The thyroid gland is endocrine gland situated in neck in front of trachea and sides of the larynx. It consists of right and left lobes connected across the midline by a narrow transverse portion called isthmus. Third conical shaped lobe, called pyramidal lobe, arises from the isthmus or from adjacent portion of the left lobe and ascends towards the hyoid bone. A small portions of the thyroid tissue, called accessory thyroid, are found close to isthmus sometimes. The thyroid gland has two main types of cells: 1- follicular cells use iodine from the blood to make thyroid hormone, which regulates main processes of metabolism; 2 – C-cells (parafollicular cells) secrete hormone, which controls using of calcium; 3 – common cells are lymphocytes (immune system cells) and stromal cells.

The thyroid glands of 20 male and 10 female cadavers were studied. This study was structured to investigate the gross anatomical features of the thyroid glands of Ukrainian people of the east regions. The average length of the right lobe in male cadavers was 4,5cm and the left one — 4,2cm. Same length in female cadavers were 4,6cm and 4,4cm. The average transverse and anteroposterior extent of the right lobe in male cadavers was 2,5cm and 1,6cm respectively, and in female cadavers —2,7cm and 1,8cm respectively. Absence of isthmus was found in 39,4% cadavers, of which seven were female cadavers. The pyramidal lobe was present in 50% male cadavers and in 40% female cadavers. In one case a separate mass, the accessory thyroid, was found above the isthmus and cricoid cartilage in male cadaver. The average weight of the thyroid gland in male cadavers was 31,4gr and in female cadavers it was somewhat heavier 31,9gr.

Different tumors of the thyroid gland can develop from each types of its cells. The differences are important for giving needed treatments.

Tumor of the thyroid is a disease in which cancer cells are found in the tissues of the thyroid gland. Thyroid cancer is the fastest increasing cancer in both men and women. It is the most common endocrine cancer. Thyroid cancer is a cancerous tumor or growth located within the
thyroid gland. Thyroid cancer is one of the few cancers that has increased in incidence rates over recent years. It occurs in all age groups from children through seniors. Many patients, especially in the early stages of thyroid cancer, do not experience symptoms. However, as the cancer develops, symptoms can include a lump or nodule in the front of the neck, hoarseness or difficulty speaking, swollen lymph nodes, difficulty swallowing or breathing, and pain in the throat or neck. There are several types of thyroid cancer: papillary, follicular, medullary, anaplastic, and variants.

Papillary and follicular thyroid carcinomas are referred to as well-differentiated thyroid cancer and account for 80–90% of all thyroid cancers. Variants include tall cells, insular, columnar, and Hurthle cells. Their treatment and management are similar. If detected early, most papillary and follicular thyroid cancer can be treated successfully.

Medullary thyroid carcinoma (MTC) accounts for 5-10% of all thyroid cancers. Medullary cancer is easier to treat and control if found before it spreads to other parts of the body. There are two types of medullary thyroid cancer: sporadic and familial. Genetic testing (of the RET proto-oncogene should be performed in all patients with MTC to determine whether there are genetic changes that predict the development of MTC. In individuals with these genetic changes, removal of the thyroid during childhood has a high probability of being curative.

Anaplastic thyroid carcinoma is the least common and accounts for only 1–2% of all thyroid cancer. This type is difficult to control and treat because it is a very aggressive type of thyroid cancer.

Factors associated with thyroid cancer include a family history of thyroid cancer, gender (women have a higher incidence of thyroid cancer), age (the majority of cases occur in people over 40, although thyroid cancer affects all age groups from children through seniors, and prior exposure of the thyroid gland to radiation. While the prognosis for most thyroid cancer patients is very good, the rate of recurrence can be up to 30%, and recurrences can occur even decades after the initial diagnosis. Therefore, it is important that patients get regular follow-up examinations to detect whether the cancer has re-emerged. Monitoring should continue throughout the patient’s lifetime. Periodic follow-up examinations can include a review of the medical history together with selected blood tests appropriate for the type of cancer and stage of treatment.