The Blood Pressure Balance Programme

Week 3

The Breath and Body Connection

Connecting the breath and body refers to the practice of becoming aware of one's breath and using it as a tool to anchor attention into the present moment and become more attuned to the sensations, thoughts and emotions arising in the body.

The breath-body connection can also influence emotional states. Shallow, rapid breathing is often associated with stress, anxiety, or fear, while slow, deep breathing can promote feelings of calmness, ease, and emotional stability. By regulating the breath, we can learn to modulate our emotional responses and cultivate a greater sense of emotional well-being,

Techniques such as deep breathing, diaphragmatic breathing, and paced breathing can activate the parasympathetic nervous system, promoting relaxation and reducing the body's stress response.

Breathing exercises can cause physiological changes that include:

- lowered blood pressure and heart rate
- reduced levels of stress hormones in the blood
- reduced lactic acid build-up in muscle tissue
- balanced levels of oxygen and carbon dioxide in the blood

- improved immune system functioning
- increased physical energy
- increased feelings of calm and wellbeing

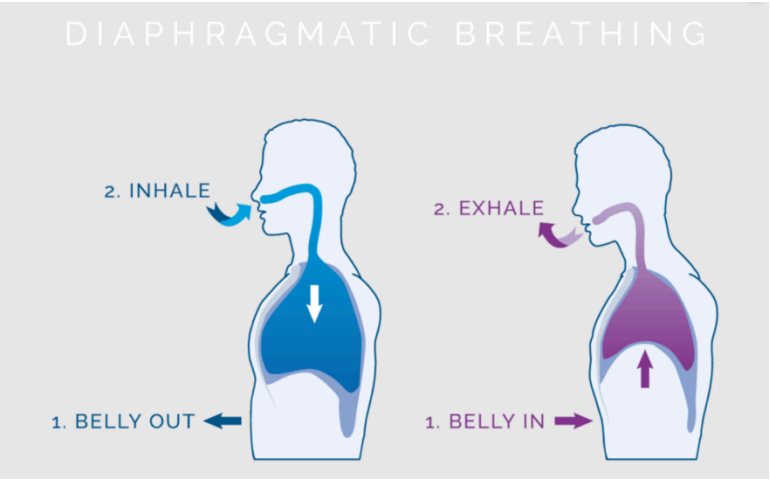
Special considerations

Some people find that concentrating on their breath actually provokes panic and hyperventilation. If this happens to you, you can try doing the practice for a very short period of time, and/or move to one of the mindfulness practices from week 1 or 2.

Diaphragmatic Breathing

Diaphragmatic breathing (also known as belly breathing or abdominal breathing) is slow and deep breathing that affects the brain and the cardiovascular, respiratory, and gastrointestinal systems through the regulation of autonomic nervous functions.

The diaphragm is a large, dome shaped muscle located at the base of the lungs which plays an important role in breathing, though you may not be aware of it. When you inhale, the diaphragm contracts (tightens) and moves downward. This creates more space in your chest cavity, allowing the lungs to expand. When you exhale, the opposite happens, the diaphragm relaxes and moves upwards in the chest cavity. Diaphragmatic breathing is marked by expansion of the abdomen rather than the chest during the in breath. When lung expansion occurs lower in the body, breathing is described as “deep” and corresponds with observed or felt movement of the abdomen outward with inhalation. In this way, diaphragmatic breathing helps the lungs fill more efficiently. This type of breathing helps boost the amount of oxygen in the blood, lowers blood pressure and heart rate, and reduces muscle tension.



We are all born with the knowledge of how to fully engage the diaphragm to take deep refreshing breaths. As we get older however, we get out of the habit. Everything from the stressors of everyday life to the practice of 'sucking' in the stomach for a trimmer waistline encourages us to gradually shift to shallower, less satisfying 'chest breathing'.

Breathing is a natural process that usually occurs without conscious effort. However, the average breath tends to be shallow and does not engage the diaphragm very much. With shallow breathing, also known as thoracic or chest breathing, minimal breath is drawn into the lungs, usually using the intercostal muscles and not the diaphragm. Shallow breathing means you're taking in less air than with deeper breaths, which could reduce your oxygen supply over time. When we breathe in a shallow way, the body remains in a cyclical state of stress—our stress causing shallow breathing and our shallow breathing causing stress. This sets off the sympathetic nervous system, the branch of the autonomic nervous system that primes us for activity and response. Shallow breathing often accompanies stress, anxiety, and other psychological difficulties. This is typically a result of sympathetic nervous system becoming over aroused, commonly referred to as the "fight or flight response." With practice, diaphragmatic breathing leads reversal of fight or flight, to a quieting response modulated by the parasympathetic nervous system.

Benefits of Diaphragmatic Breathing

Diaphragmatic breathing helps you to use your diaphragm correctly while breathing to:

- Strengthen the diaphragm.
- Decrease the work of breathing by slowing your breathing rate.
- Decrease oxygen demand.
- Use less effort and energy to breathe.

During diaphragmatic breathing, you consciously use your diaphragm to take deep breaths. When you breathe normally, you don't use your lungs to their full capacity. Diaphragmatic breathing allows you to use your lungs at 100% capacity to increase lung efficiency.

Diaphragmatic breathing offers several benefits to the body including-

- Helping you relax.
- Improving muscle function during exercises and preventing strain
- Increasing how much oxygen is in your blood.
- Making it easier for your body to release gas waste from the lungs.
- Reducing blood pressure.
- Reducing heart rate.

Heart Rate Variability (HRV)

Another benefit of diaphragmatic breathing is how it can increase heart rate variability (HRV), which is a measure of the balance of sympathetic and parasympathetic influence on the heart.

HRV is simply a measure of the variation in time between each heartbeat.

Based on data gathered from many people, if our system is in more of a fight-or flight mode, the variation between subsequent heartbeats tends to be lower. If the system is in a more relaxed state, the variation between beats may be higher.

People who have a high HRV may have greater cardiovascular fitness and may be more resilient to stress. HRV may also provide personal feedback about your

lifestyle and help motivate those who are considering taking steps toward a healthier life.

Building Diaphragmatic Awareness

Research has shown that voluntary diaphragmatic breathing at between 10 and 5 breaths per minute for 10 min twice a day for 4 weeks was effective in producing positive outcomes such as decreases in systolic and diastolic blood pressures, reduced heart rate, a relaxing effect, and reduced anxiety .

Practicing diaphragmatic breathing makes it easier. You may notice it takes an increased effort to use your diaphragm correctly. At first, you'll probably get tired while doing this exercise. But keep at it, because with continued practice diaphragmatic breathing will become automatic.

Still Water

We can make our minds so like still water that beings gather about us, that they may see, it may be, their own images, and so live for a moment with a clearer, perhaps even with a fiercer life because of our quiet.

By W.B. Yeats

Home Practice & Practice Log

Formal Home Practice for this week: Diaphragmatic Breathing
Try to complete the Diaphragmatic breathing practice twice daily.

Record on this form each time you do the Diaphragmatic breathing practice. In the comment field, put just a few words to remind you of your impressions of this practice, what came up, how it felt, what you noticed in terms of attention, emotions, thoughts, etc. It's important to write the comments immediately after the practice because it will be hard to reconstruct later.

Date	**Home Practice Comments**
