

Impact of Pranayama on Thyroid Issues

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Abstract - Ashtanga Yoga, systematized by Patanjali, represents a classical psychophysiological framework designed to cultivate mental clarity, emotional stability, and physiological balance through integrative systematic regulation of conscious breathing—remains comparatively underexplored despite increasing scientific evidence supporting its multidimensional systemic effects. Pranayama incorporates regulated inhalation (Puraka), exhalation (Rechaka), and breath retention (Kumbhaka), which together modulate autonomic activity, respiratory efficiency, cardiovascular dynamics, and endocrine responsiveness. Controlled breathing practices have been shown to enhance oxygen utilization, optimize pulmonary function, improve heart rate variability, attenuate sympathetic overactivity, and promote parasympathetic dominance, thereby contributing to stress resilience, immune modulation, neurocognitive stability, and cellular metabolic optimization. Thyroid dysfunction, one of the most prevalent endocrine disorders worldwide, involves disruption of metabolic homeostasis mediated through the hypothalamic–pituitary– thyroid axis and is frequently exacerbated by chronic stress, inflammation, and autonomic imbalance. Common clinical manifestations include weight fluctuations, persistent fatigue, mood disturbances, cognitive impairment, and dermatological changes. Specific pranayama techniques demonstrate potential therapeutic relevance: Bhastrika enhances pulmonary ventilation and circulatory efficiency through rapid diaphragmatic breathing; Ujjayi, characterized by controlled glottal constriction, supports thermoregulation, vagal tone enhancement, and glandular stimulation while facilitating parasympathetic activation; and Anuloma Viloma promotes autonomic equilibrium, hemispheric synchronization, and neuroendocrine coordination. Collectively, scientific pranayama may function as a complementary, evidence informed, non-pharmacological strategy for supporting endocrine balance, psychophysiological coherence, stress adaptation, and overall systemic wellbeing, warranting rigorous longitudinal and randomized controlled clinical investigations.

Key Words: Pranayama, Thyroid disorders, Autonomic regulation, Endocrine function, Stress, Yogic breathing.

1. INTRODUCTION

The butterfly shaped gland resting at the front of the neck quietly controls the body's pace, it listens to the signals of the brain and feedback from the body. It reaches everywhere. Releases thyroxine, a primary hormone. Due to hormonal imbalances, vocal cord function also affects. The functional disorders of thyroid glands lead to Hypothyroidism (underactive) Hyperthyroidism (Overactive). It is the largest endocrine gland in the human system. These are ductless glands which secretions happen directly to blood. It works like a manager in our whole system. Research says it may be an autoimmune disorder, genetic, iodine deficiency or excess, hormonal changes during pregnancy and menopause, poor diet or nutrition, and stress. People are stressed due to increasing unusual demands at home and workplace. Managing relationships and family responsibilities is a high challenge. Stress is a natural response to these, triggering a sympathetic nervous system. Stress is the invisible factor that contributes to this disorder. Recent studies (2024–2026) highlight hyperthyroidism increases cardiovascular mortality by 21% and significantly raises stroke risk. Key Findings in Thyroid Research (2024–2026): Increases the risk of coronary heart disease is prevalent in about 17% of Type 2 Diabetes patients, Females are much more affected and develop thyroid issues.

1.1 Thyroid Gland

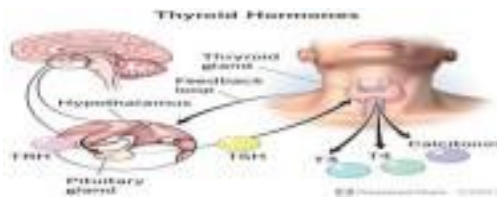


Fig - 1: Thyroid Hormones



Fig - 2: Carotid Artery and Sinus

Main physiological changes are disrupted metabolism, fatigue, sweating, weight changes, tiredness, damage of bone tissues, dry skin and hair loss. It impacts psychologically like mood swings, anxiety and cognitive impairment like learning difficulties, struggling with memory and reduced ability. Thyroid glands and adrenal glands work jointly. Adrenal glands are responsible for secreting stress response. When adrenals are weak it can cause hypo and hyperthyroidism symptoms. Cortisol is the main stress hormone and it suppresses the pituitary function that is releasing of TSH thyroid-stimulating hormone(Fig.1). Major systems, Muscles and organs get impacted and its Vibrations. Respiratory system, cardiovascular system, Nervous system and thyroid glands Neck, throat, shoulder, intra-coastal, chest, diaphragm, abdominal, lungs, heart and brain are impacted by Muscular vibration & Sound Vibration. Upanishads says pranayama as the essence of the body, a life supporting nourishment to the mind and body. Vedic literature indicates conscious breathing supports this. In Ashtanga Yoga, Pranayama is the fourth limb. One should observe Yama, Niyama and Asana to get effective Pranayama practice.

2. Methods and Results

This analysis was made on the medical reports of practitioners before and after the practice of pranayama. 10 people with the age group of 30 to 50 were taken as a controlled group. They were on medications. Given with a specific suitable pranayama package. That is Bhastarika 5 minutes, Ujjayi 15 minutes and Anuloma Viloma 15 minutes two times daily and continued for 21 days. When it comes to normal practice should be restricted to one time a day. Non controlled groups only on medications, struggle to maintain symptoms and TSH reading increases over a period. Regular practice of scientific pranayama, which is evidence based, structural methodology to avoid negative impact during and after the practice. It is a systematic manipulation of breath elevates both physiological and psychological conditions. Normal Ranges of Thyroid test Readings as recommended by International Health Standards. 0.4 to 4.0 mlU/L

Table -1: Thyroid Test Results

Sl No.	Age	Before Readings	After Readings
T1	32	7.5	2.5
T2	32	5.8	2
T3	32	21	5.1
T4	35	12.05	2.02
T5	37	10.41	2.28

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T6	41	14	2
T7	45	12.02	6.85
T8	48	22.05	10
T9	49	7.5	3.75
T10	49	23	7.5



Fig - 3: Test Results

The post TSH readings exhibit that scientific pranayama has a direct impact on thyroid gland secretion. The participants' feedback clearly shows their decline in symptoms. Yoga Pranayama is the ancient wisdom and holistic approach to balance physical, mental and spiritual dimensions.

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We can correlate the below mentioned science laws to pranayama. Boyle's Law - Volume increases, pressure decreases, this makes the exchange of gas smooth and sufficient. Psychology Phenomenon - Breathing and emotions are inter related. Pre requisites for practicing the Pranayama. Clean calm atmosphere with proper ventilation, Empty stomach (Preferably morning hours), Sitting in crossed legs or comfortable posture, sitting on chair also acceptable, Head neck and low back should be aligned, State of mind - Calmness, positive mind set, should be guided by Guru. **Bhastrika pranayama**:- (Bellows breathing - Fire breathing) It works on Pascal Law. Both inhalation and exhalation are vigorous, rhythmic and forceful. The air movement produces sound. The respiration cycle should be completed within 5 seconds, in 1:1 ratio. The pace depends on the health condition of an individual. The entire thoracic region is active during respiration. Because of friction of air and vibration on the throat and lungs, it temporarily increases body temperature. Hot air gives massage to the cells and organs. It helps to rejuvenate. This vibrative pressure is distributed equally to the upper and lower part of the body. This is a complete energetic force. It increases the oxygen flow into the body. **Ujjayee Pranayama** (Victorious breath/Ocean breath): It works on Heat treatment and Venturi effect principle. It's a combination of both energizing and relaxing. One

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that clears the throat and masters the chest. Inhale deeply through both the nostrils and empty the lungs through exhalation. Apply Jalandhar Bandha, inhale slowly as much as possible, hold the breath internally [Anthar Kumbhaka], stay comfortably and exhale completely through both the nostrils like a sigh sound. Due to constriction of Glottis, the air enters with resistance causing friction, so the air passing through Glottis produces sound and air becomes hot. This process affects the carotid

artery and sinus(Fig.2). This hot air treatment reduces inflammation and infection in thyroid glands. Exhalation like a sigh sound delivers stress. This heated air passes through lungs and generates internal body heat. **Anuloma Viloma - Nadi Shodhana pranayama:** It works on Bernoulli's principle. Anuloma Viloma should be practiced in Alternative nostril breathing to balance cognitive function, It's a slow and deep breathing technique, long term stress buster. Practicing Anuloma Viloma with Mrugi mudra or Nasika mudra two finger combination gets utmost results. Close the right nostril, with the thumb inhale naturally with left nostril, close the left nostril with two fingers, release right nostril and exhale deep and slowly, inhale the air naturally from right nostril, release left nostril and expel the air by closing right nostril. Ratio is 1:2. one round of Anuloma Viloma. Anuloma Viloma's cleansing effect is known as Nadi Shodhana. **Results:** - Beneficial effects were observed in patients with respiratory diseases, positive impact on metabolic activities. Ensuring no further bone damage occurs, and also helps to reduce stress and anxiety, improves Autonomic function by suppressing sympathetic activity.

2.1 Case Study: Pranayama Practice in Thyroid Management

Control Group A: - Age: 65- Duration of thyroid issues: 15 years- TSH reading: 7 mU/L (maintained)- Energy levels: Full energy- Intervention: Intense pranayama practice. Control group B-Age: 52-Duration of Thyroid issues: 4 years-TSH reading: 8 mU/L (fluctuating)-Energy levels: Good-Intervention: Inconsistent practice. **Discussions** - Dedication, focus, and mindset play a crucial role. Focussing on breathing and emotional connection has a more significant impact on the thyroid glands. Consistent Pranayama has managed symptoms. Energy levels surpass those of non-Pranayama throid patients.

2.2 Future work

Due to stress and other environmental factors thyroid disorders will arise. Pranayama may be considered as a supportive and complimentary therapy. Further research is necessary on larger groups and longer duration. Stress management and thyroid disorders in men senior citizens can be carried out. Precautions should be strictly observed.

3. Conclusion

Health and happiness are our birthright. invest in scientific pranayama, a cost-effective, safe practice that boosts overall well-being, especially emotional stability. With a Guru's guidance, anyone can learn it, regardless of age or gender. This study shows pranayama, paired with medication and dedication, effectively manages thyroid issues, controls cognitive activities, and supports endocrine health. It is a boon for modern life, it minimizes symptoms, reduces medication dependency, and prevents further damage. Let's spread this inner science.

ACKNOWLEDGEMENT

I am extremely grateful to my beloved Guru Dr. Devaki Madhav.

REFERENCES

- [1] Dr. Devaki Madhav, Scientific Pranayama second edition 2025, Impact of The Science of Pranayama First edition 2022 and Compendium on The Science of Pranayama First edition 2023. M. Young, The Technical Writer's Handbook. Mill Valley, CA: University Science, 1989.
- [2] Online Link. <https://share.google/j9B2YQzkMFwWIPzzo>
- [3] Online Link. <https://share.google/FtMHYW2T8noNj8i>

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[4] Online Link. <https://share.google/P5jsDNE4q23by30WO>

BIOGRAPHIES

Ms. Seetha Ramesh holds a B. Com and a Postgraduate Diploma in the Science of Pranayama. She has over 30 years of experience as a Yoga Asana teacher and has served as Senior Faculty and Honorary Secretary of the Scientific Pranayama Foundation Trust® (SPFT), Mysuru. She has conducted 21 sessions and assisted in nearly 150 workshops led by Devaki Madhav, Founder President of SPFT.