

ications, bariatric surgery, or any other approach, a plateau in weight often occurs in the first six months of treatment, sometimes with weight regain even while on treatment.^[4,5] Along with any weight loss approach, symptoms of low thyroid are common. For example, bariatric surgery guidelines from the Mayo Clinic provide a list of possible symptoms during the first three to six months: “body aches, feeling tired, as if you have the flu, feeling cold, dry skin, hair thinning and hair loss, mood changes.”^[6]

The authors have the clinical experience over the past eight years of treating over 15,000 obese patients with a healthy low carbohydrate, low fat diet, supplements to correct any nutritional deficits from the low calorie diet, a program of light exercise, and various medications for appetite control used both on and off label. The weight loss in our clinic has averaged about 19% at 2 years for those who stay on treatment that long. Other benefits that we have observed with this treatment are improved blood pressure using fewer antihypertensive medications; improved glycemia, again with fewer anti-diabetic medications; improved lipids; and improved quality of life.

We also have patients who have come to us seeking help who believe they have hypothyroidism due to their understanding of their classic symptoms which may include: fatigue, depression, feeling cold or having cold hands and feet, constipation, hair loss, dry skin, heavy menstrual periods, and insomnia. They may also have raised diastolic blood pressure, partly due to vasoconstriction. Vasoconstriction with resultant cold extremities is one way that humans and animals preserve body mass during times of inadequate caloric intake by reducing both heat loss and energy expenditure. Some of these patients have been trying to lose weight and do not desire a medical treatment, but believe that our approach to thyroid therapy will help them in their weight loss and maintenance attempts. These patients have struggled for years with signs and symptoms of hypothyroidism but have been repeatedly told by providers that their thyroid function is fine, based on TSH values. In these cases, providers have been bound by the conventional wisdom that TSH is the best tool to assess thyroid function. We feel this is extremely unfortunate because the providers are practicing in a manner they consider safe and appropriate while the patients feel insulted and stymied. Numerous patients have come

to us with food diaries with the exact, measured amounts of what they have been eating for months, while getting some exercise. They report feeling demeaned by providers who clearly think they are keeping inaccurate food records. While this may be true in some cases,^[7] many of our patients with a history of careful diary-keeping have found weight loss to be possible with our thyroid treatment.

We have seen these changes take place in thousands of weight loss patients. Many, but certainly not all patients, in our practice suffer from symptoms of maladaptive hypothyroidism. Initially, treatment with T₄ was tried, but failed to resolve the symptoms of hypothyroidism. Adding T₃ helped, but due to its expense, we replaced synthetic T₄ and T₃ with desiccated thyroid. Although many providers believe that the contents of desiccated thyroid are not well regulated, USP regulations are maintained with a ratio of T₄:T₃ of 4.22:1, such that 120 mg of desiccated thyroid contains 68.2 mcg T₄ and 17.8 mcg T₃.^[8,9] Our procedure was to assess FT₄ and FT₃ levels several weeks into treatment. If a patient had low thyroid symptoms with low or borderline low hormone levels, we prescribed desiccated thyroid, with one-half dose for six days, then full dose. Dosage was dependent on age, symptoms, and hormone levels, but the usual full dose is 120 mg. Many patients do well on this treatment.

For many years we treated with desiccated thyroid with considerable success. However, for some patients, even treating to a borderline high level of FT₃ proved insufficient to eliminate hypothyroid symptoms including the weight plateau. Regardless of how hard they reported working out and limiting calories, the weight would not budge. While people attempting weight loss often eat more than they realize,^[7] we do not believe this explained what was occurring with these patients. These were people with a history of success with us using medication to help with appetite and cravings, and who were known to have habits which tend to be more successful for weight loss and maintenance.^[10]

When we became aware of the possible role of rT₃, we ran this assay on a patient with the problems described here and found her rT₃ to be 499 pg/mL (nl 90-350 pg/mL). Although rT₃ is commonly discounted as inactive, there is evidence for its binding to membrane receptors^[11] and producing hypometabolic effects.^[12] Given our increased understanding, we started to assess this parameter routinely. In some