

Breathwork for Pain, Anxiety & Nervous System Regulation

Charlotte Saunders
Advanced Breathwork Practitioner

About Me



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I am an Advanced Breathwork Coach and Master BreathHealing Release[®] Coach as well as a Firewalk Instructor and Experiential Empowerment coach.

I have a genetic connective tissue disorder which comes with a side order of chronic pain.

I came to breathwork at a time when I needed to regulate in order to hold my family through a traumatic event. I later realised how much I was benefiting from it in terms of physical health and pain levels.

What We'll Cover Today

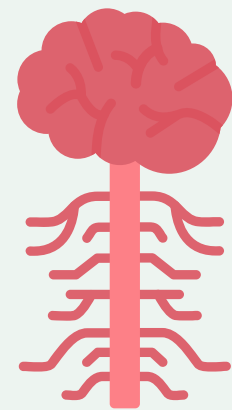
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**Introduction to
Breathwork**



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**Your Nervous
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**How Breathwork
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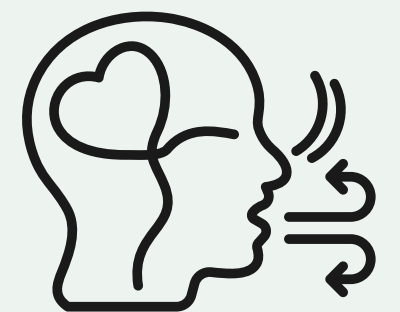
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**Breathing
Techniques**



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**Coherence
Practice**



No breath holds today • Move and rest freely • Everything is optional

Understanding Breathwork

What is Breathwork?

Breathwork is the intentional act of controlling and changing your breathing pattern to influence your mental, emotional or physical state.

Breathwork was used by our ancestors for many purposes - over time we forgot how to use our breath to help ourselves. 90% of us breathe in a way that is not optimal.

Correctly used, breathwork can completely reset our systems - it's like a human version of the 'switch it off and switch it back on again' on the computer.

When trauma occurs in our life we hold it in our body at a cellular level - we can use our breath to shift this.

A note of caution - if you decide you want to work with a Breathwork coach please ensure that their qualification has included full study of the respiratory system and the blood gas exchanges involved as there are many courses that don't - this is where medical issues can be caused by the use of unsuitable breathwork so make sure they ask about medical issues.

How Breathwork Affects the Body

Nitric Oxide

Nitric Oxide is a wonder molecule which is only produced in the nasal cavity - this is why nose breathing is so important.

It improves *every* system in our bodies.

However, it does not stay in our system for more than a few seconds - further emphasising the need for nose breathing.

It is also a natural anti-inflammatory with anti-fungal and antiviral properties

CO2 Tolerance

Carbon dioxide tolerance dictates how effectively our blood releases oxygen to our cells - a higher CO2 tolerance helps the body to use oxygen more efficiently within the brain, heart, muscles etc.

It also lessens our likelihood of entering panic states as it calms the nervous system, which helps us to remain calm under pressure.

Within the breathwork I practice it is also used to induce an altered state of consciousness.

Everyone's AKU journey is different. Symptoms, severity, and progression vary widely from person to person.

Living with Pain in AKU

#1

Most impactful symptom reported by AKU patients

Pain in AKU is not ordinary pain.

It is chronic, progressive, and often unpredictable - affecting joints, spine, and every aspect of daily life.

Chronic pain is exhausting. It changes how you sleep, how you move, and how you feel about your future.

Pain is also a stressor - it activates the nervous system's threat response, which can make pain feel even more intense.

AKU & Mental Health

Anxiety

Living with an unpredictable condition creates chronic worry - about pain flares, disease progression, and the future.

Depression

Loss of mobility, independence, and identity can contribute to persistent low mood over time.

Isolation

AKU is rare. Many people feel alone in their experience, with limited peer understanding.

Pain-Anxiety Cycle

Pain triggers anxiety. Anxiety increases tension and stress hormones, which amplify pain. A difficult but breakable loop.

You are not weak for struggling. These responses are entirely understandable.

Your Nervous System

Understanding the system that breath can reach

The Autonomic Nervous System

Controls automatic body functions - including your stress response. It has two branches:

Sympathetic

Fight or Flight

- Heart rate increases
- Breathing quickens and shallows
- Muscles tense
- Pain signals amplified
- Stress hormones released

Parasympathetic

Rest & Digest

- Heart rate slows
- Breathing deepens
- Muscles soften and relax
- Pain perception reduced
- Healing and recovery begin

Three States of the Nervous System

Based on Polyvagal Theory - Dr. Stephen Porges

Ventral Vagal

Safe & Connected

Our Social Engagement System

Calm, present, able to connect. The body feels safe. Pain feels more manageable. We can think, rest, and heal.

Sympathetic

Fight or Flight

Our Mobilisation System

Anxious, agitated, on guard. Pain is amplified. Difficult to rest or think clearly. The body is mobilised for threat.

Dorsal Vagal

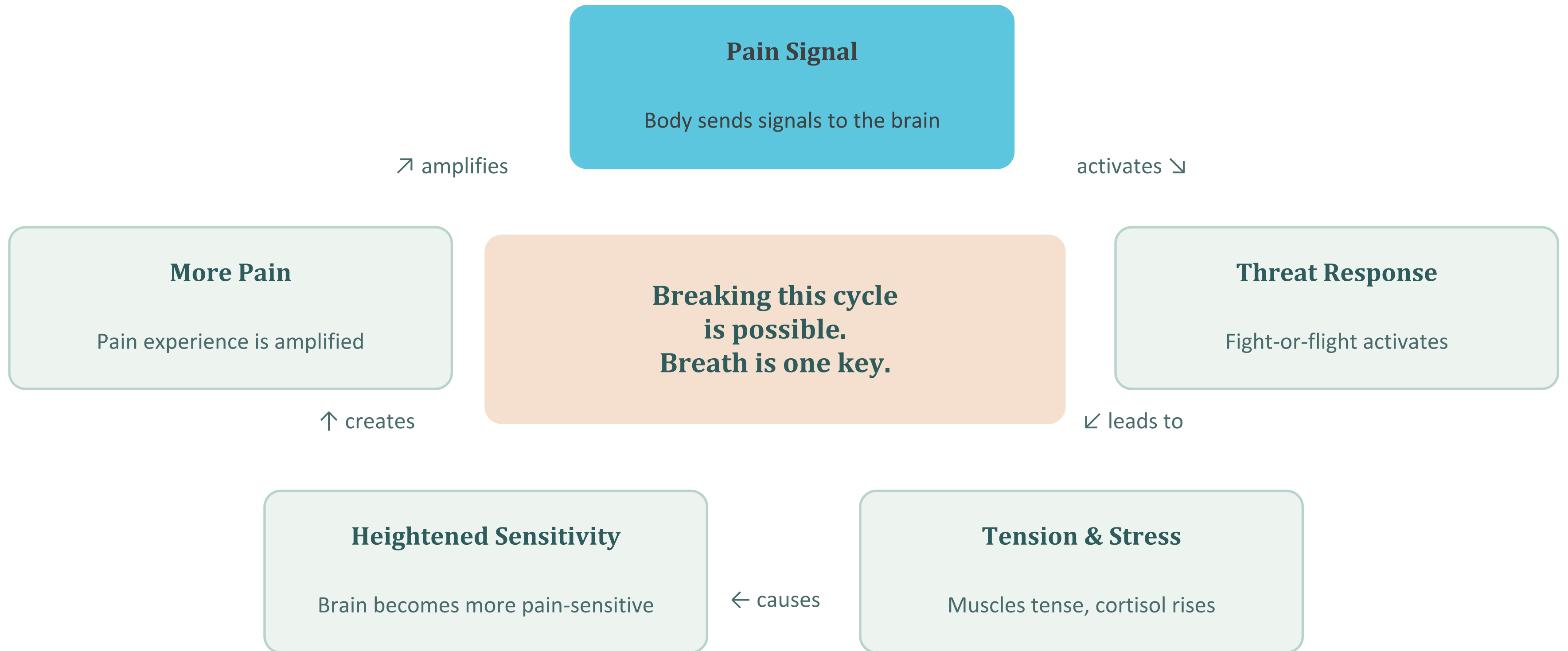
Shutdown / Freeze

Our Immobilisation System

Numb, exhausted, disconnected. Can feel like depression or hopelessness. Common in chronic illness and persistent pain.

Breathwork is one of the most accessible pathways to the Ventral Vagal state.

Chronic Pain & the Nervous System



The Breath–Body Connection

*“The breath is the only function controlled by both the conscious and unconscious mind
- making it our most direct pathway to the nervous system.”*

1

Exhale activates rest mode

A longer exhale stimulates the vagus nerve, shifting the body toward parasympathetic dominance. This is why a deep sigh feels relieving.

2

Slow rhythm signals safety

Slow, regular breathing tells the brain we are safe - reducing the threat response and softening pain perception over time.

Low, slow and deep.

3

Breath is always available

Unlike medication or physiotherapy, the breath is free, portable, and available in every moment - even in a pain flare.

How Breathwork Helps

What is Breathwork?

What has to be taught first, is the breath. ~Confucius

What it IS:

- ✓ Gentle, evidence-informed practice
- ✓ Accessible - no equipment needed
- ✓ Suitable for all fitness and mobility levels
- ✓ Works with, not against, your body
- ✓ A tool you carry with you always

What it is NOT:

- ✗ A replacement for medical care
- ✗ About pushing through discomfort
- ✗ A cure for AKU or chronic pain
- ✗ Only for experienced meditators
- ✗ One-size-fits-all

What Breathwork Can Offer People with AKU

Pain Perception

Activating the parasympathetic system can reduce pain sensitivity and ease the threat response.

Anxiety Relief

Slow breathing shifts the nervous system, reducing cortisol and adrenaline within minutes.

Better Sleep

Regular practice improves sleep quality - particularly helpful when pain disrupts rest at night.

Heart Health

Coherence breathing improves HRV, supporting cardiovascular resilience - relevant in AKU.

Sense of Control

In an unpredictable condition, breathwork offers something reliable that is always within reach.

Community

Group practice can reduce isolation - a shared, embodied experience with others who understand.

A Note on Safety

- ★ **No breath holds today**

All techniques involve free-flowing breath. Nothing will require you to hold or stop your breathing.

- ★ **Always go at your own pace**

If anything feels uncomfortable, simply return to natural breathing. There is nothing to push through.

- ★ **Any position is fine**

Seated, reclined, or lying down - find what is most comfortable for your body. Adjust at any time.

- ★ **If you feel dizzy, stop**

Slow breathing occasionally causes light-headedness. Simply pause, breathe normally, and it will pass quickly.

Breathing Techniques

Gentle and accessible — no breath holds

Technique 1: Diaphragmatic Breathing

What & Why

Also called 'belly breathing' - the foundation of all functional breathwork.

Most people in chronic pain or anxiety breathe high into the chest - keeping the body in a shallow, sympathetic state.

Breathing into the belly fully engages the diaphragm, stimulating the vagus nerve and activating the parasympathetic system.

How to Practice

1. Place one hand on your chest, one on your belly
2. Breathe in gently through your nose
3. Let your belly rise - chest stays relatively still
4. Breathe out slowly through your nose or mouth
5. Notice your belly gently fall
6. Continue for 2 - 5 minutes

Technique 2: Extended Exhale

The exhale activates the parasympathetic system. Making it longer than the inhale shifts the body toward calm.

INHALE

4 counts

EXHALE

6 counts

Exhale is longer - the longer the better (within comfort)

Tips:

- Breathe in through the nose, out through a slightly open mouth (like fogging a mirror)
- If 4:6 feels too long, try 3:4 or even 2:3 - start where it's comfortable
- Excellent for anxiety spikes, pain flares, or before sleep

Let's Breathe Together

Extended Exhale Practice | 5 minutes

↑ **Breathe In**

slowly for 4 counts through the nose

↓ **Breathe Out**

slowly for 6–8 counts through the mouth

Let the body soften on every exhale

Technique 3: The Physiological Sigh

The fastest known method for reducing physiological stress - and your body already knows how to do it.

1

Double Inhale

Inhale fully through your nose, then sniff in a little more air on top - a short extra breath.

2

Long Exhale

Release everything slowly through the mouth - a full, slow exhale. Let the body soften.

3

Repeat 1-3 times

Most people feel a shift within two cycles. No need to repeat more than three times.

Researched by Dr. Andrew Huberman (Stanford) — rapidly offloads CO₂ and resets the respiratory rhythm.

Coherence Breathing

A 15–20 minute guided practice

The Science: Heart Rate Variability

HRV

Heart Rate Variability

The natural variation in time between heartbeats - a key marker of nervous system health and resilience.

→ **Higher HRV = healthier nervous system**

Greater variability means the body can flex between states - more resilience, faster recovery.

→ **Chronic pain depletes HRV**

Persistent pain and stress wear down nervous system flexibility over time.

→ **Coherence breathing maximises HRV**

At 5.5 bpm (for most people), HRV is at its peak - actively rebuilding nervous system resilience with every breath.

→ **Effects accumulate with practice**

Regular coherence breathing improves resting HRV over weeks - the benefits extend beyond the session itself.

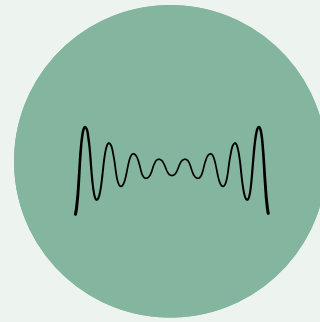
What is Coherence Breathing?

Building up to breathing at approximately 5–6 breaths per minute - 6 seconds in, 6 seconds out - to create a state of physiological coherence between heart, lungs, and brain.



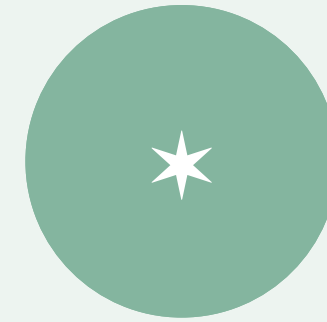
5.5 breaths per minute

At this rate, heart rate, blood pressure, and respiratory rhythms synchronise - creating 'cardiorespiratory coherence'.



Also called Resonance Breathing

This is the rate at which heart rate variability (HRV) reaches its maximum - the cardiovascular system's resonant frequency.



No breath holds

Equal, continuous inhale and exhale. Smooth and gentle. No pausing, no forcing - just a slow, even rhythm.

Research & Evidence

Chronic Pain

Slow-paced breathing reliably increases parasympathetic activity, associated with reduced pain sensitivity and improved pain tolerance.

Anxiety & Stress

Coherence breathing reduces cortisol and subjective anxiety in acute and chronic stress. Effects are measurable within a single session.

Mental Health

Growing evidence supports coherence breathing for improvement in anxiety, depression, PTSD, and general wellbeing with consistent practice.

Cardiovascular Health

Relevant to AKU: coherence breathing supports blood pressure regulation and cardiovascular resilience which are areas of particular concern in AKU.

Evidence is promising, particularly for pain and anxiety. Consistent daily practice shows the strongest effects.

How to Practice Coherence Breathing

We slowly build up to the inhale of 6 seconds and the exhale of 6 seconds - starting at 4

1. **Find a comfortable position** — Seated, reclined, or lying down. Support your body — this is not about enduring discomfort.
2. **Place hands on your belly** — Feel the gentle rise and fall. This anchors attention and deepens diaphragmatic breathing.
3. **Inhale through the nose** — Let the belly expand. No forcing — just a gentle, full breath in.
4. **Exhale through the nose** — Let everything soften. No holding — a smooth, continuous flow out.
5. **Continue and let the counting go** — Find the feeling, not the number. Let the body settle into the rhythm naturally.

Setting Up for Our Practice

★ Find a position that is comfortable for your body right now — seated, reclined, or lying down

★ You may close your eyes, or keep a soft, downward gaze

★ Loosen anything tight — collars, belts, or shoes if it helps

★ Place one or both hands on your belly if you would like

★ There is nothing you need to achieve here — simply follow the breath

★ If at any point you need to stop, breathe normally — that is always the right choice

Coherence Breathing Practice

Inhale for a count of 4,
Exhale for a count of 4,

Inhale for a count of 5,
Exhale for a count of 5,

Inhale for a count of 6,
Exhale for a count of 6

15–20 minutes • No breath holds • Follow the rhythm

How Are You?

Take a moment. Notice what is here - without needing to label or explain it.

- What do you notice in your body right now?

- Is there any difference in how you feel compared to the start of the session?

- What was challenging - and what felt natural?

- Is there anything you would like to carry with you from today?

Building Your Daily Practice

Start Small

5 - 10 minutes daily is more valuable than an occasional long session. Consistency builds cumulative benefit.

Morning or Evening

Morning practice can set a regulated tone for the day. Evening practice supports sleep and recovery.

During Pain Flares

Even 2 - 3 physiological sighs or a few minutes of extended exhale can help shift the nervous system mid-flare.

No Perfect Conditions

You can practice in a chair, in bed, before a difficult appointment. The breath is always there.

Track How You Feel

A simple one-sentence journal can help you notice patterns and progress over time.

Be Gentle

Some days the mind races. That is not failure - returning to the breath, again and again, is the whole skill.

Any Questions?



Thank You



You showed up. That takes courage.

Charlotte Saunders

lottiesaunders.com

lottie@lottiesaunders.com

[@charlottesaundersbreathandfire](https://www.instagram.com/charlottesaundersbreathandfire)