

Theory lesson No 1

Stress management techniques during pregnancy and postpartum

(relaxation, breathing exercises, meditation, visualization, etc.).



Prof. Simona Pajaujiene, PhD.



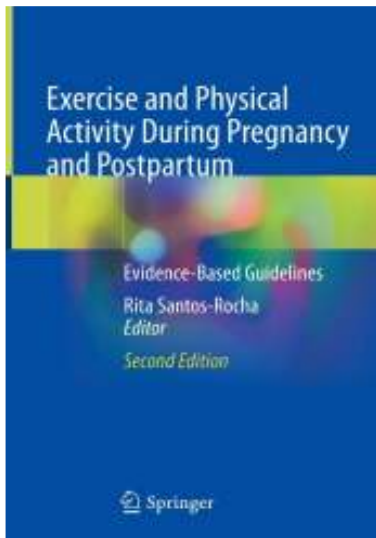
Pregnancy is usually associated with **many psychological changes**:

- **Ambivalence**
- **Frequent mood changes**, varying from anxiety, fatigue, exhaustion, sleepiness, depressive reactions to excitement
- **Problems** with self-identity, work couple relationship and parent-infant attachment.

Sometimes, psychological changes could lead to **significant stress**.

Moreover, the psychological state of the pregnant woman is **dynamic and changes during every trimester**.

James J. Newham & Colin R. Martin (2013) Measuring fluctuations in maternal well-being and mood across pregnancy, *Journal of Reproductive and Infant Psychology*, 31:5, 531-540, DOI: [10.1080/02646838.2013.834040](https://doi.org/10.1080/02646838.2013.834040)



Psychological and Social Changes During Pregnancy: *First trimester*

Emotional fluctuations between **POSITIVE** feelings (such as excitement, happiness, and joy) and rather **NEGATIVE** ones (such as disbelief, anticipation, worry, and tearfulness).

This depends on a **variety of factors**, such as:

- pregnancy ailments (nausea/vomiting, reflux diseases, insomnia)
- planned/ unplanned pregnancy
- financial situations
- family support
- perception of lifestyle restriction
- sense of loss of independence.



Psychological and Social Changes During Pregnancy: *Second trimester*



Although the mood fluctuations continue, the **negative feelings** and overall mental health (such as anxiety and depression) **occur less commonly** (in comparison to the first and third trimester):

- reduced nausea/ vomiting
- more adaptation to changes
- pregnancy care (from healthcare professionals).



Psychological and Social Changes During Pregnancy: *Third trimester*

Negative emotional feelings could come back again during this time. This could be due to:

- increasing discomfort (such as due to pelvic girdle pain/ a backache)
- insomnia
- tiredness/ exhaustion...

Moreover, the following psychological changes become more prominent during the 3rd trimester (compared to the 1st-2nd):

- Transition to parenthood
- Pregnancy-related anxiety



How can stress affect woman's pregnancy and postpartum?

Feeling stressed is common during pregnancy and postpartum because **this is a time of many changes...**

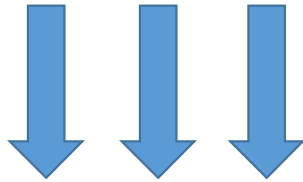
- woman may welcome these changes, but they can add new stresses to her life

But high levels of stress that continue for a long time **may cause health problems:**

- like high blood pressure and heart disease
- poor emotional, mental, social health, etc.

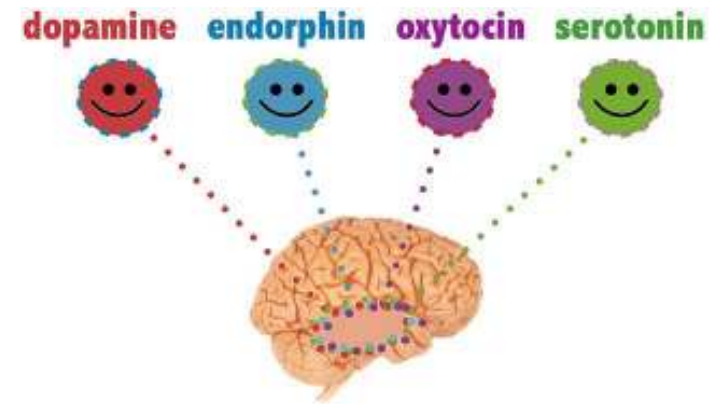


How to Manage Stress Naturally?



No 1: MINDFULNESS-based practices

(relaxation, breathing exercises, meditation, visualization, etc.)



+
rest
getting enough sleep
be active during the day and exercise
nature
food
social support



Practice Mindfulness

Be here, now and all-in-one

Stay aware of your emotions, don't become your emotions

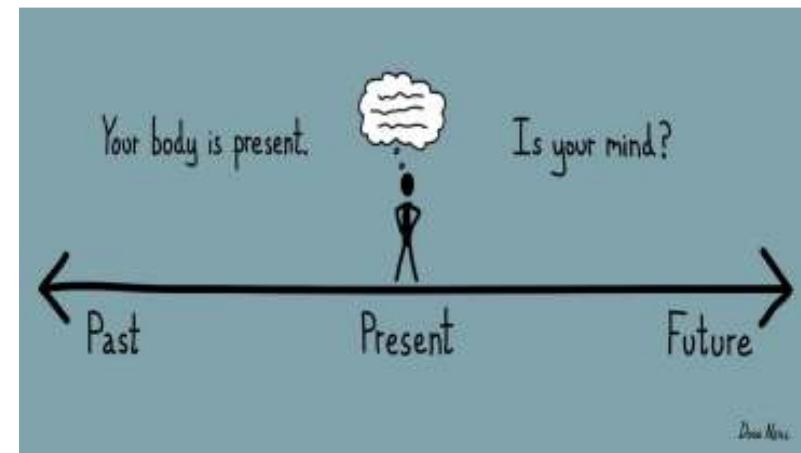
Stay in the present more often, not just the past or the future

Be more aware of the feeling in your body

Eat more mindfulness

Don't live on autopilot

Pay attention to your breathing more often

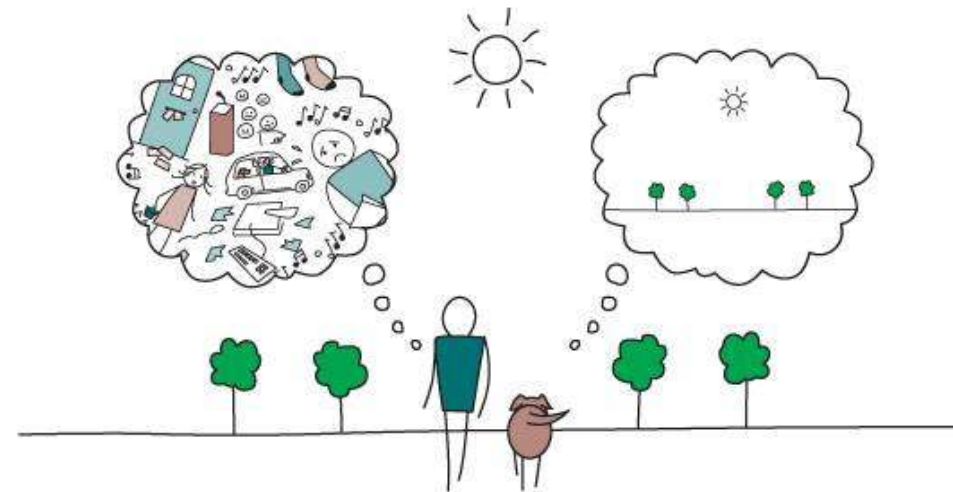


Science about Mindfulness

Evans, E. (2023). Pregnancy Brain: A Mind-Body Approach to Stress Management During a High-Risk Pregnancy.

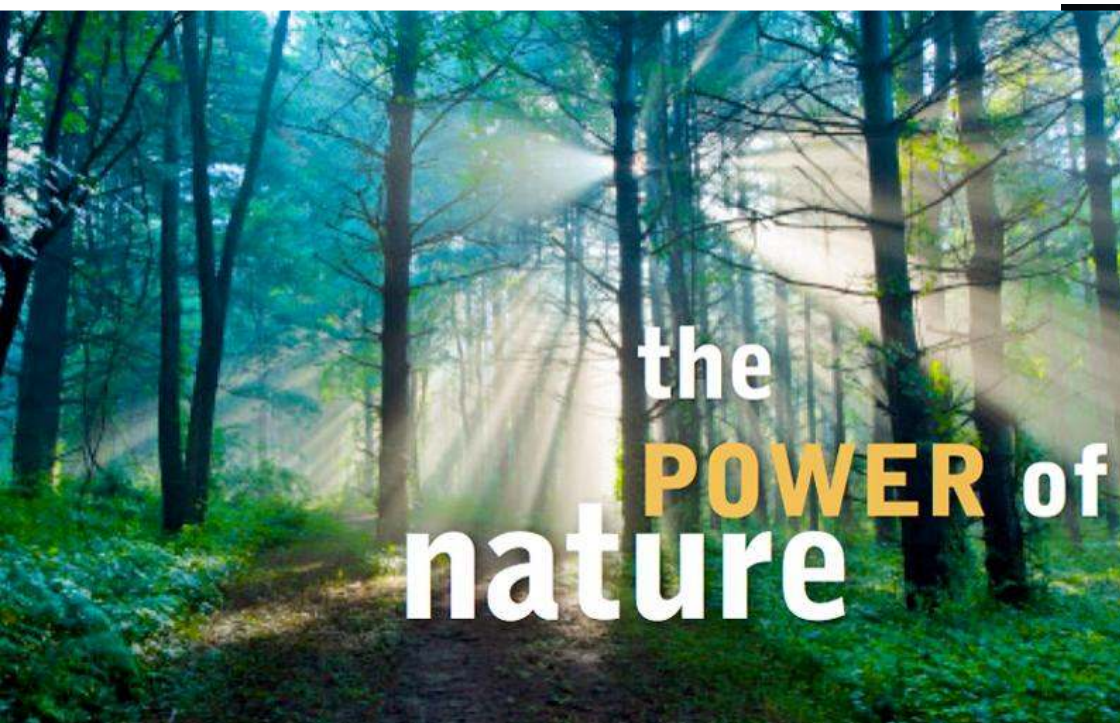
Sources

- <https://doi.org/10.3389/fpsyg.2019.02179>
- <https://doi.org/10.1037/a0018441>
- <https://pubmed.ncbi.nlm.nih.gov/28131433/>
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- <https://www.sciencedirect.com/science/article/abs/pii/S092549271000288X>
- <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0108359>
- <https://www.radboudcentrumvoormindfulness.nl/onderzoek-mindfulness/mindful-body-trial/>
- <https://pubmed.ncbi.nlm.nih.gov/24913338/>



Mind Full, or Mindful?

Contact with the nature



Science about contact with the nature

- People in the city are 21% more likely to suffer from **anxiety disorders**, 39% more often with **depression** and 50% more often with **schizophrenia**.
- 96% feel **calmer** and healthier after a visit to nature!
- Contact with nature **reduces pain and negative emotions such as anger, fatigue and sadness** (Bowel et al. 2010)

- People in hospitals **recover faster** if they have a window view of nature (Ulrich 1984)
- Contact with nature has a beneficial effect on **higher cognitive functions** needed for planning, problem solving and impulse control (Berman 2008 and Daily 2012)
- The more contact with nature, the lower the **stress hormone cortisol** (Thompson 2012)
- Half an hour in nature **significantly decreases cortisol** (Van den Berg 2011)
- People are **more creative** with plants in the room (Hesselink 2007)

Breath, Breath, Breath, Breath, Breath

Deep breaths help get extra oxygen, which in turn helps body, muscles, and brains feel relaxed:

- sit calmly and take long, belly-filling breaths in through nose, then slowly out through nose or mouth.



The Power of Breath



No matter what you eat, how much you exercise, how skinny or young or wise you are, **none of it matters if you're not breathing properly.**

There is nothing more essential to your health and well-being than **breathing**: take air in, let it out, repeat 20 000 – 25 000 times a day.

Yet, as a species, **humans have lost the ability to breathe correctly**, with grave consequences.

MUSIC THERAPY

Perkovic, R., Tustonja, M., Devic, K., & Kristo, B. (2021). Music Therapy and Mental Health in Pregnancy. *Psychiatria Danubina*, 33(Suppl 4), 786–789.

Music therapy is beneficial for all individuals, both **physically and mentally**.
Benefits of music therapy include:

- improved heart rate
- reduced anxiety
- stimulation of the brain
- improved learning.



Music is a mixture of ingredients:

melody, harmony, mode, rhythm, pitch/range, duration, form, texture, instrumentation...



But it is crucial to remember that it is not the hearing that improves life, it is the listening. As with anything else, to enjoy music one must pay attention to it. Music is inextricably linked to our deepest reward systems. Therefore it is important to include music and sound into any flow triggering activity.



Hearing

- Accidental
- Involuntary
- Effortless

Listening

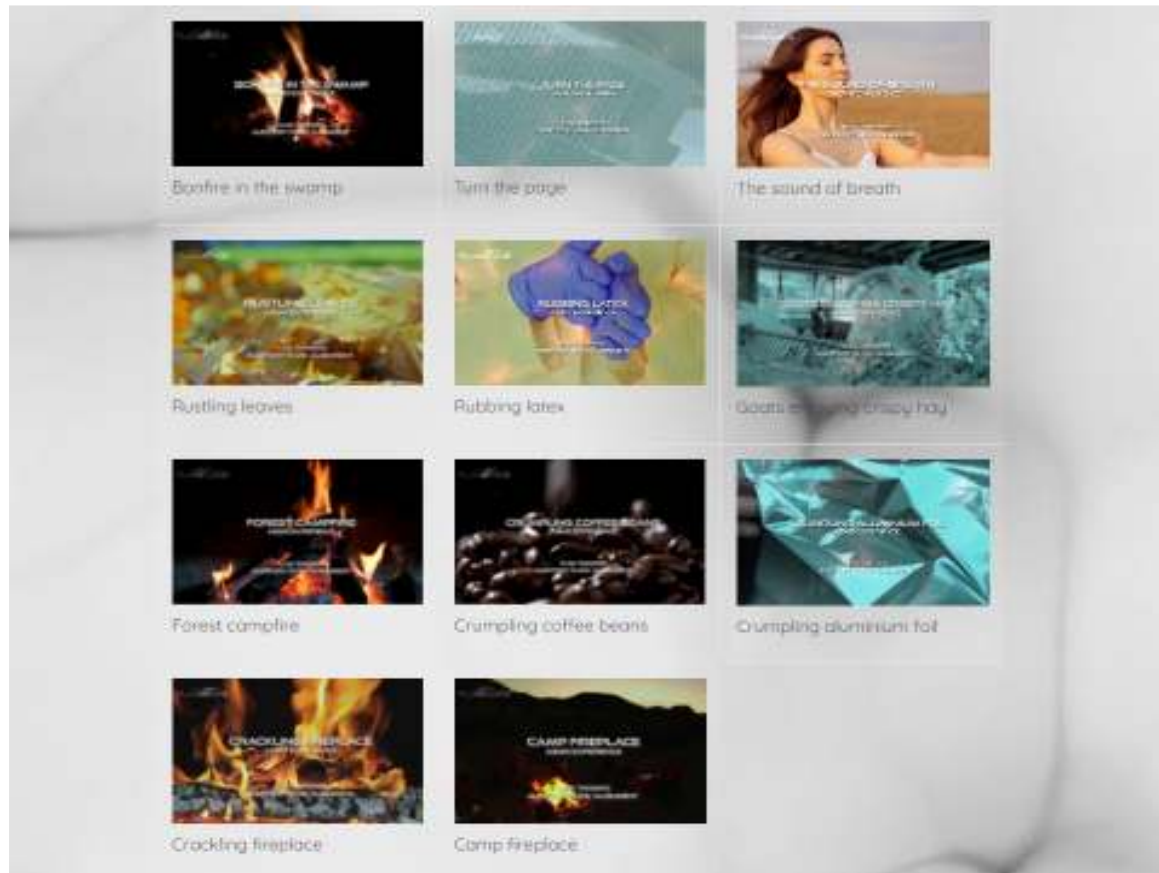
- Focused
- Voluntary
- Intentional

Classical Music for Relaxation: Chopin, Beethoven, Liszt...



Beethoven - Symphony No. 5 for empower, motivation





<https://doi.org/10.1055/s-0041-1731924>

Sounds of nature is
the best therapy



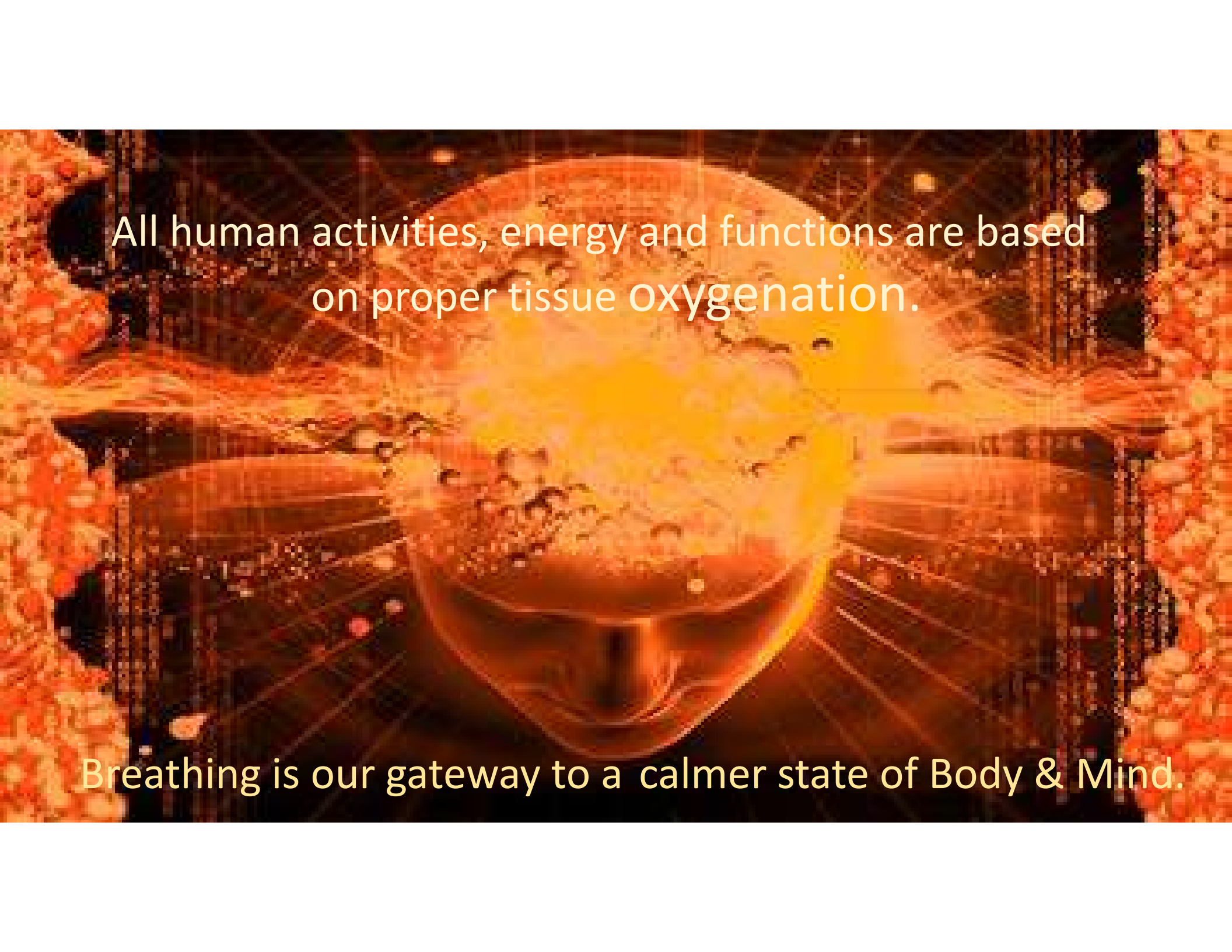
JUST BREATHE
FOR 15 SECONDS

<https://doi.org/10.3389/fpsyg.2022.963133>

Meditation is a practice in which an individual uses a technique – such as mindfulness, or focusing the mind on a particular object, thought, or activity – to train attention and awareness, and achieve a mentally clear and emotionally calm and stable state.



Meditation is a skill. Learning to **meditate** is like learning any other skill. Think of it like exercising a muscle that you've never really worked out before.

A glowing, ethereal human head is centered in the image, rendered in a warm, golden-orange hue. The head is semi-transparent, revealing internal structures like the brain and facial features. A dark, grid-like pattern is overlaid on the head, suggesting a digital or scientific theme. The background is dark with faint, glowing lines and particles, creating a sense of depth and complexity. The overall aesthetic is futuristic and spiritual.

All human activities, energy and functions are based
on proper tissue oxygenation.

Breathing is our gateway to a calmer state of Body & Mind.



Emotional states influence how we breathe

Anger, fear, anxiety - shallow in and out breaths “huff and puff”

Grief - spasmodic breathing

Guilt - restricted breathing

Sadness, depression - under-breathe (breath hold)



Positive emotions Slow & deep breathing Rhythmic & diaphragmatic	Negative emotions Fast & shallow breathing Excessive & inefficient, chest only
Regenerative & calming	Toxic & stressful

Philippot, Chappelle, Blairy (2002). Respiratory feedback in the generation of emotion. *Cognition and Emotion*, 16 (5), 605-627

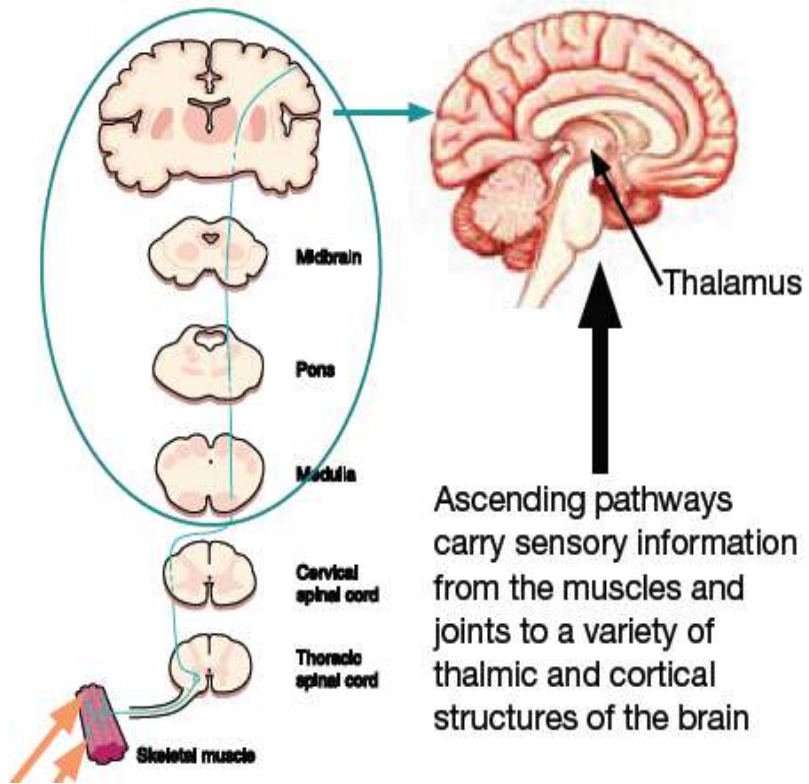
The "miracle" of the physiological mechanism

Want to change your emotional state?

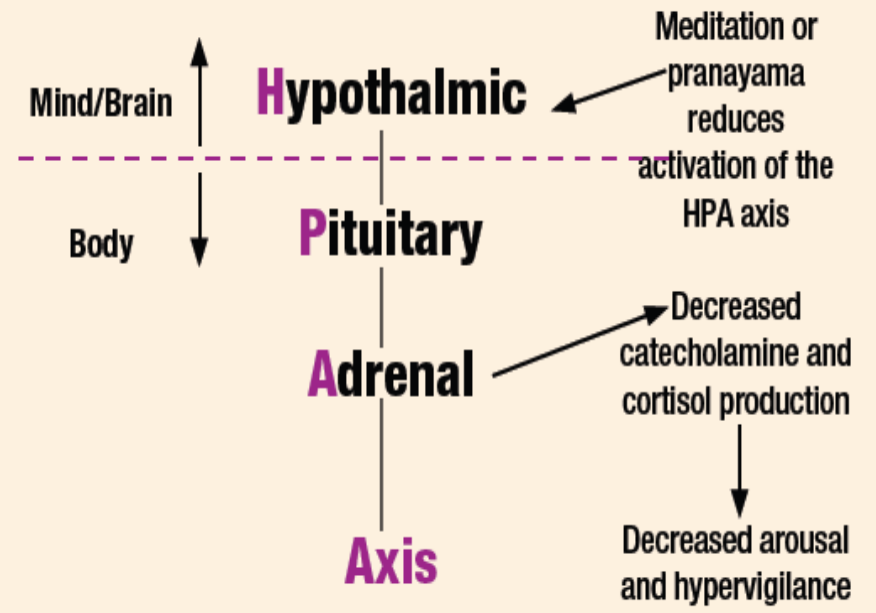


Control your breathing!

NEUROBIOLOGICAL BASIS OF BODY AND MIND system



Much of the affective and neuroendocrine response to cognitive therapies including mind-body exercise is mediated through the hypothalamic-pituitary-adrenal (HPA) axis



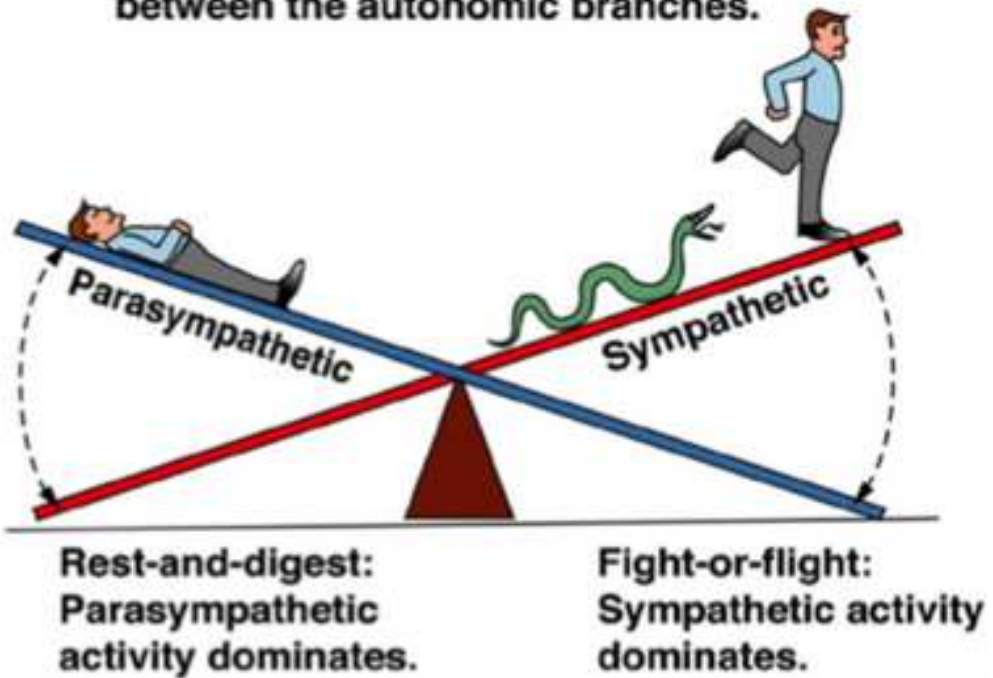


Proper breathing activates BRAIN metabolism.

The body responds to this breath by RELAXING, realizing that it is not in a life-threatening situation.

It activates the PARASYMPATHETIC nervous system, inhibits stress hormones, and lowers HR and blood pressure.

Homeostasis is a dynamic balance between the autonomic branches.

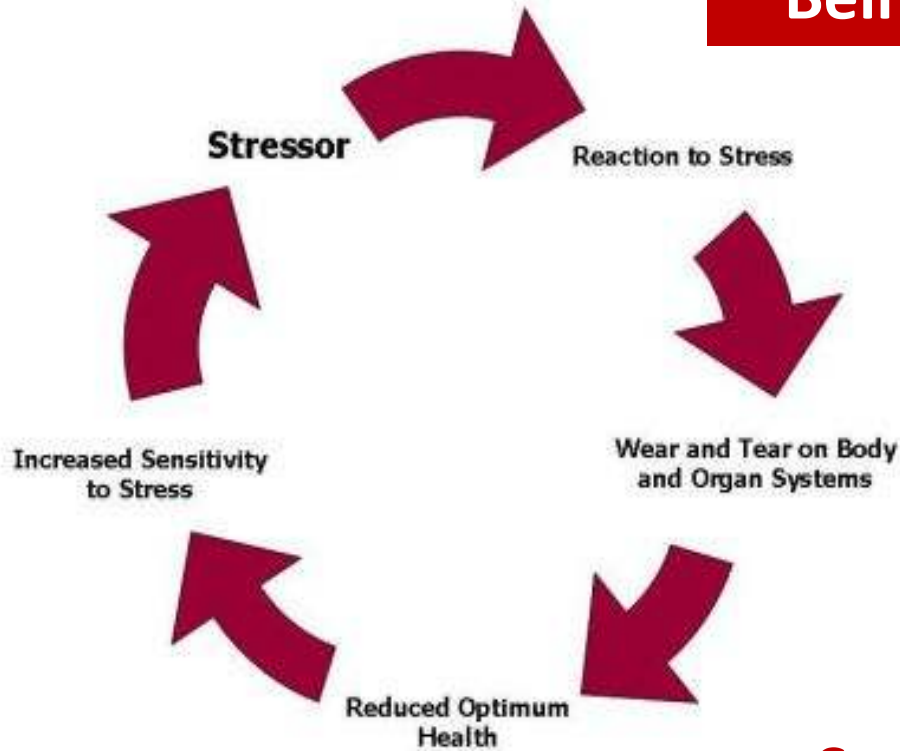


2 min video

Breaths/minute	Level of oxygenation	Stress level	Effects breathing rhythm has on your body
4 5 6	Excellent	Nirvana	Parasympathetic system (relax) Healing & calm body Positive oxygenation Relax hormones (endorphins, serotonin, dopamine) Basic healthy metabolism
7 8 9			
10 11 12	Moderate	Restless	Sympathetic system (alert) Increased risk of disease Chronic oxygen deprivation Stress hormones (adrenaline, cortisol, epinephrine) Acidic & toxic metabolism
13 14 15 16 17 18+			



Being under too much everyday stress!



Stress... Response... Stress... Response...

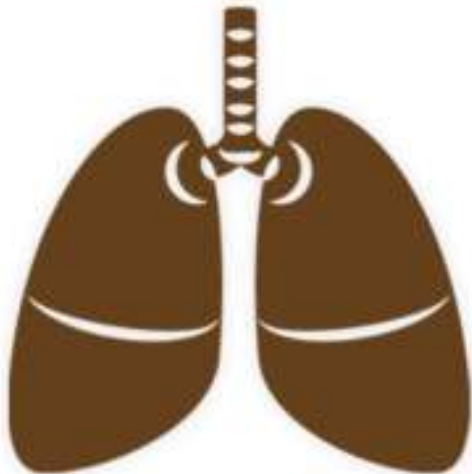
Stress creates a vicious cycle that leads to tension and shallow breathing pattern - **12-18 breaths** per minute!

And we only need **6 quality breaths** per minute.





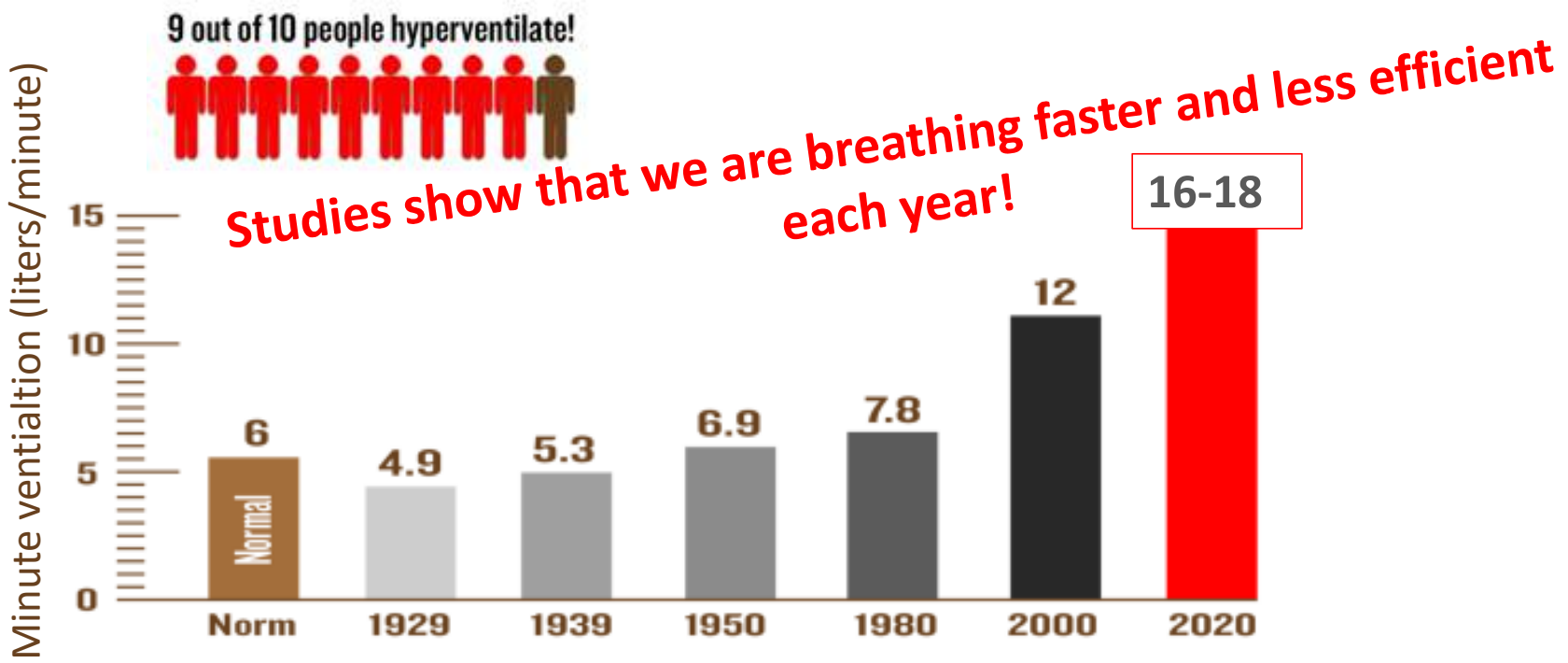
We are overbreathing!



Overbreathing causes an **imbalance in oxygen/carbon dioxide gas exchange**

depriving cells of the needed oxygen...
and **this makes OUR CELLS SICK.**

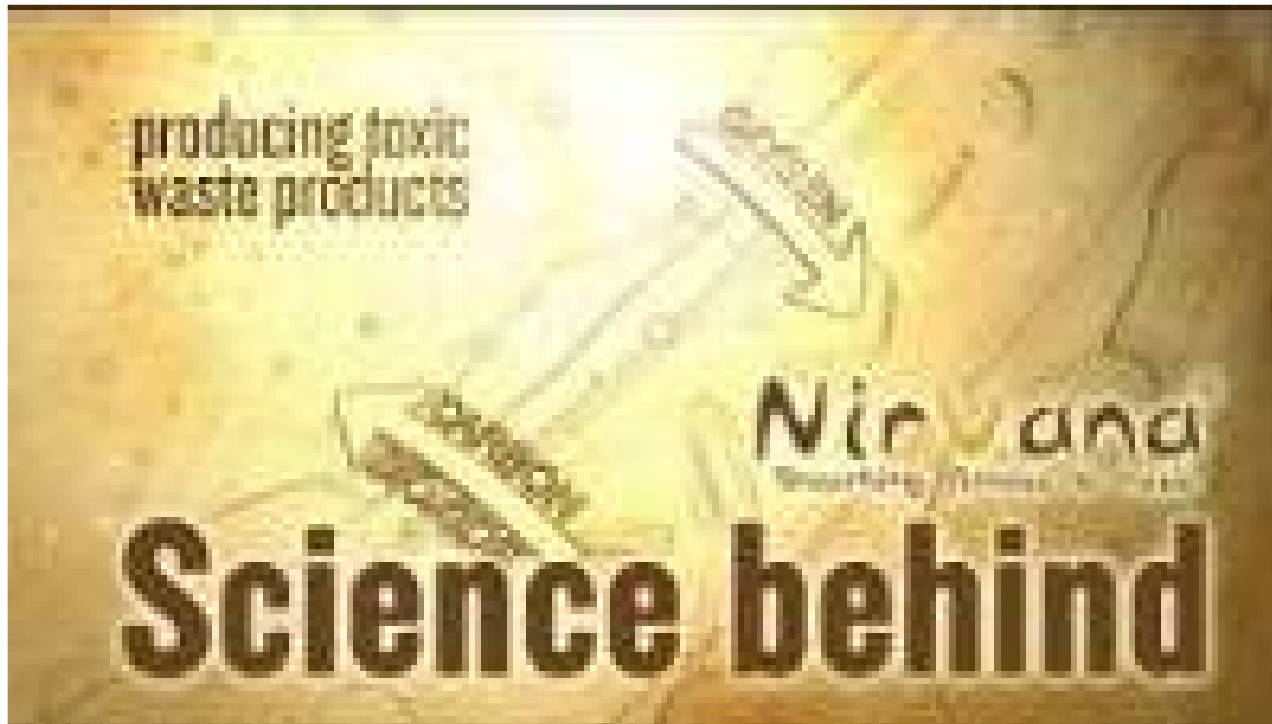
Comparison of breathing volume from 1929 - 2000



Based on 24 published medical studies
Reference: www.normalbreathing.com



1 min

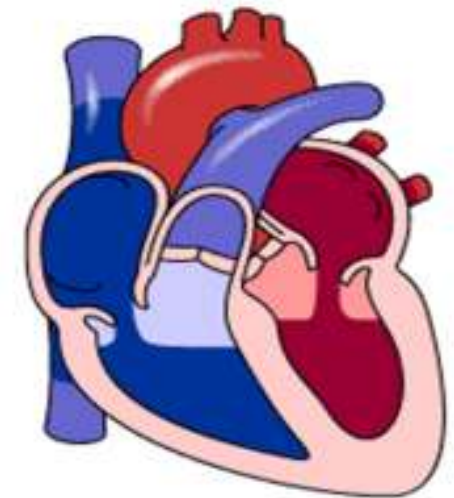
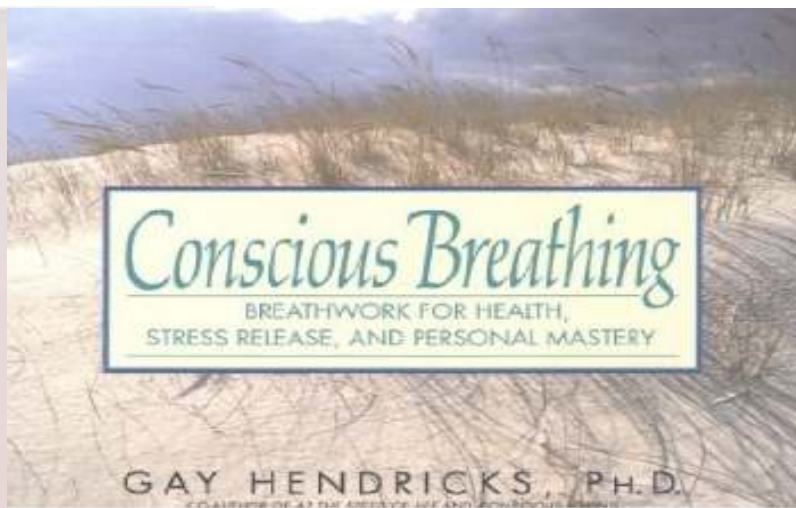


<https://www.youtube.com/watch?v=7XxG6EWcgGo>

**Breathing is the only
bodily rhythm
that we are able to
consciously control.**



Healthy breathing is the first thing that should be taught to a new pregnant or postpartum participant!





We are breathing even when we are not aware of it...

Are you sure your breathing is correct?

Setting a breathing pattern

Take 5-10 deep breaths

Which hand moves more?

What changes have you observed?



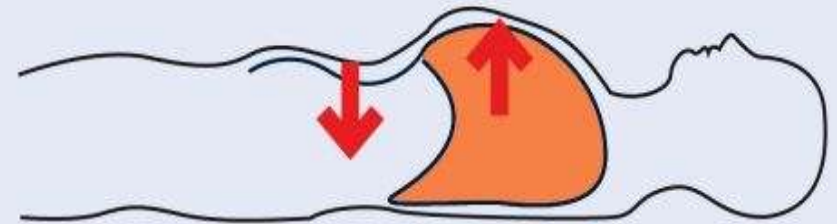


Fig 1. Chest and abdominal movement

A. Normal



B. Paralyzed



Source: Adapted from McCool and Tzelepis (2012)

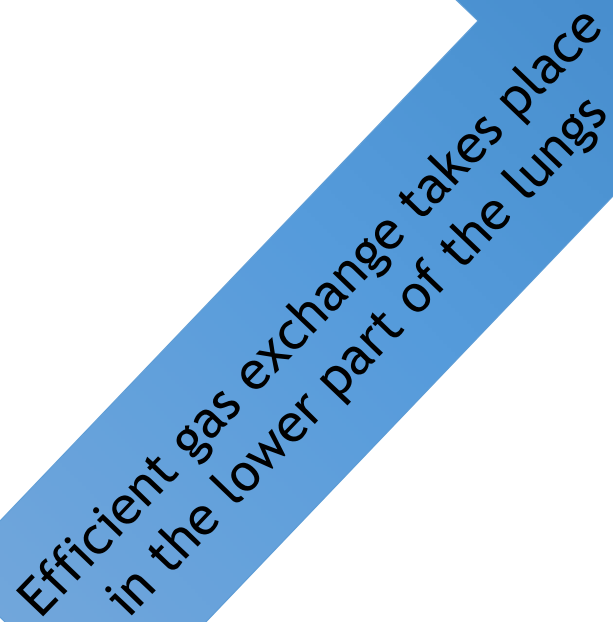
DIAPHRAGMATIC BREATHING



- ✘ Main breathing muscle!
- ✘ Divides lungs from intestines.
- ✘ Moves 10 – 13 cm up and down:
 - inhale (goes down)**
 - exhale (goes up)**

The diaphragm is a thin, dome-shaped muscle that separates the abdominal cavity from the thoracic cavity.

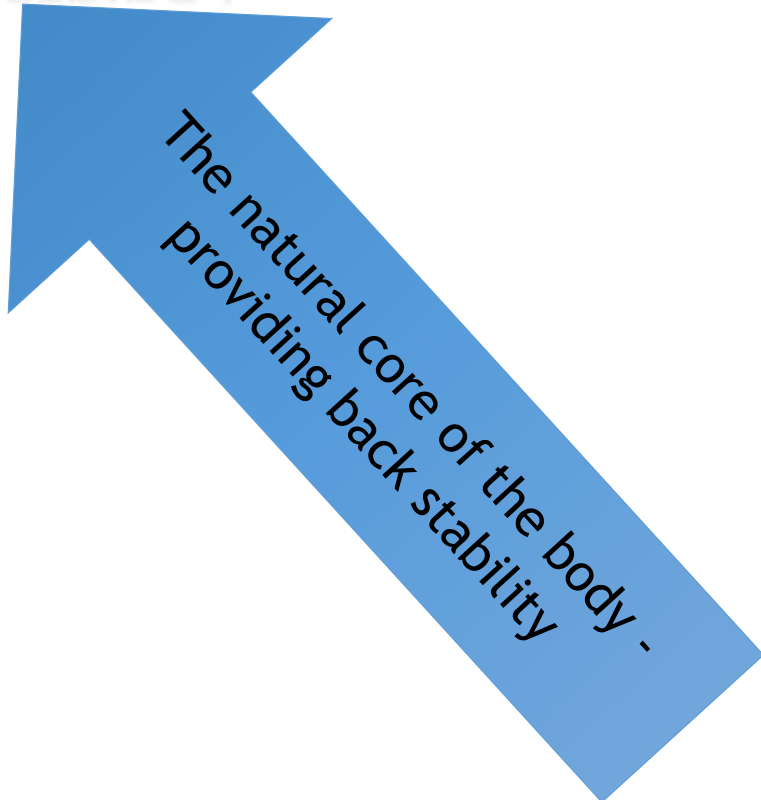
Why Diaphragmatic Breathing?



Efficient gas exchange takes place
in the lower part of the lungs



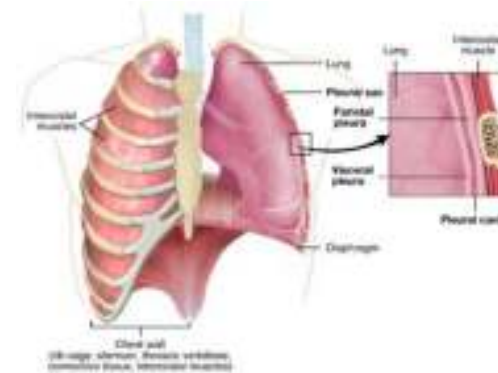
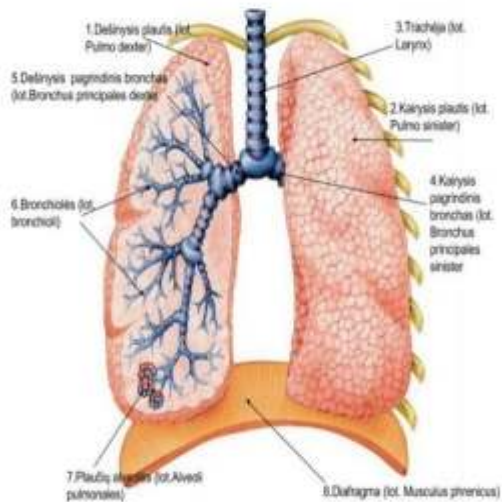
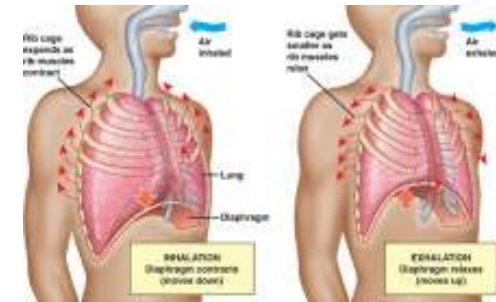
Internal organ massager



The natural core of the body -
providing back stability

1. Efficient gas exchange

Taking deep, diaphragmatic breaths is necessary to get the **oxygen rich air deep into the BASE OF THE LUNGS.**



There are **THREE TIMES AS MANY BLOOD VESSELS** available for respiratory exchange compared to the upper lung region.

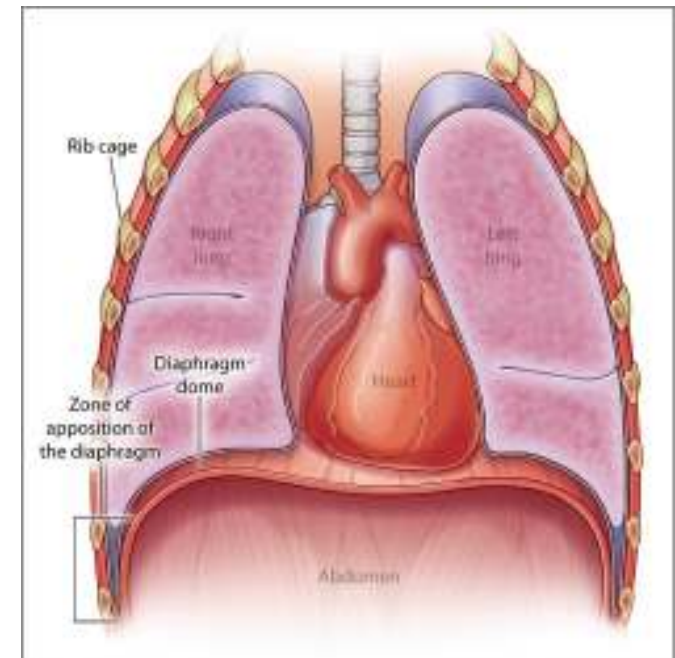
2. Internal massager

Diaphragm breathing move and affects internal organs:

- heart
- pancreas, liver, spleen, kidney and adrenal glands.

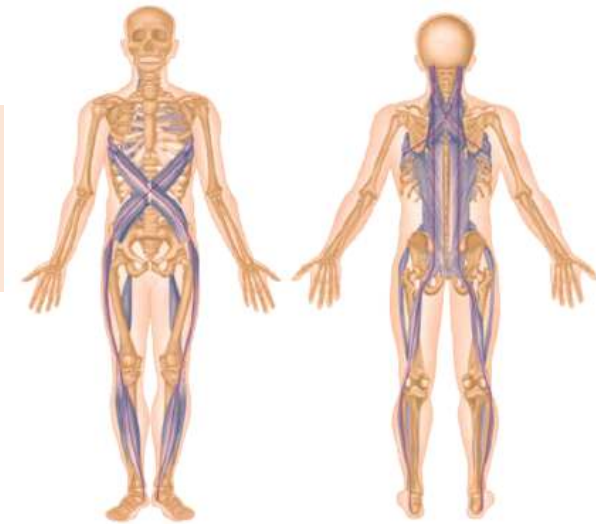
Diaphragm breathing has a positive effect on the intestine:

- helps with constipation, bloating, increase peristalsis.



3. Body core stability and PLB technique

The main role in this action has a **thoracolumbar fascia** which connects together **Diaphragm, Transversus abdominis, Multifidus, Pelvic floor muscles...**

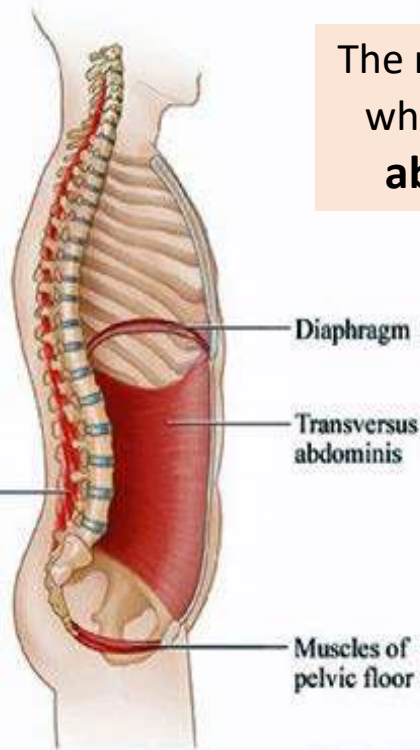


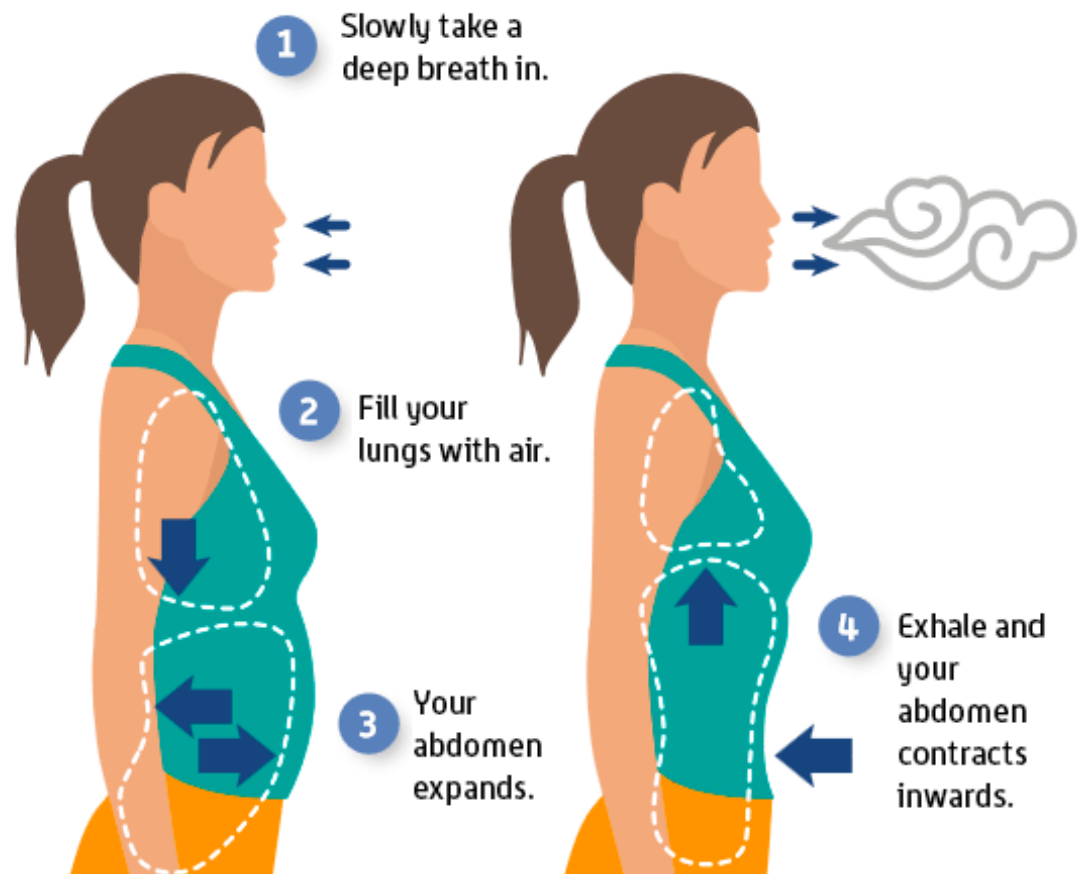
Fascia representation



Cross section
(thoracolumbar fascia)

To exhale completely, it is necessary to use the diaphragm and other muscles that contract as a complete **THREE-DIMENSIONAL SYSTEM.**









PROLONGED EXHALATION, creates a "conditional relaxation response".

Control and prolong EXHALATION...

4:4 sec

4:8 sec

4:12 sec

Practical lesson No 1

breathing exercises



BREATHING EXERCISES

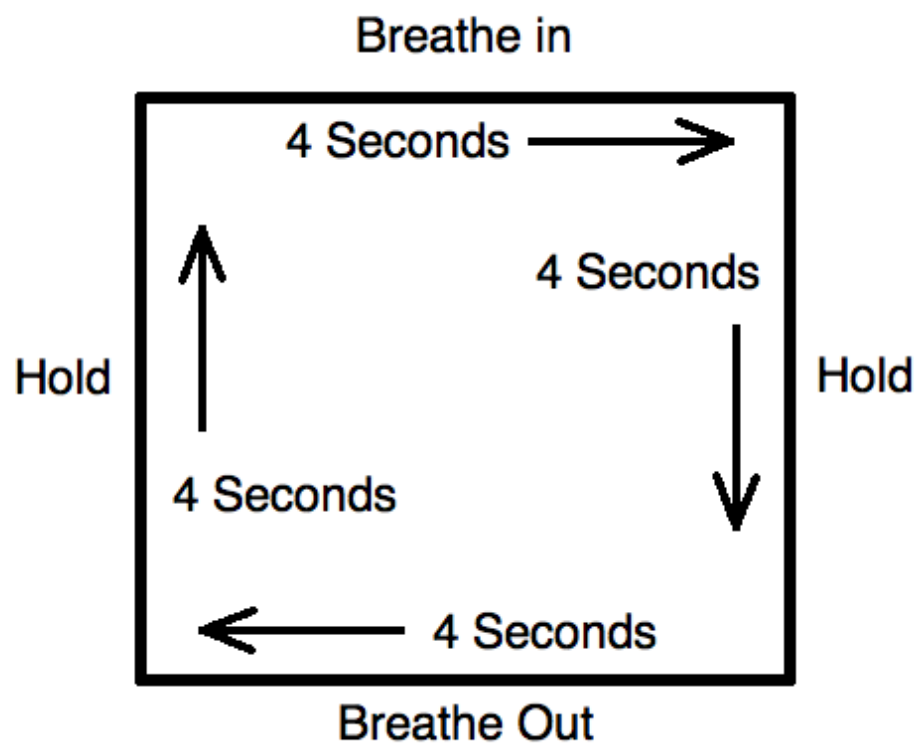
MOVEMENT

MUSIC

MEDITATION

RELAXATION

Pranayama (Box Breathing)



Pranayama

6 – 2 – 6



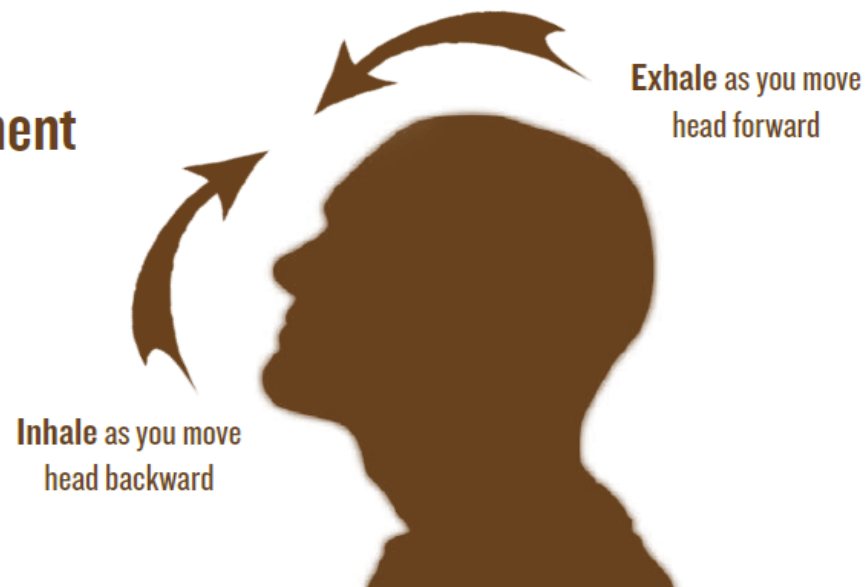
NOSE CLEARING EXERCISE

**Nod with your head backwards and forwards slowly (10x) ...
silently count to 3 as your head moves backwards and again as your head moves
forwards.**

**Coordinate the nodding movement
with your breathing.**

**Breathe in as your head goes back and
out as your head comes forward.**

Breathe smoothly & gently.



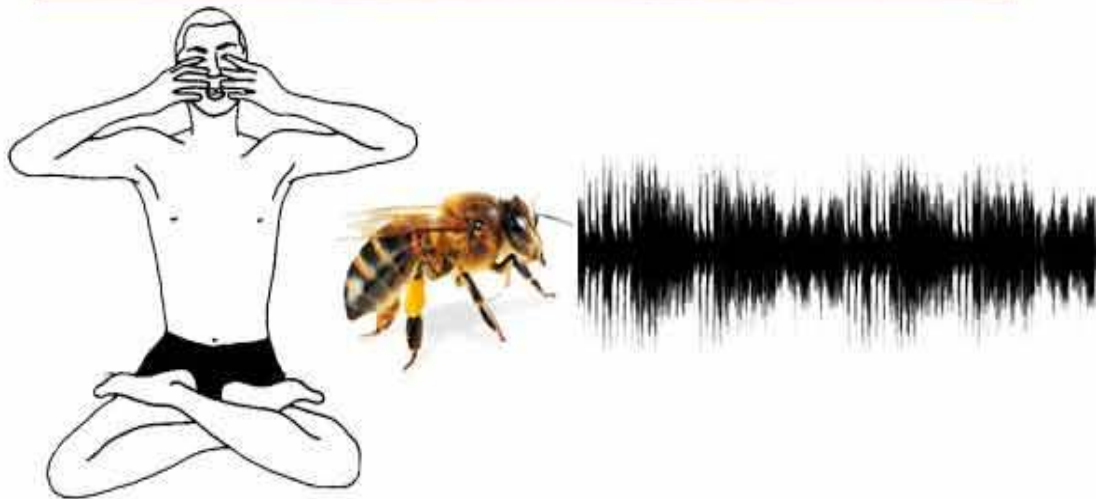
ALTERNATE-NOSTRIL BREATHING (NADI SHODHANA)



BEE BREATH TECHNIQUE (BRAHMARI)

<https://www.youtube.com/watch?v=nzG27n1rsus>

Bhramari Pranayam - Humming Bee
 Bhramri Pranayam (Humming bee breathing) produces sound similar to humming of a bee. It has a soothing effect on brain & calms mind.

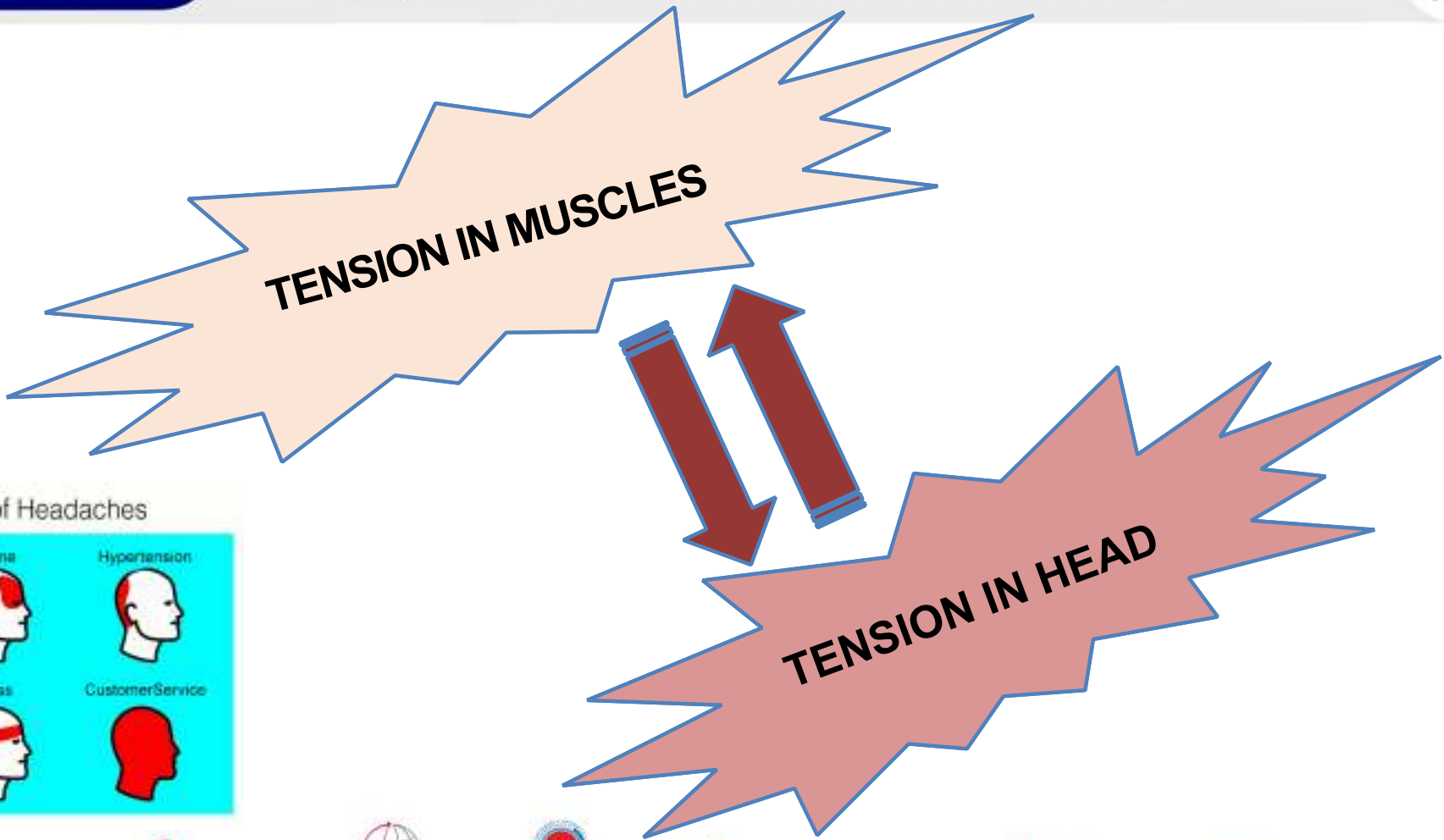


KAPALABHATI 3X15 S (3X30 S)

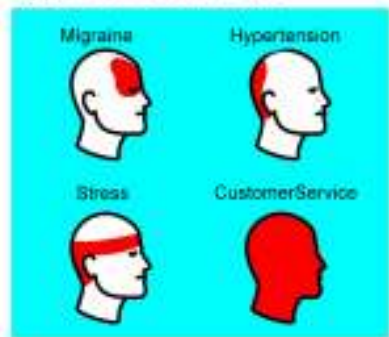


Walking and breathing with a baby stroller





Types of Headaches



Create easy stretching routine with
2-4 exercises with prolonged
exhalation (4x8)

Nirvana®
Breathing Awareness Movement

<https://nirvana.fitness/>

Practical lesson No 2

Breathing Exercise to Music - NirvanaFitness

Nirvana® – global system – global team

Breathing Awareness Movement



The ultimate **Body & Mind** system

Based on science & years of experience



- Breathwork**

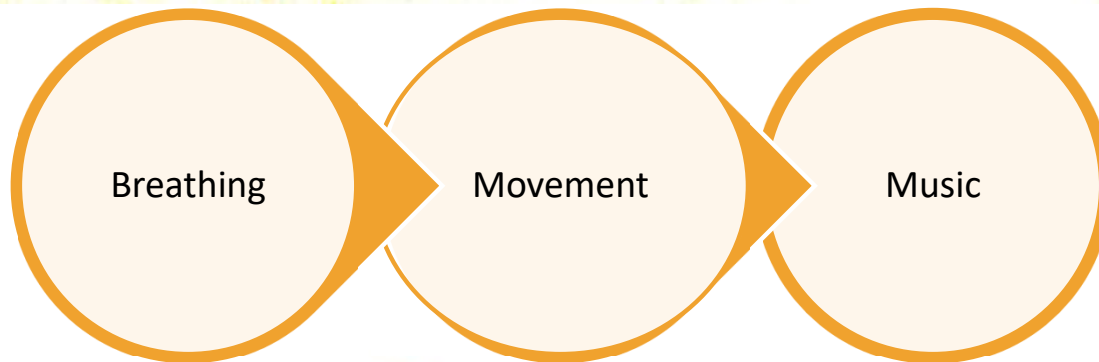
< Breathing techniques >
- Body/Mind Detox**

< Detoxification >
- ThetaWaves**

< Binaural beats >
- Conditioning/Stretching**

< Yoga & pilates flow >
- Mindfulness**

< Meditation/Antistress >



NirvanaFitness® class breakdown

The average human being breaths between 12 – 18 breaths a minute. That equates to 18,000 to 26,000 breaths every 24 hours. It has been suggested that, at rest, we should consume 6 breaths in a minute to supply our needs. All the extra activity produces unwanted toxic products!



Stress → Relax

Gradual slower & deeper breathing pattern

Only slower and deeper breathing properly oxygenates your body & gets rid of toxins!

Breaths/min	4-5	10-11	Various	9-10	7-8	4-6	Various	2-3
Workout segment	Body Oxygen Check	Warm up	Breath activation	4/4 sequences	4/8 sequences	4/12 sequences	Cool down	Body Oxygen Check



Nirvana[®] Soundscape technology

Cues for inhale - exhale (tibetan bowl sound)

Inspiring & calming soundscape (every sequence has it's own song)

Nirvana[®] ThetaWave technology (4–7 Hz)(binaural beats)

Sequence & section announcements (for an easy follow)

Intentions (thetawave pause - mind focus)



ThetaWave Technology



<<< Binaural beats >>>

Nirvana[®] Movement technique

Yoga/pilates exercises with focus on the muscles of the core
Functional movements performed in a continuous movement flow

Spiral & diagonal movement patterns

Balanced symmetrical movements

Swing technique

Shake muscle vibrational technique

Active spiral stretching



Breathing fitness is changing how we measure good health!



It is not % of our **body fat**,
it is not our **BMI**,
it is not our **heart rate monitor** reveal
what's really going on in our cells.

It's all about optimal cell oxygenation.

Feel the Nirvana experience!

BODY DETOX

Super effective blend of toning & stretching exercises to tone up and detox your whole body.

Toned & flexible body

MIND DETOX

Rhythmic breathing to mesmerizing chillout music with ThetaWave technology.

Magic calmness of the Nirvana mind



Nirvana
Ultimate Body & Mind System

**FREE
CLOUD#7
APP**

Achieve peaceful calm & deep sense of relaxation

Practice daily breathing exercises with Free Cloud#7 app.
Anywhere, anytime ... Follow your Nirvana® Breathing fitness sequences
on your laptop, desktop, mobile device, TV ...



<http://nirvana.fitness/Cloud7/>

https://www.youtube.com/watch?v=HfPaAC5R_ZM&feature=emb_imp_woyt



Body Oxygen Check
Start your day with Body Oxygen Check to track your progress



Nirvana® Trigger workout
Perform short 10 min Trigger workout to boost your daily oxygen, preferably in the morning



Nirvana® BreathWalk
Anytime during the day, take a BreathWalk, just play music and enjoy walking meditation in nature

Nirvana® Cloud #7

Daily Breathing retraining program



Nirvana® DeepSleep
While in bed getting ready to sleep, put a DeepSleep sequence on ... it will sway you into a deep refreshing sleep.



Nirvana® SevenBreaths
Do SevenBreaths when you feel stressed or in need of a quick calm down fix & oxygen boost



Nirvana® SlowBreaths
Performed multiple times during the day, anytime anyplace, just put yourself into comfortable position and breathe to the music

Let's try together
BREATHING FITNESS TO MUSIC

NirVand
Breathing Fitness to Music



REFLEXION / FEEDBACK

- How was your experience with NirvanaFitness?
- How did you combine breathing and movement?
- What was difficult?
- What was easy and comfortable?