

Transform Stress with the Science of the Heart

By nutritional therapist, author and HeartMath® practitioner *Susannah Lawson*.

Stress can deplete wellbeing, drain energy and damage health – but despite knowing the harm it can do, finding a long-term effective way to positively manage stress can be hugely challenging.

As a nutritional therapist, almost every client I see rates stress as a problem in their life. And what I've discovered is that no matter how good a diet or supplement programme you follow, if you don't find a way to tackle the negative effects of stress, it's almost impossible to completely overcome your health problems and achieve your wellbeing goals. Stress can be as harmful to your body as smoking, drinking too much or eating a junk food diet. Indeed, an article in the Journal of American Medical Association found that too much stress can be as bad for your heart as smoking and high cholesterol. [1]

This is because as well as generating unpleasant emotional sensations, stress triggers a cascade of hormones that, over time, accelerate ageing, encourage inflammation and increase disease risk.

Finding a technique to help clients successfully – and easily – manage stress therefore became a key aim of my practice. So after trying various approaches – from breathing exercises and guided visualisation, to goal setting and encouraging daily 'me' time – I discovered the HeartMath® system.

The HeartMath system is a scientifically validated way to not only reduce stress – but more importantly, to transform the negative emotional and physiological effects you experience at the time the stressful event occurs. This is crucial because so many stress-relieving activities – listening to music, having a warm bath, a massage, a glass of wine, for example – focus on relaxation AFTER the event. Yet by the time you wind down, you've probably already experienced hours of stress and its unpleasant effects. The stress hormone cortisol, for example, stays in your system for hours rather than minutes once released. So the key appears to be learning how to transform your reaction to stress, and therefore stop the emotional and hormonal fallout that follows.

HeartMath developed simple techniques that achieve this – and comes with a whole host of positive side effects, from better sleep and energy levels to enhanced intuitive thinking and decision making. You can also monitor your progress and get instant review with a helpful hand-held educational device called a Personal Stress Reliever® (more on this later). But before we explore how you can use HeartMath tools and technology to experience these benefits for yourself, let us first understand why stress is so harmful.

Why reducing stress is important

Almost daily, new research reveals yet more harmful effects of too much stress. In the past few years alone, studies have shown that those of us who are regularly stressed have:

- A five-fold increased risk of dying from heart-related problems. [2]
- Double the risk of developing diabetes in men. [3]
- A 65% increased risk of developing dementia. [4]
- Double the chance of developing obesity. [5]
- A 12% lower likelihood of conception if you're a fertile women. [6]
- An increased risk of breast cancer. [7]

Of course, some people will claim they thrive on stress. “Deadlines motivate me” clients often tell me. And as long as you truly perceive stress in a positive way – and are giving yourself adequate time to rest and recuperate – then you may not be having any harmful side effects. It's when stress leaves you feeling depleted and out of control that it becomes problematic.

In Patrick Holford's [100% Health Survey](#), 68% of the 55,000-plus participants reported feeling that they have too much to do, 66% said they frequently felt anxious or tense, 82% often became impatient and 55% get angry easily. These symptoms may be widespread, but are they healthy?

Stress has become so common in our society that it's easy to forget its symptoms are our body's way of warning us that something is out of balance. For many, stress becomes a habit that's addictive and we seek out stressful situations to trigger that boost of adrenalin we need to give us the edge and keep us going.

Short term, this works fine. But long term, your body can't go on supporting what's designed to be an emergency coping reaction. Your in-built survival kit – which is what the stress or 'fight or flight' response essentially is – is not designed to be activated every day. Traffic jams, conflict with colleagues or your family, too much work etc are not life-threatening situations. But they still trigger the same response – and often many times each day.

How do you know that you are stressed in a negative way? Well if you experience the following on a regular basis, that's a big clue:

- Find it hard to think straight
- Negative attitude
- Feeling out of control
- Anxiety
- Tension
- Irritation
- Feeling overwhelmed
- Heightened worries and concerns
- Frustration
- Hostility

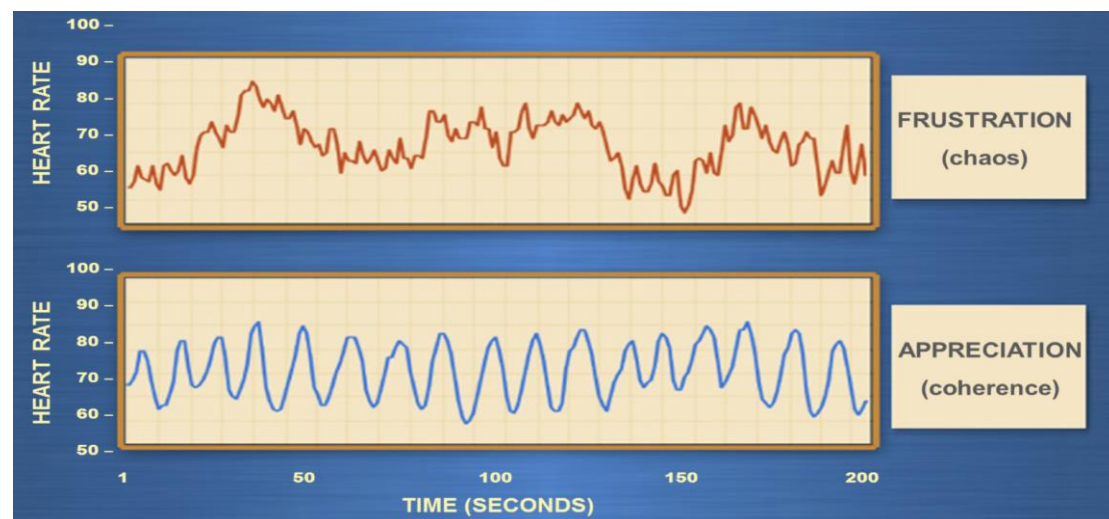
What this list has in common is that all these symptoms are emotions. How you are feeling, to a much greater extent than your thoughts, activates and drives the physiological changes that correlate with the stress response. Thus the key to optimal health and vitality is directly related to our ability to self regulate our emotional response.

Simply put, the emotions we tend to label as ‘negative’ (ie those listed above) disrupt optimal physiological and mental functions and leave us feeling depleted. Conversely, the emotions we label as ‘positive’ facilitate a wide range of physiological functions, renew our energy and optimize our body’s natural regenerative processes. The research that supports these findings calls the latter ‘psycho-physiological coherence’, or more simply, heart coherence.

How emotions affect heart rhythms

When you think of the heart, you probably visualise a physical organ – but you may also think about the emotional attributes we attribute to it – your heart’s desire, heart felt, heart broken, for example. Interestingly, research by the Institute of HeartMath in California has discovered that the two are interlinked – that is our emotional state has an impact on heart rhythm patterns.

The graph below shows first the irregular jerky heart rhythm pattern typical of stressful feelings like anger, frustration, worry and anxiety. This is called an ‘incoherent’ pattern. The next line shows the heart rhythm pattern typical of a positive feeling such as appreciation. This smooth shape is what scientists call a ‘highly ordered’ or ‘coherent’ pattern and is a sign of good health and emotional balance.



Just as your emotions influence the behaviour of your heart rhythm pattern, the heart communicates with your brain and the rest of your body. This occurs via your nervous and hormonal systems, electromagnetic interactions and other pathways. HeartMath research has been able to demonstrate that the signals your heart sends to your brain can profoundly influence perception, emotions, behaviour, performance and health. [8]

In studying the science of the heart, what HeartMath has discovered is that your heart rhythms have an impact on your thinking. When your heart rhythm is coherent, you are able to access higher-thinking centres in your brain, so can think more clearly and see more options or solutions to problems. But when your heart becomes incoherent, this access becomes inhibited and you are likely to find your reactions slower and not be able to think so clearly.

Studies have found that people in a coherent state (ie where their heart rhythm pattern is coherent) are noticeably able to improve their thinking and performance, whether they be making decisions or playing sport. [9]

Over time, coherence also helps to reduce the ‘stress’ hormone cortisol – which is produced whenever you experience feelings of frustration, anxiety, anger or despair [10] – and increases the ‘vitality’ hormone DHEA. Ideally, these hormones should be in balance, but when you experience frequent stress, cortisol can become too high and DHEA depleted. This pattern is found in most major diseases as is associated with accelerated ageing, brain cell death, impaired memory and learning, decreased bone density, impaired immune function, increased blood sugar and increased fat accumulation around the waist and hips. [11]

Getting coherent with HeartMath Techniques

HeartMath provides techniques that can be practiced daily to help you actively reduce stress in your life. As I mentioned earlier, the premise of the HeartMath system is different to many other approaches to stress relief, which typically focus on calming down after the stressful event has occurred. With HeartMath, you learn a simple coherence technique that can help you ‘reset’ your physiological reaction to stress as the event occurs.

Just a couple of HeartMath breaths can help you stop the hormonal cascade that triggers the release of cortisol – and you stay coherent (ie calm and in balance). When practiced regularly, research has found that the exercise can help you to feel better emotionally and improve your intuition, creativity and cognitive performance. [12]

Quick Coherence® Technique

There are three simple steps to practice to get coherent:

1. Heart Focus

Focus your attention on your heart area, centre of your chest.

2. Heart Breathing

Now imagine your breath flowing in and out of that area. This helps your respiration and heart rhythm to synchronise. So focus in this area and aim to breathe evenly, for example inhale for five or six seconds and exhale for five or six seconds (choose a timescale that feels comfortable and flows easily).

Take a few minutes to get the hang of the heart focus and heart breathing stages, then introduce step three:

3. Heart Feeling

As you breathe in and out of your heart area, recall a positive emotion and try to re-experience it. This could be remembering a time spent with someone you love, walking in your favourite spot, stroking a pet, picturing a tree or scenic location you admire or even just feeling appreciation that you ate today or have shoes on your feet. If your mind wanders, just bring it gently back to the positive experience.

These three steps when practiced daily throughout the day for 15-30 seconds at a time, can help you de-stress, feel calmer and more content. Your heart rhythm pattern

will become coherent and your heart-brain communication will optimize to help you think more clearly. For your daily HeartMath practice, try the Heart Lock-in Technique where you can sit down quietly and undisturbed (eg first thing in the morning, during your lunch break or when you get home from work). This way it's more likely to become habit and you can give the exercise your full attention.

Once you've got the hang of the HeartMath tools, you can then also use them any time you encounter a stressful event – for example, as you start to feel tense in heavy traffic, overloaded at work or sense you are about to face a difficult emotional situation. Just a few heart focused breaths can help you stay calm and coherent instead of becoming stressed. And you can do it with your eyes open, as you walk or talk – so you have a tool to control stress at the direct point you encounter a situation likely to trigger a negative reaction.

How well does it work? Numerous studies have shown regularly practicing HeartMath techniques can have hugely beneficial effects, not only on emotional health and wellbeing but also on physical health markers. For example:

- A study looking at the impact of daily HeartMath practice on hormone levels found that after just one month, cortisol (the stress hormone) reduced by 23% and DHEA (the anti-aging vitality hormone) increased by 100%. [13] The independent lab measuring the hormone samples thought the subjects were on drugs because they had never seen such improvements in ten years of operation, processing more than 30,000 samples.
- A small study with diabetics involved teaching a group of 22 participants with both type 1 and type 2 diabetes the HeartMath techniques and monitoring their progress. Six months after the workshop, participants reported significant reductions in anxiety, negative emotions, fatigue and sleeplessness, along with increased feelings of vitality and improved quality of life. Changes in glycosolated haemoglobin (HbA1c – a marker for sugar damage in the blood) were also observed, with increased HeartMath practice associated with a reduction in HbA1c levels. [14]
- A workplace study of employees with hypertension found that after three months of practicing HeartMath tools, blood pressure dropped an average 10.6 mm Hg for systolic and 6.3 mm Hg for diastolic. Participants also reported improvements in emotional health including reductions in stress symptoms, depression and an increase in peacefulness and positive outlook. [15]
- In a hospital study on 75 patients suffering abnormal heart rhythms (atrial fibrillation) who'd been taught the HeartMath techniques and practiced for three months, 71 reported substantial improvements in their physical and emotional health; 56 experienced such improvements in their ability to control their heart rhythms and hypertension that they were able to decrease medication; and 14 were able to discontinue medication altogether. [16]

Measuring your coherence

As you can see, doing the HeartMath exercise can really help you reduce stress and improve your wellbeing. It also helps you develop greater heart coherence. But how will you know?

Further research by the Institute of HeartMath discovered that you could monitor your state of coherence accurately by measuring, not just your heart rate (number of beats) but the pattern of activity that exists between heart beats. This is called your heart rate variability or HRV. As a result, a simple device called Inner Balance® that clips on your earlobe and plugs into your smartphone. There's a free app called Inner balance that you might like to download onto your phone now.

The Inner Balance sensor has an ear clip that attaches your ear lobe to pick up your HRV (your ear lobes register a pulse) and then feeds this data through to a hand-held device which tells you how coherent you are. There are three zones – the 'red' or incoherent (the state most of us are in), 'blue' for more coherent and 'green' for fully coherent. There is also a breath pacer to help you regulate your breathing, and different levels and modes, so you can adapt your practice as you get the hang of it.

You can buy an Inner Balance sensor from HeartMath (www.heartmath.co.uk in the UK and heartmath.com in the US. There may be a different 'shop' if you live elsewhere.) This costs around £100 and comes with full instructions and exercises to practice for yourself. This is great to have because you have it for life, can work out exactly what takes you into stress and what takes you out. You can also lend it to others. It's a great investment in building stress resilience into your life.

You can, of course, do the Quick Coherence technique without the device but it is great to 'train' you into your new baseline state of stress resilience.

Taking HeartMath further

As well as teaching you to transform stress, the Institute of HeartMath has developed practices in addition to the Quick Coherence technique for transforming negative attitudes and resolving specific problems. With a qualified practitioner, the HeartMath tools can also be used to help issues such as emotional eating, insomnia, chronic pain, anger/conflict resolution, obsessive compulsive disorder and addictions. And with children, HeartMath has successfully been used to help manage ADHD, hyperactivity and anxiety. There are thousands of HeartMath practitioners around the world who can train you one on one (see your country's website for details).

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