Antiseptic Policy

In OPD: Advice for

i. Hygiene
ii. Nutrition
iii. Spirometry
iv. Stop smoking or any form of tobacco intake.

In Ward

i. Antiseptic bath regularly with chlorhexidine/Savlon soap, specially evening before surgery and morning at the day of surgery.
ii. Shaving at the incisional site/sites only. Clipping and depilatory cream for hair removal are acceptable at the morning of the day of surgery.
iii. Bowel preparation for colorectal surgery to start 48 hours prior to surgery (not 24 hours). Oral tinidazole 1 gm + Erythromycin 1 gm to be given at 13:00 hrs (1 pm), 16:00 hrs (4 pm) and 23:00 hrs (11 pm).
iv. Clean hand before touching each patient
v. Check Hb%, albumin, any infection at any site, TLC, sugar level, age, BMI, consent, special consent, etc.

In OT

i. Ensure prophylactic antibiotics to be given 30 minutes before making incision. Antibiotics prophylaxis as follow, 2nd dose after 6 hours and 16 hours after surgery. In clean surgery, single dose is enough.

Site	*First name*	*Step-up*
Breast	Cefazolin	Cefoperazone-sulbactam/Ceftazidime/Cefipime 1–2 gm 12 hourly
STS	Cefazolin	Cefoperazone-sulbactam/Ceftazidime/Cefipime 1–2 gm 12 hourly
RP tumor	Cefazolin	Cefoperazone-sulbactam/Ceftazidime/Cefipime 1–2 gm 12 hourly
Nonoral H&N	Cefazolin	Cefazolin/Ceftazidine
Oral	Cefuroxime+metro	Cefaperazon/ Ceftadizine+Amikacin
Upper GI	Cefazolin+sulbacum	Ceftadizine /Piperacillin/Tazobactum+Metro+Amikacin
Lower GI	Cefaperazone+sulbacum+metrogyl	Ceftadizine /Piperacillin/Tazobactum+Metro+Amikacin
Hepatobiliary	Cefaperazone+sulbacum	Piperacillin/Tazobactum +Amikacin
Thoracic	Cefuroxime	Levofloxacin/ceftazidine/Cefipime
Genitourinary	Cefazolin+metro	Cefaperazone + Sulbactam/Piperacillin+Tazobactum+ Amikacin
Note		
Pulmonary complications	Levofloxacin 750 mg OD (In renal insufficiency 250 mg OD)	

Lymphangitis: Roxithromycin 150 BD. In renal insufficiency, dose modification is not required in the following drugs—cefazolin, cefipime, piperacillin,tazobactam, metrogyl. Only ceftazidine and cefaperazon up to 2 gram/day is acceptable.

ii. Wash hand with chlorhexidine minimum for 2–5 minutes
Soap cleaning for 2 minutes and chlorhexidine washing for 3 minutes minimum
And pay attention to other people's handwashing including nursing staff.
iii. Cleaning and draping
Chlorhexidine and alcohol based antiseptics are the recommendation. Minimum contact period is 3 minutes.

Remember: Depending upon the involvement of nodes, you can offer:

1. *Type I MRND (Spare 1):* At least, spinal accessory nerve to spare, i.e. every effort to save the nerve.
2. *Type II (Spare 2):* Spinal accessory and internal jugular vein (IJV) or sternocleidomastoid, i.e. save both the structures.
3. *Type III (Spare 3):* Spinal accessory IJV and sternocleidomastoid muscle. All three structures to be saved.

When the lesion crosses the midline, at the side of origin, MRND and opposite side SOHND is recommended. Details of MRND are written in next chapter.

Step 4: Reconstruction of the defect of bone, soft tissue and the skin. % *Mandibular reconstruction*: Apart from marginal mandibulectomy, reconstruction of mandible offers immense functional and cosmetic value. The reconstruction may be either

1. By vascularized free bone grafts, or
2. By synthetic grafts.

% *Soft tissue reconstruction*:

1. Commonly used flap for a large defect is pectoralis major myocutaneous (PMMC) flap—a myocutaneous flap.
2. Deltopectoral (DP) flap—a fasciocutaneous flap. For a larger defect, both PMMC and DP flap are used.
3. Free flaps—like fabular free flap, radial forearm flap, and ribs free flap are being used by the experts.

Step 5: Hemostasis to be achieved completely both in the neck and the oral cavity (special attention to be paid, if pterygoid venous plexus is opened during the procedure).

Place a suction drain properly and close the strap muscles, platysma or all soft tissues in the oral cavity including the flap with 3-0 vicryl and wounds to be closed with 3,0 nylon.

Complications

1. Airway compromise may be obvious owing to expensive dissection and edema formation, especially in a postradiation patient. Tracheostomy may be required in such cases.
2. Reactionary hemorrhage may occur in immediate postoperative period. Re-exploration may be required.
3. Leakage of saliva from the dehiscence of mucosal closure following an infection and orocutaneous fistula (OCF) may occur.
4. Flap necrosis may occur ocassionally.

Reconstruction with pectoralis major myocutaneous (PMMC) flap and deltopectoral (DP) flap

- General sensation by lingual nerve
- Motor supply by hypoglossal nerve to both intrinsic and extrinsic muscles except palatoglossus which is supplied by cranial accessory nerve.

***Posterior one-third of tongue*:** Both general and taste sensation by glossopharyngeal nerve. The superior most part is supplied by the vagus nerve through internal laryngeal nerve.

To some extent, hemiglossectomy itself does not cause much more deformity and thereby, function of the tongue is more or less preserved. Like liver, compensatory hypertrophy occurs in residual part of the tongue.

Indications

1. Carcinoma anterior two-thirds of the tongue in T_1 (<2 cm), T_2 (24 cm) lesions, both wide local excision and hemiglossectomy are usually done.
2. In T_3 lesion, more extensive surgery than a formal hemiglossectomy is recommended.

Pitfalls of the Surgery

- Brisk hemorrhage from lingual artery or its branches.
- Venous bleeding or oozing may cause hematoma in the floor of mouth.
- Extensive dissection may cause severe edema leading to respiratory distress. Prophylactic tracheostomy may be required sometimes.

Procedures

- ***Anesthesia*:** General anesthesia with nasal endotracheal intubation.
- ***Position*:** Head end to be raised 10–15° to reduce venous congestion. A throat pack is placed in oropharynx, not too tight or too loose.

***Incisions for hemiglossectomy*:** Take two stay sutures, one at each half of the tongue.

Remember: The general principles of the surgery of tongue cancer:

- Small lesion less than 2 cm (T_1 lesion) can be excised with 1 cm clear margin.
- Around 2 cm lesion, partial glossectomy with 1 cm clear margin.
- More than 2.5 cm lesion requires hemiglossectomy.

T_3 or larger lesion requires major resection with mandibulotomy via lip split incision and further reconstruction is mandatory.

The vertical incision is made on the median raphe of the dorsal aspect of the tongue extending from tip of the tongue to up to the circumvallate papilla.

On the ventral aspect, the incision from the tip is extended backward in the midline up to frenulum and from the frenulum, the incision curves and is extended on the floor of mouth up to anterior tonsillar pillar.

Step 1: On deepening the incision over the median raphe, genioglossus muscle will be visible from its origin to its insertion into the substance of the tongue. Dissect the lateral border of the muscle, reach up to its origin and divide with the cavity.

Step 2: *Division of artery and nerve:* After dividing the origin of the genioglossus, the tongue will be more mobile. Pull the tongue upward and to the opposite side, the hypoglossal nerve with its commitants will be visible. The lingual artery usually runs parallel to the nerve. Divide the muscle to see both the structures clearly. Ligate and divide both nerve and artery separately or together.

Step 3: The posterior transverse incision is to join with the posterior end of the dorsal incision and to the anterior pillar. Now at the side of base of tongue, the connecting muscle fibers to be separated from the diseased tongue, maintaining the plane superficial to the divided artery.

Pitfalls

1. Injury or damage or inadvertent excision of parathyroid.
2. *Injury to recurrent laryngeal nerve* and superior laryngeal nerve sometimes.
3. Poor preoperative preparation of thyrotoxicosis patient may lead to thyroid storm.
4. Postoperative hypocalcemia due to damage of parathyroid glands.
5. Inadequate thyroid surgery.

Preoperative Preparation

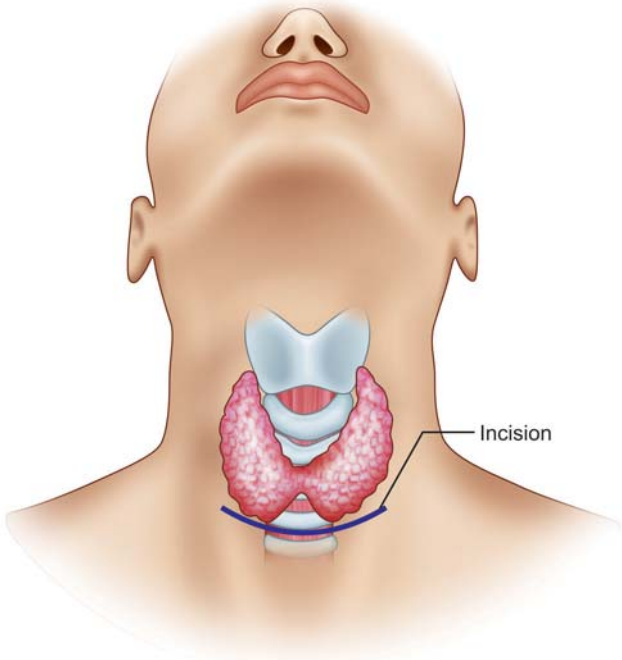
- T_3, T_4, thyroid stimulating hormone (TSH) for all patients of thyroid disorder to exclude hypothyroid or hyperthyroid or subclinical hypothyroidism or hyperthyroidism.
- Before operation, make the patient euthyroid. For hyperthyroidism, neomercazole 10–20 mg 6 hourly 6–8 weeks and reassay.
- Propanolol 20–40 mg twice daily to relieve *cyclic vomiting syndrome* (CVS) symptoms, treatment to continue for minimum 10 days, postoperatively.
- To reduce vascularity, Lugol's iodine 10–15 drops thrice daily for 10 days prior to surgery or potassium iodide tablet 60 mg thrice daily for minimum 10 days.

Procedure

- General anesthesia (GA)
- ***Position*:** Supine with extended neck, sand bag or pillow to be placed beneath the shoulder and head rests on ring.

  Cleaning and draping, be sure that chin and long axis of body will be aligned at the midline.

***Incision*:** Two to three centimeters/two fingers' breadth above the sternal notch from posterior border to opposite-sided posterior border of sternocleidomastoid (skin incision may be marked by silk thread pressure on the skin called garrote mark).



Skin incision (Garrote mark) for thyroid surgery

If you want to keep long relationship, follow a simple rule—never lie.