

## **HYPERTHYROIDISM AND GRAVES' DISEASE**

**H**yperthyroidism refers to a condition where too much thyroid hormone is found in the blood. There are many different causes. If a person takes thyroid hormone pills inappropriately, or in too strong a dose, hyperthyroidism may result. Sometimes, a nodule (usually a small, noncancerous tumor) within the thyroid gland itself starts "doing its own thing" and produces excess amounts of thyroid hormone. Rarely, a tumor of the pituitary gland may make thyroid stimulating hormone (TSH) which acts on the thyroid to cause excess thyroid hormone production. In each case, an attempt is made to determine the cause of hyperthyroidism.

**H**ypothyroidism refers to conditions in which too little thyroid hormone is made. There are several ways this can happen. For example, if a person who had an overactive thyroid had their thyroid removed, unless they receive thyroid medication, they will have no thyroid hormone and be hypothyroid.

One of the most common causes of hyperthyroidism or hypothyroidism is *autoimmune* disease where the body's immune system mistakenly produces proteins called *antibodies* that interfere with normal thyroid gland operation and can cause either excess or insufficient thyroid hormone production. These abnormal antibodies can also react with proteins and tissues around the eye and cause swelling with bulging of the eyes, double vision, and rarely vision loss.

Sometimes these antibodies react with tissues in other parts of the body, such as the skin over the shinbones causing painful swelling. This uncommon event is called "*pretibial myxedema*."

Bulging eyes and pretibial myxedema do not occur in everyone who develops autoimmune thyroid disorder, but other symptoms and signs resulting from elevated or insufficient levels of thyroid hormone are fairly common. These include nervousness or depression, tremor, weight loss or weight gain, heat or cold intolerance, rapid or slowed heart rate, insomnia, irritability, muscle weakness or cramping, and irregular menstrual periods. Younger people tend to have more of these symptoms than do those who are older.

Medications are available to ease some of the symptoms.

Surgical techniques are available for the treatment of severe cases of exophthalmos.

Research on the immune system and thyroid disease is being done more now than ever before. This includes studies being conducted in our office. Hopefully, new findings will lead to new ways to treat the many manifestations of autoimmune disease caused by a faulty immune system.

## **MYASTHENIA GRAVIS**

Roughly 1% - 10% of people with Thyroid Eye Disease also develop a muscle weakness problem called Myasthenia Gravis. In this condition, the nerve impulses that stimulate the muscles take much longer to “build up a charge” to stimulate the muscles again. The result is that the muscles may seem to get weaker throughout the day or with repeated use. A common manifestation of Myasthenia Gravis is difficulty climbing as many stairs as was once possible, not because of shortness of breath, but because of leg weakness. If you think you might have Myasthenia Gravis, discuss it with your physician.