

Thyroid Surgery: Techniques, Indications and Outcomes

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Introduction

Thyroid surgery, encompassing procedures such as thyroidectomy and lobectomy, plays a crucial role in the management of various thyroid disorders, including thyroid cancer, benign nodules, and hyperthyroidism. This manuscript provides a comprehensive review of thyroid surgery, covering its historical background, surgical techniques, indications, preoperative evaluation, postoperative care, complications, and outcomes. Through an analysis of current literature and clinical practices, this review aims to elucidate the evolving landscape of thyroid surgery and its role in optimizing patient outcomes.

Thyroid surgery, a cornerstone of thyroid disease management, involves the surgical removal of part or all of the thyroid gland to treat various thyroid conditions. From its inception in the 19th century to the present day, thyroid surgery has undergone significant advancements in surgical techniques, perioperative care, and patient outcomes. This manuscript provides a comprehensive overview of thyroid surgery, exploring its historical context, indications, surgical techniques, preoperative evaluation, postoperative care, complications and outcomes [1]. The history of thyroid surgery dates back to the early 19th century when the first thyroidectomies were performed to treat goiter, a common thyroid disorder characterized by thyroid enlargement. Over the years, surgical techniques evolved from open thyroidectomy with high rates of morbidity and mortality to minimally invasive approaches, such as endoscopic and robotic-assisted thyroid surgery. These advancements have revolutionized thyroid surgery, enabling surgeons to achieve optimal outcomes with reduced surgical trauma and improved patient satisfaction [2].

Description

Thyroid surgery encompasses a range of procedures, including total thyroidectomy, subtotal thyroidectomy, and lobectomy. Total thyroidectomy involves the complete removal of the thyroid gland and is indicated for thyroid cancer, Graves' disease, and bilateral benign nodules. Subtotal thyroidectomy, also known as near-total thyroidectomy, involves the removal of the majority of the thyroid gland while preserving a small amount of thyroid tissue. Lobectomy entails the removal of one lobe of the thyroid gland and is commonly performed for unilateral benign nodules or low-risk thyroid cancers. Thyroid surgery is indicated for various thyroid disorders, including thyroid cancer, benign nodules, Graves' disease, toxic multinodular goiter, and compressive symptoms. The decision to undergo thyroid surgery is based on several factors, including the size and characteristics of thyroid nodules, the presence of worrisome features on imaging studies, cytological findings on fine-needle aspiration biopsy, and the patient's symptoms and preferences [3]. Multidisciplinary evaluation involving endocrinologists, surgeons, radiologists, and pathologists is essential for selecting the most appropriate surgical approach.

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Prior to thyroid surgery, patients undergo a comprehensive preoperative evaluation to assess thyroid function, identify potential risk factors, and optimize surgical candidacy. This evaluation typically includes thyroid function tests, thyroid ultrasound, fine-needle aspiration biopsy, and imaging studies such as Computed Tomography (CT) or Magnetic Resonance Imaging (MRI). Additionally, patients with thyroid cancer may undergo preoperative staging with radioactive iodine scans or Positron Emission Tomography (PET) scans to evaluate for metastatic disease [4].

Following thyroid surgery, patients require close monitoring and postoperative care to minimize complications and optimize recovery. Common complications of thyroid surgery include transient hypocalcemia due to parathyroid gland injury or devascularization, recurrent laryngeal nerve injury leading to vocal cord paralysis, hematoma formation, and surgical site infection. Prompt recognition and management of complications are essential for preventing long-term sequelae and improving patient outcomes. Thyroid hormone replacement therapy is initiated postoperatively to maintain euthyroidism and prevent hypothyroidism [5]. Thyroid surgery is associated with low rates of mortality and favorable long-term outcomes, particularly when performed by experienced thyroid surgeons in high-volume centers. Advances in surgical techniques, perioperative care, and adjunctive therapies continue to improve outcomes and minimize complications in thyroid surgery. Future directions in thyroid surgery include the refinement of minimally invasive approaches, the integration of intraoperative nerve monitoring and imaging technologies, and the exploration of molecular markers and targeted therapies for thyroid cancer.

Conclusion

Thyroid surgery remains a vital component of thyroid disease management, offering definitive treatment for various thyroid disorders. Through continuous innovation and interdisciplinary collaboration, thyroid surgeons strive to optimize surgical outcomes, minimize complications, and enhance patient satisfaction. By staying abreast of emerging technologies and evidence-based practices, the healthcare community can ensure the delivery of high-quality care and improve the quality of life for individuals with thyroid disease.

Acknowledgement

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Conflict of Interest

None.

References

- Randolph, Gregory W., Henning Dralle, with the International Intraoperative Monitoring Study Group, Hisham Abdullah and Marcin Barczynski, et al. "Electrophysiologic recurrent laryngeal nerve monitoring during thyroid and parathyroid surgery: International standards guideline statement." *Laryngoscope* 121 (2011): S1-S16.
- Barczynski, Marcin, Gregory W. Randolph, Claudio R. Cernea and Henning Dralle, et al. "External branch of the superior laryngeal nerve monitoring during thyroid and parathyroid surgery: International Neural Monitoring Study Group standards guideline statement." *Laryngoscope* 123 (2013): S1-S14.

3. Gavilán, Javier, and César Gavilán. "Recurrent laryngeal nerve: identification during thyroid and parathyroid surgery." *Head Neck Surg* 112 (1986): 1286-1288.
4. Aslani, Anastasia, Su-Cheen Ng, Michael Hurley and Kevin F. McCarthy, et al. "Accuracy of identification of the cricothyroid membrane in female subjects using palpation: An observational study." *Anesthesia Analgesia* 114 (2012): 987-992.
5. McGill, John, Joseph E. Clinton and Ernest Ruiz. "Cricothyrotomy in the emergency department." *Ann Emerg Med* 11 (1982): 361-364.

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