

BETTER BREATHING

The way you breathe changes depending on how you feel. For example, when you feel tense or anxious you are more likely to take quicker, shallower breaths, using your upper chest. This is part of the stress reaction – the fight or flight response. Faster breathing is needed when the body requires extra oxygen for emergency action. Rapid breathing keeps the body on alert and this is a pattern that can easily become habitual as part of a cycle of strain and tension – particularly where there is a background of stress or chronic pain.

Breathing with the upper chest is inefficient and makes you feel less relaxed and more anxious than diaphragmatic breathing – breathing with the belly. Breathing poorly can increase your perception of stress or pain. When we feel stressed or anxious we breathe faster - and breathing faster makes us feel more anxious. Learning better breathing is likely to help ease both pain and stressed feelings.

Breathing is not just about taking in the right amount of oxygen, but also about expelling the right amount of carbon dioxide. When you breathe rapidly in an upper chest pattern, you may get rid of too much carbon dioxide and therefore too much carbonic acid with the result that your blood becomes more alkaline than is appropriate for your body's needs (known as "respiratory alkalosis"). When this happens certain unwelcome responses take place automatically in a virtual chain reaction of changes, most notably is that you become more sensitive to pain and stressful situations.

Caution: higher levels of carbon dioxide and an increased supply of oxygen to the brain may make you feel slightly dizzy after or during the following exercises. Sit quietly until the feeling passes. It is perfectly normal and will gradually stop happening as your body learns to tolerate the effects of slower breathing.

Establishing correct breathing pattern: hi-lo test

Sit in front of a mirror, one hand on upper chest, other hand on upper abdomen. Maintain this during early stages when practicing (a) pursed lip breathing, (b) antiarousal breathing, to observe that abdomen *does* move first, outward, and that chest/hand *does not* move toward the chin. If it does, use shoulder stabilization methods when practicing breathing.

Once a week recheck breathing pattern using this test.



Pursed lip breathing exercise

- Adopt hi-lo test position (see above), one hand on the abdomen, the other hand on the chest.
- On inhalation your abdomen should move forward.
- Breathe in *through the nose* and *slowly* out through the mouth, with pursed lips.
- Repeat this 20–30 times twice daily.
- To encourage pursed lip breathing, imagine that you are (a) blowing through a straw, (b) slowly blowing up a balloon.

Antiarousal exercise

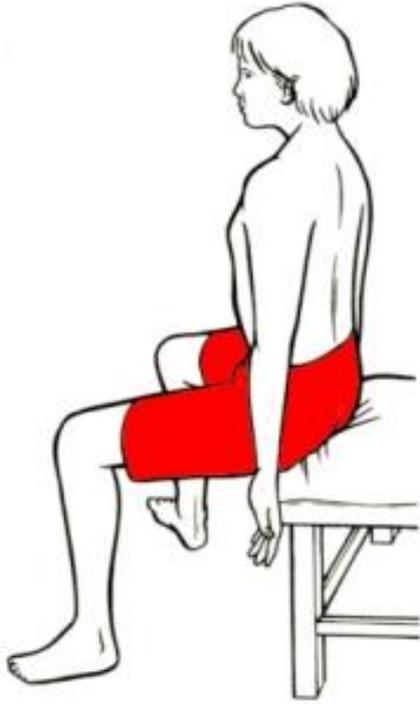
- Adopt hi-lo test position (as above).
- On inhalation your abdomen should move forward with no upward movement of the chest.
- Breathe in *through the nose* and *slowly* out through the mouth, with pursed lips.
- Count to yourself as you inhale and exhale, to establish the desired rhythm, with exhalation taking twice as long as inhalation. (It may take some weeks of practice to achieve this.)
- Avoid focus on inhalation. Let this be uncontrolled, after the full exhalation.
- The long, slow exhalation creates the opportunity for a full inhalation.
- After several weeks of practice, a full cycle (in and out) should last about 10 seconds, when doing the exercise.
- You may feel light-headed after the exercise so sit quietly for a minute or two before resuming normal activities.
- Repeat 30 cycles twice daily.

Brugger position for breathing rehabilitation

Adopt the Brugger position, several times daily, especially if you spend time seated at a desk.

- Sit close to the chair edge, arms hanging down.
- Place feet below the knees, then move them slightly more apart, and turn them slightly outward.
- Roll your pelvis slightly forward to produce a *small degree* of low back arching.
- Ease your breast bone slightly forward and up toward your throat.
- Turn your arms outward, palms facing forward.
- Separate your fingers until your thumbs face slightly backward.
- Tuck your chin in.

- Maintain this while you practice 5 cycles of slow, pursed lip, antiarousal breathing.
- Repeat whenever you sense muscle tension during sitting, or a need for deeper breathing.



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Incorrect breathing may influence pain by;

- **Altering the pH and creating respiratory alkalosis leading to...**
- **Increased sensitivity to pain, light and sound**
- **Inducing increased sympathetic arousal**
- **Encouraging a sense of apprehension, anxiety**
- **Encouraging smooth muscle cell constriction (eg vasoconstriction, fascial tone etc)**
- **Reducing oxygen release to cells, tissues, brain (Bohr effect) and encouraging ischaemia, fatigue, brain fog, pain etc.**