



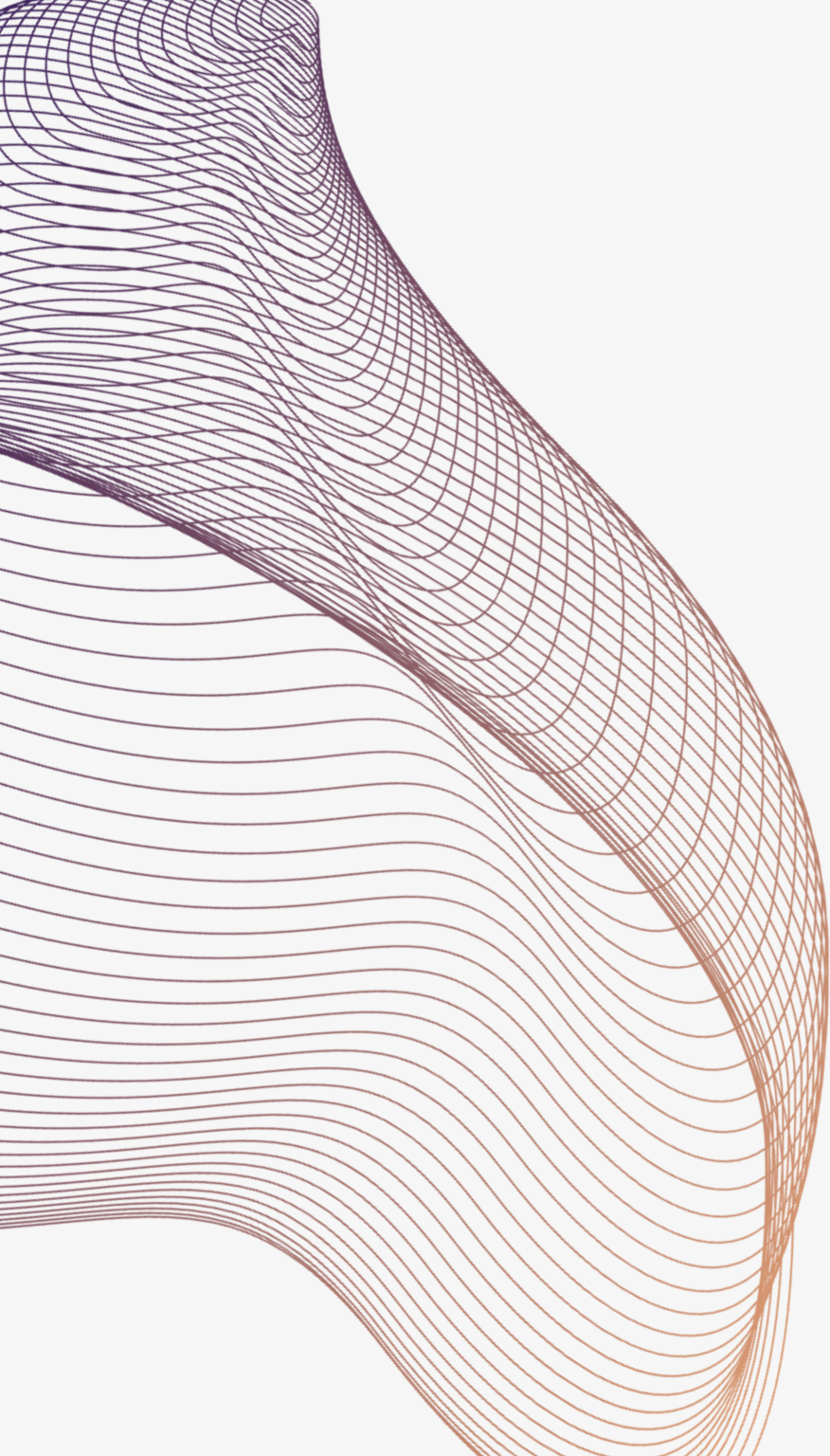
Tânia Camilo

Physiotherapist and CEO of Tecnifisio – specialized physiotherapy and wellbeing

Why breathing matters: Simple Physiotherapy Strategies for Brain and Body Health

AFPOP – Association for Foreign Residents and Visitors to Portugal





**On average, how
many breaths do
we take per day?**

A - 5000 times

B - 15000 times

C - +20000 times

WE CAN SURVIVE



**Several weeks
without food**

30-50 days



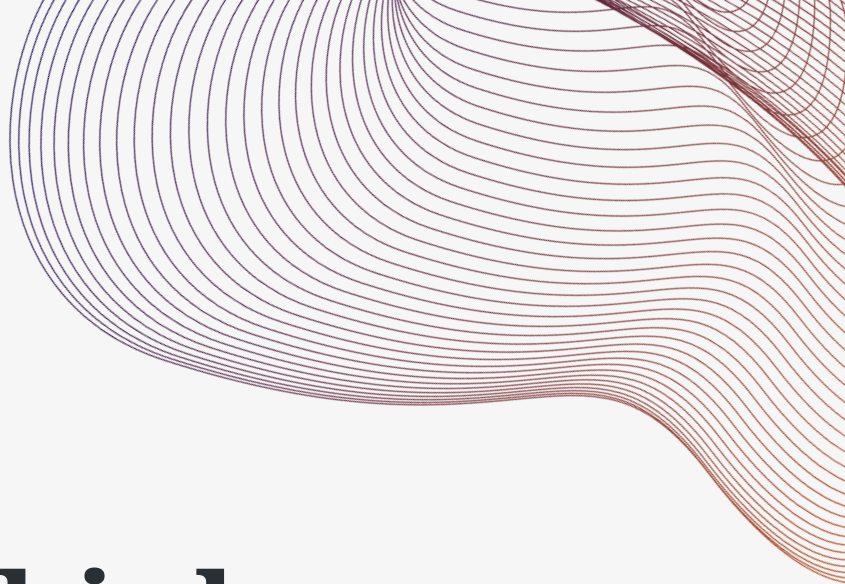
**Some days
without water**

3-5 days



**Minutes without
breathing**

2-5 minutes



Do you really think you know how to breathe?

The vast majority of people do not know how to breathe. This leads to dysfunctional breathing patterns; in other words, the natural breathing mechanism has been altered, impairing respiration itself and the functioning of the nervous system.

Factors associated to **Dysfunctional breathing**



Activates a constant state of alert in the nervous system and raises stress levels.

Factors associated to **Dysfunctional breathing**



Promotes hyperventilation, cervical spine tension, chronic pain, overload of the accessory muscles, hyperinflation, and altered breathing mechanics.

Factors associated to **Dysfunctional breathing**



Dysfunctional patterns persist even after obstructive factors (such as nasal congestion and a deviated septum) have been resolved.

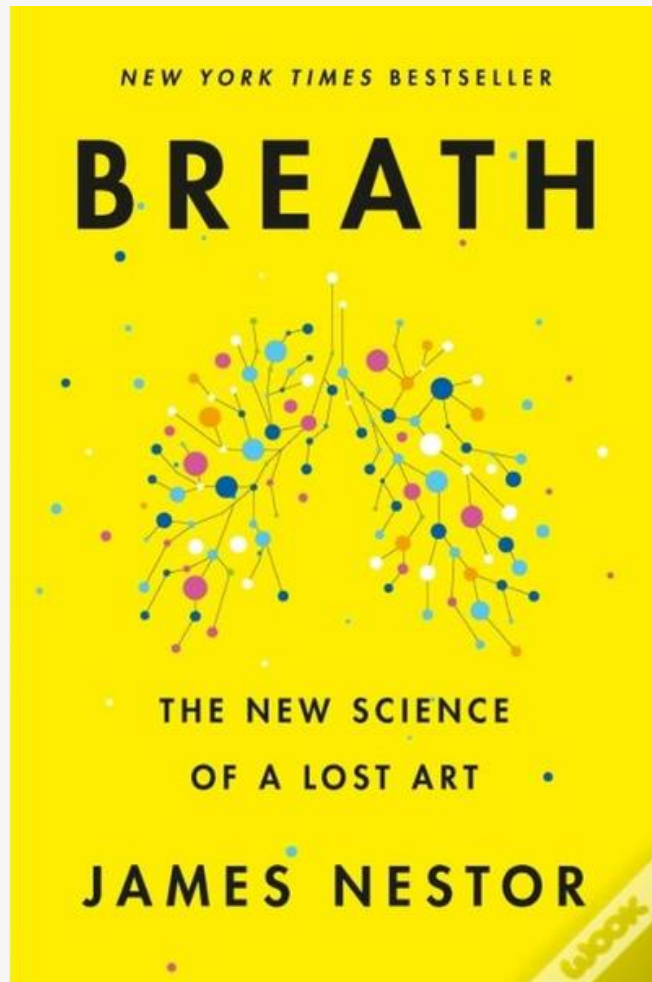
Practice

Body Awareness

Can you close your eyes and focus on how you breathe,
on the movement of your body?

Which areas do you feel moving the most?

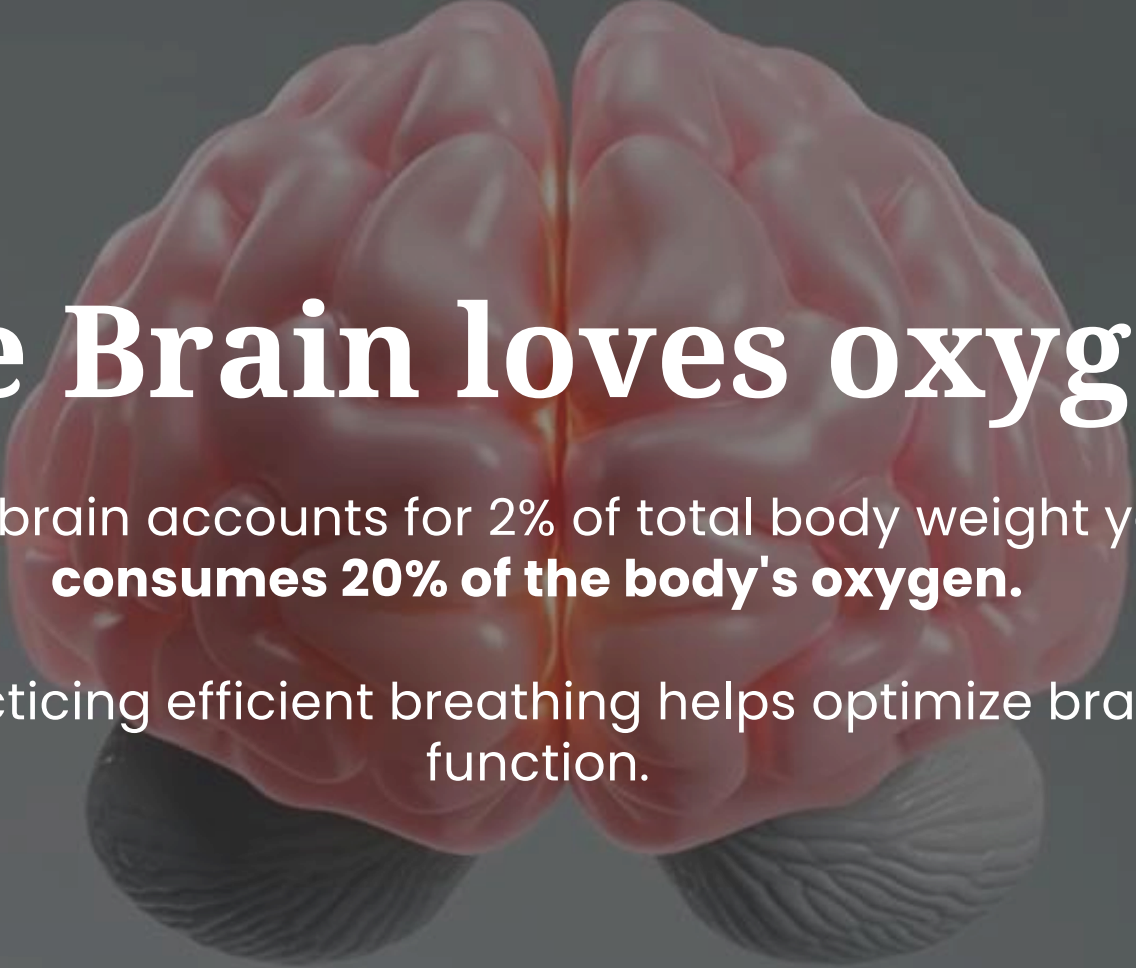




James Nestor, helped bring breathing science to the general public.

His work reminds us that breathing is not just about oxygen, it has an influence on:

- stress
- sleep
- blood pressure
- concentration
- overall health



The Brain loves oxygen

The brain accounts for 2% of total body weight yet **consumes 20% of the body's oxygen.**

Practicing efficient breathing helps optimize brain function.



What does the scientific evidence say?

- Cultivating healthy breathing habits may significantly reduce the risk of developing Alzheimer's disease.



What does the scientific evidence say?

- Cultivating healthy breathing habits may significantly reduce the risk of developing Alzheimer's disease.
- Slow controlled breathing:
 - increases heart rate variability;
 - enhances cognitive function;
 - promotes neuroplasticity;
 - improves sleep quality;
 - optimizes stress regulation.

More than lungs:
The body
diaphragms



In physiotherapy,
we often think beyond.

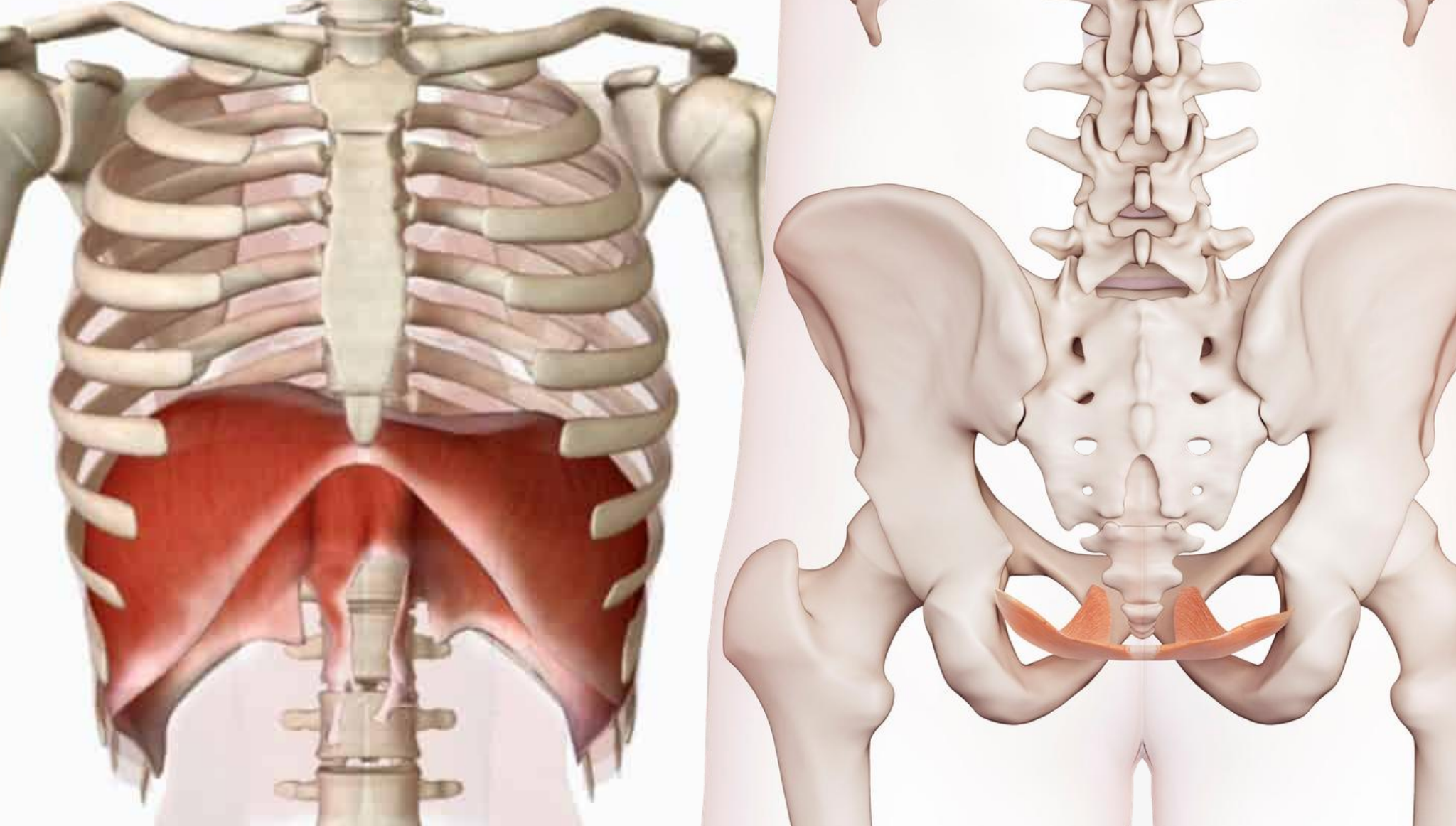
The diaphragm communicates with other regions of the body **through muscles, fascia and influence posture.**

The **mandible, respiratory diaphragm, and pelvic floor** operate as an integrated functional system.





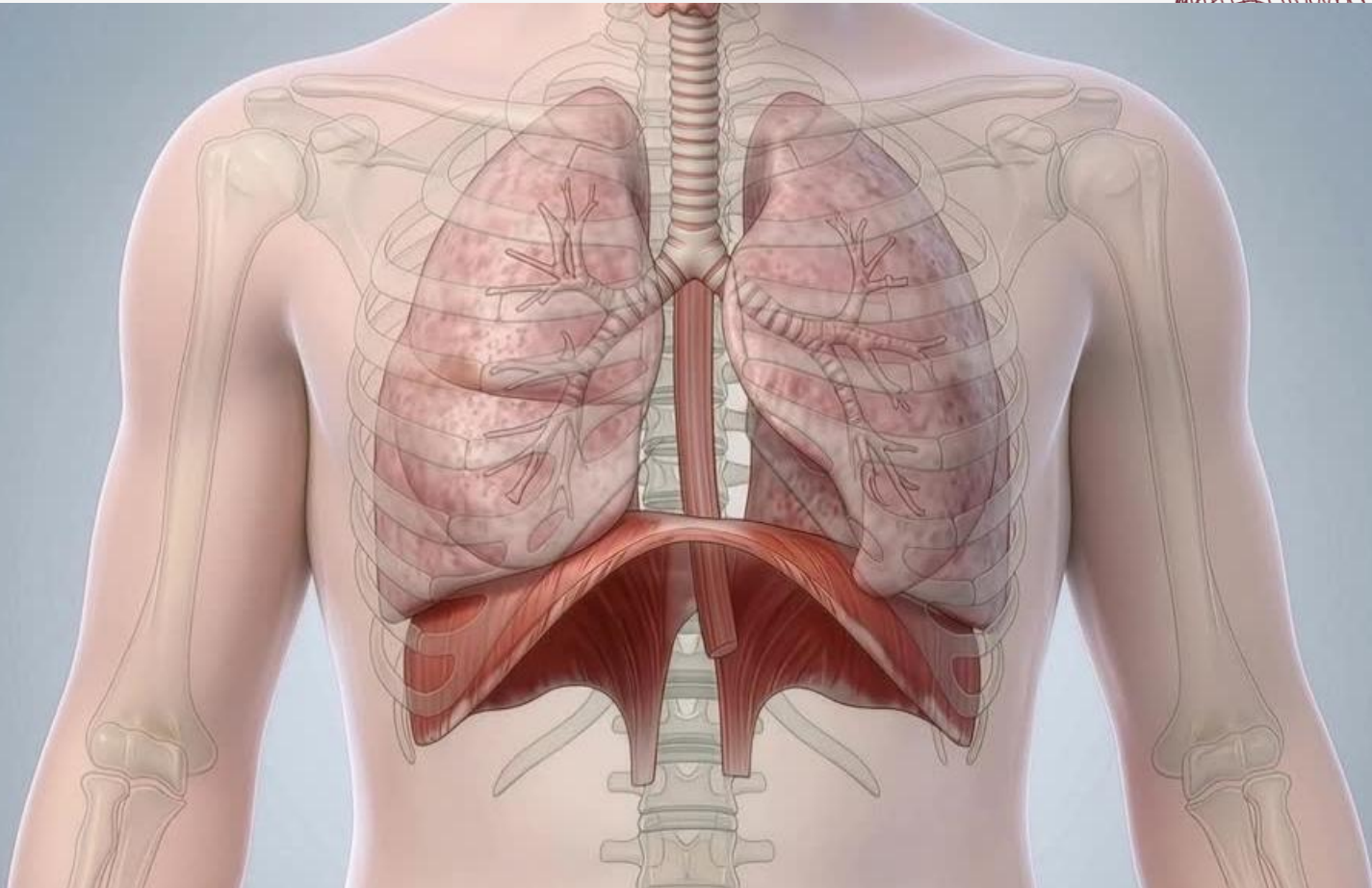
Multidisciplinary Team



The Hidden Connection: *Diaphragm & Pelvic Floor*

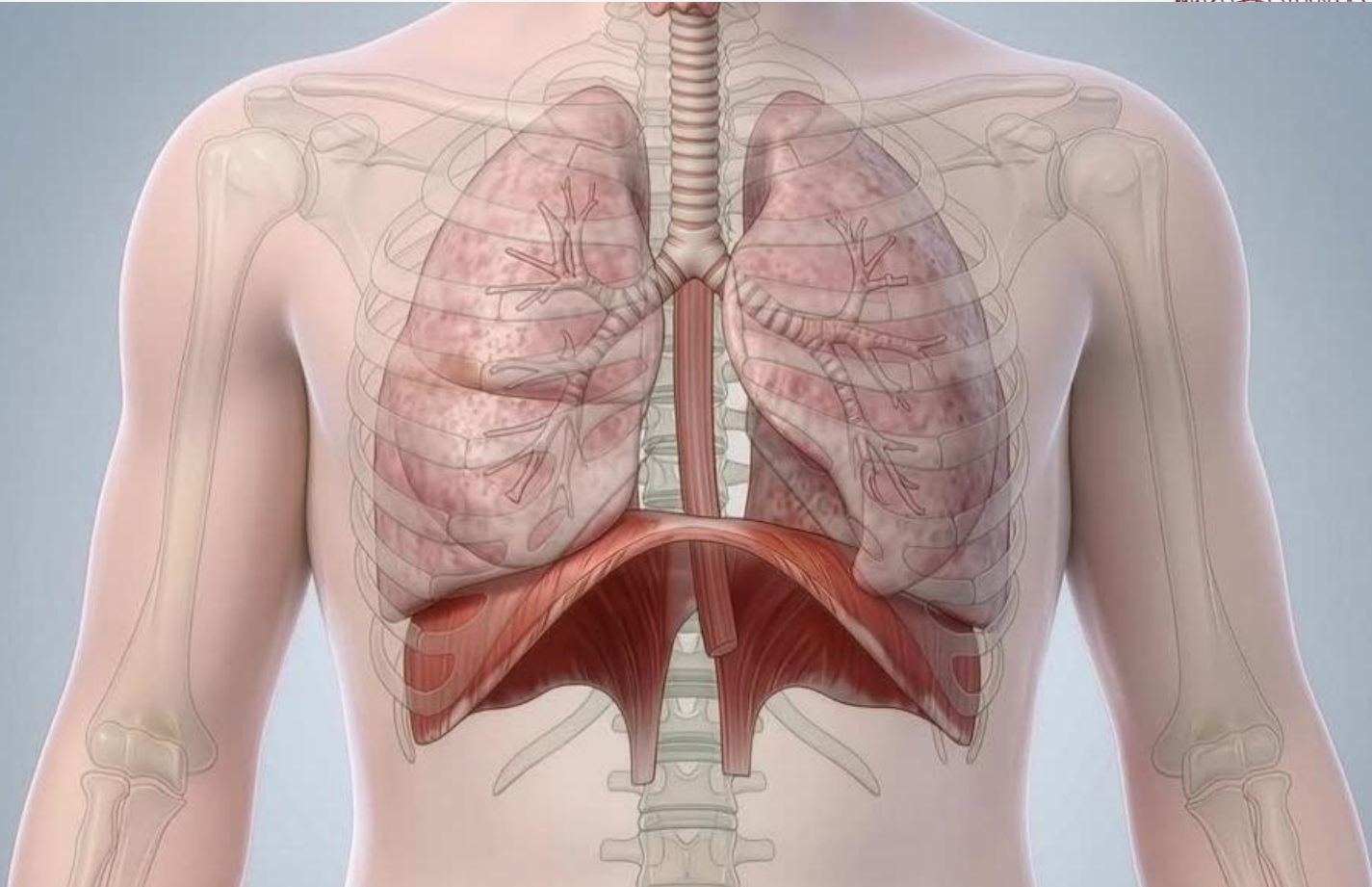
Inhalation:

- Diaphragm descends
- Pelvic floor descends and relaxes



Inhalation:

- Diaphragm descends
- Pelvic floor descends and relaxes



Exhalation:

- Diaphragm ascends
- Pelvic floor elevates and engages

The pelvic floor and the breathing diaphragm work
like dance partners.

Whether we are recovering continence, exercising
or simply moving,
breathing matters.





Breathing and Stress

*"Have you ever noticed how you
breathe **when you are worried?**"*



Breathing and Stress

FASTER

HIGHER IN THE CHEST

MORE TENSION

Shallow breathing → Threat message → Stress response

Slow nasal breathing → Safety message → Calm and regulation



Practice

Please, complete three breath cycles:

Inhale deeply through your nose for 4 seconds, and
then slowly exhale for 6 seconds.



Practice

Please, complete three breath cycles:

Inhale deeply through your nose for 4 seconds, and
then slowly exhale for 6 seconds.

*"Did anyone notice
your shoulders relaxing?"*

A close-up photograph of a person's hand holding a small, rectangular, bright pink sticky note. The note is held between the thumb and index finger, with the rest of the hand visible at the bottom. The background is a plain, light gray surface. The text on the note is printed in a white, serif font and is arranged in three lines.

**3 Simple
Take-Home
Messages**

3 Simple
Take-Home
Messages

First one

Breathe through your nose
whenever possible.

(Nestor, J, 2021)

A hand is holding a small, rectangular pink sticky note. The note is slightly tilted and has the text "3 Simple Take-Home Messages" written on it in a white, sans-serif font. The background is a plain, light gray.

3 Simple Take-Home Messages

First one

Breathe through your nose
whenever possible.

(Nestor, J, 2021)

Second one

Allow your lower ribs to move.

(Patel et al, 2022)

3 Simple
Take-Home
Messages

First one

Breathe through your nose whenever possible.

(Nestor, J, 2021)

Second one

Allow your lower ribs to move.

(Patel et al, 2022)

Third one

Slow your exhale when stressed.

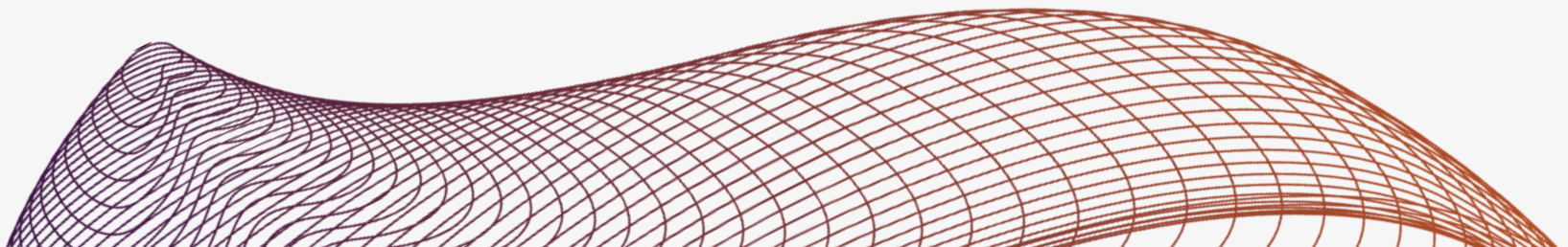
(Goldman, B. 2017)



Breathing is the only body function that is automatic and we can consciously influence.

“Breathing: The Master Key to Self Healing”

(Weil, 1999)



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Bibliography

- Chourpiliadis C, Bhardwaj A. Physiology, Respiratory Rate. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2022.
- Primarti RS, Bordoni B. Dysfunctional Breathing. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2025.
- Maldonado AI, et al. Breathing exercises and cognitive function: mechanisms and clinical implications. *Frontiers in Neuroscience*. 2023.
- Balasubramanian A, et al. Breathing and brain function: a review of physiological mechanisms. *Frontiers in Human Neuroscience*. 2021.
- Nestor J. *Breath: The New Science of a Lost Art*. New York: Riverhead Books; 2021.
- Lehrer PM, Eddie D. Dynamic processes in regulation and some implications for biofeedback and biobehavioral interventions. *Applied Psychophysiology and Biofeedback*. 2013;38(2):143-155.
- Cho Y, et al. Slow-paced breathing and cognitive health: effects on autonomic regulation and brain function. *Scientific Reports*. 2023;13:30167.
- Daszkiewicz K, et al. Functional relationships between the mandible, respiratory diaphragm and pelvic floor: a narrative review. 2024.
- Sapsford R, Hodges PW. Synergism between abdominal and pelvic floor muscles in healthy women: a systematic review of observational studies. *International Urogynecology Journal*. 2016.
- Banushi B, et al. Breathing patterns, stress and autonomic nervous system regulation: a review. 2023.
- Goldman B. Breathing may be key to understanding how the brain controls emotions. *Stanford Medicine News Center*; 2017.
- Patel ZM, et al. International consensus statement on nasal breathing and nasal obstruction. *International Forum of Allergy & Rhinology*. 2022.
- Weil A. *Breathing: The Master Key to Self-Healing*. Sounds True; 1999.