



## THYROID CANCER

### Implications of residual cancer in lymph nodes after surgery for patients with intermediate to high risk thyroid cancer.

#### BACKGROUND

Thyroid cancer is the fastest rising cancer in women. While spread of the cancer to the lymph nodes in the neck is common at the time of surgery, the prognosis is usually excellent. Indeed, when talking about risk in patients with thyroid cancer, it is risk of cancer recurrence rather than risk of death that is discussed. There are 3 risk levels based on the risk of cancer recurrence: low, intermediate and high. Up to 50% of patients with intermediate-high risk thyroid cancer have clinically meaningful cancer that has spread to the lymph nodes at the time of surgery. Despite recommendations for patients with known lymph node involvement to have ‘compartment-oriented’ lymph node dissections (all of the lymph nodes in a given area removed, not ‘berry-picking’ of individual nodes), persistent or residual cancer in lymph nodes is the most common cause of recurrent thyroid cancer. This study’s aim was to identify the most common location of persistent lymph node cancer as well as the primary reason why there remained cancer in patients with intermediate and high risk thyroid cancer.

#### THE FULL ARTICLE TITLE

Miller JE et al 2018 Location and causation of residual lymph node metastases after surgical treatment of regionally advanced differentiated thyroid cancer. *Thyroid* 28:593–600. Epub 2018 Apr 23. PMID: 29562827.

#### SUMMARY OF THE STUDY

A total of 352 patients with intermediate or high-risk thyroid cancer treated with total thyroidectomy, +/-

some form of neck dissection, and radioactive iodine therapy at a single institution were reviewed. All patients had a specialized thyroid scan right before and after radioactive iodine therapy to look for persistent abnormal lymph nodes after surgery. Approximately 40% of patients had residual cancer in the lymph nodes after their surgery but before radioactive iodine therapy. Patients with persistent cancer in the lymph nodes were, on average, 10 years younger, more likely to have multifocal cancer, cancer <2cm, and not have known central lymph node involvement at the time of surgery. Of patients with persistent cancer in the lymph nodes, more than 50% had a surgery that removed other lymph nodes in that location and the most common location was in the central area near where the thyroid was.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Patients that have intermediate and high-risk thyroid cancer have a high rate of residual cancer in the lymph nodes after initial surgery. If a patient has known intermediate-high risk disease before surgery, consideration should be given to thoroughly removing lymph nodes in the central compartment (because it’s the most common place for residual disease), and making sure to have good imaging looking at the entire neck before surgery. But importantly, there is not a ‘one-size-fits-all’ approach to either surgery or post-operative therapy.

— Melanie Goldfarb, MD

#### ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): <http://www.thyroid.org/thyroid-cancer/>





## THYROID CANCER, continued

### ABBREVIATIONS & DEFINITIONS

**Thyroid Ultrasound:** a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

**Thyroid scan:** this imaging test uses a small amount of a radioactive substance, usually radioactive iodine, to obtain a picture of the thyroid gland. A “cold” nodule means that the nodule is not functioning normally. A patient with a “cold” nodule should have a fine needle aspiration biopsy of the nodule. A “functioning”, or “hot”, nodule means that the nodule is taking up radioactive iodine to a degree that is either similar to or greater than the uptake of normal cells. The likelihood of cancer in these nodules is very low and a biopsy is often not needed.

**Papillary thyroid cancer:** the most common type of thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

**Total thyroidectomy:** surgery to remove the entire thyroid gland.

**Radioactive iodine (RAI):** this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer and with an overactive thyroid. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (*Thyroid Scan*) or to take pictures of the whole body to look for thyroid cancer (*Whole Body Scan*).

**Central neck compartment:** the central portion of the neck between the hyoid bone above, and the sternum and collar bones below and laterally limited by the carotid arteries.

**Prophylactic central neck dissection:** careful removal of all lymphoid tissue in the central compartment of the neck, even if no obvious cancer is apparent in these lymph nodes.

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