



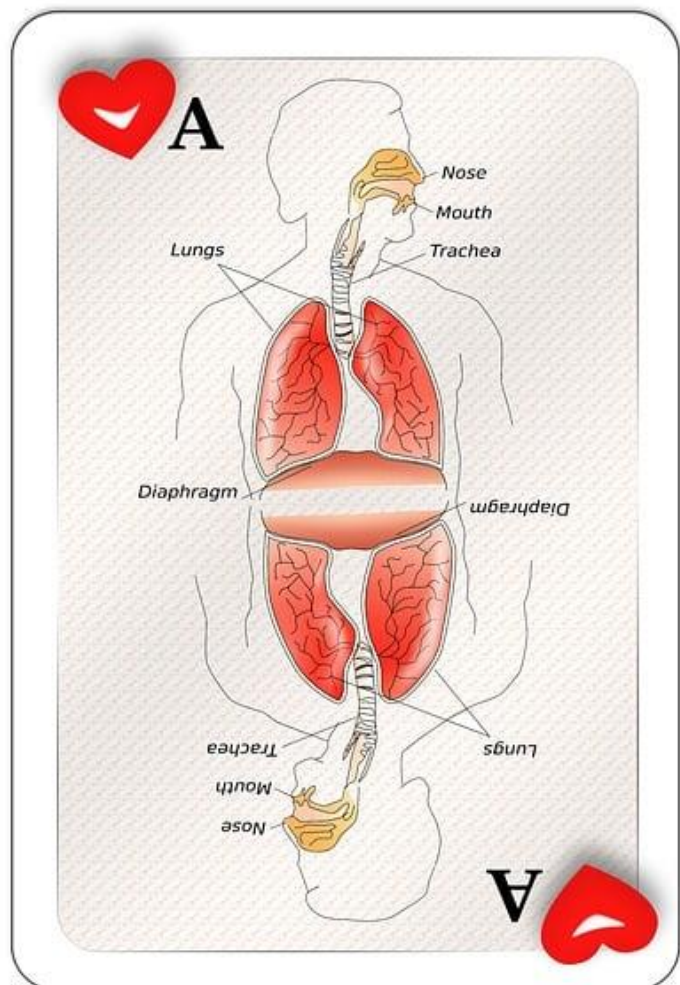
# Susan Ryrie *Therapies*

## BLOG – November 2023 Breathing

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The patterns of breathing that we use can have surprising impacts on our health. I have been exploring this topic, and am looking forward to finding out even more!

It seems that correct breathing really is an ace card – and we can all deal it for ourselves.





When we round our neck and back, perhaps because of poor sitting posture, or when using a mobile device we are squashing our lungs and diaphragm. If we do this for long periods of time it can have a negative impact on our breathing. It is important to remember to sit, and to stand, tall.

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When we are concentrating hard, and also when we are stressed, it is common for us to hold our breath. This interrupts the natural rhythm of breathing, and affects the levels of oxygen and carbon dioxide throughout the body. We need to become aware of occasions when we tend to do this, and try to return to a relaxed pattern of breathing.

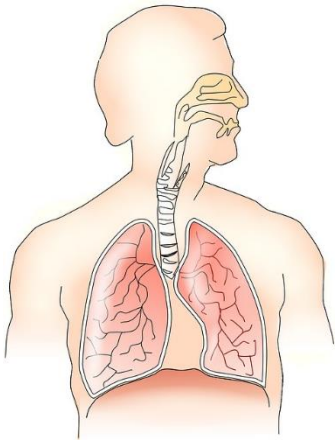


Breathing through our mouth, rather than our nose, 'bypasses' the warming, moistening and filtering process that occurs within the nasal passages, preparing the air and protecting the lungs from cold and bacteria etc. It can also lead to mild hyperventilation, which upsets the balance of oxygen within the body. Try to make a habit of breathing through your nose whenever you can, even when you are exercising.

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Breathing is such a fundamental part of life that it is easy to take it for granted. We assume that breathing is something we do naturally and correctly, without any need to train or correct the way we do it. However, many different situations, such as those examples mentioned above, can lead to us developing increasingly poor habits of breathing. Without realising that anything is amiss, we may be suffering from a variety of conditions related to disruption to the body's physiological processes due to incorrect levels of oxygen and carbon dioxide, and to muscle tension and strain. Studies have shown that these could include conditions as serious as heart disease and cancer.



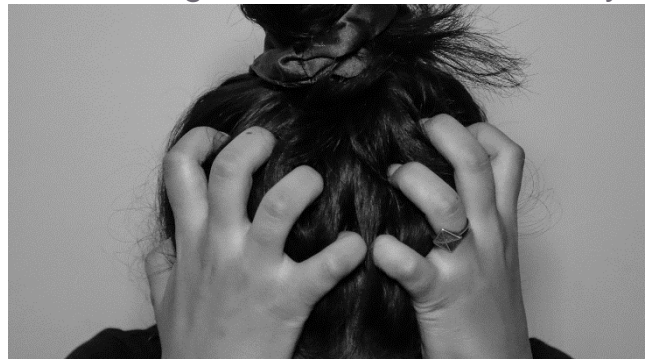


The diaphragm is the main muscle responsible for respiration, and correct functioning of this is essential if we are to be able to breathe effectively. The Bowen technique, for both humans and horses, includes a procedure to assist with this. By releasing tension, full function of this muscle can be regained. The diaphragm is then able to draw air to the very lowest region of the lungs, and stale, stagnant air can be exhaled. This improves absorption of oxygen. Muscle action becomes normalised, and strain on the

accessory muscles that have been 'making good' for the lack of function of the diaphragm, can be relieved. This can bring more widespread benefits to muscles of the chest, shoulders and neck.

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Stress can cause us to hold our breath. It triggers the 'fight or flight' response, and raises our levels of the hormone cortisol. When this situation is prolonged, it can lead to a vicious circle: holding the breath upsets the balance of oxygen and carbon dioxide in the body; this causes levels of cortisol to increase, which leads to a greater feeling of stress, more tendency towards holding the breath, more disruption to oxygen and carbon dioxide levels, ... And so it goes on forever until we break the cycle by triggering the parasympathetic nervous system and returning to a state of relaxation. Bowen, NST and Emmett can have this effect for all species.



The diaphragm muscle shares connections with another important muscle - the psoas. This muscle has attachments onto the vertebrae of the lower back, and the thigh bone. Tension in the diaphragm, perhaps through incorrect breathing and/or stress, can be transmitted to the psoas muscle, leading to stiffness, pain and discomfort in the lower back. Lower back pain really can be related to stress, or to poor patterns of breathing!

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A change in breathing pattern is something we look for within a Bowen/NST/Emmett session as an indication of release of muscle tension, and nervous tension. Sometimes a change can be very obvious, for example an audible sigh, other times it is much more subtle and scarcely noticeable unless you are alert for this type of feedback from the body.

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Another indication that the Bowen is working, is the 'rumbling tum'. I think this is perhaps related to the body moving from a state of stress, to a state of relaxation. When stressed, the body enters the 'fight or flight' response governed by the sympathetic nervous system; resources are diverted away from functions such as digestion, with priority given to systems that will enable the fight or flight. When the body relaxes and the parasympathetic nervous system takes over, circulation etc is restored to basic 'housekeeping' organs, and proper digestion can resume.

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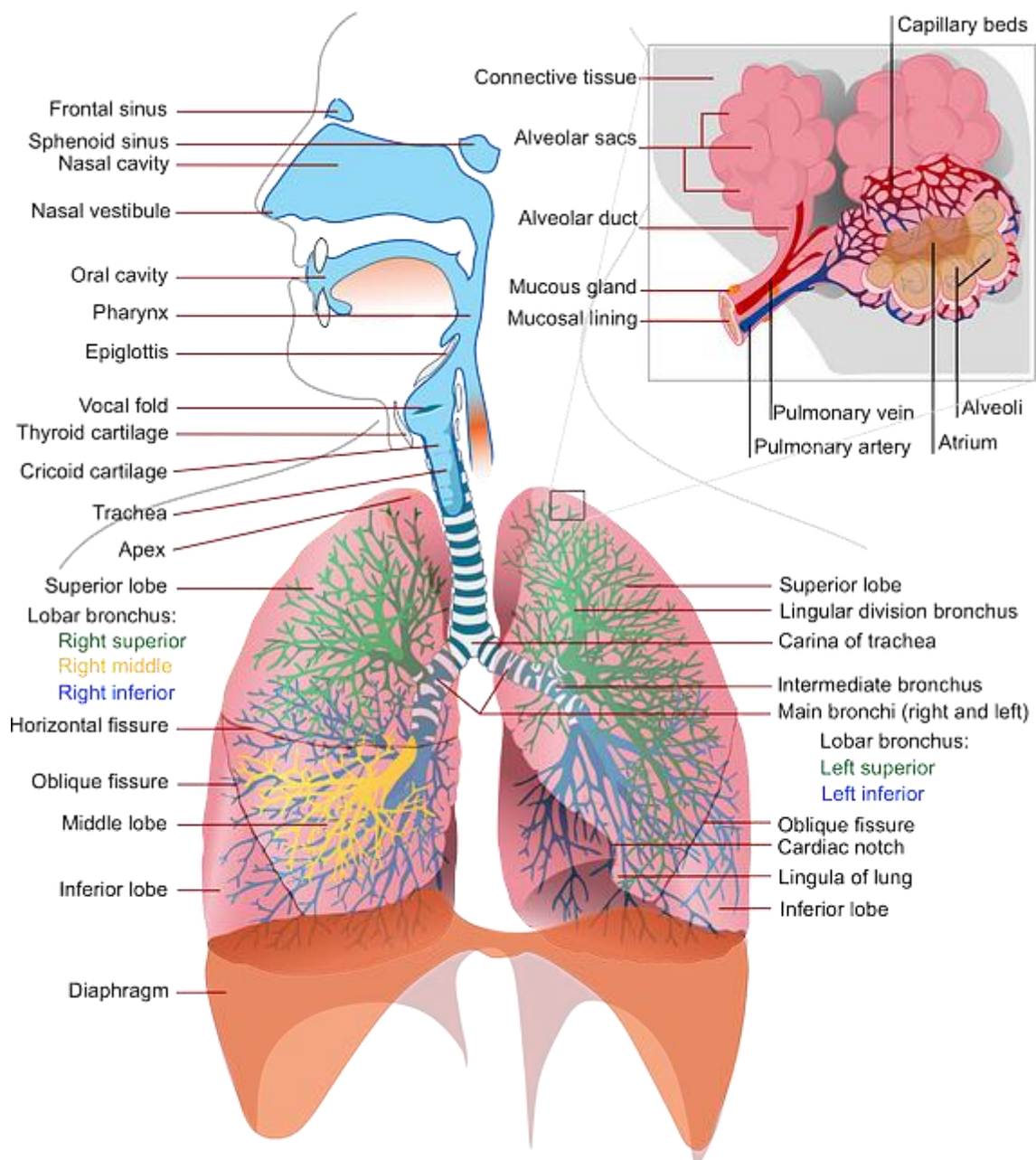
Recently, I counted the breathing rate of a horse immediately before, and immediately after, performing the diaphragm procedure. I was (pleasantly!) astonished by what I found. Immediately before, the horse was over-breathing at a rate of around 34 breaths per minute; immediately after, the rate was around 15 breaths per minute, which is within the expected normal rate. It's very simple to count your horse's breathing rate, but if you are not certain about doing it, there is a very informative [fact sheet on the BHS website](#).



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In the books I have been reading, there was a lot of discussion about the importance of carbon dioxide within the body. Because 'school biology' teaches that we 'breathe in oxygen and breathe out carbon dioxide', it is easy to hold on to the notion that the carbon dioxide is a valueless waste product. However, carbon dioxide is necessary for a wide range of physiological processes, and correct levels of carbon dioxide are needed in order for the body to be able to absorb the oxygen that is breathed in. When levels of carbon dioxide fall, studies have shown that oxygenation of various internal organs, including the heart, can also fall, perhaps impairing correct function, and perhaps explaining a link between low carbon dioxide levels and heart disease.

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Hyperventilation (over breathing) is a common way in which carbon dioxide levels can fall, because too much is being breathed out. And hyperventilation need not be the obvious 'panic attack' type that we might associate with that word; any increase above a 'normal' rate could be producing this effect. It is intriguing that something as straightforward as correcting habits of over breathing could improve the cellular health of the body, perhaps improving a wide range of chronic health conditions.

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We can all take some simple steps to check whether there are any obvious problems with our pattern of breathing. We should:

- Breathe IN through our nose
- Use our diaphragm as the main muscle to control breathing – breathe into the belly, rather than shallow ‘chest breathing’
- Maintain a good upright and 'open' posture that allows the diaphragm to move, and the lungs to expand
- Have a consistent rhythm that excludes holding our breath when we concentrate or are feeling stressed.

For me, the challenge is to breathe through my nose when walking the dog, and I am sure that when I do this I find hills easier, and I feel fresher at the end of the walk. Hopefully, it will soon become my normal habit, and I will not need to be so aware in order to maintain that way of breathing.



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If you feel you want to find out more about the health implications of breathing patterns, there are many self-help resources that are available online, and coaches who can help you retrain your breathing patterns. There is also a website devoted to breathing by horses, [Equine Breathing](#), which discusses potentially being able to improve a wide range of health difficulties through retraining to reduce hyperventilation in horses.

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I would love to hear of your experiences if you do decide to investigate this further – email me at [susan@susanryrie.co.uk](mailto:susan@susanryrie.co.uk) with the subject BREATHING.

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