



## THYROID CANCER

### Patient preferences for surgery for low-risk thyroid cancer

#### BACKGROUND

Thyroid nodules and thyroid cancer are common health problems. The routine use of ultrasound has led to finding thyroid nodules in 19-68% of randomly selected individuals, with higher frequency in women and in older adults. Thyroid cancer is found in 7-15% of thyroid nodules, depending on the patient's age, sex, family history and other factors. In the United States, the incidence of thyroid cancer has been reported to have increased significantly in the last 30 years and a study has predicted that thyroid cancer will become the 4th leading cancer diagnosis by 2030 in the United States.

The initial treatment for thyroid cancer is, almost always, surgery. The advice given to patients regarding the type of surgery needed has also changed in the last 10 years, when a total thyroidectomy was the recommended initial procedure for all patients with a thyroid cancer that was larger than 1 cm. More recently, however, several studies have shown that there is no decrease in expected survival for patients who elect to have a lobectomy (removal of the lobe containing the nodule/cancer) instead as their initial surgery. Also this surgery is associated with fewer complications such as low calcium levels, hoarseness or the need for tracheostomy because of nerve damage. However, in certain cases, after the initial surgery, the patient may need a second surgery to remove the remaining lobe if the final pathology evaluation shows a more aggressive cancer.

Although the most recent guidelines of the American Thyroid Association encourage doctors to take into account patient preferences when advising treatment, very few studies have been carried out to investigate what those preferences are. In the case of thyroid cancer, the death rate is very low (<5%), but many patients may overestimate the risk of death due to thyroid cancer, which may drive patient's willingness to undergo more aggressive treatments.

This study was done to assess patients views on the relative importance of the risks and benefits associated with the different extent of thyroid surgery. The goals were

to determine which risks patients would accept before surgery when evaluating the benefits and harms of thyroid surgery (lobectomy vs thyroidectomy) and to quantify which trade offs among treatment-related side effects and clinical benefits associated with the two different surgical procedures would be more acceptable.

#### THE FULL ARTICLE TITLE

Ahmadi S et al 2020 Patient preferences around extent of surgery in low-risk thyroid cancer: A discrete-choice experiment. *Thyroid*. Epub 2020 Mar 6. PMID: 32143553.

#### SUMMARY OF THE STUDY

Adult patients who were diagnosed with thyroid nodules requiring surgery were prospectively enrolled over a two year period (2017-2018). People who were older than 18 years of age, who had a diagnosis of thyroid cancer less than 4 cm without evidence of extension outside of the thyroid, or who had a thyroid nodule that needed surgery because of symptoms or because of biopsy reports that had indeterminate reports and an abnormal ultrasound appearance were eligible to participate in the study. For the purpose of this study, participants were asked to imagine that they had just been diagnosed with thyroid cancer.

A total of 150 adult patients were enrolled. The majority (82%) were females with an average age of 58 years. Of these patients, 126 patients were scheduled to have surgery for a benign or indeterminate thyroid nodule, and the remaining 24 patients were having surgery to manage low risk thyroid cancer.

The study had two phases. In the first phase, the investigators gave the survey to 8 patients to make sure that the format and content were understood well and based on those results, corrections to the questions were made. In the second phase, the participants were provided with information about the surgeries, including descriptions of a lobectomy and a total thyroidectomy. They were



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asked to select between different treatment-related pairs of hypothetical management options with estimated varying levels of risk. Treatment associated complications included risk of hypocalcemia ( 0%, 3% or 8%), risk of voice change (1%, 9% or 14%), need for daily thyroid hormone replacement therapy ( yes or no), risk for needing a second surgery ( 0% or 40%) and risk of 5 year thyroid cancer recurrence ( 1%, 3% or 5%). The treatment preferences were analyzed using statistical methods. The survey found that the average patient favored a lobectomy over total thyroidectomy as long as the chance of needing a second surgery after the initial lobectomy remained less than 30%. Patients also would accept a risk of recurrence of 1.6% if the risk for having a low calcium

could be reduced from 3% to 0% and a risk of recurrence of 2.6% if the risk for change of voice could be lowered from 9% to 1%

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study is important to patients because it helps understand what outcomes are most concerning to them. It also shows that it is very important to have a careful evaluation and discussion with the patient before the surgery, so that all the information is available to help patients make better decisions regarding their care.

— Jessie Block-Galarza, MD

### ATA THYROID BROCHURE LINKS

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

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

### 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.

**Lobectomy:** surgery to remove one lobe of the thyroid.

**Completion thyroidectomy:** surgery to remove the remaining thyroid lobe in thyroid cancer patients who initially had a lobectomy.

**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.

**Indeterminate thyroid biopsy:** this happens a few atypical cells are seen but not enough to be abnormal (atypia of unknown significance (AUS) or follicular lesion of unknown significance (FLUS)) or when the diagnosis is a follicular or hurthle cell lesion. Follicular and hurthle cells are normal cells found in the thyroid. Current analysis of thyroid biopsy results cannot differentiate between follicular or hurthle cell cancer from noncancerous adenomas. This occurs in 15-20% of biopsies and often results in the need for surgery to remove the nodule.

