



## **The Blood Pressure Balance Programme**

### **Week 2**

Your brain- every brain - is a work in progress. It is 'plastic.' From the day we're born to the day we die, it continuously revises and remodels, improving or slowly declining, as a function of how we use it.

Michael Merzenich

## Stress and our nervous system

A stressful situation — whether something environmental, such as a home repair that has not been completed, or psychological, such as persistent worry about a friend or family member — can trigger a range of stress hormones that activate the sympathetic nervous system. A stressful incident can make the heart pound and breathing quicken. Muscles tense and beads of sweat appear.

This combination of reactions to stress is also known as the "fight-or-flight" response because it evolved as a survival mechanism, enabling people and other mammals to react quickly to life-threatening situations. This carefully balanced sequence of hormonal changes and physiological responses helps someone to fight the threat or flee to safety. Unfortunately, the body can also overreact to stressors that are not life-threatening, such as traffic jams, worries, and family difficulties. These stressors do not require us to 'fight' or run away, and as a result, the physical changes from our stress response are left circulating in the body.

Our sympathetic nervous system (SNS) is designed to activate in dangerous situations, triggering the 'fight or flight' response.

Ancient Threats:  
Quick danger, quick  
resolution



Modern Stressors:  
Ongoing, unresolved  
triggers



Today's stressors - like deadlines, traffic and constant notifications, activate the same SNS response, but without physical action, stress hormones linger in our bodies.



**So if we don't need to fight or run away, how can we respond to stress in a healthy way?**

The trouble is that we tend to react to stressors, both internal and external, in a way that produces yet more stress.

There are two levels of stressors. The first level comprises all the external and internal pressures that play upon us simply as a part of our being human. Then there are second-level stressors that consist of our stressed reactions to the first level.

In ancient times, people sometimes used powerful darts as a weapon of war. If you were struck by one of them, you really felt it. Taking that as an analogy, the Buddha spoke of two darts. The first dart consists in the suffering that arises just from being human. We often don't get what we want. All too often we instead get what we don't want. And even when we do get what we want, it's impossible to hold onto it forever. That's all part of what it means to be human. But the way in which we usually deal with the pain and difficulty that comes our way causes us to be struck by a second dart – one that is self-generated.

Human beings tend to react to painful feelings with aversion. That's how we're wired up, we don't like pain, or even discomfort and we spend much of our time trying to rid ourselves of it. To that end, we adopt a variety of strategies, many of them unconscious. In the presence of pain or discomfort we may, for example, tend to tune out and go blank or we may get into fantasies and daydreams. Or else we might go on the attack, giving rise to feelings of anger, or blame. Or we may immediately look about for a fix – 'something must be able to take this pain away – now!' Or else we may grasp for a new, more pleasant experience, to take our pain away.

All of these reactions are ultimately unhelpful. Grasping, blanking, getting angry and so on all produce their own kinds of pain and so a vicious cycle comes into being:

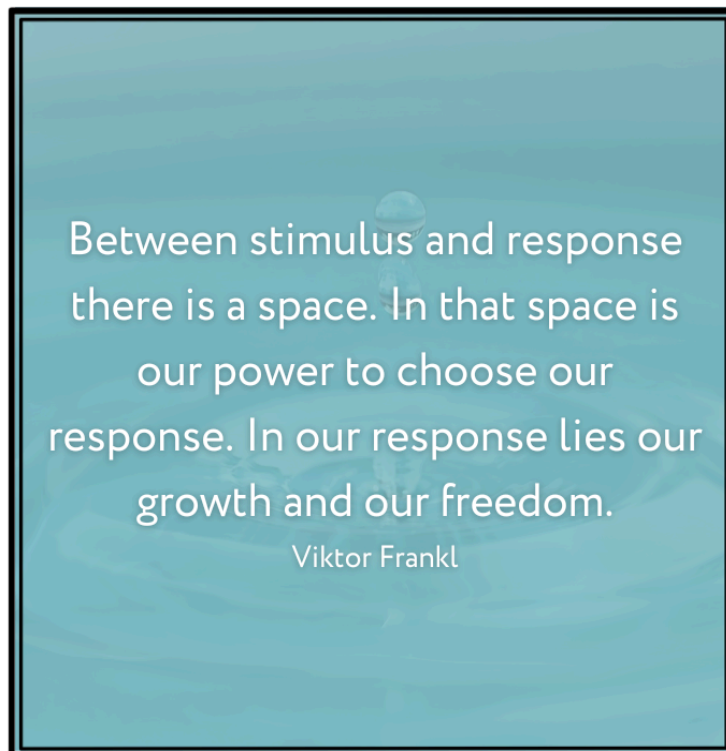
**1<sup>st</sup> Level Stressor – Stress-Reaction – 2<sup>nd</sup> Level Stressor – Further Stress-Reaction – and so on....**

## Week 2 Handout

Take for instance an experience that you may be familiar with. You're walking around your home at night, barefoot, without bothering to switch on a light, and you stub your toe, quite painfully, on the heavy briefcase your partner left lying in an unaccustomed place. The first level stressor is the simple physical pain you feel as soon as that happens. But the second level stress kicks in as you go on to tell yourself a story about what happened. Maybe your story is against your partner, how he or she is always so sloppy and inconsiderate. Or maybe it's against yourself – how foolish not to have worn shoes, or not to have turned on the light. Or maybe it's a bit of both. In any event, your body tightens, your brow furrows, and long after the pain has faded you're still involved in the second level stress.

For many people, second-level stress of one kind or another marks the whole of their lives, leading to maladaptive coping strategies, such as denial, fantasy, workaholism, worry, unhelpful rumination, busyness, substance abuse, overeating and so on. Since these are variously ineffective, they contribute to the stress reaction rather than diminish it.

### **Learning to Respond rather than React**



## Week 2 Handout

The attention training practices that we are learning in these first two weeks help us to pay attention to what is actually happening. When we pay attention to our experience, we are more able to make wise choices about how to respond, rather than simply react.

In general, we *react* to experience in one of three ways:

- With indifference – switching out of the present moment and going off somewhere else in our minds.
- With wanting – wishing we were having experiences that we are not having right now, or trying to hold onto experiences that we are having right now.
- With aversion – wanting to get rid of experiences that we are having right now, or trying to avoid experiences that may be coming along that we do not want.

Each of these ways of *reacting* can cause problems, particularly the tendency to react to unpleasant feelings with aversion. The main issue is to become more aware of our experience so that we can *respond* mindfully rather than *react* automatically.

In order to respond, rather than react, we need awareness. Our bodies, with all their present-moment feelings and sensations, are an invaluable anchor for that awareness. They are always there to return to, enabling us to remain focused in the present moment.

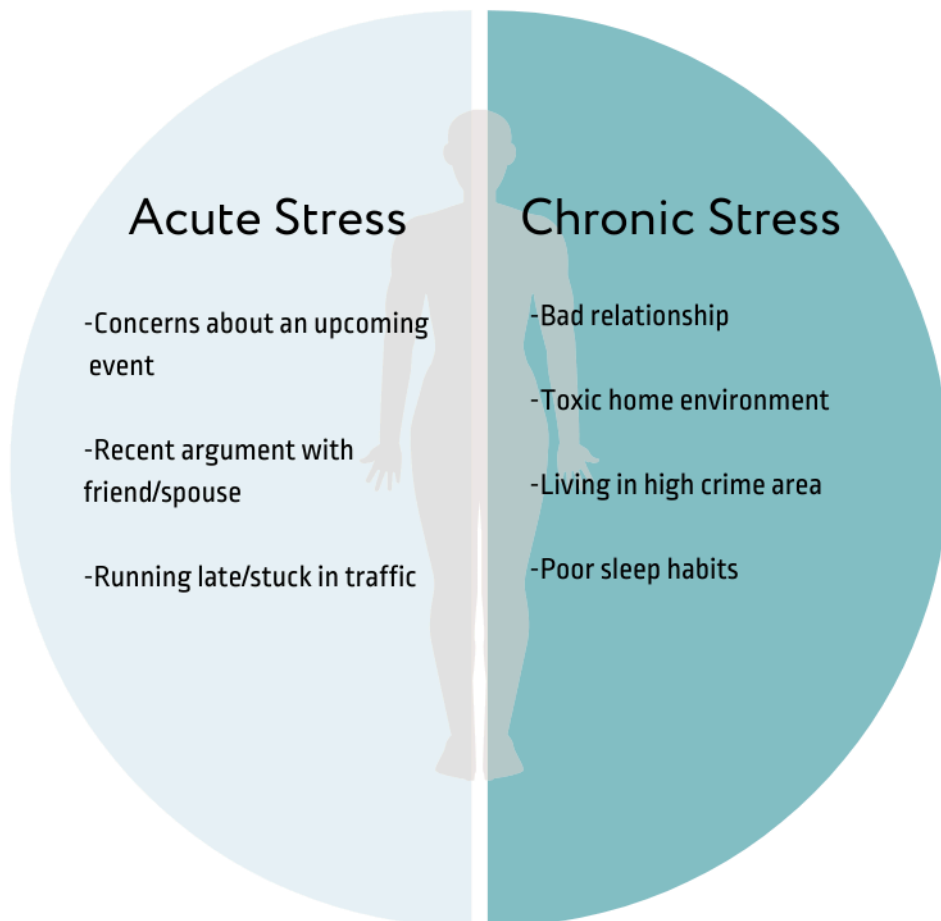
Week 2 Handout

The breeze at dawn has secrets to tell you  
Don't go back to sleep  
You must ask for what you really want  
Don't go back to sleep  
People are going back and forth across the door sill  
Where the two worlds touch  
The door is round and open  
Don't go back to sleep

*THE ESSENTIAL RUMI. Translated by Coleman Barks With John Moyne, Harper:  
San Francisco, 1995.*

## Stress and Cardiovascular Health

To understand the effect of stress on our cardiovascular system, it is important to understand the different types of stress.



**Acute stress** - Acute stress is short-term and typically occurs in response to specific stressors or demands. Acute stress can be intense but is generally manageable and

## Week 2 Handout

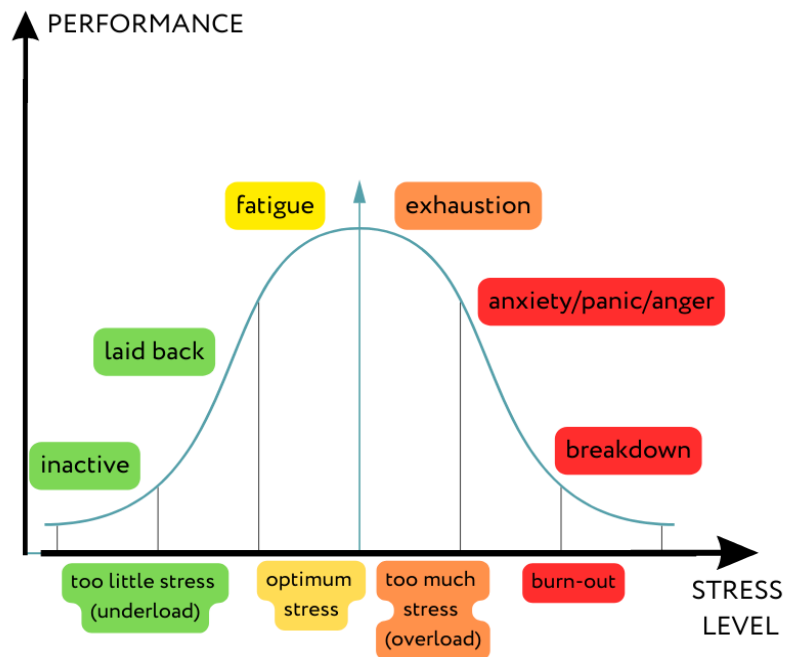
adaptive. It serves as a natural response to immediate threats or challenges, mobilising the body's resources for action. It is temporary and resolves once the stressor is removed or the situation is resolved.

**Chronic Stress** can dysregulate the stress response system, leading to prolonged activation of cortisol and sustained physiological arousal. Cortisol, the stress hormone, causes our bodies to release stored glucose resulting in physical effects like weight gain, increased blood pressure, and even Type 2 Diabetes.

Over time, chronic stress can contribute to wear and tear on bodily systems, increasing the risk of various health problems. A heightened state of arousal causes our heart rate to increase and makes our heart beat harder because it causes our blood vessels to dilate to allow increased blood flow. Too much cortisol in the bloodstream can also produce psychological effects, like anxiety or depression.

Chronic stress can disrupt sleep patterns and contribute to insomnia, fragmented sleep, or poor sleep quality.

While too little stress can lead to boredom and depression, too much can cause anxiety and poor health. The right amount of acute stress, however, tunes up the brain and improves performance and health.



### Other proven ways to address stress

**Physical activity:** People can use exercise to reduce the buildup of stress. Exercise, such as taking a brisk walk shortly after feeling stressed, not only deepens breathing but also helps relieve muscle tension. Movement therapies such as yoga, tai chi, and qi gong combine fluid movements with deep breathing and mental focus, all of which can induce calm.

**Social support:** It's not clear why, but research shows that people who enjoy close relationships with family and friends receive emotional support that indirectly helps to sustain them at times of chronic stress.

## Allow

There is no controlling life.  
Try corralling a lightning bolt,  
containing a tornado. Dam a  
stream and it will create a new  
channel. Resist, and the tide  
will sweep you off your feet.  
Allow, and grace will carry  
you to higher ground. The only  
safety lies in letting it all in –  
the wild and the weak; fear,  
fantasies, failures and success.  
When loss rips off the doors of  
the heart, or sadness veils your  
vision with despair, practice  
becomes simply bearing the truth.  
In the choice to let go of your  
known way of being, the whole  
world is revealed to your new eyes

*By: Danna Faulds*



Week 2 Handout

--	--