## 1) Hypothyroidism and PCOS

A number of women with PCOS may also have an underactive thyroid gland, according to some researchers.

Hypothyroidism (an underactive thyroid) can lead to a reduction of sex hormone binding globulin and increase in free testosterone. Free testosterone is one of the factors contributing to PCOS symptoms -- infertility, polycystic ovaries, hirsutism, male pattern hair loss, and acne.

Women with hypothyroidism also are more likely to have velvety, hyperpigmented skin folds called acanthosis nigrans.

The thyroid gland is located at the base of your neck in front of your windpipe. It makes, stores, and releases two hormones - T4 (thyroxine) and T3 (triiodothyronine). Thyroid hormones control your metabolic rate, the rate at which every part of your body works. If there is not enough thyroid hormone in your bloodstream, your metabolism slows down. This is called hypothyroidism.

Symptoms of hypothyroidism may include: fatigue or weakness, weight gain, menstrual problems, lower body temperature, cold extremities, inability to focus, constipation, depression, muscle aches, brittle nails, dry skin, and hair loss.

A common cause is Hashimoto's thyroiditis, an autoimmune disease of the thyroid gland. Other possible causes are: thyroid surgery or radiation, some drugs, hormone therapy, dietary deficiencies, and exposure to toxic environmental chemicals and metals.

How Is Hypothyroidism Diagnosed?

Thyroid disease is diagnosed by your symptoms, an exam and lab tests.

Physicians usually screen thyroid function by measuring TSH (thyroid stimulating hormone). TSH is a hormone produced by the pituitary gland, which "reads" the blood passing through it for proper amounts of thyroid hormone. If thyroid hormone levels are low, the pituitary sends out a TSH signal to the thyroid to produce more thyroid hormone. As thyroid hormone production drops, TSH usually increases. Therefore a higher than normal TSH level indicates a hypothyroid condition.

Unfortunately, TSH doesn't always respond correctly to low thyroid hormone levels. If symptoms persist, and the TSH is in the normal range, the thyroid hormones (T4 and T3) should also be checked. In some cases, a diagnosis of hypothyroidism can be missed if TSH is the only hormone that is measured.

**There is a growing awareness in the medical community that the current reference range for determining what is a "normal" TSH is too wide. Based on new data, the American Association of Clinical Endocrinologists recommends that the normal reference range for the TSH blood test be**

**reduced by nearly half, down to 0.50-2.50 from the current 0.50-5.00. Other sources suggest the new upper range should be 3.33. (The higher the number, the more hypothyroid you are.) Until all physicians and labs can agree on a new range for TSH, many women will continue to be frustrated by inaccurate diagnosis.**

BOTTOM LINE: You may have undiagnosed mild hypothyroidism which is complicating your PCOS problems -- especially if you have a weight problem in spite of consistent efforts with diet and exercise. Remember, thyroid hormones set your metabolic "thermostat". If your metabolic thermostat is set on "low", it can be very difficult to lose weight and avoid cellular sluggishness.

Mild hypothyroidism can be difficult to diagnose and is often overlooked. Proper diagnosis may require: (1) lab tests more extensive than the typical TSH test; (2) a body temperature assessment over a period of time; and (3) a careful assessment of symptoms and medical history. Licensed naturopathic physicians are well qualified to identify subtle hypothyroidism.

If you discover that you have an underactive thyroid, and you get it back to optimal function, some of your PCOS symptoms may diminish.

Sources: Ghosh, S et al, Subclinical hypothyroidism: a determinant of polycystic ovary syndrome, Horm Res, 1993, 39(1-2):61-6
Wu X, et al, [Functional states of pituitary-ovary, adrenal and thyroid axes in women with polycystic ovarian syndrome], Zhonghua Fu Chan Ke Za Ahi, 1998, 33(3):153-6