WELCOME FROM DR. HARDING

As medical director of the Thyroid Treatment Center, I would like to welcome you to our center and hope to make this a very pleasant experience.

The mission of the TNTC is preservation of normal thyroid function while treating benign symptomatic thyroid nodules using the most advanced minimally invasive treatments available.

Every day new thyroid nodules are discovered by their physicians, family, friends, and even their hairdressers! Some people have symptoms related to the size of the nodules, which directs them to seek medical consultation. Others have no symptoms but learn about these nodules after undergoing radiologic testing for different reasons. The proper evaluation of these nodules is very routine. Much of the evaluation is predicated on the size of the nodule. Once nodules measure about 15 mm, we generally recommend an ultrasound guided biopsy. If there are some concerning features seen on ultrasound, a biopsy can be performed even if the size criteria are not met. Additionally, an enlarging nodule should be sampled under ultrasound guidance. Very small nodules under 6 mm do not require a biopsy under most conditions.

The presence of a nodule does not alter thyroid function. If a patient is hypothyroid, they should be thoroughly evaluated by their primary physician or an endocrinologist. Hypothyroidism is not caused by nodules. Occasionally, some nodules are autonomous and do not respond to the hormonal regulatory system that keeps the thyroid hormone levels in a normal range. These over-functioning nodules cause symptoms of fatigue, insomnia, and heat intolerance. Frank hyperthyroid symptoms include nervousness that makes people tremulous and shaky. Additionally, these patients feel hot and have a racing heart. Long term heart disease is a common consequence of this disorder. If this condition exists, these patients need an endocrinologist who will prescribe medications to regulate and suppress the thyroid function down to normal levels. Once properly regulated, further therapies can be considered.

Most thyroid nodules are benign. The most readily available modality for evaluating these is ultrasound. The test is easily performed without any concern for radiation exposure. The physician performed exam is much better than reviewing stationary

images saved from prior examinations. The neck ultrasound study is easily repeated with no potential harm to the patient. There are several features in benign nodules that we like to identify to consider a lesion low risk of malignancy. When some of these features are absent, the nodule would be considered indeterminate, or potentially at risk for malignancy. These nodules will be tested using a needle biopsy to help the physician guide therapy. Not all nodules have the favorable ultrasound characteristics, and yet they may prove benign on biopsy. Additionally, a small percentage of nodules can have favorable findings on ultrasound and yet can be found to have papillary thyroid cancer. It is for these reasons that routine surveillance ultrasound is initiated once a nodule grows to about 15 mm in largest dimension.

The treatment of these thyroid nodules varies depending on the nature of the nodules as well as the symptoms produced. Any malignancy will need to be removed if it is over 15 mm. Some smaller malignancies are now being followed without surgery. These are followed utilizing strict criteria and under research- based protocols. This mode of therapy in avoiding surgery and monitoring the patient has been very successful.

Small nodules tend not to create symptoms, whereas large nodules can create many problems such as difficulty with breathing when lying flat, difficulty with swallowing solid food (pills), and even a chronic cough. Nodules with compression symptoms can be removed with surgery. If they are not cancer and not suspicious for the possibility of cancer, then a minimally invasive, ultrasound guided therapy is very effective applying energy directly into the nodule. This treatment applies energy directly to heat it up to the point of tissue death. Once the tissue is devitalized, the body walls off and slowly reabsorbs the treated tissue. This method leaves the adjacent normal tissue unharmed and thus preserves the thyroid function. Unfortunately, with surgery the entire side (lobe) is generally removed due to safety concerns. This unavoidably removes the abnormal and normal tissue on the entire side. Approximately 60-75% of these patients will require thyroid hormone supplementation. Surgeons have been performing this treatment routinely for over 100 years.

If a biopsy raises a concern for the possibility of cancer, then surgery is recommended to allow for proper analysis of the tissue by pathologist. The surgery should be performed by a surgeon very familiar with thyroid operations, and who performs them

regularly. The definition of a high- volume thyroid surgeon is currently established at 25 operations annually.

The Thyroid Nodule Treatment Center is available to navigate the numerous diagnostic and therapeutic options with you. Patients with normal thyroid function can present immediately to review treatment options regarding symptomatic thyroid nodules or nodules which they can see and feel because the nodules are so large. The most innovative therapy may be available to you. The immediate and long- term results with thyroid radiofrequency ablation are excellent. The overall satisfaction of this therapy has been uniformly high.

Sincerely,

Dr. Richard J Harding

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Endocrine and General Surgeon

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