

Breath AS Medicine

In Behavior Change &
Neuroplasticity



**BREATH AS
MEDICINE**
WEBINAR SERIES

WEEK 3



The sub- conscious & conscious mind

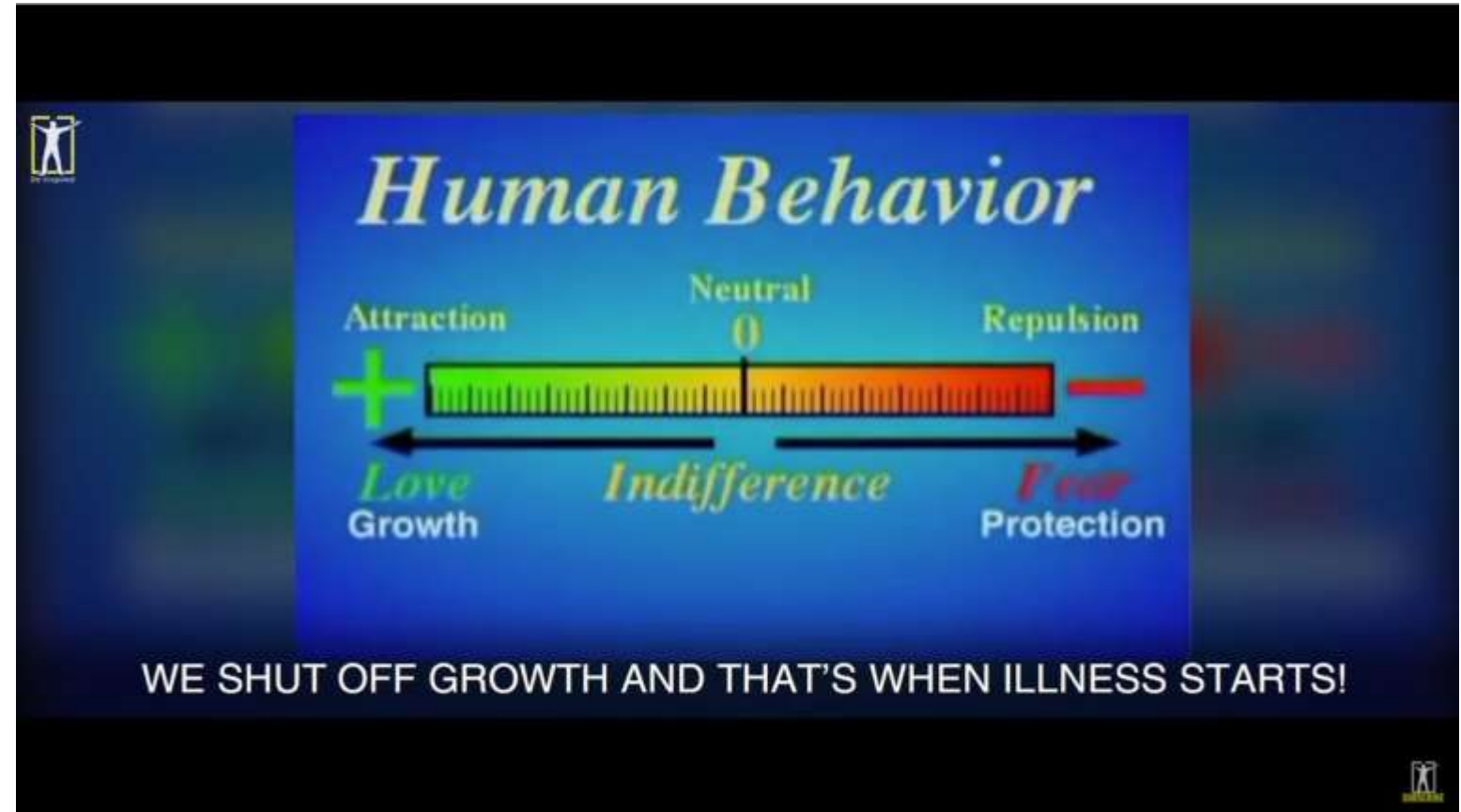
Are we running our lives
with conscious mind,
or are we running our lives
with the subconscious programs?
Well, science has revealed
that **only 5% of the day**
are we operating our nervous system
using the conscious mind's
creative wishes and desires.
95% of the day, our life is coming
straight out of the programs
in our **subconscious.**

BRUCE LIPTON | @IAMFEARLESSSOUL

Habits & Behavior . . . Where Do They Start?

- The Brain
 - Limbic System –
 - Where emotions are given meaning AND remembered
 - Attached to learned responses of the meaning
 - Example: We learn as a young child NOT to touch a HOT stove because it's hot and will hurt. Any child who has ignored this teachable moment WILL have a strong emotional memory to things that are hot
 - Operates with Fight Or Flight part of ANS which is triggered by strong emotions to person, place or thing
 - Was designed for physical threat and now we mostly live with "perceived" psychological threats
 - Sub-conscious mind
 - Frontal Lobes
 - This is where our rational mind processes emotions
 - Place of our thinking, decision-making, reasoning and logical mind
 - Conscious mind
 - Emotions overpower intellect initially. Then, our logical mind catches up to determine if danger or threat is truly present
 - Behaviors & choices form in response to learned behavior. We "train" our brain how to respond

An Overactive Stress Model Puts The Body in Protection Mode



What is Neuroplasticity?

- “Plasticity” is the term neurologists use to describe the brain’s ability to change. Our brain grows new connections as we learn new skills.
- Starting in utero until we die, cells in our brain re-organize themselves in response to our environment and changing needs
- GOOD NEWS: WE CAN ALWAYS RETRAIN OUR BRAIN
- We do this with our breath control – length, depth, pace

Make Exercise Neuroplastic

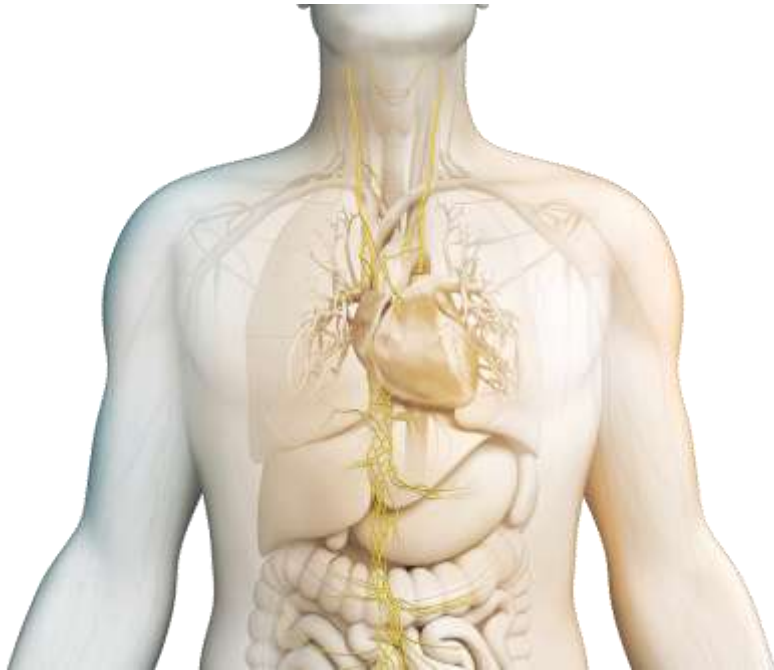
- Bring Parasympathetic Activity To A Sympathetic Action
 - Consciously Breathe
 - Strengthen Diaphragm
 - Vagus Nerve
 - Balance Autonomic Function
 - Bring “your shit” into your workout
- The exhale is where transformation happens
- Breathing Techniques
 - Diaphragmatic Breathing With Ocean Sound
 - Power Breathing
 - Breath Retentions
 - Alternate Nostril
- Neuroplastic Application in Exercise

Breathing & Cognitive Centers Of The Mind

- Inhale brings information in regarding the environment (recall)
- Exhale is the response of that information i.e. “we live in the feeling of our thinking mind” (transformation)
- Research Reveals: “Our hypotheses predict that a consciously controlled change in respiratory behavior will cause a change in cognitive and emotional states, which is a common observation in yogic breathing (Jella and Shannahoff-Khalsa, 1993; Stancák and Kuna, 1994; Brown and Gerbarg, 2005) and stress reducing respiratory exercises such as combat tactical breathing employed by military and special forces (Grossman and Christensen, 2011). A second key prediction is that respiration-locked modulation of cortical gamma activity and phase transition timing directly links respiratory behavior to higher cortical processes, including cognitive and limbic functions, sensory perception and motor control. “

Breathing & Cognitive Centers of The Brain

- Respiration rhythms tied to cortical activity in the brain supporting either stress or relaxation response
- Oscillations of neocortical activity in the gamma (30–100 Hz) frequency range, have been strongly implicated in affective and cognitive brain functions such as attention, sensory perception, decision making, problem solving, memory formation and language processing
- Theta state is where learning takes place (4-8 HZ)
- Length, Depth & Pace of breathing is a reflection of LDP brainwave activity



Heart Rate Variability & The Vagus Nerve

- Known as the “guardian” of the body as it communicates the state of your organs to the brain and delivering signals from the brain back to them
- Main component of Parasympathetic Nervous System
- Is only stimulated through nasal diaphragmatic breathing (not mouth breathing)
- Increases serotonin, dopamine, oxytocin endorphins (feel good hormones)
- Lowers heart rate & blood pressure
- Regulates heart rate variability (strength of the space between inhale & exhale)
- Monitors Mental & Emotional Centers in the Brain Including: Problem Solving, Communication, Adaptability, Creativity
- Under stress, the vagus nerve turns off non-essential functions (including executive functioning in the brain)

Hormones secretions – Happy Hormones & Neurotransmitters & Neuromodulators

Enhance categories in the brain related to behavior, thoughts and feelings. Too much or too little causes imbalances negating their role in our mood, behavior and feedback loops related to neuroplasticity.

- Dopamine:
 - Produced in Hypothalamus
 - Reward, Action and/or pursuing action (regulates memory, cognition, reward, sleep)
- Serotonin:
 - Produced in Enteric & Central Nervous Systems
 - Contentment, Inaction, Calm (regulates mood and social behavior, appetite and digestion, sleep, memory, and sex)
- Norepinephrine (or noradrenaline):
 - Produced in adrenal glands
 - Memory, Alertness, Motivation
- Anandamide
 - Cross-lateral molecule that allows 2 frontal lobes to operate in flow
- Endorphins
 - Allow us to handle higher levels of pain (the body's pain killer)

Using the Parasympathetic Nervous System For Behavior Change

The inhale is sympathetic.
The inhale gains
information on our
surroundings.

The exhale is
parasympathetic. The
exhale is the action based
on the information.

Mouth breathing/shallow
nasal breathing is
sympathetic

Nasal diaphragmatic
breathing is
parasympathetic

The left nostril is
parasympathetic in inhale
& sympathetic on exhale

The right nostril is
sympathetic on inhale &
parasympathetic on exhale

One nostril is more
dominant than the other
every 90 to 120 minutes.
This is how we regulate our
body temperature of 98.6

Supporting Research Or Recommended Reading

- Breathing As A Fundamental Rhythm Of Brain Function
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5226946/>
- The Role of Carbon Dioxide (and intracellular PH) in the Pathomechanism of several mental disorders.
<https://www.ncbi.nlm.nih.gov/pubmed/20128395>
- The Biology Of Belief, Dr. Bruce Lipton

Breath AS Medicine Trainings

- **E-Learning Courses**
 - 15-Hour Breath AS Medicine For Fitness Professionals
 - 25-Hour Breath AS Medicine
- **LIVE Courses**
 - 25-Hour Breath AS Medicine (October 2020)
- **MedFit Member Discount**
 - 20% OFF – Use Code: MedFit20
- **EdTV – FREE FOR 3 MONTHS** <https://www.edharrold.com/ed-tv-video>