

Live Healthy and Be Well!

“Thyroid Gland and Common Disorders”

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This topic comes from several readers over the last couple of months who have indicated they would like to know more about the Thyroid. And, although this is not a particularly romantic topic – you will not be able to enjoy your love life as completely if your thyroid is not cooperating! Thyroid disorders are not uncommon, and can be an underlying condition of other disease processes. There are certain conditions, such as *atrial fibrillation*, in which it is important for your provider to “rule out” the thyroid as a cause or contributing factor. In its defense, the thyroid gland is often “blamed” for things when it may actually be completely normal. The good news is that the most common thyroid problems are very treatable and fairly easy to manage once they are properly diagnosed.

The thyroid gland is one of the largest of the endocrine glands, located in the front of the neck just below the Thyroid Cartilage of the trachea (better known as the “Adams Apple”). It is a butterfly shaped gland with right and left lobes (“wings”) that are joined in the middle by the thyroid isthmus (“body”). The main function of this important gland is to help manage how your body uses energy, or in other words, it is the major regulator of your *metabolism*. The thyroid hormones it produces govern the growth and operating speed of many other body functions and systems. If not working properly, it can cause your blood pressure to be high or low, cause you to gain or lose weight, and contribute to anxiety or depression (note opposite conditions depending on high or low thyroid levels). When it is working properly, it helps you maintain a delicate balance and normal metabolic function.

The thyroid produces two main hormones to help regulate your metabolism. These substances are commonly known as T3 and T4. They are produced by the thyroid and secreted in the blood stream when the gland feels the influence of Thyroid Stimulating Hormone, better known as TSH. T3 and T4 act as part of a “negative feedback loop” in conjunction with TSH, meaning that when they rise to proper levels, the TSH production is reduced or halted. When T3 and T4 are low, this stimulates production of TSH (by the pituitary gland) to get them back up to snuff. This feedback system works, for most people, to keep the correct and proper balance of these hormones to best regulate your metabolism. However, when this delicate balance is disrupted, one of two thyroid disorders may occur – hyperthyroid (too much) or hypothyroid (too little).

*Hyperthyroidism* results from too much production of T3 and T4, and the negative feedback loop is not able to suppress hormone synthesis as it normally should. The symptoms of hyperthyroidism are, as you might expect, due to having your metabolism “revved up” too high. Many people experience weight loss without trying, heart palpitations, heat intolerance (warm when others are not), sweating, diarrhea, and the thyroid gland may begin to swell because of the excess stimulation, and be visible in the neck. This condition is known as “goiter.” Some people with longstanding hyperthyroidism may even have protruding eyes (*exophthalmos*), giving them a “bug eyed” or “surprised” appearance all the time.

A very common cause of hyperthyroidism is called *Graves Disease*. With Graves, there are abnormal antibodies involved that stimulate the production of T3 and T4 and are not subject to the normal negative feedback system. So, the thyroid gland keeps pumping out its hormones without the normal suppression of T3 and T4 by the subsequent low TSH. In these people, the hormone levels will be very high, and the TSH will be very low or almost non-existent, but they keep producing T3 and T4 anyway. Their thyroid gland is usually enlarged uniformly (*toxic goiter*), and may be readily seen in the neck. Medicines can be used to treat the symptoms of Graves Disease, but the best treatment is thyroid gland ablation by use of radioactive iodine. Thyroid has a preference for iodine and needs this chemical to produce its hormones. The gland takes up the iodine readily, and the radioactive isotopes partially or totally destroy the cells in the gland that produce the hormones. So, this person may now need to take thyroid hormone for the rest of their life, but it is preferable to having your thyroid out of control. Surgical removal is an option in Graves Disease, but the size of the gland may make it risky to nerves, blood vessels, and other glands (parathyroid) in the area – so ablation is often the preferred therapy.

If the level of thyroid hormones is too low, this results in the opposite condition of *hypothyroidism*. In these patients, we will see their T3 and T4 on the low side, and their TSH will often be very high trying to stimulate production of the hormones. You can already guess that the symptoms are the opposite of having too much thyroid hormone. In hypothyroid patients, we see complaints of lethargy and fatigue, bradycardia (slow heart rate), abnormal weight gain, constipation, cold intolerance (cold when others are not), and hair loss (alopecia). The cause of hypothyroidism can be one of many things or a combination of factors. There are congenital (from birth) conditions, autoimmune disorders, iodine deficiency, surgical removal, or perhaps some other illness has caused damage to the thyroid. In these patients, once the cause is determined and addressed, they will likely need to take synthetic thyroid hormone (Synthroid©) for the rest of their life, but will do very well with no ill effects.

Remember I said that the thyroid needs Iodine to function? In many third world countries, diets are deficient in iodine and so the thyroid gland will not be able to produce T3 and T4, but will keep trying very hard to do just that. This constant stimulation by high TSH levels will cause the thyroid to become very large, and form the impressive goiters we have often seen in photos from these areas. In most modern countries, iodine has been added to our table salt, and you almost never see this condition (known as *non-toxic goiter*).

Now that we have discussed the basics of thyroid function and the two most common disorders, let your providers know if you have any of the above symptoms or conditions. A couple of easy lab tests can determine if there is any cause for further concern or workup. Some of you may be thinking that hyperthyroidism might be a good weight loss plan, but I cannot recommend that at all. And, please don't be thinking about taking someone else's Synthroid to lose weight – not a good idea! Many of you may remember a TV commercial from the past that would apply to that plan: “It's not nice to fool Mother Nature!”

We really do enjoy hearing from you with any questions, concerns, or ideas for future columns and/or health and wellness related issues for the *Georgia Mountain Laurel*. Please send an email to [rabundoctor@gmail.com](mailto:rabundoctor@gmail.com), or call Jamie at 706-782-0480, and we will be sure to consider your

input. If you use Twitter, then follow us for health tips and advice @rabundoctor. Until next month, live healthy and be well!