What is the thyroid gland?
The thyroid gland located in the neck produces thyroid hormones which help the body use energy, stay warm and keep the brain, heart, muscles, and other organs working normally.

Symptoms of thyroid cancer:
Thyroid cancer, the most common endocrine-related cancer, presents as a lump (nodule) in the thyroid and usually does not cause any symptoms. Rarely, thyroid cancer may cause pain, difficulty swallowing, or hoarseness.

Causes of thyroid cancer:
Thyroid cancer is more common in people who have a history of exposure of the thyroid gland to radiation or a family history of thyroid cancer. Also, thyroid cancer is more common as we get older. In most patients, we do not know why thyroid cancer forms.

Diagnosis of thyroid cancer:
A diagnosis of thyroid cancer is typically made on the basis of a needle biopsy of a thyroid nodule or is confirmed by testing after the nodule is removed during surgery. Although thyroid nodules are very common, less than 1 in 10 contain a thyroid cancer.

Types of thyroid cancer:
Papillary thyroid cancer is the most common type of thyroid cancer (70% to 80% of thyroid cancers) and can occur at any age. Follicular thyroid cancer (10% to 15% of thyroid cancers) tends to occur in somewhat older patients than does papillary cancer. Medullary thyroid cancer (5% to 10% of thyroid cancers) is more likely to run in families and may be diagnosed by genetic testing. Anaplastic thyroid cancer (less than 2% of thyroid cancers) is the least likely to respond to treatment.

Treatment of thyroid cancer:
The primary therapy for patients with thyroid cancer is surgery (see Thyroid Surgery brochure), followed by thyroid hormone therapy for the rest of their life. Radioactive iodine (see Radioactive Iodine brochure) may be used to destroy any remaining thyroid cells, both normal and cancerous, after removal of the thyroid gland by surgery.

Radioactive Iodine Therapy: For radioactive iodine to be effective, high levels of thyroid stimulating hormone (TSH) need to be produced in your body. This can be done by stopping your thyroid hormone and your becoming hypothyroid for a short time or by administering Thyrogen® (synthetic human TSH) injections. A low iodine diet may also help (see Low Iodine Diet brochure). Once the TSH level is high enough a large dose of radioactive iodine (I131) is given and then the thyroid hormone pills are re-started. Radioactive iodine is usually well-tolerated, with few side effects.

Follow-up of thyroid cancer patients:
Periodic follow-up examinations are essential for all thyroid cancer patients and include a careful history, physical examination and blood tests to measure the levels of T4 and thyroglobulin. Thyroglobulin is a protein made by both normal and most cancerous cells and can be used as a thyroid cancer marker. Elevated levels of thyroglobulin may prompt further tests such as a neck ultrasound. Your doctor may want to periodically repeat a whole body iodine scan to determine if any thyroid cells remain in the body.

Prognosis of thyroid cancer:
Overall, the prognosis of thyroid cancer is very good, especially for patients younger than 45 years of age and for those with small cancers, most of whom may be cured. Even those patients who are unable to be cured of their thyroid cancer are able to live many years and feel well despite their cancer.

Further Reading
Further details on this and other thyroid-related topics are available in the patient information section on the American Thyroid Association® website at www.thyroid.org.