



THE SCIENCE OF BREATHING

DIAPHRAGMATIC BREATHING

[Framingham Heart Study](#)

[Respiratory Diaphragm Function: Understanding the Muscle that Powers Breath](#)

[The Science of Breathing](#)

[Taking a few deep breaths significantly reduces children's physiological arousal in everyday settings: Results of a preregistered video intervention](#)

[The physiological effects of slow breathing in the healthy human](#)

[Aging of the Diaphragm Muscle](#)

[The Healing Power of Proper Breathing](#)

[How Breathing Calms Your Brain, And Other Science-Based Benefits of Controlled Breathing](#)

[The Value of Blowing up a Balloon](#)

[Teaching Diaphragmatic Breathing to Children](#)

ATHLETIC PERFORMANCE

[How to Build Endurance in Your Brain and Body](#)

[Diaphragmatic breathing reduces exercise-induced oxidative stress](#)

[Dysfunctional breathing and reaching one's physiological limit as causes of exercise-induced dyspnoea](#)

[Breathe better, Move Better](#)

[How your breathing can help you run faster with less effort](#)

[Your Lungs and Exercise](#)

[Nike: What Is Breath Work — And Can It Help Your Sports Performance?](#)

[Positive Effects of Diaphragmatic Breathing on Physiological Stress Reactivity in Varsity Athletes](#)

[Breathing Techniques and Benefits for Athletes](#)

[How Athletes Can Use the Power of Breath to Improve Performance](#)

[Effects of Two Different Recovery Postures during High-Intensity Interval Training](#)

[National Athletic Trainers' Association Position Statement: Management of Asthma in Athletes](#)

[The Valsalva maneuver: its effect on intra-abdominal pressure and safety issues during resistance exercise](#)

[Mindfulness Training Enhances Endurance Performance and Executive Functions in Athletes: An Event-Related Potential Study](#)

[Inspiratory muscle warm-up and inspiratory muscle training: separate and combined effects on intermittent running to exhaustion](#)

[Breath Tools: A Synthesis of Evidence-Based Breathing Strategies to Enhance Human Running](#)

[Anxiety, CO2 tolerance, and breath practice in high school students: feasibility and observations from a 6-week slow breathing program](#)

MOUTH BREATHING & CHILDREN

[Mouth Breathing Syndrome: cervical muscles recruitment during nasal inspiration before and after respiratory and postural exercises on Swiss Ball](#)

[Benefits from one session of deep and slow breathing on vagal tone and anxiety in young and older adults](#)

[The importance of correct breathing for raising healthy good looking children](#)
[Mouth breathing: Adverse effects on facial growth, health, academics, and behavior](#)

[Walk test and school performance in mouth-breathing children](#)

[Mouth Breathing Causes, Treatments And Consequences](#)

[Clinical Correlates of Carbon Dioxide Hypersensitivity in Children](#)

STRESS & ANXIETY

[Effect of breathwork on stress and mental health: A meta-analysis of randomised-controlled trials](#)

[Mindfulness-Based Stress Reduction vs Escitalopram for the Treatment of Adults With Anxiety Disorders](#) *Mindfulness exercises can be as effective as anxiety drugs, a study shows. Breathing and body exercises helped relieve anxiety as effectively as medications over an eight-week study of 208 people

[Effect of Mindfulness Breathing Meditation on Depression, Anxiety, and Stress: A Randomized Controlled Trial among University Students](#)

[Effect of slow abdominal breathing combined with biofeedback on blood pressure and heart rate variability in prehypertension](#)

[To improve students' mental health, Yale study finds, teach them to breathe](#)

[The Integrative Role of the Sigh in Psychology, Physiology, Pathology, and Neurobiology](#)

[The role of deep breathing on stress](#)

[Immediate Effect of a Yoga Breathing Practice on Attention and Anxiety in Pre-Teen Children](#)

[The Effect of Diaphragmatic Breathing on Attention, Negative Affect, and Stress in Healthy Adults](#)

[How to Keep Your Cool in High-Stress Situations](#)

[How To Manage Anxiety With A Breathing Exercise by Dr Stephen Porges](#)

[A quick way to boost student wellbeing? Deep breathing](#)

[Tools for Managing Stress and Anxiety](#)

[Relaxation techniques: Breath control helps quell errant stress response](#)

[Deep, Slow Breathing: An Antidote to Our Age of Anxiety?](#)

[Take a Deep Breath](#)

[Vision and Breathing May Be the Secrets to Surviving 2020](#)

[Effectiveness of diaphragmatic breathing for reducing physiological and psychological stress in adults: a quantitative systematic review](#)

[The Influence of Breathing on the Central Nervous System](#)

[Acute anxiety and autonomic arousal induced by CO₂ inhalation impairs prefrontal executive functions in healthy humans](#)

[Slow-Breathing Curriculum for Stress Reduction in High School Students: Lessons Learned From a Feasibility Pilot](#)

[Benefits from one session of deep and slow breathing on vagal tone and anxiety in young and older adults](#)

[How breathing can help you make better decisions: Two studies on the effects of breathing patterns on heart rate variability and decision-making in business cases](#)

[The effect of deep and slow breathing on pain perception, autonomic activity, and mood processing--an experimental study](#)

[The physiological effects of slow breathing in the healthy human](#)

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ASTHMA & RESPIRATORY

[Physiology, Bohr Effect](#)

[Physical Therapy for Children with Chronic Lung Disease](#)

[Breathing exercises for asthma: a randomized controlled trial](#)

[COVID-19 and a serious inflammatory syndrome in children: Unpacking recent warnings](#)

[Facts and challenges in respiratory neurobiology](#)

[The role of breathing training in asthma management](#)

[Respiratory pattern of diaphragmatic breathing and pilates breathing in COPD subjects](#)

[Humming Greatly Increases Nasal Nitric Oxide](#)

MINDFULNESS

[Mindfulness-Oriented Meditation for Primary School Children: Effects on Attention and Psychological Well-Being](#)

[The Benefits of Being Present: Mindfulness and Its Role in Psychological Well-Being](#)

[Mindfulness training helps kids sleep better, Stanford Medicine Study Finds](#)

[Mindfulness Training for Teachers Changes the Behavior of Their Preschool Students](#)

[A school-based health and mindfulness curriculum improves children's objectively measured sleep: a prospective observational cohort study](#)

[Impact of a mindfulness-based stress reduction program from the perspective of adolescents with serious mental health concerns](#)

SLEEP

[Mindfulness training helps kids sleep better, Stanford Medicine Study Finds](#)

[Association of Sleep-Disordered Breathing With Cognitive Function and Risk of](#)

[Cognitive Impairment: A Systematic Review and Meta-analysis](#)

[Influence of a 30-Day Slow-Paced Breathing Intervention Compared to Social Media Use on Subjective Sleep Quality and Cardiac Vagal Activity](#)

PSYCHOLOGY OF BREATHING

[How Breath-Control Can Change Your Life: A Systematic Review on Psycho-Physiological Correlates of Slow Breathing](#)

LEARNING AND FOCUSED ATTENTION

[The Influence of Slow-Paced Breathing on Executive Function](#)

[Stress and Learning in Pupils: Neuroscience Evidence and its Relevance for Teachers](#)

[Improvement of Attention in Elementary School Students through Fixation Focus Training Activity](#)

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[Yoga and Breathing Exercises Aid Children With ADHD to Focus](#)

[Taking a few deep breaths significantly reduces children's physiological arousal in everyday settings: Results of a preregistered video intervention](#)

[Breathing through the nose aids memory storage](#)

[Effect of Left, Right and Alternate Nostril Breathing on Verbal and Spatial Memory](#)

[Deep Breathing Practice Facilitates Retention of Newly Learned Motor Skills](#)

[Why Mindful Breathing Keeps Your Brain Healthy and Young](#)

[How Breathing Calms Your Brain, And Other Science-Based Benefits Of Controlled Breathing](#)

NEURODIVERSE POPULATIONS (AUTISM)

[Autism Anger Management: How to Visually Teach Deep Breathing](#)

[Relaxation Training for Kids on the Autism Spectrum](#)

DYSFUNCTIONAL BREATHING

[Dysfunctional breathing: what do we know?](#)

[Breathing pattern disorders and physiotherapy: inspiration for our profession](#)

[Breathing abnormalities in children with breathlessness](#)

[EXERCISE INTERVENTION FOR INDIVIDUALS WITH DYSFUNCTIONAL BREATHING: A MATCHED CONTROLLED TRIAL](#)

[DEVELOPMENT OF A SCREENING PROTOCOL TO IDENTIFY INDIVIDUALS WITH DYSFUNCTIONAL BREATHING](#)

[Assessment of Breathing Pattern Disorders](#)

[Yawning and its Physiological Significance](#)

[Point Prevalence of the Biomechanical Dimension of Dysfunctional Breathing Patterns Among Competitive Athletes](#)

[Email Apnea: Breathing is coupled with voluntary action and the cortical readiness potential](#)

COVID, NITRIC OXIDE & HEALTH

[COVID Best Practices- D. Belisa Vranich](#)

[Could nasal nitric oxide help to mitigate the severity of COVID-19?](#)

[Lying face down improves breathing in severe COVID-19](#)

[Healing Irritable Bowel Syndrome with Diaphragmatic Breathing](#)

[Treating Long COVID patients- Rosalba Courtney](#)

[Yoga Breathing, Meditation, and Longevity](#)

[Effect of slow abdominal breathing combined with biofeedback on blood pressure and heart rate variability in prehypertension](#)

[Humming Greatly Increases Nasal Nitric Oxide](#)

[Could nasal nitric oxide help to mitigate the severity of COVID-19?](#)

[Nitric Oxide and Mouth Breathing](#)

[Immune Protective Effects of Nasal Breathing and Nitric Oxide in the time of COVID-19](#)

[Physiology, Bohr Effect](#)

[Framingham Heart Study](#)

PAIN

[Studies into how pain and breathing are connected could lead to safer pain drugs](#)

[The effect of deep and slow breathing on pain perception, autonomic activity, and mood processing--an experimental study](#)

INTEROCEPTION

[Interoception of breathing and its relationship with anxiety](#)

[Anxiety Impacts the Ability to Perceive Changes in Breathing](#)

[Mindfulness, Interoception, and the Body: A Contemporary Perspective](#)

[Mindfulness-based training attenuates insula response to an aversive interoceptive challenge](#)

[Keeping the Breath in Mind: Respiration, Neural Oscillations, and the Free Energy Principle](#)

DIGESTION

[How Stress Affects Digestion](#)

[The Vagus Nerve at the Interface of the Microbiota-Gut-Brain Axis](#)

WEIGHT LOSS

[When somebody loses weight, where does the fat go?](#)

[The "Senobi" breathing exercise is recommended as first line treatment for obesity](#)

[Effects of breathing exercises on resting metabolic rate and maximal oxygen uptake](#)

COHERENT BREATHING & HRV

[Effects of voluntary slow breathing on heart rate and heart rate variability: A systematic review and a meta-analysis](#)

[The Impact of Resonance Frequency Breathing on Measures of Heart Rate Variability, Blood Pressure, and Mood](#)

[How Breath-Control Can Change Your Life: A Systematic Review on Psycho-Physiological Correlates of Slow Breathing](#)

[Benefits from one session of deep and slow breathing on vagal tone and anxiety in young and older adults](#)

[Self-Regulation of Breathing as a Primary Treatment for Anxiety](#)

[Resonance Frequency Breathing](#)

[Breath of Life: The Respiratory Vagal Stimulation Model of Contemplative Activity](#)
[Diaphragm Mediates Action of Autonomic and Enteric Nervous Systems](#)

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[Effect of slow abdominal breathing combined with biofeedback on blood pressure and heart rate variability in prehypertension](#)

[Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: a comparative study](#)

[Heart Rate Variability and Cardiac Vagal Tone in Psychophysiological Research – Recommendations for Experiment Planning, Data Analysis, and Data Reporting](#)

As we conclude this exploration into the science of breath, I invite you to carry these insights into your daily life, noticing the power and potential that lies within each inhale and exhale.

If you have stumbled upon relevant research, are curious about emerging findings, or have questions sparked by your own breathwork journey, please don't hesitate to reach out.

I am eager to continue this conversation and foster a community of shared learning and discovery.

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"You can't stop the waves, but you can learn how to surf."

~ Jon Kabatt- Zin

