



## THYROID CANCER

### Patients with advanced papillary thyroid cancer have fewer cancer recurrences after undergoing surgery by high-volume surgeons

#### BACKGROUND:

Surgery is an important initial step in the treatment of thyroid cancer. It is known that surgeons and hospitals with higher annual patient numbers for a specific surgery have a lower rate of complications and death related to surgery as compared to surgeons who perform a low number of operations. This has been reported for surgery performed for different cancers, including thyroid cancer. Patients under the care of high-volume thyroid surgeons have fewer surgical complications, such as recurrent laryngeal nerve injury and hypoparathyroidism, shorter hospital stay and lower costs related to the thyroid surgery.

However, the impact of the surgeon's experience and number of patients on long-term outcomes after thyroid cancer surgery is not known. Prior studies have showed that patients with advanced thyroid cancer who present with the spread of cancer to the lymph nodes of the neck (metastasis) at the time of diagnosis have a high risk of recurrence of the cancer after the initial treatment. The aim of this study was to evaluate the impact of the surgeon volume on the recurrence rates in patients with advanced thyroid cancer and metastasis of the cancer to the lymph nodes of the neck.

#### THE FULL ARTICLE TITLE:

Kim HI et al 2018 Surgeon volume and prognosis of patients with advanced papillary thyroid cancer and lateral nodal metastasis. *Br J Surg* 105:270–278. PMID: 29405275.

#### SUMMARY OF THE STUDY:

The study included 1103 patients with papillary thyroid cancer and lateral neck lymph node metastases who were treated in Seoul, South Korea between 1994 and 2011. All patients underwent total thyroidectomy with lateral neck lymph node dissection followed by radioactive iodine therapy. The patients were then followed with blood thyroglobulin tests measured every six months and yearly neck ultrasounds for an average of 81 months.

The 26 surgeons who performed the thyroid surgeries were divided in two groups, high-volume surgeons who performed at least 100 operations per year (average 395 operations per year) and low-volume surgeons who performed less than 100 operations per year (average 57 operations per year). Out of a total of 1103 patients, 796 underwent surgery by high-volume surgeons and 307 patients underwent surgery by low-volume surgeons.

A larger proportion of patients who had surgery by a high-volume surgeon had more advanced thyroid cancer with significant extension beyond the thyroid (33% vs. 25%), but also complete removal of the cancer during surgery (9% vs. 18%) as compared to patients who had surgery by a low-volume surgeon. The annual patient volume was a more important factor for thyroid cancer recurrence than the number of years in practice of a surgeon.

Patients undergoing surgery by a high-volume surgeon had a lower risk of local cancer recurrence as compared to those undergoing surgery by a low-volume surgeon. Among the 200 patients (18%) who had thyroid cancer recurrence in the neck area, 117 (15%) patients were in the high-volume group and 83 (27%) patients were in the low-volume group. The rate of metastases to other organs or deaths caused by thyroid cancer was not different between the two groups.

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

The number of patients a thyroid surgeon operates on has an impact on the recurrence risk of the cancer in the neck area, however, not on cancer metastases to other organs or cancer-specific deaths in patients with advanced papillary thyroid cancer. A qualified high volume surgeon should perform the initial surgery for patients who present with advanced papillary thyroid cancer to decrease their high risk of recurrence during long-term follow-up.

— Alina Gavrilă, MD, MMSC





## THYROID CANCER, continued

### ATA THYROID BROCHURE LINKS

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

Thyroid Surgery: <https://www.thyroid.org/thyroid-surgery/>

### ABBREVIATIONS & DEFINITIONS

**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).

**Cancer recurrence:** this occurs when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.

**Recurrent laryngeal nerve:** branch of the vagus nerve that supplies the muscles of the larynx, including the vocal cords. Injury of this nerve during thyroid surgery can result in hoarseness, loss of voice and breathing difficulty.

**Hypoparathyroidism:** low calcium levels due to decreased secretion of parathyroid hormone (PTH) from the parathyroid glands located next to the thyroid. This can occur as a result of damage to the glands during thyroid surgery and usually resolves.

**Cancer metastasis:** spread of the cancer from the initial organ where it developed to other organs, such as the lungs and bone.

**Lymph node (LN):** bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.

**Lateral neck LN dissection:** careful removal of all lymph nodes in the lateral compartment of the neck (lateral to the carotid arteries) in which cancer cells may have migrated.

**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.

**Thyroglobulin:** a protein made only by thyroid cells, both normal and cancerous. When all normal thyroid tissue is destroyed after radioactive iodine therapy in patients with thyroid cancer, thyroglobulin can be used as a thyroid cancer marker.

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