



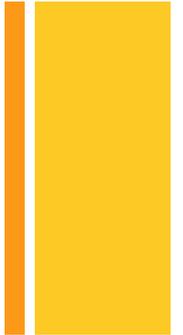
# Meditation



**&back  
pain**



# + Background



- As humans, we have a highly evolved nervous system and we are social creatures who often act based on emotions
- We can also spend a lot of time worrying and imagining a bad outcome
- If we worry or feel stressed over a longer time period, our body turns on the stress mechanism causing physiological responses similar to those of animals
- We do not resolve conflict in the same way as animals do, we don't fight or flee when we encounter stress
- If the problems are not dealt with and accumulate over time, then this stress mechanism is permanently switched on and it can make us sick
- Stress-reducing strategies are becoming widely used and are effective in treating stress, pain, anxiety, depression and have numerous benefits

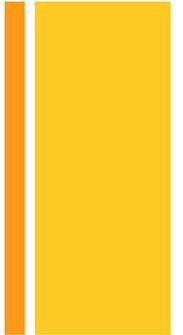


# Stress vs Pressure

- There are many faulty definitions of “stress” and we often say that we feel stressed however what we may be saying is that we feel under pressure
- “Stress” is ruminating about emotional upset
- Pressure is the demand to perform, it is usually good as it gives us motivation and energy to do things and get out of bed
- There is no single situation or event that is stressful for every person because everyone experiences the same situation differently
- It is not the situation, boss or job that is stressful but the way how you respond to the situation makes it stressful
- If you think about all the what-ifs and should-haves for a long period of time you ruminate and this overthinking future or past events can stress you



# Stress vs relaxation



## The stress response

- “Fight or flight”
- Increased hormones- Adrenaline and Cortisol
- Increased blood pressure
- Raised heart rate
- Muscles tighten
- Weakened immunity and fertility
- Emotional distress

## The relaxation response

- Reduced blood pressure
- Reduced heart rate
- Higher levels of growth hormone and serotonin
- Boosts immune system
- Better healing
- Feeling happier
- Physical renewal, enjoyment



# The stress response

- The stress response kicks off a cascade of hormonal and bodily changes that activates or depresses certain body functions and systems
- If you're **chronically stressed**, you're going to compromise your health so you need strategies to turn on the "relaxation response"

Certain situations can switch on our "**stress response**" which is a very clever evolutionary mechanism in animals when faced with a risk or a serious threat. But because of our high evolution, it is possible that we turn on our stress response repetitively through non-life threatening stressors such as worrying which can set us the same response

Meditation and relaxation techniques are being included into mainstream medicine. That must mean they are beneficial and proven techniques!

# + Surprising new evidence

- **What you believe about stress will determine whether it is healthy or unhealthy for your body!**
- This has been shown in a large new study (Keller et al 2012) from University of Wisconsin-Madison
- They asked nearly 29,000 people to rate their level of stress over the past year and how much they believed this stress influenced their health (a little, a moderate amount or a lot)
- Over the next 8 years, public death records were used to see if any of these people have died
- **Surprising results:** People who reported having high levels of stress and who believed stress had a large impact on their health had a **43% increased risk of death!**
- On the other hand, those that experienced a lot of stress but did not perceive its effects as negative were amongst the least likely to die as compared to all other participants in the study

# + Stress

- Stress and the response to stress is very individual and depends on the personality characteristics and on how resilient the person is to stress factors
- When you feel threatened, upset or in danger, the brain sends signals to the body to quickly respond and act. This means increasing your heart rate and blood pressure, delivering more oxygen to muscles, which activate
- Stress is a normal response to stressful events and it is there to protect you, help you stay focused, alert or even save your life. So in some cases it can be helpful, such as meeting important deadlines and challenges
- Beyond a certain point the stress response is not helpful and can actually damage your health, mood, productivity, relationships and your quality of life
- Prolonged exposure to stressful situations means that your body is constantly in emergency mode and it takes its toll
- The good news is that you can learn to recognise the symptoms of your stress and learn how to switch it off and turn on the relaxation response

# + Stress and chronic pain

- Chronic and remitting pain conditions impose many limits to the person's life including a reduced sense of control and preoccupation with pain
- Many people who live with constant or frequent pain have tried multiple (mainly physical) treatments but with no long-lasting benefit
- On the other hand, stress-reducing therapies offer a holistic approach looking at the mind, emotions and the body as well as increasing people's self-control and self-efficacy
- Cognitive behavioural therapy (CBT) is well known for its benefits in treating chronic pain and altering beliefs and thought patterns
- So if we can achieve less pain and good results with an intervention that mainly focuses on the mind, it more than highlights the role of the mind in the individual pain experience
- We must not forget about the proven physical therapies but the combination of both physical and mental interventions is most likely to yield the best results
- Therapies that look at the whole person include relaxation, mindfulness training and meditation which have proven effects far beyond reduced stress and anxiety.

# + Relaxation

- Through deep relaxation techniques, you can re-establish a connection between the body and the mind by calming the excited nerves, relaxing tensed-up muscles and reducing the hormonal response.
- With practice you can learn to elicit a relaxation response in the body through specific mental exercises which will create profound peace and rest, much needed for the body to regain its balance for effective healing, coping and life in general

**Learn how to control your mind through various techniques: deep breathing, mindfulness, meditation, body scanning, visual imagery**

# + Mindfulness

- Mindfulness has roots in Buddhist practices and the aim is to learn how to live in the moment, observing without judgement the present and letting go of the past or future in the mind
- Mindfulness is an important component of many established treatments such as yoga, massage, reflexology, deep breathing and prayer.
- It is no wonder that in the stressful and hectic lives in the western world, we need to relax our minds, de-clutter them and rediscover the happiness. This effect results in both physical and psychological benefits as well as improved health attitudes and behaviours.

## **BENEFITS:**

- Higher levels of happy hormones
- Controls pain by breaking anxious and depressive thought patterns
- Lowers blood pressure
- Helps with other physical and psychological problems (chronic pain, psoriasis, sleep trouble, anxiety, depression)
- Boosts immune function and can stop binge eating

# + Mindfulness

- Mindfulness is about focusing on your breath or another calming sensation or image. The idea is to only observe what is going through your mind but letting go of all the thoughts and emotions, not making judgements.
- Studies have suggested that mindfulness training increases brain connectivity and increases “processing” neurons of grey matter which govern memory, self-awareness, compassion and decreases fear and stress.

## “HAPPY” HORMONES:

**Endorphins** are neurotransmitters created naturally by the body to alleviate pain and they are responsible for feelings of pleasure and a sense of well-being. Endorphins can lower blood pressure and fight cancer. Aside from mindfulness meditation raising endorphins, this can also be achieved through exercise.

**Serotonin** is a natural hormone which is essential for normal brain activity as well as boosting mood and energy. Many medications for mood disorders include serotonin due to its positive effects on mood and behaviours. Meditation is a natural healthy way to boost serotonin levels.

# + Deep relaxation

- Relaxation works similarly to mindfulness but it is only **deep relaxation** that activates the parasympathetic nervous system
- Deep relaxation isn't about relaxing on the sofa with a cup of tea but it is a state of deep relaxation where your mind switches off and tension is released from the body
- This effect is achieved by learning techniques such as meditation or guided imagery and not by forcing yourself to relax. Different techniques will work for each individual

## Health benefits of deep relaxation

- Lowers blood pressure (by making the body less responsive to stress hormones)
- Increases immunity and fertility
- Emotional balance
- Relieves IBS
- It is a natural anti-inflammatory
- Increased sense of calmness



## New research (Bhasin et al, 2013)

- New research from Harvard Medical School showed that deep relaxation methods such as yoga or meditation activate “disease-fighting genes”
- The “relaxation response” is a physiologic state of deep rest induced by practices such as meditation, yoga, deep breathing and prayer and it produces immediate changes in the expression of genes involved in immune function, energy metabolism and insulin secretion
- Can be just as powerful when treating pain, infertility, high blood pressure, diabetes and rheumatoid arthritis
- After 2 months of daily practice their bodies changed and genes that help fight inflammation, kill diseased cells and protect the body from cancer switched on
- The more they practised the relaxation response , the greater their chances of staying healthy, free of arthritis, joint pain, stronger immunity, healthier hormone levels and lower blood pressure.
- This shows how important a person’s state of mind really is and it demonstrates the interaction between the physical, psychological and genetic factors

# How to achieve relaxation and switch off stress?

- There are various specific methods to achieve a sense of deep relaxation. Some of these include yoga, meditation and repetitive prayer. For the best outcome, they need to be practised regularly for about 15 minutes once or twice a day. Most people find that this can be easily done in the morning or evening before going to sleep.
- **1. Guided visualisation:** Sit or lie comfortably, close your eyes and imagine a soothing waterfall or a relaxing light shining on you and spreading throughout your whole body. With this, you feel more and more relaxation as the tension is washed away from your body and your mind. Try to make your visualisation as real as possible, imagining all the sounds, smells and vivid colours.
- **2. Guided body scan:** This method is best performed lying down on the back with eyes closed. Imagine spreading sensation of softness and relaxation from head to toe. Notice how your whole body feels, if there is tension, anxiety or calmness and relaxation. Focus on the areas that feel tense and imagine the tension going away.

# + How to achieve relaxation and switch off stress?

- **3. Diaphragmatic breathing:** Sitting comfortably, simply focus on your breath. Inhale deeply, being aware of how your chest rises and then exhale, focusing on letting go of all the tension. If thoughts come into your mind, try not to pay attention to them and return back to your breathing.
- **4. Repetition of a self-chosen word:** Sitting or lying in a comfortable position with eyes closed, mentally repeat a chosen word or phrase such as “Om”. Identify a word that works best for you and one who makes you feel calm and focused on the present moment.
- Different techniques work for different people so find one that works for you and is comfortable. You will be surprised at the places you can practice relaxation without it taking much of your time.

# + Summary

- Meditation and deep relaxation are extremely beneficial for your health
- Experiencing a lot of stress is not always healthy and can cause certain changes within the body and mind
- How you perceive stress determines your body's response so if you see it as something helpful
- We can learn how to switch on our body's natural "relaxation response" which will reduce negative effects of stress
- Try different techniques and stick with what works for you, there are no rules
- Incorporate this into your daily routine such as when you sit on the train or brush your teeth, it will be easier to stick to it
- If you change how you see stress and realize that it can actually be good for you, it will become far less dangerous



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