### Jessica Maxwell and James R. Howe

#### **Indications**

- · Enlarging or suspicious thyroid nodule
- Follicular neoplasm on FNA
- Toxic nodule

# **Essential Steps**

- 1. Develop subplatysmal flaps.
- 2. Divide the strap muscles in the midline.
- 3. Ligate and divide the middle thyroid vein.
- 4. Preserve the external branch of the superior laryngeal nerve.
- 5. Ligate and divide the superior pole vessels.
- 6. Mobilize the inferior pole of the thyroid.
- 7. Identify and preserve the recurrent laryngeal nerve
- 8. Divide the inferior thyroid artery and branches distally.
- 9. Identify and preserve the superior and inferior parathyroid glands.
- 10. Dissect the thyroid free of the trachea.
- 11. Divide the thyroid lobe at the isthmus.

### **Note These Variations**

- Division of the strap muscles
- Division of isthmus prior to thyroid dissection
- Superior pole dissection prior to division of the middle thyroid vein
- Intraoperative recurrent laryngeal nerve monitoring
- Drain placement

### Complications

- Post-op bleeding, resulting in tracheal compression and airway obstruction
- Recurrent laryngeal nerve injury
- Injury to the external branch of the superior laryngeal nerve
- Hypothyroidism

## **Template of Operative Dictation**

**Preoperative Diagnosis** Follicular neoplasm/hot nodule/enlarging or suspicious thyroid nodule

**Procedure** *Right/left* thyroid lobectomy

Postoperative Diagnosis Same

J. Maxwell, MD • J.R. Howe, MD (△)
Department of Surgery,
University of Iowa Hospitals and Clinics,
Iowa City, IA, USA
e-mail: james-howe@uiowa.edu

was enlarging/suspicious/a follicular neoplasm on FNA/a toxic nodule. Thyroid lobectomy is indicated.

**Description of Procedure** Time-outs were performed using both preinduction and pre-incision safety checklists to verify correct patient, procedure, site, and additional critical information prior to beginning the procedure. Following induction of general anesthesia, both arms were tucked at the sides and all bony prominences were padded. A roll was placed under the shoulders, and the patient was positioned in a modified beach chair position with the neck extended. The neck was prepped and draped in a sterile fashion.

A \_\_\_\_-cm incision was made in a skin crease positioned approximately two finger breadths superior to the sternal notch. The subcutaneous tissues and platysma were divided with electrocautery. Subplatysmal flaps were then raised inferiorly extending to the sternal notch and superiorly extending to the thyroid cartilage. The strap muscles were divided in the midline and retracted laterally.

The *right/left* thyroid lobe was mobilized from its areolar attachments using blunt dissection and electrocautery. The thyroid was gently retracted medially and the middle thyroid vein was identified. It was ligated with 3-0 silk sutures and divided. The thyroid gland was then gently retracted inferomedially. The superior pole vessels were ligated with 3-0 silk sutures and divided close to the thyroid gland, with careful attention not to injure the external branch of the superior laryngeal nerve.

Next, the thyroid gland was gently retracted medially and the muscles retracted laterally. The inferior thyroid artery was identified. Using blunt dissection, the recurrent laryngeal nerve was identified and followed superficially along its path to aid in continued safe dissection. The vessels to the thyroid in this vicinity were ligated with 3-0 silk ties and divided with great care to avoid injury to the recurrent laryngeal nerve and to preserve their distal branches. The superior and inferior parathyroid glands were identified and carefully mobilized off of the thyroid gland to preserve their blood supply.

Once the recurrent laryngeal nerve and parathyroid glands were safely dissected free, attention was turned to the mobilization of the inferior pole using blunt dissection. The trachea was exposed, and the thyroid was dissected medially from its attachments to the trachea up to the ligament of Berry using bipolar cautery. Small vessels were ligated using 3-0 silk suture. Dissection was extended to the isthmus, which was clamped with Kelly clamps, divided, and suture ligated with a 2-0 silk stitch. The specimen was marked with a suture at the superior pole for orientation and handed off to be sent to pathology.

The wound was copiously irrigated and hemostasis was achieved. The strap muscles were reapproximated with interrupted 3-0 Vicryl sutures. The platysma was reapproximated with interrupted 3-0 Vicryl sutures. Approximately 10 cc of 0.25% Marcaine was injected subcutaneously. The skin was reapproximated with a running 4-0 Monocryl subcuticular suture. Surgical glue was placed over the incision. A debriefing checklist was completed to share information critical to postoperative care of the patient.

The patient tolerated the procedure well and was extubated in the operating room and taken to the postanesthesia care unit in stable condition.

**Acknowledgment** This chapter was contributed by Joshua R. French, M.D. in the previous edition.