



## THYROID CANCER

### Bilateral central-node dissection with total thyroidectomy for papillary thyroid cancer often results in permanent hypoparathyroidism

#### BACKGROUND

Papillary cancer is the most common type of thyroid cancer. Papillary cancer most frequently spreads outside of the thyroid into the lymph nodes in the central neck. Indeed, patients with papillary thyroid carcinoma frequently have small amounts of cancer within lymph nodes in the central neck, even though these lymph nodes appear normal on the surface. While surgeons remove abnormal-looking lymph nodes during thyroid surgery for papillary cancer, there is debate about whether patients benefit from having all neck lymph nodes in the central neck removed at the time of surgery. While the benefit of removing lymph nodes with small amounts of cancer is debatable, most experts agree that removing all the lymph nodes in the central neck increases the risk of potential complications caused by surgery. The two types of complications associated with thyroid surgery and removal of the lymph nodes include damage to the recurrent laryngeal nerve, which can cause hoarseness or airway obstruction, and damage to the parathyroid glands, which can cause calcium levels to drop to dangerously low levels and require calcium supplementation. This study examined the frequency of these complications in patients that had a central neck dissection at the time of thyroid surgery.

#### THE FULL ARTICLE TITLE:

Giordano D et al. Complications of central neck dissection in patients with papillary thyroid carcinoma: results of a study on 1087 patients and review of the literature. *Thyroid* 2012;22:911-7. Epub July 24, 2012.

#### SUMMARY OF THE STUDY

The authors looked at 1097 patients between 1980 and 1996 who underwent surgery for thyroid cancer. These patients were treated either with thyroidectomy alone, thyroidectomy with the removal of lymph nodes in the central neck on only one side or with removal of lymph

nodes in the central neck on both sides. They looked at the rate of injury to the recurrent laryngeal nerves and whether patients developed hypoparathyroidism.

The authors found that regardless of whether patients underwent removal of the lymph nodes of the neck or not, the rate of recurrent laryngeal nerve problems was the same. Temporary problems with the parathyroid glands were more likely if lymph nodes were removed on either one or both sides, and permanent problems with the parathyroid glands were more like to occur if the lymph nodes were removed on both sides.

The authors therefore concluded that limiting the removal of lymph nodes to one side would reduce the number of permanent problems related to the parathyroid glands.

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

The removal of normal appearing lymph nodes in the central neck at the time of thyroid surgery for cancer is a controversial topic even amongst experts. While there are good arguments for and against this practice, it is clear from this study as well as others that the potential for post-operative complications is higher with more extensive surgery. It is important for patients to discuss the extent of surgery that will be performed and the potential risks with their surgeon and endocrinologist.

— Ronald B. Kuppersmith, MD, FACS

#### ATA THYROID BROCHURE LINKS

Cancer of the Thyroid: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

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

*continued on next page*



## **THYROID CANCER**, continued

### **ABBREVIATIONS & DEFINITIONS**

**Thyroidectomy:** surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a total thyroidectomy. When less is removed, such as in removal of a lobe, it is termed a partial thyroidectomy.

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

**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.

**Hypocalcemia:** low calcium levels in the blood, a complication from thyroid surgery that is usually

short-term and relatively easily treated with calcium pills. If left untreated, low calcium may be associated with muscle twitching or cramping and, if severe, can cause seizures and/or heart problems.

**Parathyroid glands:** usually four small glands located around the thyroid that secrete parathyroid hormone (PTH) which regulates the body's calcium levels.

**Hypoparathyroidism:** low calcium levels due to decreased secretion of parathyroid hormone (PTH) from the parathyroid glands next to the thyroid. This can occur as a result of damage to the glands during thyroid surgery and usually resolves. This may also occur as a result of autoimmune destruction of the glands, in which case it is usually permanent.