

Thyroidectomy

The surgical removal of part or all of the thyroid gland, thyroidectomy allows treatment of hyperthyroidism, respiratory obstruction from goiter, and thyroid cancer. Subtotal thyroidectomy, used to correct hyperthyroidism when drug therapy fails or radiation therapy is contraindicated, reduces secretion of thyroid hormone. It also effectively treats diffuse goiter. After surgery, the remaining thyroid tissue usually supplies enough thyroid hormone for normal function.

Total thyroidectomy may be performed for certain types of thyroid cancers, such as papillary, follicular, medullary, or anaplastic neoplasms. After this surgery, the patient requires lifelong thyroid hormone replacement therapy.

Procedure

After the patient is anesthetized, the surgeon extends the neck fully and determines the incision line by measuring bilaterally from each clavicle. Then he cuts through the skin, fascia, and muscle and raises skin flaps from the strap muscles. He separates these muscles midline, revealing the thyroid's isthmus, and ligates the thyroid artery and veins to help prevent bleeding. Next, he locates and visualizes the laryngeal nerves and parathyroid glands and then begins dissection and removal of thyroid tissue, trying not to injure these nearby structures.

Before the surgeon sutures the incision, he may insert a Penrose drain or a closed wound drainage device such as a Hemovac drain.

Complications

Most often performed under general anesthesia, thyroidectomy has a low incidence of complications if the patient is properly prepared with thyroid hormone antagonists preoperatively. Potential complications include hemorrhage; parathyroid damage, causing postoperative hypocalcemia, which can lead to tetany; and laryngeal nerve damage, causing vocal cord paralysis. This last complication can result in hoarseness, if only one vocal cord is damaged, and respiratory distress (necessitating a tracheotomy), if both cords are affected. Thyroid storm is a potential complication when a thyroidectomy is performed as treatment for hyperthyroidism. It can be prevented if the patient

P.920

is properly prepared with antithyroid drugs preoperatively.

Key nursing diagnoses and patient outcomes

Risk for injury related to potential complications associated with thyroidectomy. Based on this nursing diagnosis, you'll establish these patient outcomes. The patient will:

- recognize and report early signs and symptoms of a postoperative complication
- show no signs or symptoms of complications, such as neuromuscular irritability,

respiratory distress, bleeding, or unstable vital signs

- maintain a normal serum calcium level.

Ineffective airway clearance related to neck pain and swelling. Based on this nursing diagnosis, you'll establish these patient outcomes. The patient will:

- demonstrate controlled coughing techniques
- expectorate sputum effectively
- maintain a patent airway.

Deficient knowledge related to drug therapy used in hyperthyroidism to achieve a euthyroid state preoperatively. Based on this nursing diagnosis, you'll establish these patient outcomes. The patient will:

- identify the need to learn about preoperative drug therapy
- obtain the necessary instructions about his prescribed drug therapy
- communicate an understanding of the importance of achieving a euthyroid state before thyroidectomy.

Nursing interventions

When caring for a patient undergoing a thyroidectomy, your primary responsibilities are patient teaching and monitoring for postoperative complications.

Before surgery

- Explain to the patient that thyroidectomy will remove diseased thyroid tissue or, if necessary, the entire gland. Tell him that he'll have an incision in his neck; that he'll have a dressing, and possibly, a drain in place after surgery; and that he may experience some hoarseness and a sore throat from intubation and anesthesia. Reassure him that he'll receive analgesics to relieve his discomfort.
- If thyroidectomy is being performed to treat hyperthyroidism, ensure that the patient has followed his preoperative drug regimen, which will render the gland euthyroid to prevent thyroid storm during surgery. He probably will have received either propylthiouracil or methimazole, usually starting 4 to 6 weeks before surgery. Expect him to be receiving iodine as well for 10 to 14 days before surgery to reduce the gland's vascularity and thus prevent excess bleeding. He may also be receiving propranolol to block adrenergic effects. Notify the doctor immediately if the patient has failed to follow his medication regimen.

- Collect samples for serum thyroid hormone determinations to check for euthyroidism. If necessary, arrange for an electrocardiogram to evaluate cardiac status.
- Ensure that the patient or a responsible family member has signed a consent form.

After surgery

- Keep the patient in high Fowler's position to promote venous return from the head and neck and to decrease oozing into the incision. Check for laryngeal nerve damage by asking the patient to speak as soon as he awakens from anesthesia.
- Watch for signs of respiratory distress. Tracheal collapse, tracheal mucus accumulation, laryngeal edema, and vocal cord paralysis can all cause respiratory obstruction, with sudden stridor and restlessness. Keep a tracheotomy tray at the patient's bedside for 24 hours after surgery, and be prepared to assist with emergency tracheotomy, if necessary.
- Assess for signs of hemorrhage, which may cause shock, tracheal compression, and respiratory distress. Check the patient's dressing and palpate the back of his neck, where drainage tends to flow. Expect about 50 ml of drainage in the first 24 hours; if you find no drainage,

P.921

check for drain kinking or the need to reestablish suction. Expect only scant drainage after 24 hours.

- Assess for hypocalcemia, which may occur when the parathyroid glands are damaged. Test for Chvostek's and Trousseau's signs, indicators of neuromuscular irritability from hypocalcemia. Keep calcium gluconate available for emergency I.V. administration.
- Be alert for signs of thyroid storm, a rare but serious complication.
- As ordered, administer a mild analgesic to relieve a sore neck or throat. Reassure the patient that his discomfort should resolve within a few days.
- If the patient doesn't have a drain in place, prepare him for discharge the day following surgery as indicated. However, if a drain is in place, the doctor will usually remove it, along with half of the surgical clips, on the second day after surgery; the remaining clips, the following day, before discharge.

Home care instructions

- If the patient is discharged the day after surgery, teach him to report any signs of respiratory distress or bleeding.
- If the patient has had a total thyroidectomy, explain the importance of regularly

taking his prescribed thyroid hormone replacement. Teach him to recognize and report signs of hypothyroidism and hyperthyroidism.

- If parathyroid damage occurred during surgery, explain to the patient that he'll need to take calcium supplements. Teach him to recognize the warning signs of hypocalcemia.
- Tell the patient to keep the incision site clean and dry. Help him cope with concerns about its appearance. Suggest loosely buttoned collars, high-necked blouses, jewelry, or scarves, which can hide the incision until it has healed. The doctor may recommend using a mild body lotion to soften the healing scar and improve its appearance.
- Arrange follow-up appointments as necessary, and explain to the patient that the doctor needs to check the incision and serum thyroid hormone levels.

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