



Vitaliteit door balans – supporting material

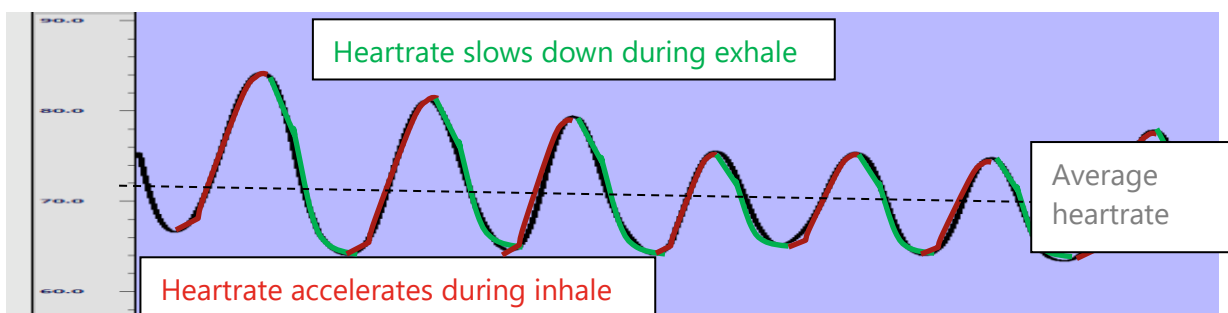


HRV training

HRV is an acronym for Heart Rate Variability. Our heartrate changes constantly throughout the day and night, beating faster during sport and when we get a fright. Even just a thought about something stressful can increase our heartrate. Our heartrate slows down when we relax and during sleep it often slows down even further.

At rest our heart rate is somewhere between 60 and 75 beats per minute. During sport or intensive exercising, it can increase to 180 beats per minutes whereas during sleep it can come down to as low as 45 beats per minute. The more our heart is able to speed up and slow down the more capable we are of adapting to different demands and circumstances we have to deal with. In other words, a higher HRV is good for us and indicates good health, functioning and resilience.

Interestingly, our heartrate is also influenced by our breathing. When we breathe slowly, our heart accelerates during the inhale and slows down during the exhale. The below visually illustrates this pattern:



HRV can therefore be trained by breathing in a particular way. This is called HRV training. The goal of this training is to produce this smooth wave pattern, which has a positive effect on our nervous system and our overall health. As our HRV increases our heart is more able to adapt to different circumstances we encounter. Not just physical demands but also other challenges, such as stress and pressures. Our ability to cope with and recover from stress increases!



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Learn how to breathe “low and slow”

A slow breathing pace of between 5 and 7 breaths per minute produces the smooth heart rate waveform. Exactly which breathing pace is best needs to be determined as it is slightly different for everyone. The technical term for this breathing pace is “Resonance Frequency”. The Resonance Frequency (RF) is the breathing pace where the heart rate rhythm synchronises (collaborates) optimally with breathing.

For very small people the RF is around 7 breaths per minute. For very tall people it is around 5 breaths per minute. A person of average height has an RF of around 6 breaths per minute.

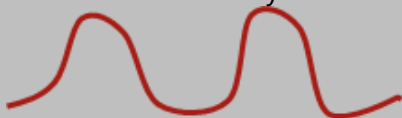
Note: breathing at the RF pace, which we do during HRV training, is not a way of breathing for normal circumstances. It is designed to train your heart and you breathe very consciously at a very specific pace. Under normal circumstances our breathing occurs automatically without a need to consciously control and it automatically adjusts to the varying demands during our day. For example, when we exercise, our breathing automatically speeds up and slows down again when we are at rest.

When we feel rushed, under pressure or stressed, especially when this is sustained for an extended period of time, we become accustomed to faster breathing. We run the risk of it becoming our “new normal” and we then breathe faster even when we are at rest and during sleep.

The first stage of HRV-training is to become aware of how fast we are currently breathing. This is done as follows:

How fast am I breathing?

Sit down at a table with a piece of paper, a pen and a timer (egg-timer or phone). Hold the pen in one hand and put the other hand on your belly, just below the ribcage. Set the timer to 3 minutes. Breathe as you normally would. Your belly will rise when you inhale and fall inward when you exhale. Draw an upward line when you inhale (feel your belly rise) and a downward line when you exhale (feel your belly go inward).



Stop when the timer finishes after 3 minutes and count the number of waves. Your breathing pace is the number of waves divided by 3.

A normal breathing pace at rest is slower than 12. If your pace is less than 12 you can take the next step: testing to see if you can breathe comfortably at an even slower pace.



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Then download a breathing pacer app on your smart phone (see below). A breathing pacer app indicates exactly when to breathe in and when to breathe out. You can start by seeing if you can breathe at a slower pace of 7.5 breaths per minute. Later on you will use this app with the breathing pace set to your RF (the breathing pace for the HRV-training).

Working with a breathing pacer

Google Play:



Paced breathing

App store:



Breathe+ Simple Breath Trainer

Download one of the apps, both are free downloads.

Start by setting the breath pacer to 7.5 breaths per minute as follows:

Inhale:	2 seconds
Hold:	1 second
Exhale:	3 seconds
Hold:	2 seconds

Sit down with your back straight. When you slump too much, your chest will have less opportunity to move which makes breathing more difficult. Alternatively, you can lie down on a bed or couch. Start the app and follow the pacer for 3 minutes. Allow the air to flow in smoothly, preferably through the nose. Exhale with pursed lips, like you gently blowing out the air through a straw. Continue to breathe slowly and follow the pacer, without putting in any deliberate effort. Just allow your breathing to naturally occur.

Not succeeding?

If you are not able to breathe slowly with the pacer for the full 3 minutes and / or if you experience shortness of breath, headache or light-headedness, then you are not quite ready yet for HRV training. In which case, start by slowing down the pace of life and prioritise more relaxation and recovery. Some tips:

- alternate activities with rest and recovery
- practice relaxation, for example with mindfulness or meditation
- improve your fitness through walking or cycling

You can then regularly check-in and use the "How fast am I breathing" test to see if you are able to breathe slowly for 3 minutes.

Succeeding?

Congratulations! You are ready for the next step: determining your Resonance Frequency (RF).



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HRV training at home

After your RF has been determined, administered by your biofeedback therapist, you will know what pacer settings to use in the app. Practice the HRV breathing for at least 10 weeks, twice a day at your RF pace.

The “Way of life” app is a handy tool to track whether you are successful at this daily practice.