

A  
Study Of The Effects Of Yogic Practices  
In  
Hypothyroid Disease

**Synopsis**

Submitted For The Degree Of Doctor Of Philosophy  
In  
Yogic Sciences



**Supervisor:**

**Submitted by:**

Mrs. Garima Singh

**Department of**  
Human Consciousness & Yogic Science  
Dev Sanskriti Viswavidalaya  
Gayatrikunj Shantikunj Haridwar –  
249411 (UK), India  
2008

## Introduction

Scientific & Technological progress all over the globe has made man highly sensitive, critical & also creative. Associated with this growth is the emergence of many challenges also the current unchaustics world view the matter based approach the increased dependence on science & technology & the associated life style have to undergo basic changes towards embracing a more holistic world view & a healthier & more harmonious life style & thus invites many sedimentary life style makes the man mechanical. Hence the emergence of many diseases like, obesity, digestive disorders, coronary heart disease, ulcer & other intestine disorders, takes place. In between of these disorders thyroid disorders are more frequent & proves harmful for man. In spite of these physiological disorders many Psychological disorders like stream, depression, anxiety also produce the disturbed metabolic rates & life style. In between of this disease thyroid disease are very common. **The depression is linked to having an under active thyroid gland this book has been debated for many years research published in B.M. & Psychiatry suggests that same patients with depression may be suffering form a subtle auto immune thyroid condition which could hinder their recovery medical news today 3/15/04.**

These Diseases are produced due to unbalanced secretion of thyroxine Hormones, which secretes from thyroid a gland.

The main symptoms related to this disease are susceptible to cold, suffers from, dry, scaly, thickened hair, puffins in face, stiffness in joints on physiological level & on Psychological level, are tiredness, less concentration, irritation etc.

Now a days many therapeutic ways are used to cure this disease many drugs are taken by patients to "cure of this disease but there chemically summarized drugs proves very harmful for the gland & thus the rest of ability to secrete the hormone also get finished and a time comes when the patients completely depended. Over these artificial hormonal pills for his whole life.

Generally females are suffering from this disease more than the males.

The cause of these diseases are absence of iodine in food & auto immune disorder is also the cause of thyroid disease. Thyroid is a chronic inflammatory auto immune disease of the thyroid gland. (Johns Hopkins Medical institute.)

These disease is also called as hashimoto disease while these disorder was first detected by Japnies specialist in 1912.

According to a research in America, the cause of mental stress are less secretion of thyroid hormones.

**Dr. Anthony Toft CBE, MD, FRCP is a consultant physician and endocrinologist at the royal infirmary of Edinburgh where he speciisesals in the diagnosis and management of patient with thyroid disease. Dr. Toft has been president of the British Thyroid Association and President of the Royal College of Physicians of Edinburgh.**

Thyroid disease often runs in families but in an unpredictable manner, and certain forms are associated with an increased risk of developing conditions such as diabetes mellitus or pernicious anemia.

All types of thyroid disease are more common in women.

Grave's disease (Hyperthyroidism) affects approximately three out of 1,000 people and is more prevalent in women and in families with a history of the disorder. Discovered in 1835 by Robert Graves, affected patients are hyperthyroid (over active thyroid hormone production)

At this stage yoga proves as a milestone. Many yogic practices prove very useful to cure this disease like some Asanas, Pranayamas & bandhas etc. which positively affect the whole life & personality of man.

In the proposed study a special package of yogic practices are used to cure the disease related to the thyroid gland in which sarvangasana, Matsyasana, Shingasana & in pranayamas, Nadisodhan, Ujjayi, sheetli pranayamas, Jalandhar bandha are chosen. These yogic practices improve the metabolism activities as well as over functioning of the body & make the man healthy.

## Review of Literature

1. Harjai KJ, Licta AA(1997)-  
Observed the effects of amiodarone on thyroid function.
2. Dong B.J.(1995)-  
Thyroid disorders in young Ly.Koda Kimble MA, eds. Applied therapeutics the clinical use of drugs, 6<sup>th</sup> edn Vancouver.
3. Vagenakis AG, Dwons P. Braverman LE Burgen A, Ingbar SH. (1973)  
Control of thyroid hormone secretion in normal subjects receiving iodides.
4. J. Clin Ultra sound (2004)  
Correlation of computerized gray scale sonographic findings with thyroid function and thyroid autoimmune activity in patients with Hashimoto's thyroiditis. Use of this modality may prove beneficial in the diagnosis and follow up of patients with HT pubmed.
5. Joseph V.Martin- A Diagnosis of thyroid cancer (1991)  
A team of Rutgers cancer researchers will pinpoint precisely how and when thyroid hormones influence the brain's sleep-related structures.  
Inspired of Martin's in depth studies of thyroid hormones for over a decade. Martin has been cancer-free since the removal of his thyroid gland but his need to compensate for its absence with pills has been educational.
6. Shri R.J sahu, Dr. M.V bhole,(1992)-  
Feeling & sensation while learning & practicing Ujjaji breathing.
7. Sheryl R.Ginn, Joel A. Vilensky. Thyroid. August 1, 2006-  
Whereas sir. Victor Horsley is well known for his many contributions to neurosurgery, this is not the case for his treatments for both myxedema and cretinism. Horsley's research on thyroid physiology was concentrated in the years 1884-1890, while he was director of the Brown Institute for Animals. Based upon experimentation with dogs and monkeys as well as some woman patients, Horsley demonstrated

conclusively that removal of the thyroid gland produce tremors, rigidity, and paralysis, which he attributed to changes in lower motor centers. Further more, the development of imbecility suggested that thyroid excision produced deficits higher cortical functioning. Horsley showed that it was possible to alleviate temporarily some of the psychological and physiological symptoms of both myxedema and cretinism using transplanted thyroid tissue. Several of Horsley's students, most notably George Murray, continued and extended his work by examining other ways in which myxedema and cretinism could be treated (e.g., by injecting and extract of thyroid tissue.)

#### 8. Mr. E.C. Baber on the Minute Structure (1878)

Directions, the paramount influence of this "facility of production" should still be apparent as the one cause which determines the general aspect of the system.

The causes I have mentioned would obviously an unequal growth of the system and preclude a perfectly symmetrical arrangement, at any given time of observation, of the cluster of hydrocarbons around the axial line. How far this inequality is due to accidental causes, and how far to the operation of permanent causes acting in one direction, is impossible, from the slender data we possess, to say, but the chemist should ever be alive to the detection of permanent deviations, in the form of the actual system from the form indicated by theory, for in such observations lie our best means of detecting the existence of other causes affecting its growth, besides that predominant causes which has been here discussed.

#### 9. Sir Joseph Hooker, K.C.S.I., president in the chair.

The presents received were laid on the table and thanks ordered for them.

"Further Researches on the Minute Structure of the Thyroid Gland."  
Preliminary Communication. By E. Cresswell BABER, M.B. Lond.

Communicated by Dr. Klein, F.R.S. Received November 21, 1877.

In A previous communications to the Society I have described some observations made on the minute anatomy of the thyroid gland of the dog. Since then I have extended those observations under the direction of Dr. Klein, to the glands of other vertebrate animals. The chief results yet arrived at will be very shortly described in the

present communication, a full account of them being reserved to a future paper.

Lymphatic. - in the thyroid gland the dog I have described a dense rounded network of lymphatic vessels, tubes and spaces. A similar system of lymphatic has been observed in the glands of other mammalian, as kitten, rabbit, man and horse; the extent of distribution, however, shown by the injection, appears to vary in different.

#### 10.Heart 1998-

Newman CM, Price A, Davies DW, Gray TA, Weetman AP. Amiodarone and the thyroid. A practical Guide to the management of thyroid dysfunction induced by Amiodarone therapy.

#### 11.Wiersinga WW(1997)

The thyroid in Weetman AP, Grossman A, eds. Pharmacotherapeutics of the thyroid gland. Berlin. Springer-Verlag.

#### 12.Clin Endocrinol (Oxf). 2004

Cellular immune responses in autoimmune thyroid disease. Thyroid cell destruction in autoimmune hypothyroidism is dependent on T cell-mediated cytotoxicity with the likely additional effect receptor-mediated apoptosis.

#### 13.J.Neurol Sci. 2004

Anti-neuronal autoantibody in Hashimoto's encephalopathy: neuropathological, immunohistochemical, and biochemical analysis of two patients. Hashimoto's encephalopathy (HE) is thought to be caused by disorders of immune mechanisms. Our results indicate that anti-neuronal auto-antibodies may be associated with the pathogenesis of HE.

## **STATEMENT OF PROBLEM**

To study the effect of yogic practices in hypothyroid diseases.

## **Variables:**

### **1. Independent Variables:**

- Total yoga package time – 30 min.
- Preparation of the practices time – 2 min
- **Asanas - 12 min.**
  - a) Sarvangasana 4 min
  - b) Matsyasana 4min
  - c) Singhasana 4min
- **Pranayama - 12min**
  - a) Nadishodhana 4 min
  - b) Ujjayi 4 min
  - c) Sheetali 4 min
- **Bandha- 3 min**
  - a) Jalandhara Bandha
- Ending of the practices- 1 min

### **2. Dependent Variable:**

- Hypothyroidism (T4)

## **Independent Variables:**

Asana:-



In the Yoga Sutra's of Patanjali, there is a concise definition of Yoga Asanss "**SthiramSukhamAsanam**", meaning that position which is comfortable and steady in this context assanas are practiced to develop the ability to sit comfortably in one position for an extended period of time an ability necessary for meditation.

### *Sarvangasana*

#### Method

- i. Lie on the back on a folded blanket
- ii. Chek that the head and spine are aligned and that the legs are straight with the feet together. Place the hands besides the body with the palms facing down.
- iii. Contract the abdominal muscles and with support with the arms, slowly raise the legs to the vertical position, keeping them straight.
- iv. When the legs are vertical press the arms and hands down the floor slowly and smoothly, roll the buttocks and spine the floor, raising the trunk to a vertical position.
- v. Turn the hands behind the rib cage, slightly away from the spine to support the back the elbows should be about shoulder width apart.
- vi. Gently push the chest forward so that it presses firmly against the chin
- vii. In the final position, the legs are vertical, together and in a straight line with trunk. The body is supported by the shoulders, nape of the neck and back of the head. The arms

provide stability, the chest rests against the chin and feet are relaxed.

- viii. Close the eyes and relaxed the whole body in the final pose for as long as is comfortable.

Sarvangasana is the most well recognized asana for the thyroid gland. An enormous pressure is place on the gland by this powerful posture. As the thyroid has one of the largest blood supplies of any body organ, this pressure has dramatic effects on its function improving circulation and squeezing out stagnant secretion.

### *Matsyasana (Fish Pose)*

The way of folding the legs in this asana resembles the tail of a fish while the rest of the body represents its body and head. However, there is another reason for the name 'fish pose' this position is excellent for floating in water. The position of the legs changes the centre of gravity which means the head can be held higher above the water, facilitating respiration. As the body is compact and rigid, it is able to float with less effort.

### Method

- i. Sit in Padmasana and Relax the whole body.
- ii. Care fully bend back ward, supporting the body with the arms and claws. Lift the chest slightly, take the head back and lower the crown of the head to the floor.
- iii. Hold the big toes and rest the elbows on the floor.
- iv. Adjust the position of the head so that maximum arch to the back is attained

- v. Relax the arms and the whole body, allowing the head, buttocks and legs to support the weight of the body. Close the eyes and breath slowly and deeply.
- vi. Return to the starting position, reversing the order of movements.

This practices are positive influences for better health of the thyroid gland.

### *Singhasana (Lion Pose)*

Placing the palms on the knees, spreading out the fingers (and opening the mouth wide, one should gaze at the tip of the nose and be well (composed) this simhasana adored by ancient yogies.

#### Method

- i. Sit in vajrasana
- ii. Now raise your buttock a little and cross the heel and toes of the right leg over that of left like a scissor.
- iii. Sit on the heels and place both hands on the respective knees. Spread out the fingers.
- iv. Bring out the tongue as much as possible gaze should be nasal.
- v. At the time of bringing out the tongue exhale from the mouth with some sound.

### **Pranayama:-**

Pranayama, the yogic art of breathing, comes from the root words prana and ayama. Prana means 'life force (vital energy)' and ayana means 'expansion, manifestation or prolongations'. The practice of pranayama

therefore is the practice of expanding our own prana so that it harmonizes with the universal prana. This results in oneness or merging of a person's own consciousness with universal consciousness. Pranayama occupies second place in Hath yoga while it constitutes forth step of Patanjali Asthanga Yoga. There are three phases of pranayama-They are controlled Inhalation called pooraka, holding of breath called Kumbhaka, and controlled exhalation is called rechaka.

According to patanjali yoga sutra-

तस्मिन्सति श्वास प्रश्वास योगतिविच्छेदः प्राणायामः 2/29

### *Nadi Shodhana*

The sanskrit word nadi means 'psychic passage or specific pathway through which the prana flow throughout the body'. The word shodhana means purification. Thus this is a practice where by the pranic pathways are purified and decongested. The technique of Nadishadhana Pranayama is also described in Hatha Pradipika 2/69 19-20. Siva Samhita 3/24, 25 and Gheranda Samhita 5/49, 52 etc. There are four stages of Nadi Shodhana pranayama. Each should be mastered before proceeding to the next.

### Method

The breath through the nostril is controlled by the fingers of one hand in front of face, this position of hand is called pranav mudra and left hand is placed on the knee on Gyana madra.

Close the right nostril with right thumb inhale deeply through the left nostril and close the left nostril with right and little finger then exhale

completely through right nostril, then inhale through the right nostril and exhale through the left nostril. This is one round of Nadishodhana.

### *Ujjayi Pranayama*

The sanskrit word ujjayi means victorious. It is derived from the root 'ji', which means to conquer or to acquire by conquest and the prefix 'ud', which means 'bandag'. Ujjayi is therefore the pranayama which gives freedom from bandage.

#### Method

- i. Sit in any comfortable position, preferably a meditation asana.
- ii. Close the eyes and relax the whole body.
- iii. Take the awareness to the breath in the nostrils and allow the breathing to become calm and rhythmic.
- iv. After some time, transfer the awareness to the throat.
- v. Try to feel or to imagine that the breath is being drawn in and out through the throat and not through the nostrils, as if inhalation and exhalation are taking place through a small hole in the throat.
- vi. As the breathing becomes slower and deeper, gently contract the glottis so that a soft snoring sound like the breathing of a sleeping baby is produced in the throat. Both inhalation and exhalation should be long deep and controlled.
- vii. Practice yogic breathing while concentrating on the sound produced by the breath in the throat.

- viii. The sound of the breath should not be very loud. It should just be audible to the practitioner but not to another person unless they are sitting very close.

The most effective Pranayama for thyroid problems is Ujjayi. It acts on the throat area and its relaxing and stimulating effects are most probably due to stimulation of ancient reflex Pathways within the throat area (associated for ex. with vomiting, breathing, swelling which are controlled by the brain stem and hypothalamus).

### *Sheetali Pranayam*

The sanskrit word sheetli is derived from the rood sheet which means 'cold' sheetal means that which is calm, passionless and something.

#### Method

- i. Sit in any comfortable meditation position with the hands on the knee
- ii. Close the eyes and relax the whole body.
- iii. Extend the tongue out side the mouth as far as possible with out strain.
- iv. Roll the sides of the tongue up so that it forms a tube inhale and draw the breath in through this tube.
- v. At the end of inhalation, draw the tongue in, close the mouth and exhale through the nose.
- vi. Practice yogic breathing thought out.
- vii. The breath should produce a noise similar to rushing wind.
- viii. A feeling of icy coldness will be experienced on the tongue and the roof of the mouth.

Sheetali cooling breathe are valuable in the hyperthyroid state in order to cool the overactive Hyper metabolic and therefore overheated body.

### **Bandh:-**

#### ***Jalandhar Bandh***

The Sanskrit word bandh means to 'hold', 'tighten' or 'lock'. These definitions precisely describe the physical action involved in the bandh practices and their effect on the Pranic body. The bandhas aim to lock the Pranas in particular areas and redirect their flow in to Sushumna nadi for the purpose of spiritual awakening. The Sanskrit word '**Jalan**' means net and '**dhara**' means stream or flow. One interpretation of Jalandhar bandh is the lock which controls the network of nadis in the neck. The physical manifestation of these nadis are the blood vessels and nerves of the neck.

### **Method**

- i. Sit in Padmasana or siddhaasana with the head and spine straight.
- ii. The knees should be in firm contact with the floor.
- iii. Place the Palms of the hands on the knees.
- iv. Close the eyes and relax the whole body.
- v. Inhale slowly and deeply and retain the breath inside.
- vi. While retaining the breath, bend the head forward and press the chin tightly against the chest.
- vii. Straighten the arms and lock them firmly into position pressing the knees down with the hands

- viii. Stay in the final position for as long as the breath can be held comfortably. Do not strain.
- ix. Relax the shoulders, bend the arms, slowly
- x. Release the lock, raise the head and then exhale.
- xi. Repeat when the respiration has returned to normal.

Jalandhar Bandh applied pressure to the thyroid area and should be incorporated into Pranayama cautiously and after the initial exercise have been mastered.

## **Dependent Variables**

### ***Thyroid Gland:-***

The Thyroid gland is situated in the neck in front of the larynx and trachea at the level of the 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> cervical and 1<sup>st</sup> thoracic vertebrae. It is highly vascular gland that weighs about 25 kgs. And is surrounded by a fibrous capsule. It resembles a butterfly in shape, consisting of two lobes one on either side of the thyroid cartilage and upper cartilaginous rings of the trachea.

Iodine is essential for the formation of the thyroid gland hormones thyroxine (T<sub>4</sub>) and Triiodothyronine (T<sub>3</sub>).

## **Disorders of the Thyroid glands**

These fall into three main categories

- Abnormal secretion of thyroid hormone(T<sub>3</sub> & T<sub>4</sub>)
- Hyper thyroidism
- Hypothyroidism
- Goiter enlargements of the thyroid glands



- Tumours

## Abnormal Secretion of the Thyroid Hormones

### Hypothyroidism-

This occurs when there is insufficient T3 and T4 secretion causing

- **Cretinism in children**
- **Myxoedema in adults**

### Cretinism-

This condition is endemic in areas remote from the sea where the soil and diet are severely deficient in iodine and there is, therefore, insufficient iodine for synthesis of T3 and T4. In sporadic cases, there is congenital absence of the thyroid gland. In both situations retarded physical growth and mental development became evident within a few weeks or months of birth.

### Myxoedema-

This condition is prevalent in the elderly and is five times more common in males than females. Deficiency of T3 and T4 in adults results in an abnormally low metabolic rate. There may be accumulation of polysaccharide subcutaneous in the subcutaneous tissues especially of the face, the common causes are –

- **Autoimmune thyroiditis**
- **Severe iodine deficiency**
- **Atrogenic eg. Antithyroid drugs, surgical removal of thyroid tissue, ionizing radiation.**

## **Hypotheses**

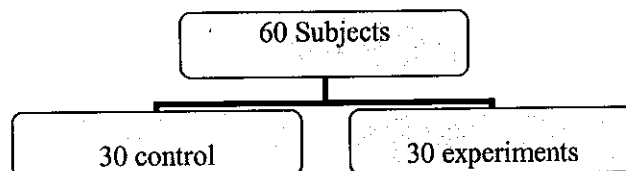
There is no significant difference in the level of  $T_3$  among yoga practising and non practicing patients.

There is no significant difference in the level of  $T_4$  among yoga practising and non practicing patients.

There is no significant difference in the level of TSH among yoga practising and non practicing patients.

## Sample Structure:

The 60 subjects will be selected in present study by quota sampling technique:-



## Tools:

Thyroid function test by Radio Immuno assay (RIA)

Test i	Total Tri Iodo Thyronine	(T3)
Test ii	Total Thyroxine	(T4)
Test iii	Thyroid stimulating Hormone	(TSH)

## Statistical Analysis

Present Research analysis will be used according to research supervisor.

## References

1. Clin Endocrinol (Oxf). 2004 Oct; 61(4):405-13.
2. Dr. M.V. Bhole-yoga Mimmansa-Vol-xx1
3. Dong B.J. (1995) Applied therapeutics, inc, 47,1-473/
4. Effect of Medicine in thyroid. ([www.google.com](http://www.google.com))
5. E. Cresswell Baber- proceedings of the royal society of London, vol. 27, (1878). PP. 56-60.
6. Harjai KJ, Licta AA (1997) Ann intern med, 126. 63-73.
7. Heart (1998), 79. 121-127.
8. J clin invest 1973, 52; 528-523
9. J Clin Ultrasound (2004) Mar-April: 32 (3): 136-40.
10. J Neurol Sci. (2004) Jan 15:217 (1) :7-12.
11. Management of thyroid disorder ([www.Google.com](http://www.Google.com))
12. O.P. Tiwari-Asana Why and How. Page-131
13. Ross and Wilson-Anatomy and physiology-Healthy and Illness. Page-229,239.
14. Shri R.J. Sahu, Dr. M.V. Bhole, (1992) yoga mimansa-vol-XXIV
15. Swami Satyananda saraswati- Asana pranayama Mudra Bandha. Page-9,266
16. Swami Satyananda saraswati- Asana pranayama Mudra Bandha. Page-184-185