

A COMPREHENSIVE REVIEW ON YOGA AND AASAN ON THYROID DISORDER WITH SPECIAL REFERENCE TO HYPERTHYROIDISM

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ABSTRACT

Yoga is an ancient Indian practice with a particular worldview and psychology. Yoga brings integration and harmony between thoughts, feelings & deeds. The process which adjoins the soul with God is known as Yoga, where the subjects of conscious mind are segregated and consolidated with god. Yoga and Aasana play an important role in treatment of many diseases. Thyroid glands situated, in the neck in front of larynx and trachea. It is an endocrine gland which secretes thyroxin, Triiodothyronine and calcitonin hormones. Thyroid disorder is common nowadays as a life style disease and hyperthyroidism is a type of thyroid disorder.

KEYWORDS: Yoga and Aasana , Thyroid Disorder, Hyperthyroidism

INTRODUCTION

The thyroid gland is one of the largest endocrine gland shaped like a flat shield like surface that sits in front of the vocal cords, and just below Adam's apple in the root of neck¹. The thyroid is responsible for production and secretion of the thyroxine (T4), tri-iodothyronine (T3) hormones and calcitonin throughout the body. This output of hormones is regulated by your pituitary gland. These hormones help to maintain your basal metabolic rate by stimulating cell reproduction, affect bone growth in children, increase the body's sensitivity to adrenaline, and stimulate vitamin metabolism. They bind to receptors in the cells that activate genes to affect fat, protein and carbohydrate metabolism and thereby control the energy utilization in every cell of the body. Therefore thyroid gland is essential for the balance of body and development.

DIFFERENT TYPES OF THYROID DISEASE

(A) Hyperthyroidism: Hyperthyroidism is a clinical syndrome caused by thyroid gland becoming over active, producing and secreting excessive amounts of hormones resulting in increased Basal Metabolic Rate (BMR). In hyperthyroidism large quantities of thyroxine (T4) and tri iodothyronine (T3) hormone levels are deposited into the blood stream resulting in symptoms and signs such as high metabolism, high blood pressure, rapid heart rate, increased nervousness and agitation, digestion problems as well fatigue and complaints of muscle weakness. In some cases patients will develop a protruding, enlarged thyroid gland called a goiter. Hyperthyroidism is also referred to as thyrotoxicosis².

(B) Hypothyroidism: A common endocrine disorder often called underactive thyroid in

which the thyroid gland does not produce enough thyroid hormone³. In third world countries insufficient iodine levels in the diet are the primary cause of hypothyroidism. Most common symptoms include weight gain, intolerance of cold, fatigue, depression, and poor memory.

DIFFERENT TYPES OF HYPERTHYROIDISM

In general the hyperthyroidism condition is more common in women than men in age ranges between 30 and 50 years old.

a). **Goiters:** During hyperthyroidism a goiter, or swelling of the thyroid can take place. A goiter is formed when T3 and T4 hormone levels are affected by an imbalance of iodine in the body⁴.

b). **Iodine Induced Hyperthyroidism:** Taking too much iodine can force the thyroid to produce too much hormones and lead to further complications⁵.

c). **Grave's Disease:** A rare complication that causes over active thyroid disease affects your eyes and eyesight. Symptoms include bulging eye sockets, abnormal protrusion of eye redness and minor pain, dryness, puffy eyes and sensitivity to lightness⁶.

YOGA THERAPY

Yoga plan for hyperthyroidism is very challenging. A balanced yoga therapy plan should be focused on preventing any further strain on patient. The Patient might be fatigued, lethargic and frustrated at their inability to perform physical activity and most likely they will have muscle weakness and body tremors at times. Although patients would anxious to perform physical Aasanas and they will get tired quickly and

have shortness of breath. Patient will be sensitive to all stimuli such as light and might have poor vision to focus on breathing is very challenging with goiters and the thyroid must not be obstructed or stimulated patients will have poor digestion and heat intolerance. Most importantly patients will have high blood pressure and heart rate irregularities⁷. A proper yoga plan will include deep relaxation through meditation, slow and therapeutic asana practice that leads to strengthening of the body and awareness on mind, control over breath, engaging pranayama and more meditation after aasanas, and mudras for further meditation⁸.

Pranayama:

This is the single most important practice for hyperthyroidism patient. Pranayama nourishes the body with breath supplying essential nutrients to our vital organs and oxygen to the blood, which maintains the nervous system of the body⁹. According to historical yoga texts pranayama helps to cure diseases and dysfunctions in our bodies if practiced correctly. Pranayama invigorates and purifies flow of prana through the system of subtle channels called nadis in the body. These nadis are connected to the essential sheaths, or the pancha koshas through wheel like centers of energy called chakras. Therefore it is the pranayama that helps our prana flow upwards and gather through the chakras to heal from within and reach a state of pure mind relaxation and awareness of our body needs. The practice of pranayama will bring strength, knowledge of self, awareness and greater meaning of life, physical health, mental health and a

feeling of lightness and freshness in a beautiful state of serenity¹⁰.

The following techniques should be practiced in a comfortable meditative position with a focus on the Ida nadi for a cooling, calming and relaxing effect on the body that cools the fire in the Anahata chakra and inhibits the Vishuddha chakra. Its best to perform a few rounds of relaxing and cooling pranayama techniques with your patient before and after aasanas due to the likelihood that the patient suffers from hypertension. Breath should be slow and controlled. Practice 5 rounds of 2 to 3 beginner techniques. More advanced practice then listed in the plan below should be followed when the body channels are more open for the flow of prana.

1. Candranuloma Viloma: Breathing through one nostril at a time is particularly helpful to strengthen the Ida nadi balance your prana flow. Good to practice on an empty stomach during dawn and sunset. Start with 10 rounds and build up to 30 but remember that there should be no exhaustion. Perform with nāstrika mudra. This technique is incredibly powerful for sufferers of hyperthyroidism because works on the left nostril or Ida nadi for cooling down the body and subsiding some of the fire in the heart chakra. This practice will deal with heart problems, high blood pressure and maintains the heat in the body.

2. Candra Bhedana: Similar to NadiSuddhi. Focus on long and relaxed breaths. Perform 10 rounds. More balanced practice than candranulomaviloma. Practice carefully so as not to overheat the body.

3. Nadi Suddi (Energy Channel Purification): Continues to purify the Ida and Pingalanadis while working very effectively on your breath. Retaining breathe may affect cardiac patient and hypertension. This pranayama is a great preparation for meditation and strengthens your lung capacity.

4. Ujjayi Breath: This technique without retention will provide so much calmness and sooth the nervous system, and all stress related problems. Furthermore this will help with more symptoms of hyperthyroidism such as insomnia and purify the nostrils and both Ida and Pingala.

5. Shitali (Beak Tongue): This technique will work on the Ida nadi cooling down the body and lowering high blood pressure. Practice for 10 rounds.

6. Bhramari (Bee Humming): Practice for 5 rounds

7. Kapalabhati:It is very energizing, and cleansing technique. It prevents sleepiness and laziness which helps in case of depression and patient's frustration with disease. It has a good effect on the digestive system since it can be performed as a Kriya as well¹¹.

Mudras & Bandhas:

The practice of mudras is a very powerful tool of holding hands and fingers in positions to stimulate and signify the chakras and flow of pranas through the nadis. The practice is most applied during pranayama and meditation. For suffers of hyperthyroidism I don't advise practicing the following mudras for more than 3-5 minutes each time unless you are an experienced practitioner and do not show

symptoms of depression or nervous system dysfunction. The following mudras are listed in order of difficulty and importance:

1. Chin Mudra and Nastrika Mudra: Beginner hand postures for practice in pranayama.

2. Bhairavi Mudra: Balances the feminine with masculine and the Ida and Pingalanadis but must be practiced for longer periods of time to get results.

3. Yoni Mudra: Balances Ida and Pingala and the hemispheres of the brain, intensifies flow of prana develops concentration, awareness, and relaxation.

4. Hridaya Mudra: Nourishes and enriches the heart with flow of prana from your hands. Helpful with emotional instability, heart ailments and increasing awareness of breathe on the chest and Anahata chakra.

5. Uddiyana Bandha: Although the bandha is harder to enter practice in a sitting position but I recommend that it should be practiced from a sitting meditative position such as Vajrasana so as not to aggravate and create tension in the neck or heart. This is a very powerful tool to strengthen our abdominal organs and the breathing system but it can put stress on the heart and should be practiced slowly and carefully for short duration of time.

Kriyas

Kriyas are cleansing techniques to purify the body and mind by continue clearing out the pathways called nadis and keeping the chakras engaged. The advanced techniques are difficult to practice on the body and include a healing crisis of sorts and lots of internal reflection because all toxins are eliminated from the body. For that reason I

recommend only Agnisara for those with over active thyroid. This technique is a variation of Uddiyana Bandha and will continue to stimulate the nervous system and improve digestive system. This also helps greatly to depression and to reduce feelings of lethargy with which most of the patient suffer. Try Agnisara for only a couple of minutes of practice daily and work slowly with 4-5 rounds in the beginning focusing on not exerting too much force and tension on the body¹².

Daily Practice Program in Detail:

The therapy asana practice assumes that patient is practicing practicing Aasan 3 times per day for a length of at least 1 to 3 months.

Therapy Series:

All joint movements: work slowly and carefully with neck movements.

1. Ankle stretching breathing: good for concentration, increasing lung capacity and relieving shoulder, back, hips, and thighs stiffness. There should be no strain on the neck.

2. Hands stretching breathing: good to relieve muscle stiffness while creating breath awareness

3. Side Stretching or Ardha Kati Chakrasana (Half Waist Wheel): The difference between the two asanas is the placement of the feet. If legs are apart in side stretching the asana is easier than feet together in Ardha Kati Chakrasana. Work carefully to not hurt the neck. This asana is a great stretch to the sides of the body and improved circulation and concentration, massages abdominal organs.

4. Spinal Twist: great for relaxing the back muscles and continuing the stretch to

abdominal organs. If the patient is strong enough or has progressed from these poses the next step is traditional Surya Namaskara series. If the patient is not comfortable and able to control breath in the above asanas continue followed by the finishing sequence.

a. Padangusthasana (Big Toe Stretch): Works for all muscles of the body for a head to toe stretch. This asana helps to lower blood pressure and lower heart rate in the most effective way so we will be repeating it through the sequence.

b. Vajrasana (Diamond Shape): Strengthens digestive problems, very energizing and makes line of body and legs feel lighter.

c. Anjaneyasana (Crescent Moon or Low Lunge): Ask patient to enter the pose from Vajrasana and do a variation of keeping the hands on the bent knee and gaze forward so as not to strain the neck. Create balance and mind, body, breath awareness. It will strengthen the legs, hips, quads and hamstrings.

d. VagraSwasa (Tiger) breathing: Start slow. Depending on the patient's condition neck movement can be incorporated but ask the patient not to push too hard. This is a great asana for breath and body awareness, and releasing tension in the spine and back muscles from previous asana.

e. VagraSwasa (Tiger) alternate leg raises: this is a variation of the previous asana.

f. Tadasana (Stable Mountain) wall variation: Creates body awareness and strengthens alignment of the spine for all standing asanas. Practice with patient against the wall to eliminate curvature of the

lumbar and make patient more comfortable and strong in the pose.

g. Surya Namaskara (Sun Salutation): Active meditation to bring awareness to mind, body and breath. Energizes the body, works all parts of the body, increases flexibility of the body, and lung capacity. Most importantly it reduces stress and balances the ida and pingalanadis to alleviate symptoms such as hypertension. Start with 6 rounds of both sides. Continue increasing rounds of Asan the patient becomes stronger.

h. Padangusthasana (Big Toe Stretch): Works all muscles of the body for a head to toe stretch. This asana helps to lower blood pressure and lower heart rate in the most effective way so we will be repeating it through the sequence. This asana helps with headaches as well.

i. Vrikshasana (Tree): Work with a variation of placing the foot below knee if needed or holding the foot in place. Great pose for concentration and to strengthen the physical body and the nervous system. To keep the neck tension free place hands at your center of chest in Namaskar Mudra.

j. Garudasana (Eagle): Work with a beginner variation of keeping both feet on the ground and elbows crossed but on top of each other while holding shoulders with hands if necessary. This asana will improve concentration and create lightness in the body while gaining strength in legs and shoulders.

k. Utthita Hastapadasana (Hand Foot Stretch): Improves breathing awareness and strengthens torso.

l. Trikonasana (Triangle) Classical:

Strengthens the back and reduces pain to a lot of areas of the upper body but most importantly it creates lightness and freshness. Arms will feel lighter and stronger which will keep patient from feeling the symptoms of muscle weakness and from giving up emotionally. Trikonasana aids all abdominal organs without turning of the neck, which can be hard for some.

m. Parshvottanasana (Side Intense Stretch): Great pose to work abdominal organs and increase flexibility in hamstrings and hips while keeping the body from inverting all the way down. This asana is especially useful for the student because it helps with high blood pressure and heart problems.

n. Virabhadrasana A (Warrior A): At this point the student has practiced repeatedly anjaneyasana and has done some stretches on the ankles/hips to prep Virabhadrasana A. If any tension persists continue with Anjaneyasana to build more confidence. Variations can be used and make sure that patient does not tense the neck by looking too far up. This asana creates a presence of physical strength increasing courage and determination. Increased focus allows student to hold the pose for longer.

o. AdhoMukhaVirasana (Downward facing Hero): This pose creates coolness, calmness, rest, and soothes the nervous system. It will quiet the mind, elongate breath, reduce high blood pressure, aid in headache relief, help with menstrual pain and stretch the spine while massaging the abdominal organs.

p. Bhujangasana (Cobra) Breathing: This asana is beneficial to breathing awareness and coordination as well as helps with menstruation disorders and problems with pancreas, spleen and liver. Great gentle back bend without over stimulating the thyroid gland from being upside down or tilting neck back.

q. Dhanurasana (Bow) variation: Perform a variation of the asana by lifting the legs off the ground but not your upper body. This will ensure there is no tension in the neck. Asana will strengthen abdominals, relieve any digestive problems and help with gastro intestinal problems. Also improves circulation to the pelvic region for improved menstruation.

r. SuptaVirasana (Lying down Hero): Will relax the student after the exertion of previous asana while working all the digestive organs and increasing breathing capacity. This asana is helpful for high blood pressure, headaches and insomnia. It is a gentle backbend that stretched the psoas muscle. A variation of Ardhavirasana is available to most¹³.

Finishing Sequence (Variation for Hyperthyroidism)

1. Dandasana (Staff/Rod): This asana improves circulation to the pelvic region for reproductive organs, helps to calm the mind and create body awareness, strengthens the trunk and creates length in spine and works the digestive system.

2. Paschimottanasana (Intense stretch): Neck up, slight bend in the knees. This asana will stretch out the spine after backbends and is excellent in improving high blood pressure and heart problems. But

the focus must be not to get your neck down. This position should be maintain for short time so as not to exaggerate depression otherwise this asana will calm the patient and relax them after standing aasanas and backbends.

3. Baddakonasana (Caught Angle): Straight spine lifted up variation without bending forward. It is a great hip joint relaxation and helpful for menstrual problems.

4. Gomukhasana (Cow Face): Improves circulation to the pelvic region for problems with menstruation. A subtle twist will also work on digestion and compression of the abdominal organs while increasing body and breathe awareness. Hold ankles with hands variation will prevent straining the neck.

5. Urdhva PrasaritaPadasana (Supine Leg Raising): It improves circulation in heart and head. It Strengthens pelvic region to help in menstrual problems. This asana is truly beneficial for heart diseases.

6. Jathara Parivartanasana (Stomach Turn): This is a nice gentle abdominal twist to stretch the spine, upper back and abdominal organs while keeping your neck free.

7. Ananda Balasana (Happy Baby): Good stretch for hips and your back. It relieves remaining tension, stress and fatigue to prepare for the most important asana, Savasana.

8. Savasana (Corpse): Remind patient to focus their breath and relax and pay attention to their body. Savasana for hyperthyroidism therapy should take anywhere between 15-25 minutes¹⁴.

DISCUSSION

Yoga is a scientific method by which a person can develop his own inner power within self. In Sanskrit, yoga defines for adduction, means the method which connects the soul of human with the God. Yoga is not the subject of fact but it is a spiritual, holistic and scientific approach of ancient knowledge which interacts and enhances the mental and physical health. Yoga is for moral and spiritual development but it is also beneficial to prevent physical and mental disease, to increase the immunity and reduce the stress by helping in secretion of some hormones e.g. Serotonin and endorphin¹⁵. Yoga and asana also influence the physiology of important anatomical structures during procedure and steps. Brain imaging studies have exposed that Meditation shifts the brain activity in the prefrontal cortex from the right hemisphere to the left indicating that the brain is re-oriented from as fight mode to one of acceptance a shift that may denote better contentment¹⁶. In this Article discuss about scientific aspect of yoga and Aasana and try to find the answer that how actually it works on body and mind as well. Yoga and aasana increase the immunity; provide a healthy life by keeping control on our autonomic nervous system. This control develops after a long time practice of Yoga and asana.

CONCLUSION

The severity of hyperthyroidism depends on the body's capability to react to the changes resulting from excess thyroid hormones and ultimately from the stress level in daily life. Thyroid disease is becoming common - with proper attention and awareness of the deep physiological therapies available through

yoga one can find personal freedom from the disease and in some cases reverse the disorder. Patient should try all available remedies and lifestyle changes before surgical treatment that is having more side effects. Practicing the fundamentals of yoga will strengthen emotional well-being, healing from past experiences that caused the disease. Once patient get relaxed, continuing with meditation, aasanas and breathing pranayama to nourish body. Yoga teaches us that the body is a tool for reaching the experience of bliss; therefore treat body right from this day forth. Change diet to a healthy thyroid inhibiting plan, take natural supplements and engage mind to learn more of holistic practices to try. Mind and spirit will open up to the positive changes in due time and teach how to progress. Yoga will release serotonin hormone which is a mood stabilizing and happy hormone and some yoga aasan like sirshaaasan will increase the blood supply to thyroid gland which will help to maintain hormonal metastasis and ultimately it will cure the hyperthyroidism.

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