Thyroid Therapy

Signs & Symptoms Associated with Hypothyroidism

- Fatigue (morning)
- Weakness
- Constipation
- Weight gain
- Cold extremities, intolerance to cold
- Edema around ankles or below eyes
- Muscle aches, headaches
- Depression
- Poor concentration, memory loss
- Hoarseness
- Dry, rough skin, follicular hyperkeratosis
- Orange tint to palms and soles, pallor
- Dry, thinning hair
- Axillary Basal Body Temperature < 97.4
- TSH > 3.0 (.5-2.5 optimal)

Conditions Associated with Hypothyroidism

Hypertension
Angina (chest pain), atherosclerosis
Elevated cholesterol levels
Elevated homocysteine
Irregular menstrual cycles. infertility
PMS, fibrocystic breast disease
Hypoglycemia
Psoriasis, urticaria
Allergies, asthma, rhinitis

The human thyroid gland makes a combination of T4, T3, and T2. T4 or Levothyroxine can be converted to the more active form of thyroid, T3, in the peripheral tissues in most people. However, some people lack an enzyme (deiodinase) and are unable to adequately convert T4 to T3.

Levothyroxine (Synthroid) consists solely of T4. USP Thyroid (Armour) contains approximately 80% T4 and 20% T3. *Most* people who are treated with thyroid hormone do fine on *either* Levothyroxine (T4 alone) *or* USP Thyroid (T4, T3, and T2). The combination of T4 and T3 is more effective for some patients then T4 alone, especially for mood and brain function. Rarely, people feel worse on the combination. Examining baseline levels of free T4 and free T3 may help to guide therapy. Some studies using very high, non-physiologic doses of T3 have shown side effects of therapy. T3 is approximately four times more potent than T4.

Treatment

Levothyroxine (T4) or USP thyroid (T3,T4) may be prescribed. ½ dose is take on an **empty stomach** for 4 days, followed by the whole dose. Some patients are very sensitive to thyroid medication and may require lower doses of thyroid hormone. The dose must be *lowered* or therapy *discontinued* if the patient experiences the following side effects.

- Anxiety, nervousness, agitation, sweating
- Insomnia, headaches
- Rapid heart beat, palpitations, rapid pulse
- Pain or tightness in chest

If symptoms of thyroid deficiency have not been relieved on the initial dose, an increase in the dose may be considered after follow up blood levels are obtained. Thyroid hormone is best absorbed on an **empty stomach**. Follow up thyroid blood levels are tested 2-3 months following the *initiation* of thyroid therapy OR a *change in dosage*. Follow up blood levels are to be drawn in the morning PRIOR to taking thyroid medication. Therapy may be discontinued if no benefit is seen.

Compounded *T4 with Slow Release T3* is an excellent option for patients taking thyroid medication who do not tolerate USP thyroid (Armour), who do not like twice daily dosing of T3 or who do not convert T4 (Levothroxine) to T3.

Patients who have symptoms of low thyroid or low normal levels may be started on two drops of Lugol's iodine daily. This may protect, and increase the function of the thyroid gland. For additional information, check the following website:
www.townsendletter.com/Oct2005/gabyrebuttal1005
www.townsendletter.com/AugSept2005/gabyiodine0805

Conversion: 60 mg. (1 grain) of USP thyroid (**Armour**) **=** 100 mcg (.1mg) of Levothyroxine (**Synthroid**, Levoxyl, L-thyroxine)
USP thyroid *is* standardized: 60 mg. (1 grain) tablet contains Levothyroxine (T4) 38 mcg. and Liothyronine (T3) 9 mcg.
Thyrolar (liotrix) 75% T4 / 25% non slow release (SR) T3. **Cytomel** (non SR T3) 5ug and 25 ug doses
Compounded T4 with Slow Release T3, 2:1 ratio. Conversion: (1.25 x T4 dose ÷ 3 = new T4 dose, ÷ 6 = SR T3 dose)