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# Surgery in Head and neck cancers....principles

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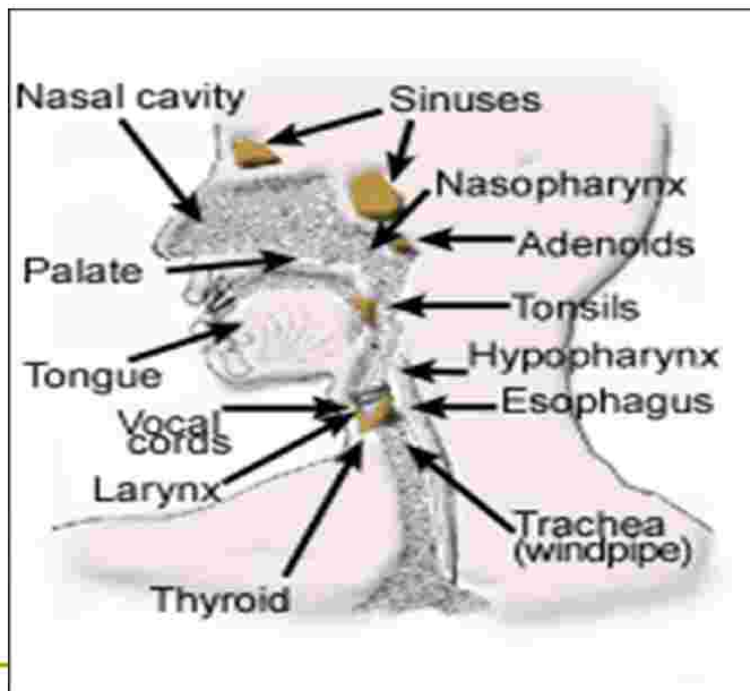
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## HNC : common inclusions



# Challenges



**Anatomical  
preservation**



# Oral cancer

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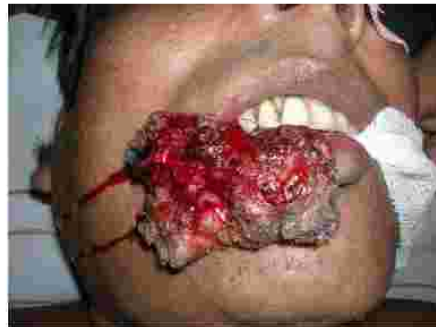
## Oral cancer: Lips

- Wide local excision
- Cosmesis
- Function : Good compensation **except the angle and commissure**
- Reconstruction with local flap
- Pedicled flaps in large defects



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## Surgery in the lip



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## Floor of the mouth

- Approaches : Intraoral
    - Combined Transoral-cervical
    - Mandibular swing
  - Surgery : wide local excision. Mandibular resection if necessary
  - Reconstruction : Small mucosal lesions are managed by local mobilization flaps or skin grafting
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## Floor of the mouth

- Anterior angle to angle mandibulectomy leads to “Andy Gump” deformity. Ineffective swallowing/drooling /aspiration
- Platform of the floor : pectoralis major myocutaneous flap



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## Tongue

- Approach: Intraoral      mandibular swing
- Principle : wide excision with 1-2 cm margin  
three dimensionally
- Types

Wedge resection  
Lateral glossectomy  
Hemiglossectomy  
Well tolerated and compensated

Anterior glossectomy  
Total glossectomy  
Poorly tolerated

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## Challenges in functional rehabilitation

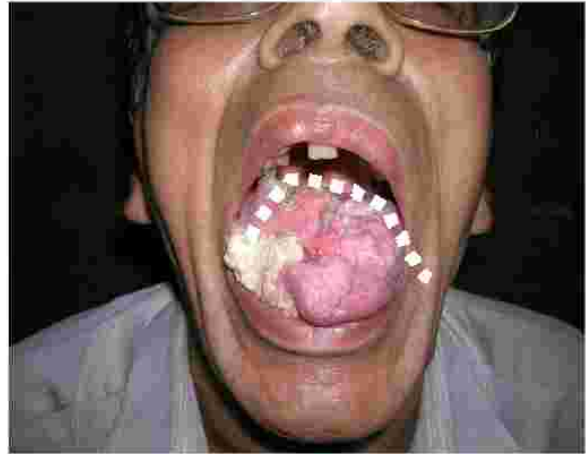
- Mobility of tongue
    - Speech
    - Drooling
    - Aspiration
      - Taste
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## Surgery in oral tongue



Hemiglossectomy



Anterior Glossectomy

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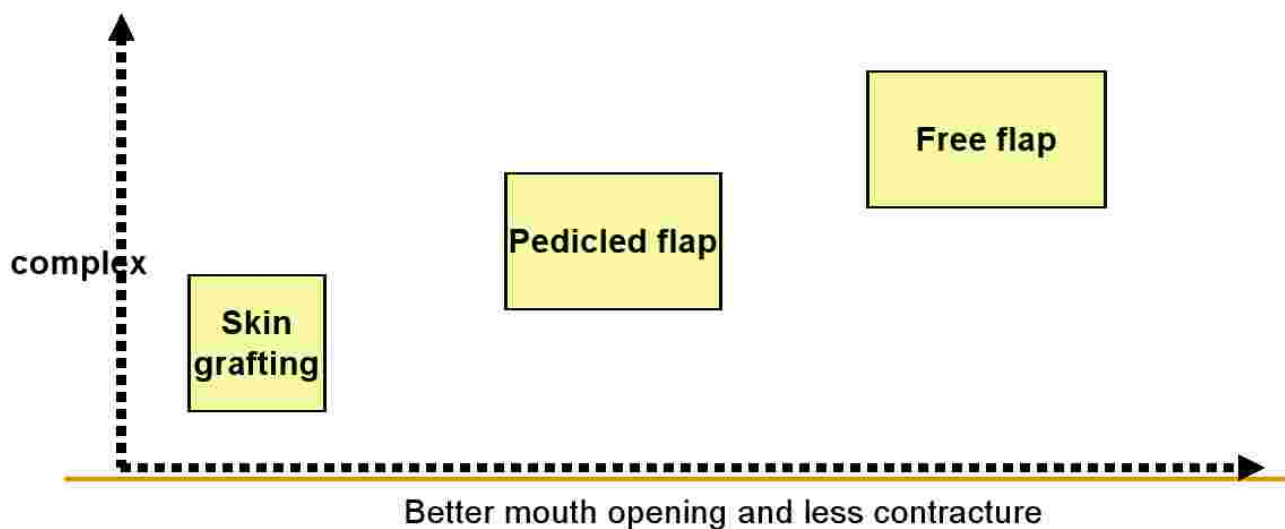
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## Buccal mucosa

- Mucosal involvement : Peroral excision
  - Mucosa & Muscle : Excision after raising cheek flap
  - Full thickness mucosa to skin involvement : Full thickness excision and reconstruction
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## Challenges in buccal mucosal surgery:

- Attain R0 resection
- Contracture avoidance



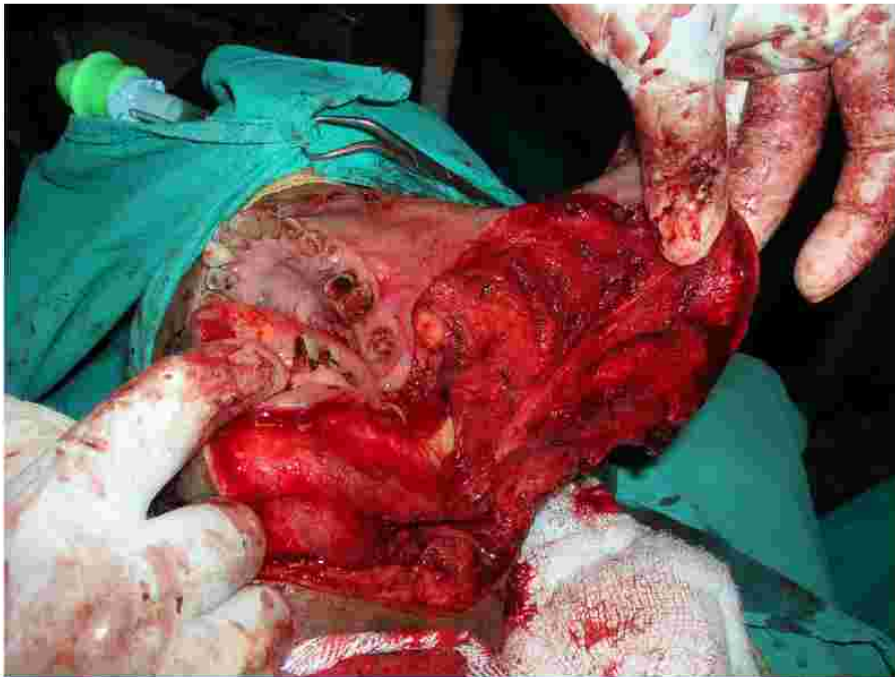
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## Buccal mucosa cancer



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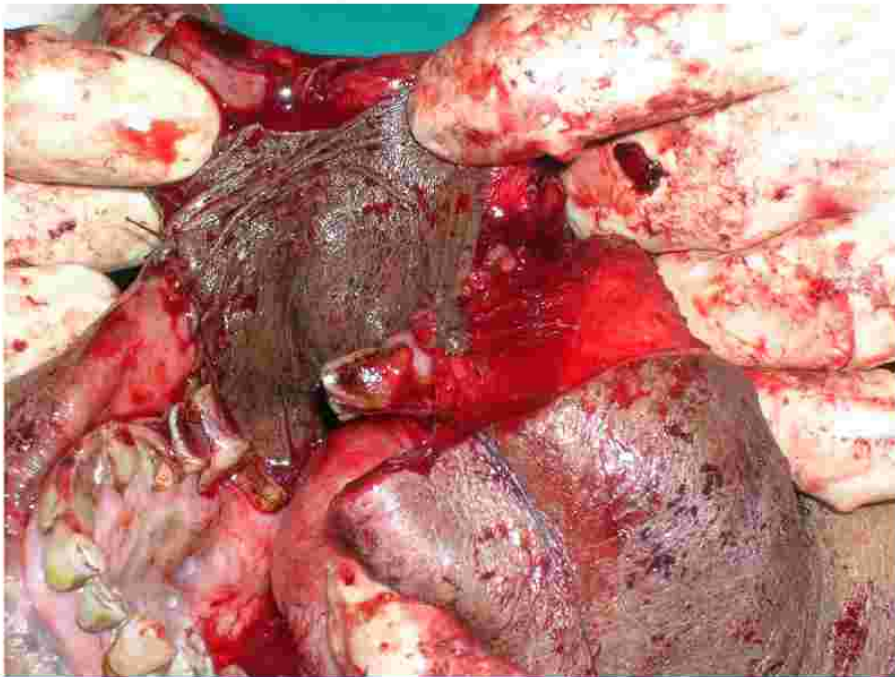
## Wide local excision





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## Skin graft



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Buccal mucosa with overlying skin involvement



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## Wide local excision



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## Forehead flap



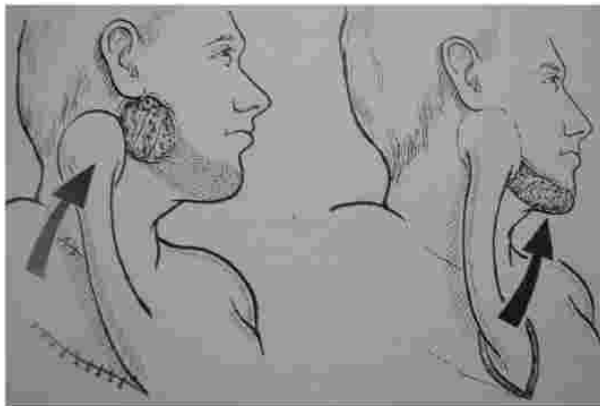
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Superficial temporal vessel base

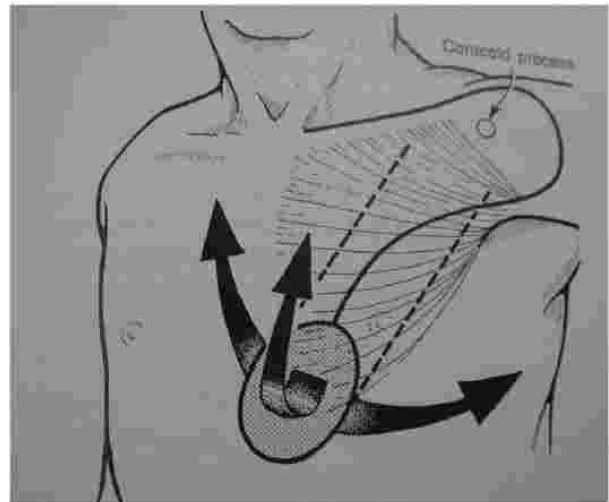


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## Common flaps in head and neck



**Deltopectoral flap**  
2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> perforator of  
Internal mammary  
vessels



**Pectoralis major myocutaneous  
Flap**  
Acromiothoracic vessel

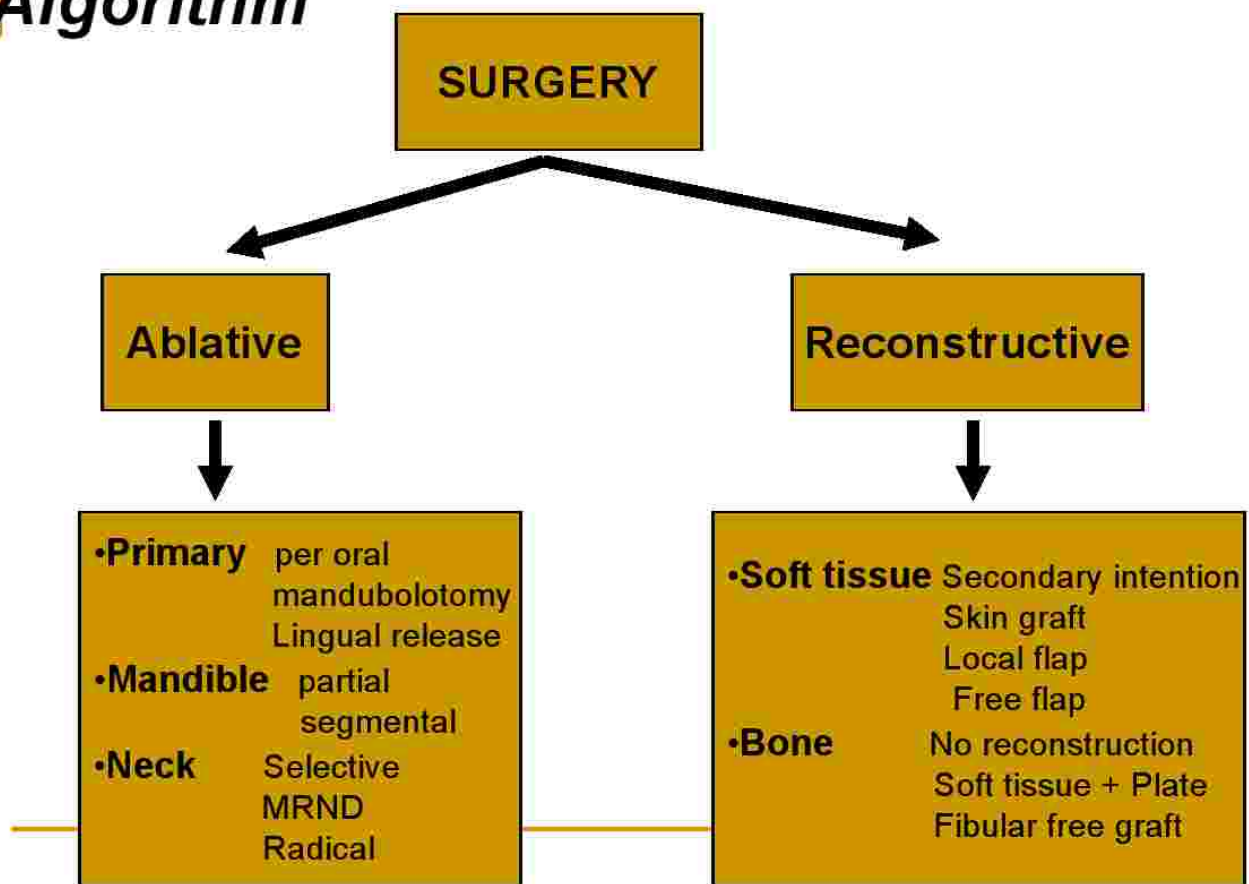
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## Key words in oral SCC

- In early oral cancer surgery and radiotherapy gives equal results.
  - **Surgery is preferred** as RT is associated with xerostomia and dysphagia.
  - Return to normal functioning mucosa is achieved earlier after surgery
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# Algorithm





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## Hard palate :Maxillectomy



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## Oral cancer survivors



# **Oropharynx and Hypopharynx**

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## Oropharynx: Tonsil

- Tonsil: Cryptic location hence diagnosis is delayed
- Early lesions are managed by **radiotherapy**
- Locally advanced but localized : radiotherapy with or without surgical salvage
- Locally advanced with spread to other subsites : Surgery followed by RT

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*5yr survival T1:75-85% (S or RT) / T2 :55-80% (S or RT)*

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## Oropharynx :Soft palate

- Surgery is associated with immense functional disability.
- Reconstruction does not match the functional results of RT
- Early cases : **RT is the treatment of choice**
- Locally advanced lesions : surgery – complex reconstruction followed by RT

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*5yr survival :T1 91-100% (S or RT)/ T2 70-75% (S or RT)*

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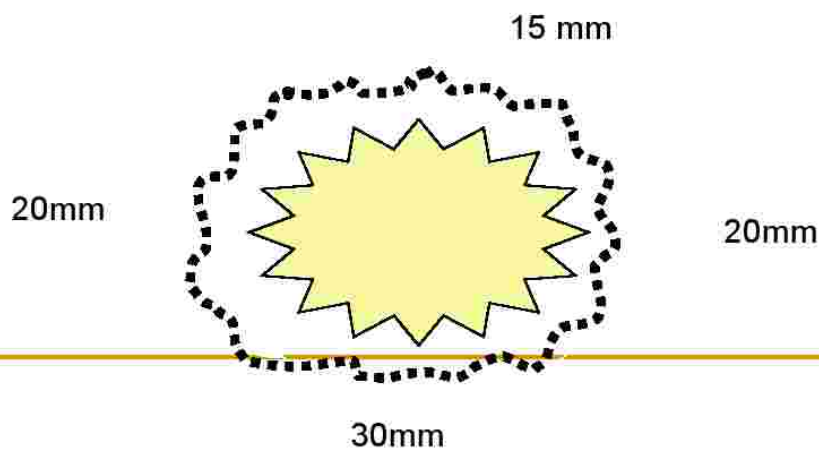
## Oropharynx :Tongue base

- **Surgery or RT has same local control rates** (T1 and T2 cancers 75% to 100%)
  - **Early lesions are better managed with RT** as functional outcome is better as regards aspiration and speech
  - **Locally advanced lesions : Surgery vs RT vs Surgery-RT** . Most evidences are in favour of **Surgery-RT**
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## Hypopharynx: hyoid to inferior border of cricoid

- Three subsites : paired pyriform sinus , posterior hypopharyngeal wall , post cricoid
- Character : submucosal extension & skipping



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## Hypopharynx

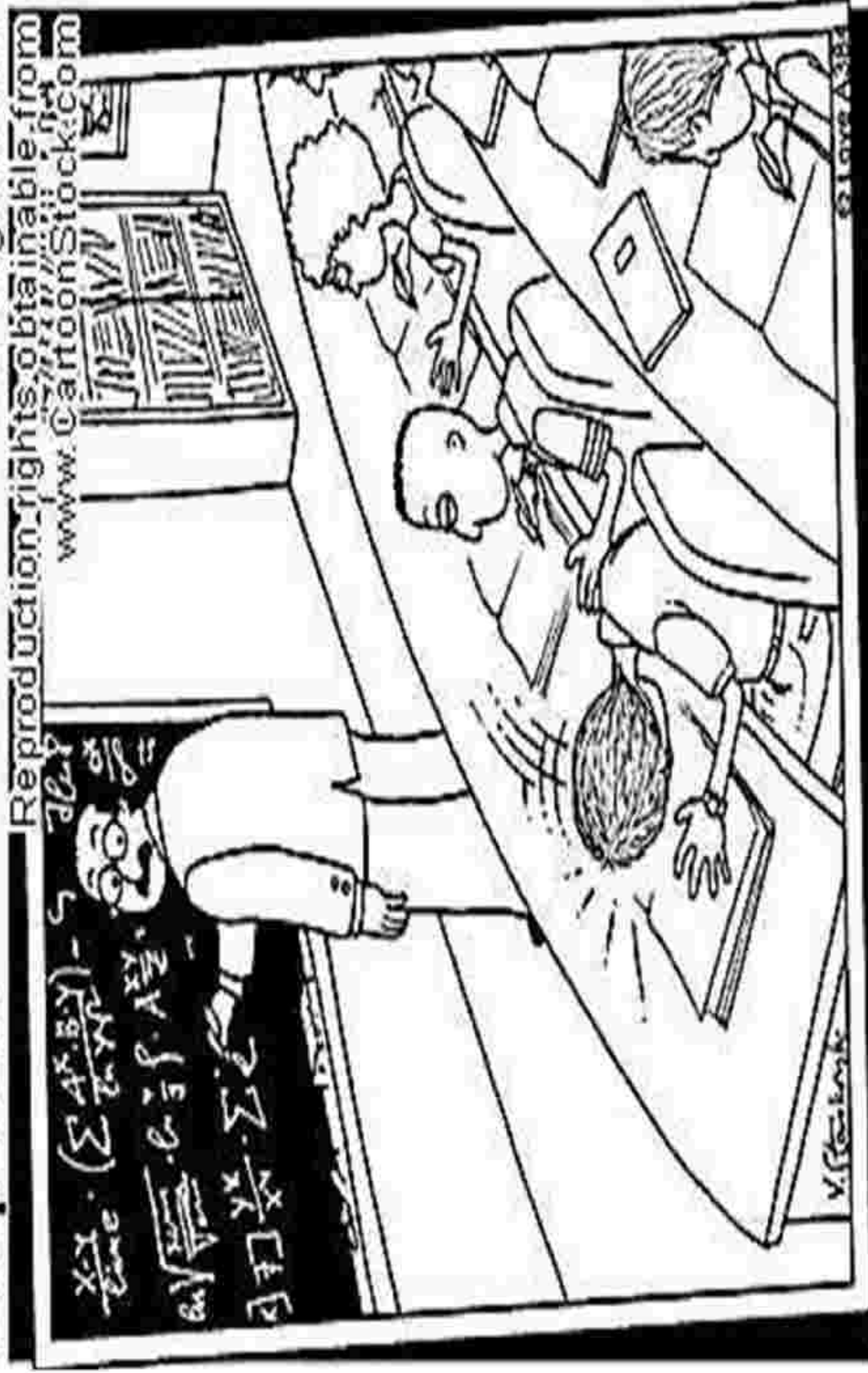
- Post pharyngeal wall : wide local excision followed by skin grafting or pedicled flap or free flap ( jejunal free flap).
  - Pyriform sinus :
    - Partial laryngopharyngectomy
    - supracricoid partial laryngectomy
  - Reconstruction:
    - Partial wall defect :pedicle flap
    - Circumferential defect : jejunal free flap
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## Snapshots

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Professor Herman paused when he heard that unmistakable thud -- another brain had imploded.

# Larynx

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## Supraglottic cancer: Organ preservation

**Early supraglottic cancers**  
**Exophytic lesions**  
**T1/T2**  
**Radiotherapy**  
the gold standard

**Early lesions with T1/T2**  
**pre epiglottic involvement**  
**Impaired VC movement**  
**Conservative laryngeal resection**

- T3/T4 lesions : Surgery followed by RT
  - Subtotal supraglottic laryngectomy
  - Three quarter laryngectomy
  - Near total laryngectomy
  - Total laryngectomy
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## Glottic cancer : organ preservation

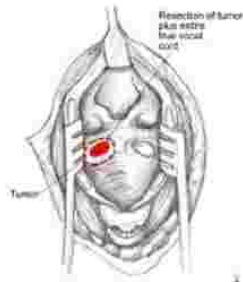
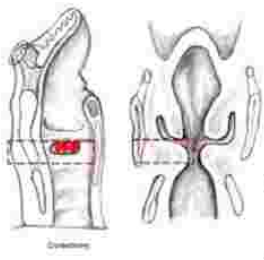
Voice

Aspiration(surgery)  
Dysmotility(RT)

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## Conservative laryngectomy : Glottic cancer



- Radiotherapy : gold standard in early glottic cancer
- Surgery : Cordectomy  
Laser excision  
Hemilaryngectomy

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Vertical partial laryngectomy

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## Conservative laryngectomy



Vertical partial laryngectomy



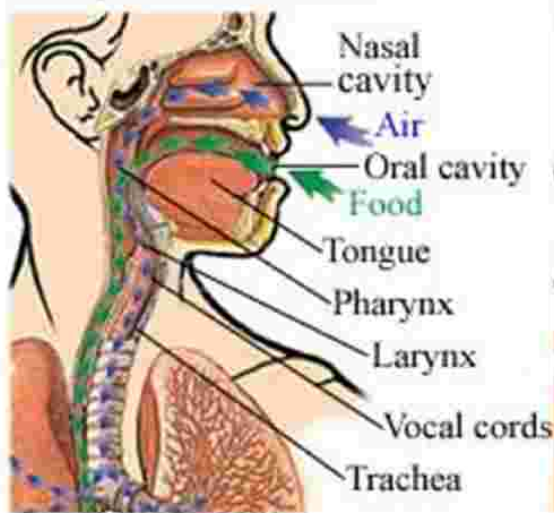
Supracricoid partial laryngectomy

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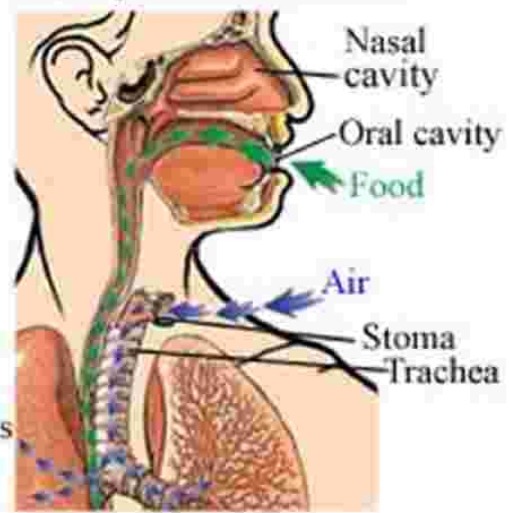
# Laryngectomy

## Surgical removal of the larynx

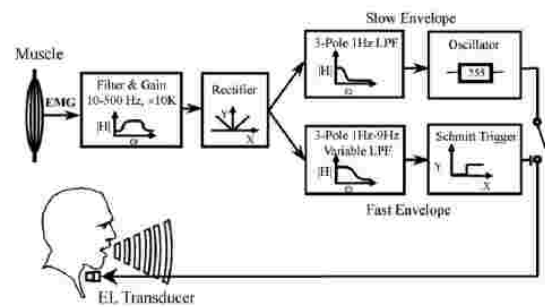
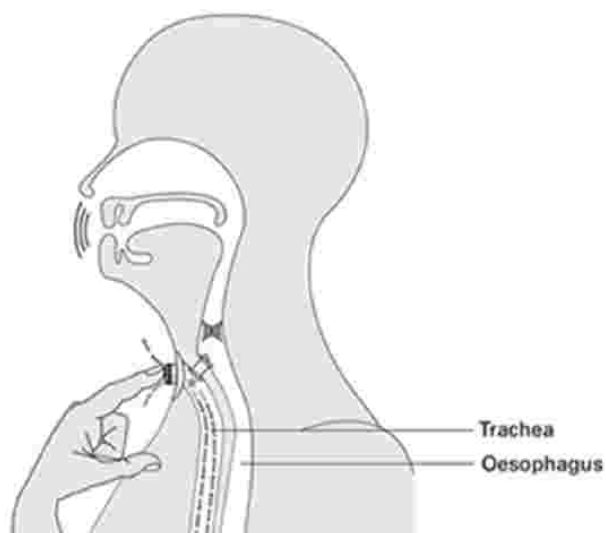
Pre-operative condition



Post-operative condition



# Voice rehabilitation after laryngectomy



**Esophageal voice**



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## Mandibulectomy :indications and options

- Goal : provide R0 status with 1cm margin

- Types :

Mandible is involved:**segmental**

**Hemimandibulectomy(Commando)**

No clear invasion but within 1cm :

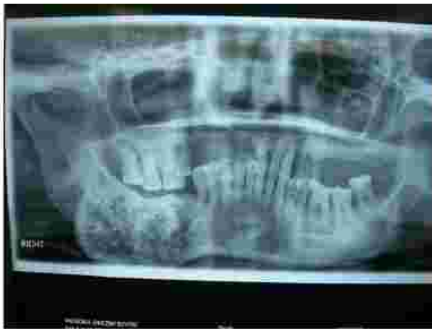
**marginal mandibulectomy**

(superior half or lingual cortex shaved off .More than 60% resection required plate stabilization)

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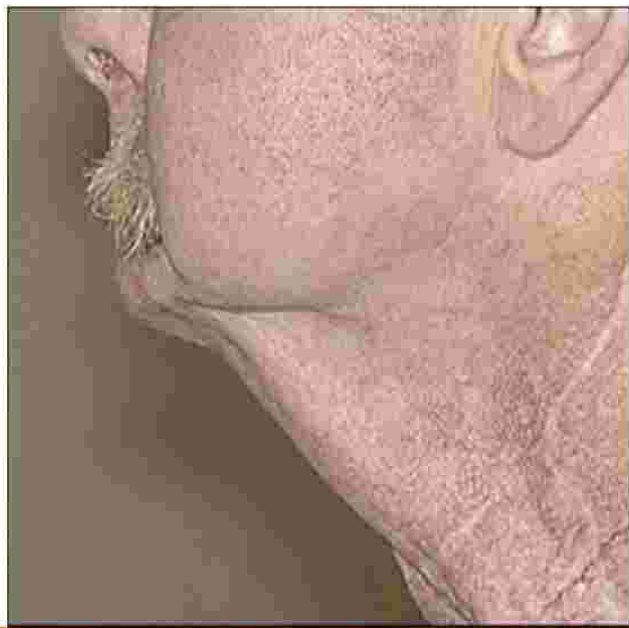
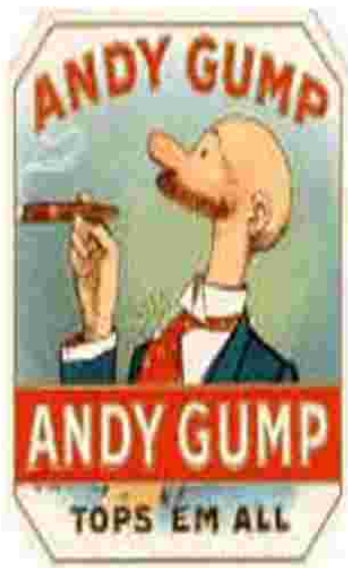
# Policy for mandible

## Mandibulectomy- reconstruction



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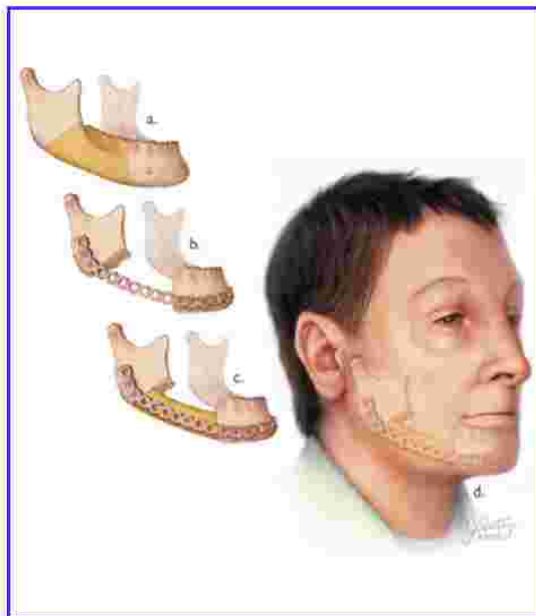
## Mandibulectomy-Reconstruction



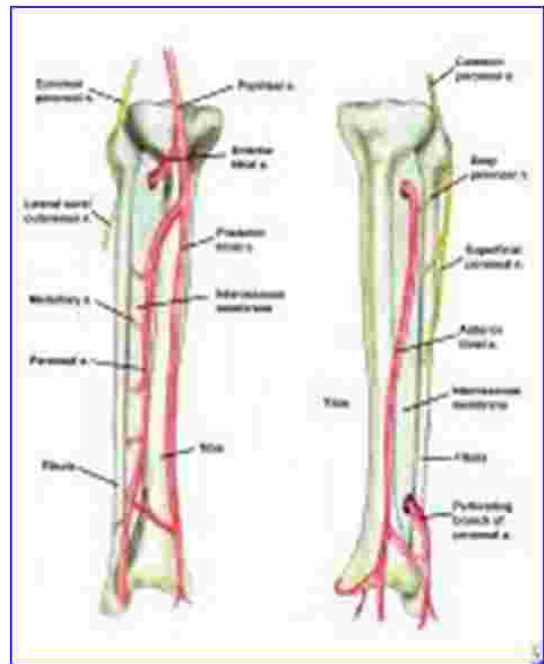
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**Andy Gump deformity**

# Mandibulectomy-reconstruction



Soft tissue+plates



Fibular free graft (osseomyocutaneous Free graft)

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HN SCC.. Are we ready to tame the bull?



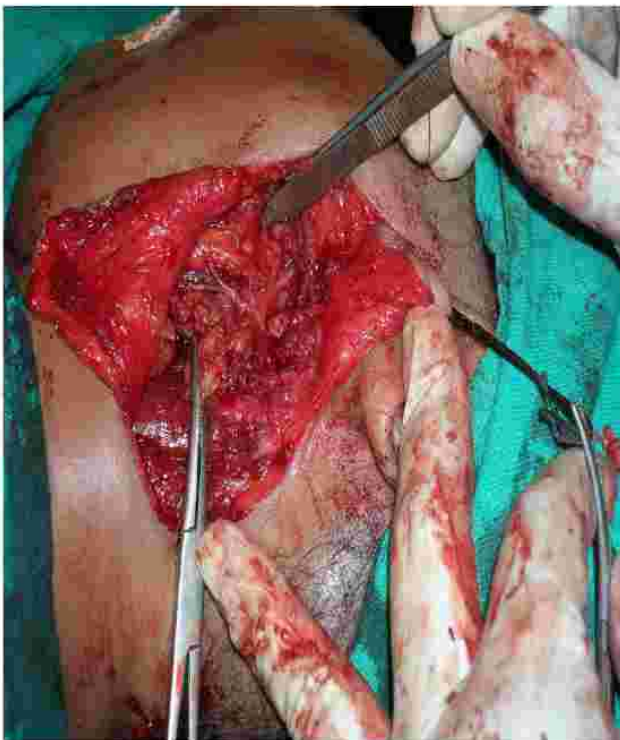
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**HNC where surgery is primary**

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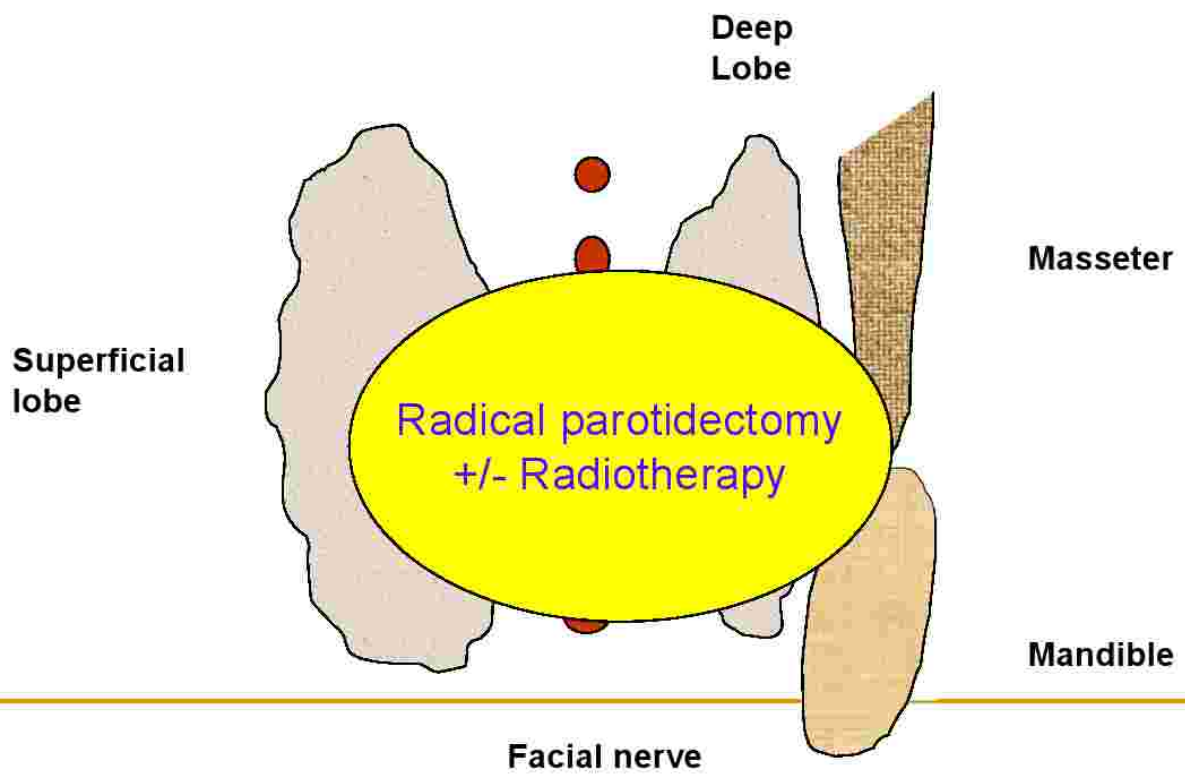
## Parotid cancers: nerve preservation





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## Parotidectomy :Types



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## Malignant Cyndroma of scalp



Wide local excision followed by split skin grafting

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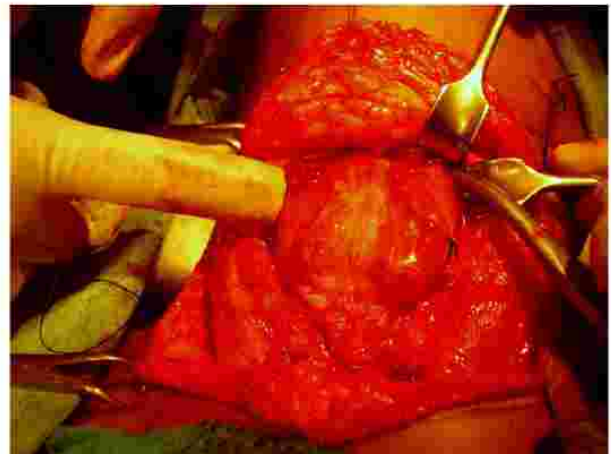
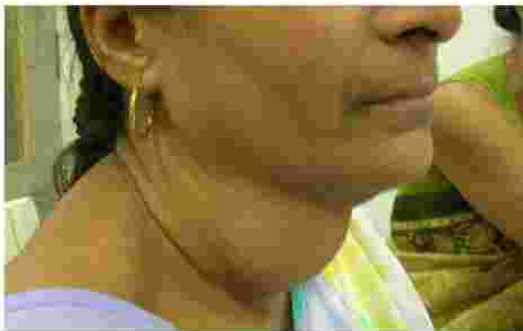
## Basal cell cancer



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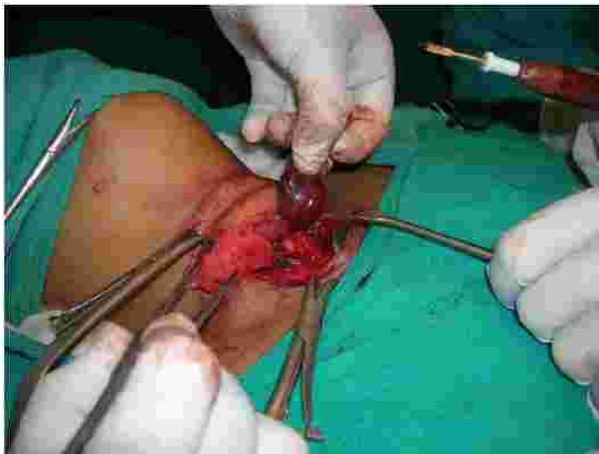
## Thyroid cancer

### Total thyroidectomy + risk group approach



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## Parathyroid cancer



Parathyroidectomy

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# Management of neck secondaries options

N0- elective surgery, prophylactic RT, observation

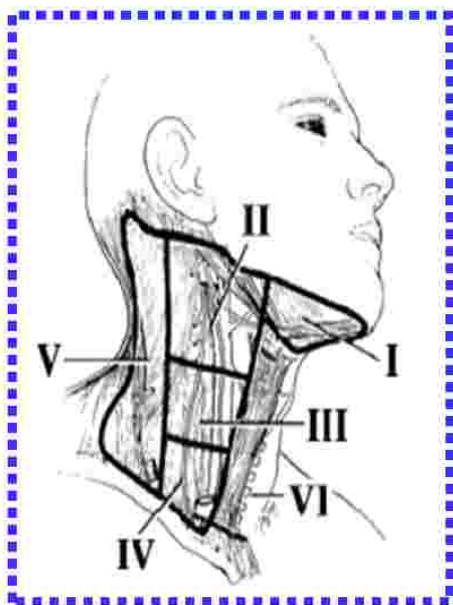
N+ (mobile)-surgery

N+ (fixed)- Neoadjuvant..... surgery

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## Management of neck secondaries impalpable neck nodes



➤ **Supraomohyoid (1,2,3) ND:**  
**Oral cavity cancers**

➤ **Lateral ND (2,3,4):**  
**Larynx cancers**

➤ **Posterolateral ND(2,3,4,5):**  
**SCC, melanoma scalp**

➤ **Anterolateral ND(6) :**  
**Thyroid cancers**

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## Management of neck secondaries palpable neck nodes

- Palpable clinically obvious neck metastasis : **Modified radical neck dissection (MRND)**... removal 1 to 5 level nodes with preservation of Jugular vein, sternocleidomastoid and spinal accessory nerve
  - Fixed nodes : **Radical neck dissection (RND)**
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## Management of recurrent HNC

- Oral cavity :Radical surgery +/- RT  
CRT and hyperthermia(under evaluation)
  - Oropharynx : Surgery if previous RT fails  
RT if surgery fails/RT not given  
CT/hyperthermia (under evaluation)
  - Larynx : Surgery if previously irradiated  
Reirradiation in small recurrences
  - Hypopharynx : Surgery and/or RT
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## The philosophy

- The success of HNC treatment only partly lies in improving the 5yrs survival.
  - The true challenge lies in restoring function and anatomy.
  - There cannot be any fixed protocol as all cases need tailormade treatment.
  - While planning treatment .....
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## The take home message..

Disease  
extent

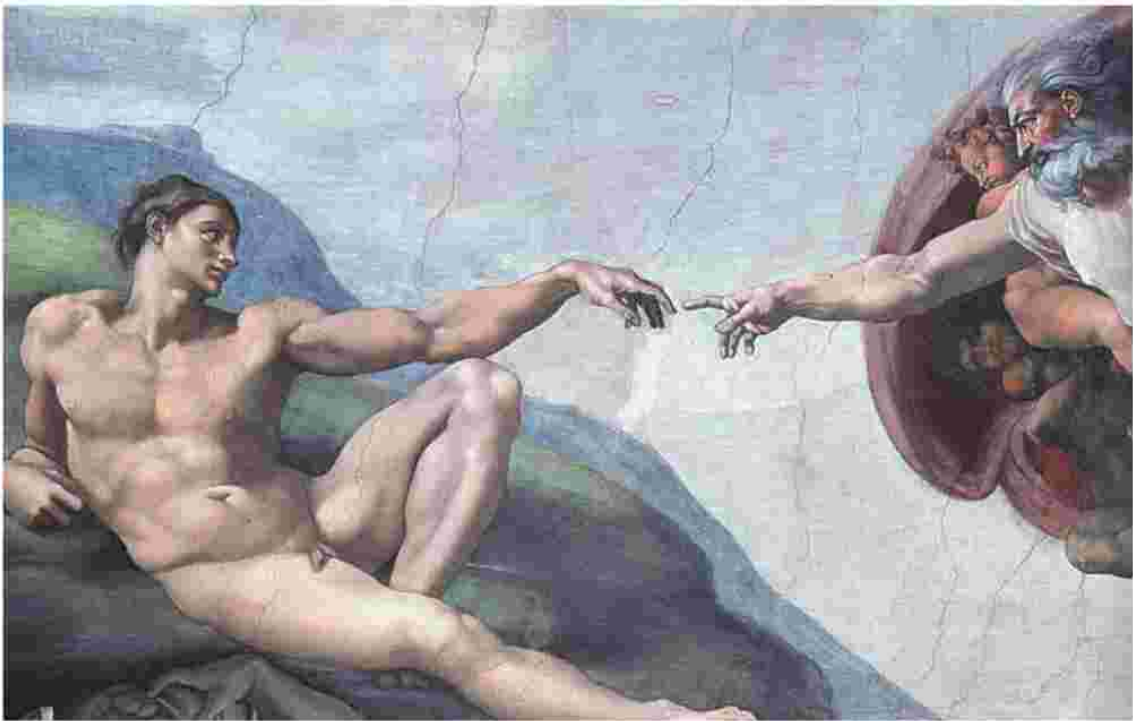
The anatomy  
&  
Function involved

The  
Infrastructure  
available

Occupation  
And  
Social role

Best and  
The  
Optimum  
outcome

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Bridging the gap



THEIR