS. So the problem by starting practising abdominal breathing is, that you must re-program your ALNS in a drastic way. The best and quickest way to do this, is performing an action pattern at a very low tempo while describing each detail of the action in your mind, and giving your ALNS enough time to memorise it all. Thus the ideal way of practising abdominal breathing is playing long notes followed by long rests, while memorising the next diagram:

SOUND = PULL IN BELLY = BREATHE OUT = WORK

- place the toes of your feet slightly outward and spread your legs a little bit; in sitting position somewhat more otherwise your legs will press against your belly preventing a free breath intake

Never let the pressure come so high that you feel it under your breastbone or in the neck, because this induces forced chest breathing. Thus don't pull up your chest and don't straighten your back; at the end of a breath intake you must have the feeling that you have become shorter and wider, instead of narrower and taller. The audience will be deeply impressed by your presence!

Het Auto Motorisch Zenuwcentrum

Finally some important extra remarks about The Automatic Locomotory Nerve System. The ALNS is a part of the brain that can automatically perform most of the muscle actions, needed to move your body. In principal it has learned to perform an action when you execute this action twice. But actions often consist of many sub-actions, all of which must be executed twice. Beyond that it isn't always easy to discover the sub-actions which are involved. So in many cases learning takes more time.

The ALNS can perform many actions simultaneously, unless you switch it to its learning position. In that position it can only learn 1 action and will perform the actions that are already in its memory very uncertain. So it might happen that when you are concentrated (with your CNS) to memorise the correct accidentals

of a line of music, you play the wrong rhythm which you just had studied.

Because of this you must make a difference between practising and playing.

Practising is analysing each aspect of a piece of music and showing it in your most proper way to your ALNS (twice).

Playing is staring beyond the horizon and only singing the music in your head (= relax totally, don't want to analyse and control). If you do so than all the things that must occur with your instrument to play that music, will be executed by your ALNS. This goes for the right fingering, embouchure etc. and of course your breath control as well!

The greater your precision during practising is, and the deeper you can relax while playing, the faster your progress will be with the greatest amount of fun!