



## Scientific research on SKY Breath Meditation - Physical and Mental health benefits

Sudarshan Kriya (SKY) and accompanying breathing practices, referred to collectively as SKY and taught through the Art of Living Foundation worldwide, have been found to enhance brain, hormone, immune and cardiovascular system function. Published research shows that SKY significantly reduces stress, depression, anxiety and Post-Traumatic Stress Disorder (PTSD), and significantly increases well-being both mentally and physically. Research also demonstrates that the effects of SKY reach all the way down to the molecular level, to our DNA.

Approximately one hundred independent studies conducted on four continents and published in peer reviewed journals have demonstrated a comprehensive range of benefits from SKY Breath Meditation practice. These are briefly summarized below.

### **Mental Well-being:**

#### **Restoration and Enhancement of Vibrant Mental Health:**

- **Relieves anxiety [1-13], depression [2, 4, 7-25], PTSD symptoms [3, 11, 18, 19, 26, 27] and stress levels [4, 6, 13, 20, 21, 23, 28-33].**
  - significant reductions in anxiety are found in many populations, including a 73% response rate and 41% remission rate in individuals for whom medication and psychotherapy treatments had not provided remission [1].
  - Multiple studies demonstrate that depressed patients who learned SKY experienced a 68-73% remission rate within one month.
  - Significant reductions in PTSD symptoms were found in 4-6 weeks and were sustained at 6 months[18] and one year[3], with no follow-up after 1 month [3, 18].
- **Reduces impulsivity and addictive cravings/ behaviors [25, 34-36]**
- **Improved emotional regulation [1, 13, 20, 21, 37-40]**
- **Enhanced wellbeing in healthy & health compromised individuals:** increased levels of optimism, joviality (e.g. joy, happiness, energy), serenity, resilience, social connection, mindfulness, self-esteem, life satisfaction and quality of life [4, 5, 18, 21, 23, 25, 36, 39, 41-46]

#### **Enhanced brain functioning: [16, 17, 29, 33, 47, 48]**

- **Increased mental focus / heightened awareness [33, 47]**
- **Increased interhemispheric connectivity and symmetry [48]**

- **Faster recovery from stressful stimuli [29]**

### **Improved Quality of Sleep:[44, 49-52]**

- **Restoration of time spend in deep restful stages (stages III and IV) of sleep.[49]**
- **Reduced sleep onset latency** (length of time it takes to fall asleep).

### **Physical Well-being:**

#### **Enhanced biochemical status:**

- **Reduced biochemical markers of stress:** cortisol [2, 31, 53, 54], corticotrophin [2] blood lactate [55], ACTH [2], and plasma malondialdehyde (MDA) [2, 56-58]
  - For example, at post-test blood lactate levels in police cadets who did not learn SKY were 4 times higher than their classmates who were randomized to learn SKY, suggesting a increased resilience to stress in SKY practitioners.
  - Since stressful physiological responses negatively impact immune, cardiovascular and endocrine systems, as well as mental health, this has significant implications for wellness [19].
- **Increased levels of antioxidant enzymes** (glutathione, catalase, and superoxide dismutase) [6, 45, 55, 58, 59]
  - Antioxidants protect us from many diseases and rapid aging.

#### **Improved immune function:**

- **Improved immune cell counts in apparently healthy individuals [28, 35]**
  - Some documented within three weeks (neutrophils, lymphocytes, platelet count) [28]
- **Improved immune cell counts in health compromised individuals seen in 12 weeks** (Natural Killer Cells) [35]

#### **Enhanced Cardiovascular and Respiratory Function:**

- **Reduced heart rate**
  - in both healthy and health compromised individuals [6, 60-63]
- **Improved blood pressure**
  - In both healthy and health compromised individuals [6, 57, 60, 61]
- **Improved Heart Rate Variability [13, 40, 63]**
- **Improved cholesterol and triglyceride (lipid) profiles: [56] [6, 28]**
  - Sometimes seen as early as 3 weeks, with no change in diet [56]
- **Improved respiratory function: [3, 11, 61, 62, 64-66]**
  - respiration rate dropped by 5% in 1 week [3] and 15% in 12 weeks [64]
  - increased lung (vital/forced vital) capacity [61, 62, 65]

**In Summary**, SKY uses specific cyclical, rhythmic patterns of breath to bring the mind and body into a relaxed, yet energized state. Its effects have been studied in open and randomized trials, both in healthy and health compromised populations.

Research suggests that SKY reduces depression, anxiety, PTSD and stress. It has also been shown to curb addictive behaviors and substance abuse. It significantly increases feelings of well-being, optimism and mental focus and improves emotion regulation. In addition, SKY is associated with enhanced cardio-respiratory function, antioxidant status and immune system function. The SKY practice has even been shown to impact gene expression at short and long term periods, suggesting that its effects span all levels of the physiology from the DNA within our cells to organ systems. Viewed together, the wide range of documented benefits suggest that SKY may be an efficient tool for robustly strengthening the mind-body complex.

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### **For more information:**

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We welcome scholarly research on SKY from interested parties. If you would like to explore conducting research on SKY, please contact us at: [research@aoluniversity.org](mailto:research@aoluniversity.org)

If you would like more information on our SKY wellness programs and/or our programs for special needs populations, please contact us at:

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