

Article 9 – Thyroid function; Part Two.

This is the second in a series of articles outlining the function of the thyroid gland and how vital it is in maintaining a healthy weight. Because it is the key gland that regulates our metabolism and therefore the ability of our cells to function normally, a malfunction can result in a wide range of symptoms affecting many organ systems. There can be serious repercussions not just that of weight gain. At the very least, you will get someone who may feel tired all the time, is missing the outer third of their eyebrows, gets abnormally cold hands and feet, may have low immunity, struggles to get out of bed in the morning, has abnormally low blood pressure, dry skin, a sluggish bowel or constipation, cracked or poor quality nails, high cholesterol, hormonal issues, muscle and joint aches, and "foggy" brain or lack of concentration. Low mood or depression is not uncommon either. So, what *is* required for healthy thyroid function?

There are some key nutrients which are critical to ensuring that thyroid hormones are produced and that the liver is able to convert these properly into their most active form. Without adequate levels of the mineral iodine and an amino acid called tyrosine there will be a deficit in the hormone production itself. Zinc and selenium are essential for the conversion of the thyroid hormone T₄ to its more active form T₃. This also applies to people on thyroxin medication which is simply a version of T₄. If the T₄ is not converted to T₃ effectively a person's ability to produce energy will be greatly impacted and this will reflect right throughout the body. Once the hormone production and conversion has been resolved, it is then critical to ensure that the ability of the cells to use the hormone is covered. The key nutrients here are the omega 3 essential fatty acids and vitamin A. Without adequate levels of these, the receptors on the cell membranes will not register and react to the thyroid hormones when they are presented. Copper, vitamins B₂, B₆ and B₃ are lesser known in their roles in healthy thyroid function but are none-the-less important because they are required for the production of T₄. (Incidentally, a very common symptom of low B₂ is cracks in the corners of the mouth).

I often get people asking me whether it is possible to get all of these nutrients through a good diet. The answer is; that depends on what you view as a good diet. Because New Zealand's soils are naturally deficient in selenium, zinc, iodine and magnesium it is very difficult to access enough of these minerals unless you eat both fresh seafood and sea vegetables such as kelp, wakame or kombu several times per week. Any produce grown on our soils will have very low levels of these nutrients unless they have been added by the grower in the form of seaweed fertilizers or the like. If your diet is high in seafood and sea vegetables, or you eat fresh vegetables and fruits which you know are grown using seaweed fertilizers you have a high chance of getting all you need. If this is not the case you would probably benefit from a multivitamin and mineral product. It is wise to purchase products without binders and fillers in them because these will limit the amount of nutrients you get from each dose. They are used to make the manufacturing process easier and the product cheaper, but can often result in a less than satisfactory result especially when trying to address specific nutrient deficiencies. Always purchase the best you can afford. We have a number of well priced thyroid supporting formulas available through the dispensary and can help you determine which one is best for you.

As mentioned above, the omega 3 essential fatty acids are an important component for good thyroid hormone uptake. Most people do not eat enough foods which contain high levels of omega 3. The oily fish like sardines, salmon, herring and

mackerel are the best sources of these as is flax seed oil, but this is harder for the body to convert to the substances it needs because it uses one more enzyme complex to break it down than the fish oils do. Any omega 3 supplements should be kept in the fridge as they are very prone to damage from heat and light, and the taste of fish oils can be reduced by keeping them in the freezer instead of the fridge.

Healthy digestion is required for healthy thyroid function. If you have digestive problems, this is the first thing to resolve. Until your stomach, pancreas, liver and bowel are working well you will have trouble breaking down and absorbing your food and this will affect the supply of raw materials needed to build and convert the thyroid hormones. Stomach issues in particular are a concern, because good stomach function is required to access all minerals and to break protein foods down into their amino acids. A problem here will affect the availability of tyrosine which is an essential component of thyroid hormone. We are able to resolve digestive issues for most people, including those on acid-reducing medications such as Losec. (Losec is fine when used short term where there is a need to allow the stomach lining to repair as in the case of ulcers or eosophagitis, but if used long term it will result in mineral deficiencies and poor protein and fat breakdown. This will eventually translate into energy production problems, and neurotransmitter and hormonal imbalances simply because the body is not able to access adequate raw ingredients required to keep it in balance).

Stress factors can have a huge impact on the ability of the body to convert T₄ to T₃ and on the function of thyroid gland itself. Hans Selye, widely-accepted as the pioneer of stress research, defined stress as "the nonspecific response of the body to any demand made upon it to adapt, whether that demand produces pleasure or pain." As I have said before, your body does not know the difference between emotional stress, job stress, dehydration, intense exercise, lack of sleep, the stress of allergies, chronic pain or any other situation which places stress on it. It will always respond by producing one of the key adrenal hormones called cortisol if the stress factor is not removed after a short period of time. Cortisol serves us very well in the medium term, but if the stress factor is not removed, the levels of cortisol will continue to rise as your body tries to cope with the stress of what is going on. As time goes on, your cells become less and less sensitive to the cortisol and so more has to be produced in order to get the same job done. Once the cortisol levels exceed a certain range, they can have a significant impact on the body's ability to convert T₄ to T₃. The high cortisol levels may also start to affect the feedback to your two "master" glands – the hypothalamus and pituitary glands which control the thyroid function and this can reduce the production of the thyroid hormones themselves. Because of this, it is usually essential to strengthen and improve the adrenal function when treating someone for thyroid issues. If you are the sort of person who has the symptoms mentioned at the start of the article and find that these get worse when you are under stress, this is a good indication that there is an adrenal component to the problem and that this must be addressed. There are a number of herbs which are very effective in this area and we can help you to choose the right ones.

If you have low thyroid function, it is advisable to avoid eating the Brassica vegetables (cabbage, broccoli, Brussels sprouts, turnips, cauliflower, kale, caravalo nero etc...) too frequently as these have plant chemicals in them which inhibit the thyroid gland. Choose other vegetables such as silver beet, spinach, beans, peas, zucchini, peppers, lettuce, carrots, beetroot etc... instead. Conversely, if you have hyperactive thyroid function Brassica vegetables are excellent vegetables to eat regularly. Sea weeds are very good for most cases of thyroid dysfunction whether it

be too high or too low, because they are thyroid *regulators* rather than thyroid stimulators.

Whenever working with someone with low thyroid function or poor thyroid hormone conversion, I inevitably find there is also a problem with maintaining stable blood sugar levels. This is not surprising given that the thyroid hormones are key players in our body's ability to use glucose properly. It is really important to establish good eating habits and to avoid eating foods which are likely to cause a spike in insulin. This is where eating 5-6 *small* portions of food per day which is mainly low glycaemic focused is essential. It is also where the blood sugar-metabolising nutrients such as magnesium, chromium, manganese, zinc and the B vitamins are very helpful. Sugar cravings are a sure sign of poor glucose metabolism, because the body will crave what it is most short in or has the most difficulty accessing.

Exercise is another aspect which can affect thyroid function; somewhat indirectly. Within the exercise domain, it's generally believed that low-intensity exercise reduces stress and therefore the levels of adrenaline and cortisol, as compared with high-intensity exercise that tends to increase the release of stress hormones. Non-competitive walking, swimming, cycling, yoga and dancing are all really good ways of reducing the impact of the adrenal response on the thyroid, and because exercise improves the way the body uses insulin, it will also be helpful in maintaining better blood sugar metabolism which means better energy levels.

At the clinic we regularly run a series of three short workshops on how to lose weight healthily and avoid a rebound. The program looks at all of the things related to good blood sugar control, how to get the fat-burning process going and how to get the metabolism working properly again, with the development of a personal program for each participant based on their individual needs. Please contact Ngaire at the clinic if you are interested in participating in one and would like an outline of costs etc...

If you require further help with anything outlined in this article, please contact me at The Self Heal Clinic 06 304 8177. The dispensary is open Tuesday, Thursday, Friday and Saturday.