are either hypothyroid (because of the risk of muscle damage) or hyperthyroid (because of the impaired function of the cardiovascular, respiratory and muscular systems). Muscle building/strength training is also important, because it assists weight control in hypothyroid patients and helps hyperthyroid patients avoid osteoporosis.\[44]\]

Whether you’re on medical treatment for a thyroid condition, trying a natural approach, or aiming to prevent thyroid disorders from developing, an integrated stress management program is a must!

SPECIAL NOTES ON AUTOIMMUNE THYROID DISORDERS
As Drs John McDougall and Joel Fuhrman have pointed out, ingestion of animal proteins can cause the ‘molecular mimicry’ that triggers autoimmune disease. Incompletely digested proteins can enter the bloodstream from the intestinal tract, causing immune cells to manufacture antibodies against them. Because proteins from animal-derived foods resemble human body proteins (we are animals too!), these antibodies are far more likely to ‘cross-react’ with body cells, causing autoimmune damage, than with proteins from plant foods. Protein from pig thyroid gland induces thyroiditis in experimental animals.\[46]\]

A fruit-and-vegetable-rich vegan diet, without added fats (which hinder immune function, particularly the clearance of immune complexes from the bloodstream), but containing adequate essential fatty acids, is an effective treatment for autoimmune disease. Supervised water-only fasting is also highly effective,\[47]\) but is not suitable during thyrotoxicosis (acute hyperthyroidism).\[48]\]

Empty calories must be banished from the diets of both hypothyroid patients (who are prone to gaining weight) and hyperthyroid patients (who need a nutrient-dense diet due to their increased metabolic rate). So the intake of refined carbohydrates (sugar, white and non-wholemeal flour, cakes, bread, pasta, breakfast cereals, baked goods) must be absolutely minimised, in favour of unrefined grains (e.g., rolled oats, brown rice, quinoa and dark breads) and legumes (dried peas, beans and lentils).

Smoking increases the severity of autoimmune attacks on the thyroid.\[49]\) IF YOU HAVE A THYROID DISORDER AND YOU SMOKE, QUIT!!!! (If you don’t have a thyroid disorder and you smoke, you would be wise to quit, too!)

TREATMENT OF HYPOTHYROIDISM
The conventional medical treatment for hypothyroidism is synthetic thyroid hormone tablets, called _Oxine_ in Australia. The patient commences treatment on a low dose, and the dose is gradually increased until TSH and T4 levels are within normal ranges. However, almost one-third of hypothyroid patients continue to have symptoms (particularly depression) even after their hormone levels are returned to normal by drug treatment\[50]\) – an indicator that simply replacing the ‘missing’ hormone does not address the cause of the hypothyroidism. As with any disease, the essential question to ask is “Why did this organ begin to malfunction in the first place?”

Many diet and lifestyle factors are implicated:

- **Iodine**, zinc, selenium and vitamins E, A, B₂, B₆, B₉ and C are all essential to normal thyroid hormone synthesis.\[51]\] Selenium deficiency increases the destructive effect of free radical attack on the thyroid gland; and when combined with iodine deficiency, it also causes mental impairment related to severe hypothyroidism. Correction of zinc deficiency in children with Down’s syndrome also corrected their hypothyroidism.\[52]\]

- Iodine supplements and iodine-rich foods (e.g., kelp and other seaweeds), however, should be approached with great caution. The Recommended Daily Intake (RDI) for iodine is only 150 mcg, and the average diet supplies over 600 mcg per day. Excess iodine actually inhibits the release of thyroid hormones,\[53]\) may trigger autoimmune attacks on the thyroid gland, and causes increased rates of thyroiditis and thyroid cancer\[54]\) – so this is definitely not a case of ‘If a little is good, then more is better’. Excess iodine may also encourage acne.\[55]\) If iodine deficiency is definitely present, the herbs bladderwrack and kelp may only provide ample iodine, but also help the body retain it better than supplements.\[56]\)

- **Goitrogen-containing foods**, when eaten raw and in _large quantities_, and when iodine intake is low, can inhibit thyroid hormone synthesis. These foods are cabbage, cauliflower, kale, Brussels sprouts, turnips, kohlrabi, rutabagas, mustard seeds, cassava root, peanuts, pine nuts, soy beans, millet, peaches, pears and spinach. Cooking usually inactivates goitrogens.\[57]\)

- **Iron-deficiency anaemia**, and depletion of iron stores without anaemia, are both associated with lowered levels of thyroid hormones, and iron supplementation helps to restore thyroid hormone levels to normal.\[58]\) Anaemia is diagnosed through checking for haemoglobin levels in the blood, which is done as part of a full blood examination (FBE). Low iron stores are detected through a test called ‘iron studies’. Never take iron supplements without first checking your ferritin (storage iron) and haemoglobin levels. Excess iron is extremely toxic to the body, and is believed to contribute to atherosclerosis. If blood tests do detect anaemia and low ferritin, use an organic or chelated iron supplement (not the constipating ferrous sulphate which an orthodox doctor will prescribe) and boost your intake of iron-rich foods, such as green leafy vegetables and juice made from them, legumes, dried apricots, nuts and seeds (eaten with vitamin C-rich foods to enhance absorption).

- **Fluoride** in drinking water and toothpaste may decrease thyroid function. In fact, fluoride compounds were formerly used as antithyroid drugs in hyperthyroidism.\[59]\)

WHERE THERE’S A WILL ...
Many subscribers and other readers who have benefited by this magazine or who are inspired by our principles may wish to support our work further.

One way of doing this is by a bequest through your will to the _Natural Health Society of Australia (NSW)_ Inc. or to the _Australian Vegetarian Society_ or both.

Should you consider doing this, the following wording for a will may be helpful:

“I bequeath to the _______________ (enter the name of the Society) ABN _______________, the sum of $__________ (or part or all of residue of Estate) free of all duties to be applied for the purposes of the Society (or as directed by the donor) and the receipt of the Secretary of the Society shall be sufficient discharge for the same”.

It may be wise to consult a solicitor to ensure that the bequest is valid.
Oestrogen: A most intriguing relationship exists between oestrogen and thyroid hormone. As previously mentioned, thyroid disorders are far more common in women, whose oestrogen levels are much higher than men's. Hypothyroid women who are being treated with thyroxine, often need a higher dose of thyroxine to maintain normal levels of TSH and T4 if they begin taking oestrogen replacement therapy for menopausal symptoms.\[560\]

This tends to corroborate Dr John Lee's observation that women suffering from what he calls 'oestrogen dominance syndrome' are more likely to be hypothyroid.\[561\] Oestrogen dominance syndrome is described by Lee as 'excess oestrogen [when] unopposed or unbalanced by progesterone', and primarily occurs in women who are perimenopausal; taking high-oestrogen oral contraceptives or oestrogen replacement therapy; postmenopausal and overweight; after a hysterectomy; or exposed to xenosterogens.\[622\] Lee states that thyroid gland function is suppressed by oestrogen, and that oestrogen may interfere with the binding of thyroid hormones to their receptors in cells.\[631\]

Many of the symptoms commonly ascribed to menopause, such as fatigue, depression, weight gain and memory loss, are also symptoms of hypothyroidism. It is well known that women living on the typical high-fat, high-animal-protein diet suffer far more from menopausal symptoms than women living on plants-based diets in traditional cultures. For example, 38% of American women undergoing menopause experience fatigue, whereas only 6% of Japanese women do; 30% of American women complain of irritability compared to 12% of Japanese women; and depression and insomnia are three times as common in American women.\[643\] Is it merely a coincidence that Western women have dramatically higher oestrogen levels both pre- and post-menopausally than women on traditional plant-based diets?\[650\] Or could it be that the Western diet and sedentary lifestyle, by elevating levels of oestrogen, set the stage for hypothyroidism?

My own clinical experience suggests that measures that reduce oestrogen levels, such as weight loss, regular exercise and a vegetarian diet, can make it possible for hypothyroid women to reduce or even discontinue thyroid replacement therapy (see 'Case Study' below).

However, no one currently taking Oroxine or any other prescribed medication should stop taking it or alter the dose without first consulting a supportive doctor.

TREATMENT OF HYPERTHYROIDISM

Medical treatment for thyroid overactivity involves antithyroid drugs which inhibit the production of thyroid hormones and suppress the autoimmune attack on the thyroid; destruction of much of the thyroid using radioactive iodine; or surgical removal of part of the thyroid. None of these three methods addresses the cause of the hyperthyroid condition; all of them increase the likelihood of developing hypothyroidism down the track, and all may fail to resolve the mental and emotional symptoms of hypothyroidism, such as excessive anger, depression, anxiety, impatience and impaired memory, attention, planning and productivity, even if they are successful in normalising hormone levels.\[660\] Dealing with autoimmunity and stress are the primary considerations (see above).

Adequate intake of antioxidants is crucial because thyroid overactivity increases metabolism, which increases oxygen consumption, which increases free radical production. All bodily tissues are damaged by excessive free radical activity, including the brain. Hyperthyroidism increases the risk of dementia because of the damage inflicted by free radicals on the parts of the brain necessary for normal thinking processes. Supplementation with carotenoids, vitamin C, vitamin E, zinc and glutamate helps to quench free radicals and restore damaged tissues, and minimises the damage done to the thyroid by autoimmune attacks.\[667\]

A nutrient-dense diet (i.e., no refined or high-fat foods except for raw nuts and seeds) is needed because the acceleration of metabolic processes depletes all nutrients, while also causing malabsorption, which further diminishes nutrition.

Avoid caffeine, nicotine and alcohol, which increase caloric expenditure.\[668\]

Herbs: the constituents of Melissa officinalis (lemon balm) reduce the activity of the abnormal antibodies that cause thyroid overactivity in Graves' disease. Essential oil of thyme may also reduce thyroid activity.\[669\]

CASE STUDY – HYPOTHYROIDISM

Pauline, a 55-year-old American woman who was visiting family in Australia, originally came to see me for high blood pressure. She was taking a beta blocker called Kaveria for it, and was also on Synthroid (called Oxorraine in Australia) to treat her hypothyroidism. She reported that her blood pressure, which she measured on a home monitor, rose to as high as 180/120 in spite of the antihypertensive drug.

I gave Pauline detailed dietary and lifestyle guidance, including vegetarian diet, regular moderate exercise and stress management advice, and asked her to continue monitoring her blood pressure regularly so that we would know when she could begin to reduce her blood pressure medication.

Pauline followed my advice to the letter. At her next visit, two weeks later, she reported that her blood pressure had dropped to 120/80 after just three days on the program. By her third visit, her blood pressure had decreased even further and she had also lost 5 kg. She had only six Kaveria pills left and was happy to begin phasing them out. She did so over the next week, and her blood pressure remained at its new lower level. She found that it only became elevated after she went to an exciting church meeting!

Some months later, Pauline rang from the US to tell me that she had begun feeling very agitated, couldn’t sleep at night, and was experiencing palpitations. I couldn’t make sense of her symptoms until I went back over her file and recalled she was on Synthroid. She confirmed that she was still taking the same dose of this drug. Her symptoms sounded like hyperthyroidism, and I suspected that she would need to reduce her dose of Synthroid. I advised her to see her doctor for thyroid function tests, which she did, and these revealed an excessive level of thyroid hormones. Her doctor advised her to stop taking Synthroid altogether!

This was a truly remarkable outcome, given that people who go on thyroid hormone replacement are told they will be on it for life. Pauline was unclear about the exact nature of her hypothyroidism, but she almost certainly had Hashimoto's thyroiditis. It seems quite clear that the vegetarian diet and stress management techniques that I prescribed for her high blood pressure also resolved her autoimmune thyroid condition.

Measures which restore health almost always have positive 'side-effects' such as this, whereas treatments that merely address disease symptoms almost invariably have negative side-effects.\[NNH\]

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