

# THYROID SYSTEM DYSFUNCTION (TSD)

## PATIENT INFORMATION

### BACKGROUND INFORMATION

**Thyroid System Dysfunction (TSD)** is a controversial condition in which the patient may have a large number of symptoms that are ultimately associated with abnormal function of the thyroid gland. However, in this condition the normal thyroid function studies that the doctor runs on blood tests are usually **within the normal range**. The ability to diagnose this condition is said to rest on the ability to take a series of body temperatures because the diagnosis - at the present time - is made in part upon the identification of the average body temperature being below 98.2° F.

This condition is sometimes referred to as **Wilson's Syndrome** and is controversial because the **American Thyroid Association** has taken a specific position on this condition indicating that they believe that it is nonexistent. Furthermore, the books written by Dr. E. Dennis Wilson are themselves difficult to follow and understand - especially from a medical point of view. However, a number of doctors have clinical experience with this approach to treatment which appears to be positive. Thus, at the Pope Paul VI Institute, we have begun a careful evaluation of a select group of patients who have not responded to other forms of treatment but are being selected for treatment of this condition. The term "Thyroid System Dysfunction" is used instead of "Wilson's Syndrome" because the body's temperature and all of the symptoms that are associated with this condition are the presumed result of the dysfunction of thyroid hormone on a variety of different organ systems in the body.

Theoretically, this condition is caused as the result of **chronic stress**. Under the conditions of chronic stress, the adrenal glands respond by manufacturing a large amount of **Cortisol**. Apparently **Cortisol inhibits the conversion of Thyroxine (Thyroid hormone -  $T_4$ ) to Triiodothyronine (the active thyroid hormone -  $T_3$ )**. Cortisol **favors the conversion of  $T_4$  to Reverse  $T_3$  ( $RT_3$ )**. Reverse  $T_3$  is similar chemically to the  $T_3$  hormone but it is inactive. That is to say, it has **no physiological activity**. If the stress is prolonged, a condition referred to as "**Reverse  $T_3$  Dominance**" occurs and persists even after the stress passes and Cortisol levels fall. Apparently  $RT_3$ , can act somewhat like Cortisol and **block the conversion of  $T_4$  to  $T_3$** .

The conversion of  $T_4$  to  $T_3$  is very important. It occurs both in the liver and in the individual cells throughout the body. While  $T_4$  is produced by the thyroid gland in response to Thyroid Releasing Hormone (TRH) - a hormone produced in the hypothalamus - and TSH (Thyroid Stimulating Hormone) - a hormone produced in the pituitary gland, the thyroid hormone itself ( $T_4$ ) is not a very active hormone. The conversion of the  $T_4$  to  $T_3$  is important to obtain the effect of the thyroid hormone. **When this relationship changes with a production of a predominance of Reverse  $T_3$  ( $RT_3$ ), there is the development of multiple symptoms related to thyroid dysfunction.**

This **Reverse  $T_3$  Dominance** is the cause of the hypometabolism which is associated with **Thyroid System Dysfunction (TSD)** and is associated with decreased body temperature. In the case of any hormone activity, there need to be **chemical receptors** within the cells to bind with the

hormone in order for the hormone to be effective. **The  $RT_3$  and  $T_3$  both bind to the same receptors.** However, when there is an increased amount of  $RT_3$  relative to the amount of  $T_3$  (once again, the active thyroid hormone), then the receptor sites become blocked by the  $RT_3$  and the various chemical reactions associated with the body slow down. When these reactions slow down, the temperature drops because these reactions normally will give off a certain amount of heat and they are the source of heat within the body. As these reactions slow down, less heat is produced and the body temperature decreases. This drop in temperature slows down enzymes in every cell of the body causing a theoretical condition sometimes referred to as **“Multiple Enzyme Dysfunction.”** **Ultimately, this is the biochemical reason for the thyroid system dysfunction.**

There are multiple symptoms associated with TSD and the **A-Z Symptom Checklist for Thyroid System Dysfunction** which has been prepared by the **Pope Paul VI Institute** is a form which will allow these symptoms to be elicited and documented.

It is said that this condition is present in about 20% of the general population but as high as 80% of individuals who actually visit doctors. It should be pointed out that these statistics have not been well documented by sound scientific studies at this time. However, it does appear that there are a certain number of patients where this condition may actually exist and as a result may be treatable.

**The key to this whole condition is that the usual blood tests that measure thyroid function are within the normal range. However, the body temperature is decreased. And, that is how this diagnosis is made.**

At the **Pope Paul VI Institute**, we will attempt to make this diagnosis in women by measuring their temperatures. This is done with the use of a **basal body temperature thermometer**. Such thermometers can be purchased at most drug stores. If it is a **mercury thermometer** then the temperature is taken by placing the thermometer under the tongue for five minutes by the clock. There are also **basal digital thermometers** which would be adequate for making this diagnosis. In those cases, the temperature is also taken under the tongue until the thermometer beeps.

The temperature is taken, during the diagnostic phase of the program, on **days 5-9** of the menstrual cycle and again on days **P+5 - P+9 of the cycle**. In order to accomplish this, one must be charting the **CREIGHTON MODEL FertilityCare™** System. As you probably are aware, the body temperature normally goes up following ovulation as a result of the effects of the progesterone hormone. Thus, this needs to be taken into account (and in most studies of Wilson's Syndrome, this has never been taken into account up to this time).

The temperature is taken **upon awakening** and then again at **11 am, 2 pm and 5 pm** during the day. The **average** of the latter three temperatures is taken as the temperature for the day. If that temperature is below **98.2°** and there are associated symptoms, then there is a good likelihood that you have thyroid system dysfunction.

In addition to the above, at the **Pope Paul VI Institute**, we will also measure a battery of thyroid function studies. These will include a **Thyroid Profile, TSH level, a Free  $T_4$ , a Total  $T_3$  and a Reverse T3 level**. It has been said - although not very well documented - that if the **total  $T_3$  to Reverse  $T_3$  ( $T_3:RT_3$ ) ratio is less than 10 to 1**, then the chances of having **Thyroid System Dysfunction** is increased.

The treatment for this condition is to take a **timed release form of Triiodothyronine (T<sub>3</sub>)**. It is very important to take the timed release format according to a very specific set of instructions. These instructions can be reviewed by looking at the treatment protocol that has been established for this condition for the purposes of this study at the Pope Paul VI Institute (see below).

It has been said also of this condition that **after 30 to 60 days of maintenance therapy on the T<sub>3</sub> hormone**, that this condition **can actually be “cured”** and the body temperature will stay up appropriately on its own once the T<sub>3</sub> is properly tapered. **Whether or not this is actually true cannot at this time be determined.** However, because so many patients suffer from a multitude of symptoms that might be associated with this and there appears to be no other form of treatment, the Pope Paul VI Institute is willing to embark upon this treatment program.

It is said that **65%** of patients will have a dramatic improvement and **90%** will have some improvement.

## TREATMENT

To treat **Thyroid System Dysfunction** which has been diagnosed by properly obtained body temperatures in which the temperature averages below 98.2°, the use of **time released Triiodothyronine (T<sub>3</sub>)** is recommended. This is the active thyroid hormone and it is a **very potent hormone** thus, it must be taken exactly according to instructions and side effects need to be monitored accordingly. If it is done properly, the hormone can be taken safely.

The treatment program involves the taking of a **time released form of T<sub>3</sub>** at a beginning dose of 7.5 mcg. every 12 hours. T<sub>3</sub> is a compounded medication which can only be obtained through Kubat's Compounding Pharmacy in Omaha. This dosage is taken exactly, to the minute - on a 12-hour basis - on an empty stomach. Thus, it would be helpful to have a watch that has a timer on it or a timer that can be purchased from Radio Shack relatively inexpensively to assist in taking this medication.

The beginning dosage is 7.5 mcg. every 12 hours for 2 days. At the conclusion of the first two days of this dosage, call the nurses at The Pope Paul VI Institute (402-390-6600). Dr. Hilgers will then determine your subsequent dose and will inform you when to report back. Call Kubat's directly for refills (558-2474 or 1-800-782-9988). **All treatment programs in reproductive age women begin as close to day 1 of the menstrual cycle as possible.**

There can be **side effects** to this treatment program. These side effects include the following:

1. Fluid Retention and Puffiness
2. Flu-like Feelings/Achiness
3. Dull Headaches
4. Edginess/Irritability
5. Increased Heartbeat (greater than 90 beats per minutes)

In monitoring this treatment program, it is essential that the temperatures be taken every day upon awakening and then again at **11 am, 2 pm and 5 pm**. At the 11 am, 2 pm and 5 pm temperature time, **the pulse is also taken**. If the pulse gets above 90 beats per minute then notify our office.

**The A-Z System Checklist for Thyroid System Dysfunction and the complete TSD Thyroid Function Hormone Profile will be repeated at a time to be determined by Dr. Hilgers.**

Prior to starting treatment, notify us if you or your family have a history of any of the following conditions:

**Stroke  
Heart Problems  
High Blood Pressure  
Chest Pain or Angina  
Irregularities in the Heartbeat**

The above family history does not make you ineligible for treatment. It is just important for us to have this information.

**Do NOT increase the dose of T<sub>3</sub> on your own.**

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