

Live Well

The Neuroscience of Mindfulness

With Deborah Bircham



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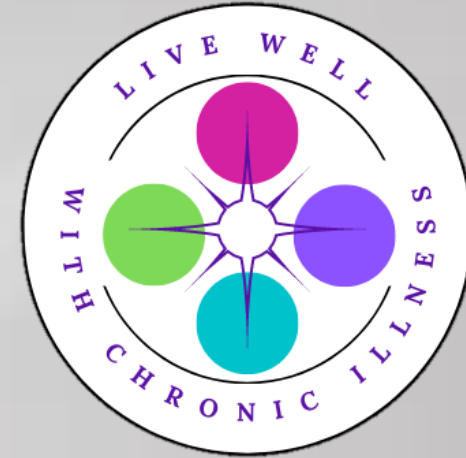


QUALIFICATIONS:

- ✓ Naturopathic Nutrition and Health Coaching: *Diploma-College of Naturopathic Medicine (CNM)*
- ✓ Hypnotherapy and Psychotherapy: *Mindworks*
- ✓ Mindfulness Teacher: *Teach 10 Institute*

MEMBERSHIPS:

- ✓ National Council for Integrative Psychotherapists (NCIP)
- ✓ UK & International Health Coaching Association (UKIHCA)
- ✓ The Association of Naturopathic Practitioners (ANP)
- ✓ The Personalised Care Institute



Socials: Live Well With Chronic Illness

Email: livewellwithchronicillness@outlook.com

Website: <https://livewellwithchronicillness.co.uk>

Lived Experience of
Lyme Disease,
MCAS,
Dysautonomia and
Chronic Pain



Mindfulness



Mindfulness is for EVERYONE!

Mindfulness is like an operating manual for your mind, It can help with:

- The daily stresses of everyday life
- Challenging life events
- Emotional wellbeing
- Relationships
- Parenting
- Working life



The History of Mindfulness

Mindfulness is not a religion. It is not incompatible with any religious belief

It is a form of mental training, originally a Buddhist practice

You don't have to be Buddhist to practice Mindfulness!

Modern mindfulness is a secularised practice.

Popularised, Westernised

Jon Kabat Zinn in the 1970s.

Center for Mindfulness at the University of Massachusetts Medical School

MBSR programme

Intractable illness and pain



Now – Scientific research shows Mindfulness practices ARE good for the brain and DO have real, measurable benefits for wellbeing.

The tools I teach are based on the neuroscience of how the brain works.

How we can 'optimise' our brain function, through the practice of Mindfulness.

Short-form of Mindfulness

What is Mindfulness?



Mindfulness is the act of becoming aware of our present moment experience and welcoming what we find with a kind and open heart.

What is Mindfulness?

Becoming aware of our present moment experience.



How much time do we spend on autopilot, whilst thinking about something other than what we are doing?

The Process of Falling Awake (Jon Kabat Zinn)



What is Mindfulness?



**Welcoming whatever we find with a kind
and open heart.**

Non judgemental. Friendly acceptance

Treating ourselves with kindness.
Takes a lot of practice!



Modes of Mind – Thinking and Doing Modes



Thinking/
Doing Mode



Being/
Observing
Mode

Becoming aware of our present moment experience.



How much time do we spend thinking about something other than what we are doing?

Up to 50% of the time, we are not thinking about what we are doing – (study by Harvard 2010)

Happiness is correlated to present moment experience – the more present we are, the happier we are!



Modes of Mind – Thinking and Doing Modes



We tend to spend the majority of our time in Thinking and Doing Modes

- Our brains are made to think – thinking is good! We can't stop our minds from thinking.
- BUT – It is not healthy to be in 'thinking mode' all the time.
- Doing Mode – closely correlated to 'thinking' – 'strive overdrive', caught up in our to-do lists
- Addicted to 'doing'.
- Doing Mode and Thinking Mode = Stress States in the body.
- Triggering the release of cortisol and adrenaline



Observing and Being Modes



The opposite of
Thinking Mode

Observing Mode

Observing our
present moment
experience without
judgement.

Observing thoughts,
feelings, sensations,
events

Watching



The opposite of Doing Mode

Being Mode

Being fully alive to life and in the present moment,
rather than caught up in the endless 'to do' list.

Remember :

You are a **Human BEing**

Not a **Human DOing**

Mental Health Benefits of Mindfulness



Scientific studies have shown that by activating 'Being' mode in our brains, even for just a few minutes a day, and moving out of 'Doing' mode, has measurable benefits for our mental health.

- Improves Mood
- Increase positive emotions
- Decreasing negative emotions
- Decreasing Anxiety
- Reducing emotional reactivity
- Allows us to become more resilient to stress



Physical Health Benefits

Recent research shows that it can actually also have lots of positive benefits on our physical health

- Can help lower blood pressure
- Can improve heart health
- Improve Cognitive Function and Alzheimer's Disease symptoms
- May improve fatigue after stroke or brain injury
- Increase levels of T-Cells, which are a key part of our immune system
- Reduce levels of inflammation
- Faster wound healing
- Reduce cell aging
- Improve symptoms of pain – how the brain processes pain
- Improve sleep
- Alleviate gastrointestinal problems



How does Mindfulness do all this?!

Both doing/thinking mode activates the **Amygdala**

Amygdala – part of the primitive limbic brain controls our emotions

Amygdala is responsible for

- Stress response
- Trauma Response
- Fight or Flight (Freeze/Fawn)
- Being Mean (to others, and to ourselves!)
- Involved in pain perception

The more time we spend in thinking and doing modes, the larger and more active and more dominant our Amygdala becomes – Amygdala Hijack



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Istockphoto.com

Being/Observer Mode

Stepping into Being/Observer Mode switches off the Amygdala and activates our Pre-Frontal Cortex

Wise, rational, intelligent, calm, focussed

- Strengthening the connection to our PFC
- Weakening the power of the amygdala

Engaging more strongly with the wise, calm, rational part of our brains

We can't be in both at the same time



Image credit janulla :
Istockphoto.com

The Science of Mindfulness

Brain scans show that people who practice Mindfulness regularly can change the physical structure of their brains

Buddhist Monks – their Amygdala actually shrinks

Research shows that just 8-10 minutes of practice per day.....

- Has an immediate, measurable benefits
- Physical and Mental health

Because of neuroplasticity, when we repeatedly intentionally change our state to focus on the present and deliberately cultivate key Mindful qualities, this leads to changes in brain function and structure that eventually changes our way of being in everyday life.



Photo credit [Sasin Tipchai](#) from [Pixabay](#)

Mindfulness and Pain

Research Study showed that Regular daily Mindfulness practice for just 20 mins a day for only 4 days

Thalamus – disengaged and downregulated as a result of meditation

Thalamus essential for passage of pain signals from the body to the brain.

No signal from the body, other than the sense of smell, can pass into the brain without first going through the Thalamus – gateway to the brain

Mindfulness closes the gate

Primary somatosensory cortex - Associated with processing intensity and location of pain – also disconnected during Mindfulness

Amygdala – associated with the emotional component of pain, and how upsetting we find the pain. This area is also downregulated by regular, daily Mindfulness practice.



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Mindfulness and Brain Waves



Some Mindfulness practices include a type of meditation

When we meditate, brain scans show that the frequency of our brain waves alter. By meditating we can deliberately influence our brain wave pattern and speed.

Brain wave speed is measured in a unit of frequency called Hertz (Hz).

There are five different frequencies at which brain waves can travel.

The frequency of your brain waves changes depending on the function your brain is performing. We have different brain waves when we are awake, asleep, concentrating, daydreaming, etc.

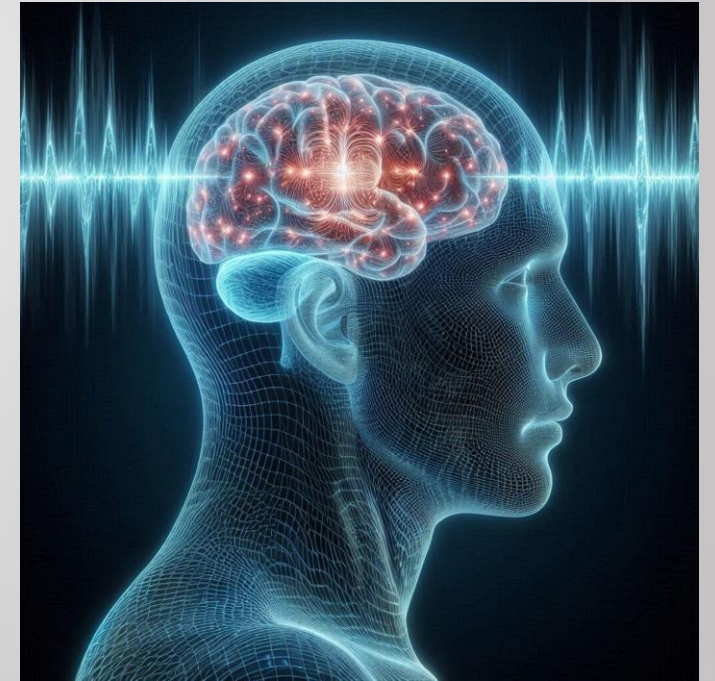


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Mindfulness and Brain Waves

The five brain frequency levels are:

- **Gamma (25 to 140 Hz).** Your brain reaches this frequency range when it's at peak concentration.
- **Beta (12.5 to 30 Hz).** The brain reaches this frequency when it's alert and needs to process external information.
- **Alpha (8 to 12 Hz).** The frequency your brain reaches when it's relaxed. The brain is alert but not actively processing information.
- **Theta (3.5 to 7.5 Hz).** A slow brain wave that increases when we are awake but focusing internally (e.g., daydreaming, lost in memories, hypnosis, meditation.)
- **Delta (less than 4 Hz).** The slowest brain wave, observed during deep sleep.
- Although there is overlap between Mindfulness and Meditation, there are differences.
- One difference is that the effects of Mindfulness can be beneficial even if people are unable to access these 'deep states'.
- Mindfulness can be practiced when fully 'conscious' and moving even.
- Many people feel unable to participate in traditional meditation because they struggle to get into the deep theta state, and it's one of the reasons that Mindfulness can be more accessible, because you can still practice and still benefit without this aspect.

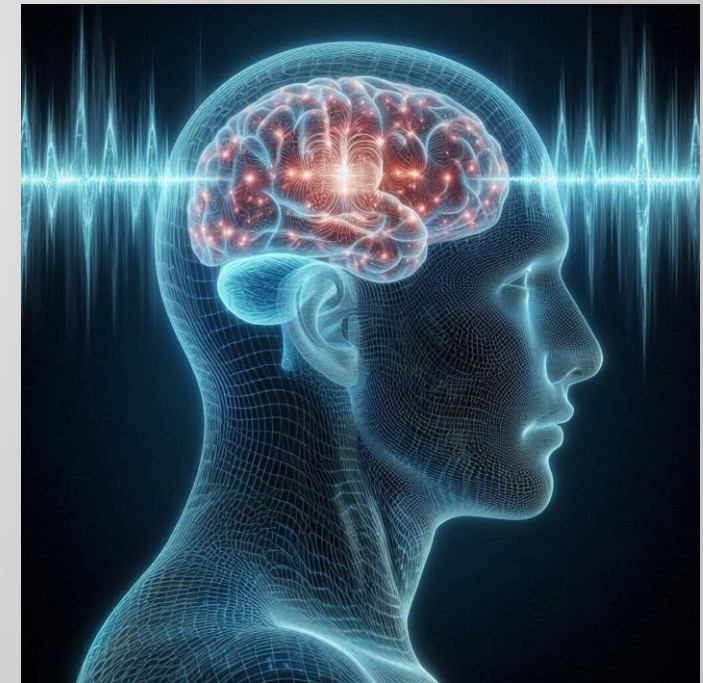


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Mindfulness Key Qualities

- Observer
- Being
- Non-Judgement
- Curiosity
- Duality
- Beginner's Mind
- Non-striving
- Acceptance
- Gratitude
- Compassion – for self and others
- Mindfulness is an attitude – a way of life



Mindfulness Practice!



- Getting to know your Inner Observer!





How Does Mindfulness Help us in our Daily Lives?



Our Health

How many times every day do you experience stress, and trigger a 'hit' of adrenaline?

Pressure to get our 'to do' list done. An email arriving, a message on the phone. Something going wrong.

In our modern lives, our Amygdala is triggered constantly, all day, every day.

How many of those events were genuinely 'life threatening'?

No one can live in 'fight or flight' state all the time – we were never designed to be in that state constantly. ONLY for life-threatening events!

Every single major disease – is linked in research to stress – obesity, heart disease, diabetes, autoimmune, cancer.



If you continuously trigger the stress response all day every day, the cumulative effect is going to eventually lead to disease.

Is what you are feeling stressed about worth making yourself ill?

Daily Life

- Studies show that regular Mindfulness practice increases attention span, mental clarity and focus
- People who practice self-compassion and forgiveness are less likely to make the same mistakes twice!
- Studies show that regular Mindfulness practice can lower burn-out risk.
- Studies show increased creativity and innovation



The Dalai Lama was asked how he has time to fit in meditation practice. He smiled and replied that on normal days, he meditates for 1 hour in the morning. He then smiled even more and said that on extremely busy days, he meditates for 2 hours in the morning.

<https://www.highexistence.com/a-story-about-the-dalai-lama/>

<https://www.mindful.org/the-science-of-mindfulness/>

Problem-solving

Your Amygdala will never solve your problems for you!

‘Blind Panic’ – loss of full visual field

When faced with a problem, if we become angry or stressed, our amygdala takes over, and we lose the ability to solve the problem.

Wisdom, intelligence, and problem-solving qualities are all located in the Pre-Frontal Cortex.

When we get stressed and angry and live in the amygdala all the time, we can't come up with good solutions to daily problems.

Our amygdala is around 2-4 years old in terms of intelligence.

By strengthening our connection with our PFC and downregulating our amygdala, we are increasing the chances of solving our problems.

Unless – your problem is genuinely life-threatening, and even then – it's debatable!



Compassion and Connection



When we are stressed/angry, we lose our ability to be compassionate, empathetic and kind.

This is a survival mechanism, designed to help us to put ourselves first in an emergency, to ensure we survive, even at another's expense.

When we are in parasympathetic state, and in our Pre Frontal Cortex, we are more able to rationalise other people's behaviour and feel compassion for them.



Loving-Kindness and Compassion

We learn how to actively cultivate compassion

Self-compassion first

Leading to compassion for others

By learning to actively 'switch on' compassion, we generate positive chemicals –

Oxytocin, serotonin, nitric oxide – antidote to stress

Super-charges the benefits of Mindfulness

All of these downregulate the Amygdala even more, and make Mindfulness more effective, especially with regular practice



Check out the research by Brene Brown and Kristin Neff

Emotional Regulation

- In our Western culture, we are taught that some emotions are 'good' and some are 'bad'
- We are encouraged from childhood to 'supress' bad emotions
- Don't cry!

Mindfulness practice recognises that humans experience a whole spectrum of emotions
This is a normal, healthy, natural part of being human.

We practice turning towards difficult emotions
We learn to observe our emotions and accept them
We learn to understand them, and work with them, not suppress them.



Mindful Parenting

Mindfulness tools are invaluable to help us deal with the difficulties of parenting!

The basic principles of mindful parenting are:

- listening to your child with your full attention
- non-judgementally accepting yourself and your child
- being emotionally aware of yourself and your child
- using self-regulation in your relationship with your child
- having compassion for yourself and your child.
- <https://www.nct.org.uk/life-parent/parenting-styles-and-approaches/what-mindful-parenting-and-it-right-for-me>

Modelling to children helpful coping strategies for difficulty and stress



Mindfulness for Children

Recognising and understanding emotions – ours and other people's

Emotional regulation and resilience

Respect, compassion, tolerance, non-judgement

Improves focus and school performance

Mindful Eating

If you truly get in touch with a piece of carrot, you get in touch with the soil, the rain, the sunshine. You get in touch with Mother Earth and by eating in such a way, you feel in touch with true life, your roots, and that is meditation. If we chew every morsel of our food in that way, we become grateful and when you are grateful, you are happy.

Thich Nhat Hanh



Mindful eating has been shown in studies to help promote weight loss

- Becoming 'present' whilst eating
- Listening to our bodies
- Increased awareness of hunger and satiety
- Stress decreases our response to leptin – the hormone responsible for energy balance and suppressing hunger
- Stress stimulates ghrelin release – hormone responsible for stimulating appetite and fat deposition.
- Fosters the parasympathetic state while eating, which allows optimal digestion

Mindful Myth - Relaxation

- Mindfulness is not about relaxation!
- It's about focus of attention and quality of attention
- You don't have to be relaxed to practice Mindfulness
- You don't have to sit still
- You don't have to close your eyes
- You don't have to focus your attention on the breath

- You can incorporate movement into mindfulness practice
- You can observe anything in your present moment experience – including not being relaxed!

- Neurodiversity-informed practices



Difficulty with the breath is quite common.



How Do We Become Mindful?

- Connection with the Breath
- Connection with the Body – physical sensation
- Movement
- Connection with the Senses – sight, sound, smell, touch, taste
- Observing your present moment experience
- Practice self-compassion

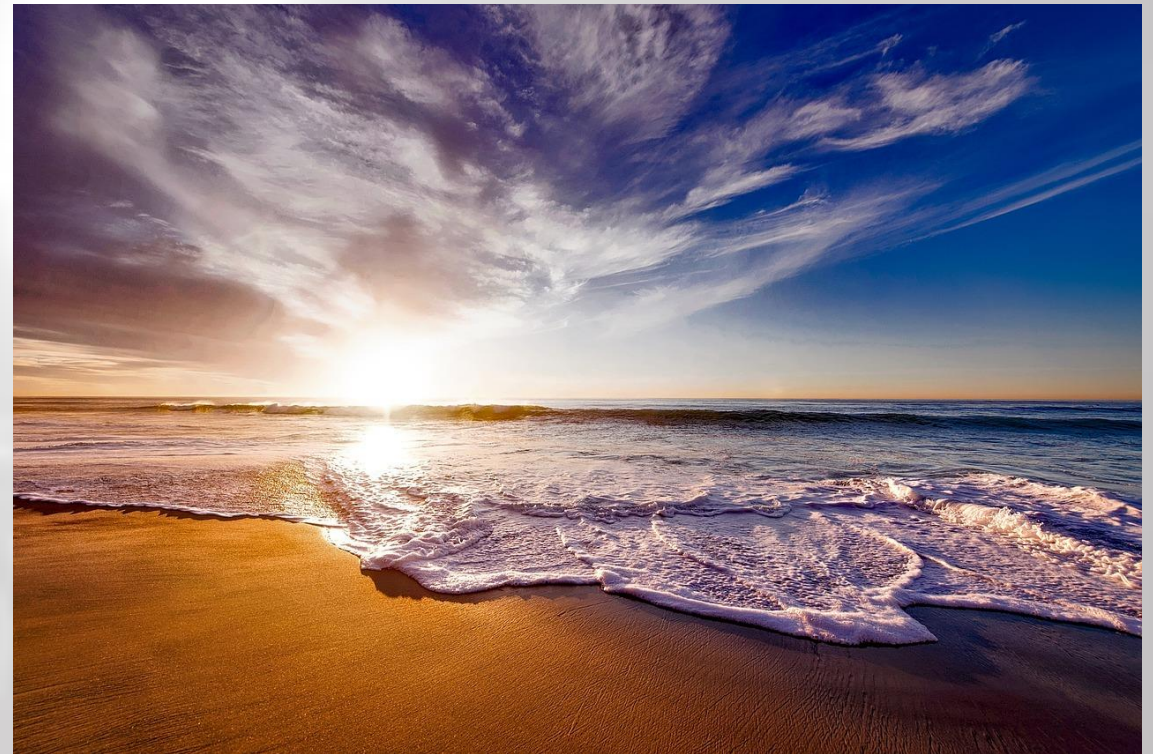
Learning to use these tools to bring yourself into the present moment, and into 'Being' and 'Observer' Modes, even fleetingly.

Regular daily repetition – is the key

The moment when you 'fall awake' – is the moment you have succeeded in practicing Mindfulness!



Lotus Flower Breathing



Ways to Become More Mindful



Mindfulness is Experiential – is a Practice of ‘Doing’ not ‘Knowing’

Take one Mindful Breath when you wake up

Practice tuning into the breath – becoming aware of the breath and focusing on your breath for 30 seconds – 1 minute

Lotus flower breathing

Stop what you are doing once a day, and ask yourself ‘What do I need right now?’

Do one chore Mindfully each day – Tune in and become present – brush your teeth, showering, washing up, making a cup of tea, putting bin out

Calm The Storm....



Don't try to calm
the storm. Calm
yourself. The storm
will pass.
Buddha



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Mindfulness is one of the best tools we have at our disposal to 'calm ourselves' while the storms of life are raging around us

How You Can Find Out More!



- Free downloads on my Website Resources Page
- <https://livewellwithchronicillness.co.uk/downloads>
- Mindfulness Apps – Calm, Insight Timer
- Mindful.org
- Brene Brown
- Kristen Neff
- Sharon Salzberg
- Mindfulness Exercises Podcast



Resources



- **Book – Mindfulness: Finding Peace in a Frantic World by Williams and Penman – Highly Recommend**
- Being vs Doing Modes of the Mind: <https://www.mindful.org/difference-between-being-and-doing/>
- A wandering mind is not a happy mind
<https://news.harvard.edu/gazette/story/2010/11/wandering-mind-not-a-happy-mind/>
- Book – Altered Traits: Science Reveals How Meditation Changes Your Mind, Brain and Body. By Daniel Goleman & Richard Davidson.
- A brief look at Destination Addiction: <https://www.psychologytoday.com/gb/blog/in-excess/201607/the-search-happiness>
- Explaining the Default Mode Network: <https://mpfi.org/how-does-mindfulness-change-the-brain-a-neurobiologists-perspective-on-mindfulness-meditation/>

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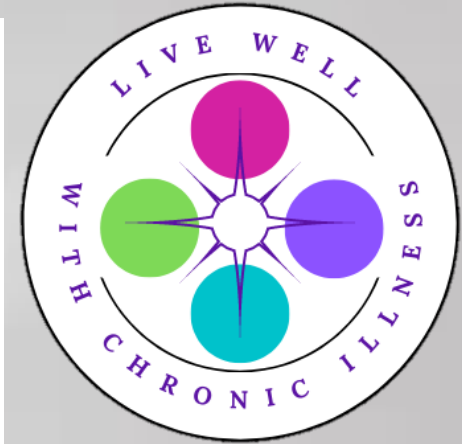
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The End

Thank you for Listening

Any Questions?

