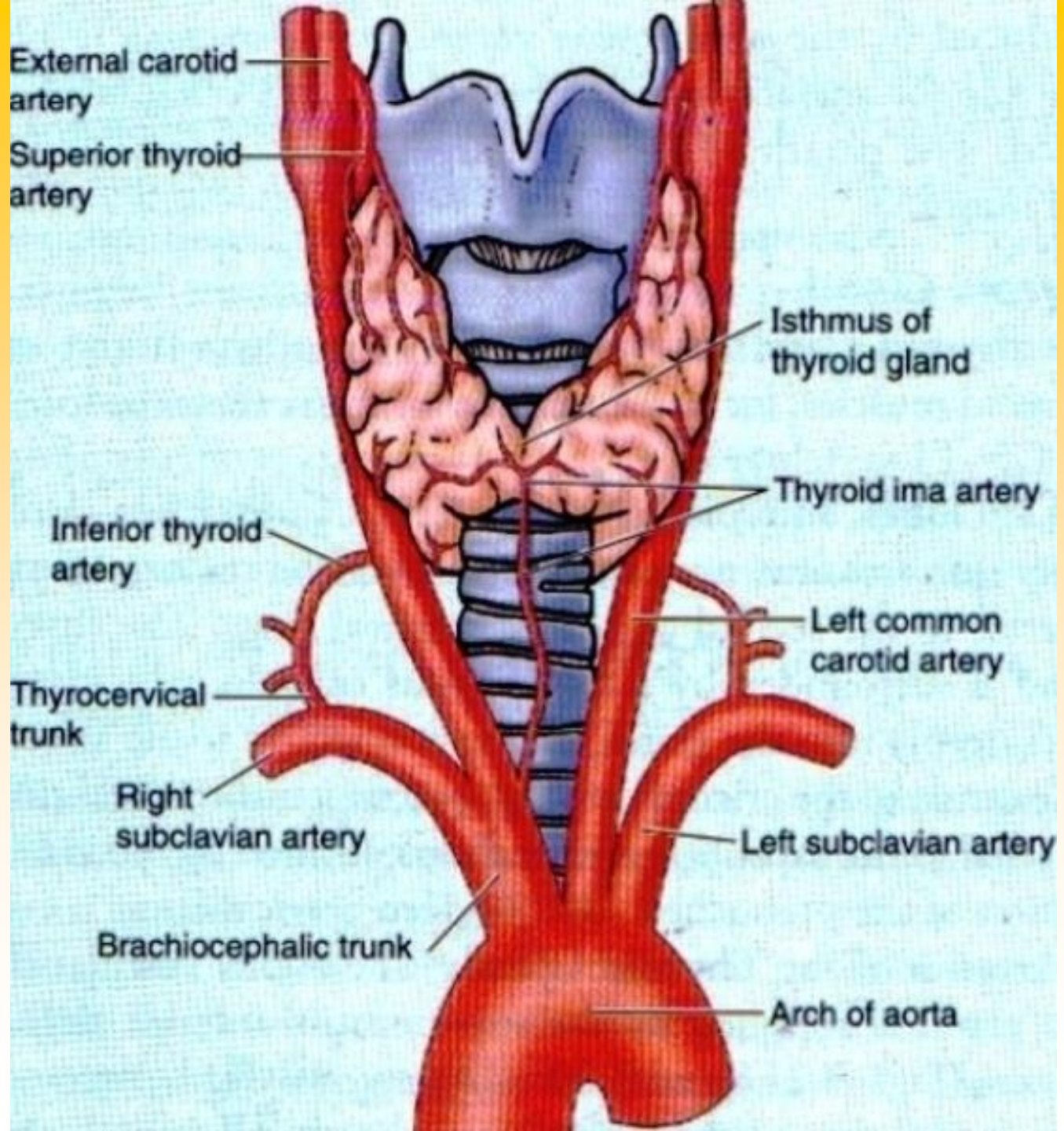


Physiotherapy 6th semester 3rd year
Thyroidectomy care

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Thyroid gland surgical anatomy

- **Location:** Thyroid is situated in the neck in relation to 2nd 3rd and 4th tracheal rings
- **Two lobes:** Right and left, joined by an 'isthmus'
- **Arteries:** Supplied by superior and inferior thyroid arteries
- **Veins:** Drained by superior, middle and inferior thyroid veins



Surgical anatomy – cont'd

- **Important nerves in relation to thyroid**
 - **External laryngeal nerve:** Close to superior pole of thyroid.
 - Injury produces voice weakness
 - **Recurrent laryngeal nerve:** Related to lower pole of gland as it runs upwards in the tracheo-esophageal groove.
 - Injury produces vocal cord paralysis.

Surgical anatomy – cont'd

- From superficial to deep:
 - Skin
 - Platysma (a muscle in superficial fascia of neck)
 - Investing layer of deep cervical fascia
 - Pre-tracheal layer of deep cervical fascia
 - Strap muscles of neck (thin flat muscles)

Thyroidectomy – Indications

- Goitre (any non-neoplastic swelling of the thyroid gland is classified as a goitre)
 - Single swelling (Solitary nodular goitre)
 - Multiple swellings (Multi-nodular goitre)
- Carcinoma
 - Follicular carcinoma
 - Papillary carcinoma
 - Rare varieties

Thyroidectomy – Types

- **Hemi-thyroidectomy:** Removal of half of thyroid gland (Hemi = Half)
- **Lobectomy:** Removal of either right or left lobe of thyroid gland

Both these are done in solitary goitre

- **Total thyroidectomy:** Removal of whole thyroid gland

This is done in cases of malignancy

Thyroidectomy types – cont'd

- **Subtotal thyroidectomy:** Removal of a little less than total; done in multi-nodular goitre
- **Near-total thyroidectomy:** Almost same as total, but a little thyroid tissue around one parathyroid gland is preserved
- **Isthmusectomy:** Dividing the isthmus

Pre-operative investigations

- Full blood count (CBC)
- Serum Urea, Electrolytes, Creatinine
- Thyroid Profile: T3, T4, TSH
- Ultrasound thyroid gland

Pre-operative investigations

- X-ray neck
- X-ray chest
 - (Both AP / lateral)
- Fine Needle Aspiration Cytology (FNAC) of thyroid nodule, if any palpable
- Indirect laryngoscopy to assess pre-operative function of both vocal cords.

Pre-operative care

- Administer antithyroid medication – promote a euthyroid state
- Iodine preparation- decrease vascularity of the gland and risk of haemorrhage
- Teach how to support the neck- placing both hand behind the neck
- Explain , Answer questions, concent- reduce anxiety ,fear

**INFORMED CONSENT FOR
THE SURGERY IS
ESSENTIAL**

Post-operative management

- Patient is kept NPO/NBM (Nil Per Oral / Nil By Mouth) on the day of surgery.
- Supplemental IV fluid usually given on day of surgery; usually between 2.5 to 3 litres.
- Compatible blood may be transfused if there had been excessive blood loss during surgery.

Post-operative management

- Oral intake initiated from next day, starting with 'clear fluids', going on to 'free fluids', then to soft diet and finally to normal diet
- Analgesics essential in post-operative period; there is invariably severe pain during first night.
- Monitor effectiveness of analgesia
- Antibiotics avoided in clean elective surgeries

Post-operative management

- Daily vital (PTR, BP) chart is maintained.
- Rise of temperature after 3rd post-operative day indicates infection.
 - This may require inspection of suture line.
- Careful note is made of daily output from Redivac drain.
- Drain removed after 48 hours or when drainage falls to few ml during last 24-hour period, whichever is earlier.

Post-operative management

- Initial dressing changed after 48-72 hours (to inspect for infection of suture line),
- Unless there is soakage, when it should be removed earlier.
- Dry dressings sufficient every alternate day, if suture line is clean and dry.
- Sutures usually removed on 5th post-operative day.
 - This gives minimum scarring.

Thyroidectomy – Possible complications

- Hemorrhage
- Respiratory distress or stridor
- Hoarseness of voice
- Total vocal cord paralysis – aphonia
- Hypocalcemic tetany (due to accidental removal of parathyroid glands during total thyroidectomy)
- Wound infection: This may manifest after 48 hours of surgery

Perform
focused
assessment
to monitor
complications

Haemorrhage

- Assess dressing & area under the patient's neck and shoulder for drainage
- Monitor BP ,Pulse for hypovolemic shock
- Assess the tightness of the dressing
- Vascularity of the gland increases risk of haemorrhage
- Grater in first 12-24 hrs after surgery

Respiratory distress

- Assess respiratory rate, rhythm, depth and effort.
- Humidification as needed
- Assist with coughing deep breathing
- Have suction equipment ,oxygen tracheostomy set available
- As a result from haemorrhage and oedema may compress the trachea

Laryngeal nerve damage

- Assess the ability to speak aloud, tone of voice.
- location of laryngeal nerve increases the risk of damage during the surgery
- Hoarseness may due to oedema or endotracheal tube used in the surgery -will subside
- If permanent loss of vocal volume is potential danger

Tetany

- Assess for calcium deficiency
- Including tingling of toes, fingers & lips
- Keep ca gluconate or ca chloride available for IV use
- As parathyroid glands are near to thyroid gland ,during the surgery it can be injured or removed resulting in hypocalcemia and tetany
- Occur in 1-7 days after surgery

physiotherapy

- Incision: collar incision
- Close proximity to apical lobes,
- Apical lobe secretion
- Possible infection
- Initiate huff technique on the day of surgery and gentle free breathing exercises
- Ankle pumping exercises

- Second day of surgery do cough technique and continue with apical breathing exercises with sterile surgical gloves to avoid causing infection
- Proceed to costal breathing as prophylaxis or therapeutic as the case may be

- Before starting chest physio it is wise to start with nebulized saline as a humidification to loosen secretion and to facilitate
- Encourage the patient mobilization

Thank you