

# Surgical management of oral cancer

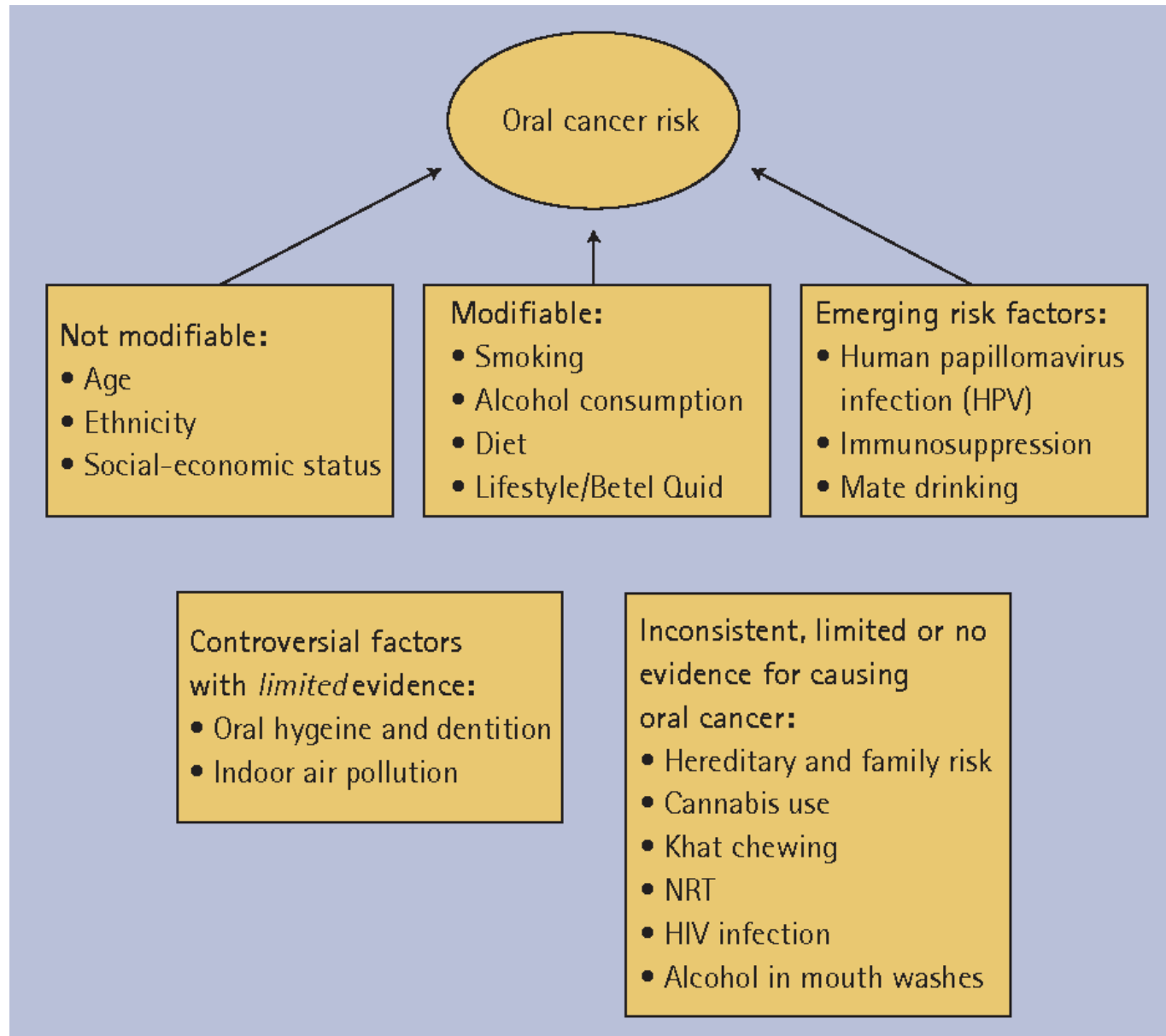
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# Oral Cancer

- **“Cancer is an abnormal growth of cells caused by multiple changes in gene expression leading to dysregulated balance of cell proliferation and cell death and ultimately evolving into a population of cells that can invade tissues and metastasize to distant sites, causing significant morbidity and, if untreated, death of the host”**

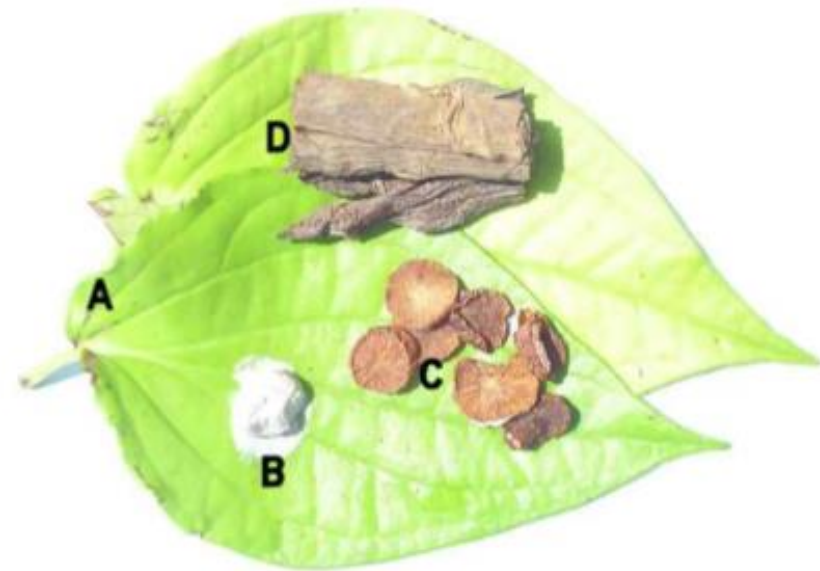
**Type and Site: SCC, tongue and  
floor of mouth**





# Oral Cancer

- Risk Factors
  - Betel Quid chewing
    - India
    - Combination of plants
    - Submucous Fibrosis







# Management of submucous fibrosis

**Mild case**=Monitoring in case of, patient should avoid irritation factors

**Moderate case**

**Non-Surgical**

**1-Steroid injection**

**2-Encourage jaw opening**

**Sever case (less than 20mm mouth opening)**

**Surgical removal of fibrous band (the most successful)**

# **Presentation of oral cancer**

**1-Ulcer**

**2-Nodular mass**

**3-Erythroplakia**

**4-Speckled leukoplakia**

**5-Leukoplakia**



# Leukoplakia

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- **Definition:** a whitish patch or plaque that cannot be characterized clinically or pathologically as any other disease, and is not associated with any physical or chemical causative agent, except the use of tobacco.
- between 5% and 25% of these lesions are premalignant

# Leukoplakia

- Hyperplasia
- Dysplasia
- Carcinoma in situ (CIS)
- Invasive Carcinoma

# Oral Cancer



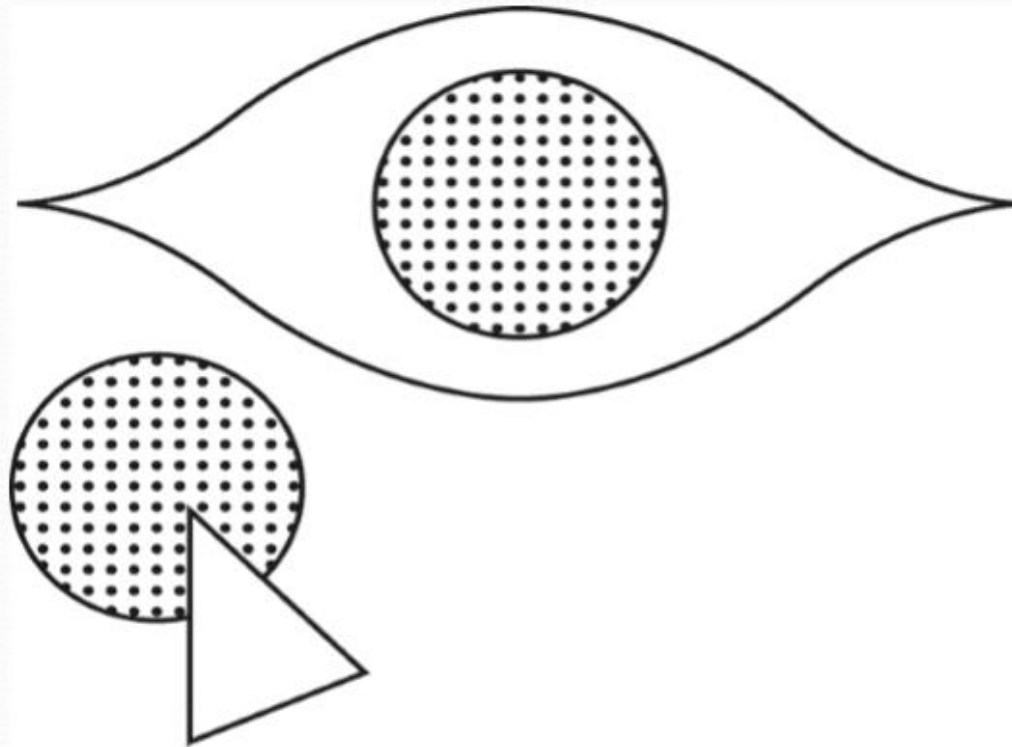
# Oral Cancer



**The biopsy of choice of any suspicious oral lesion is incisional biopsy**

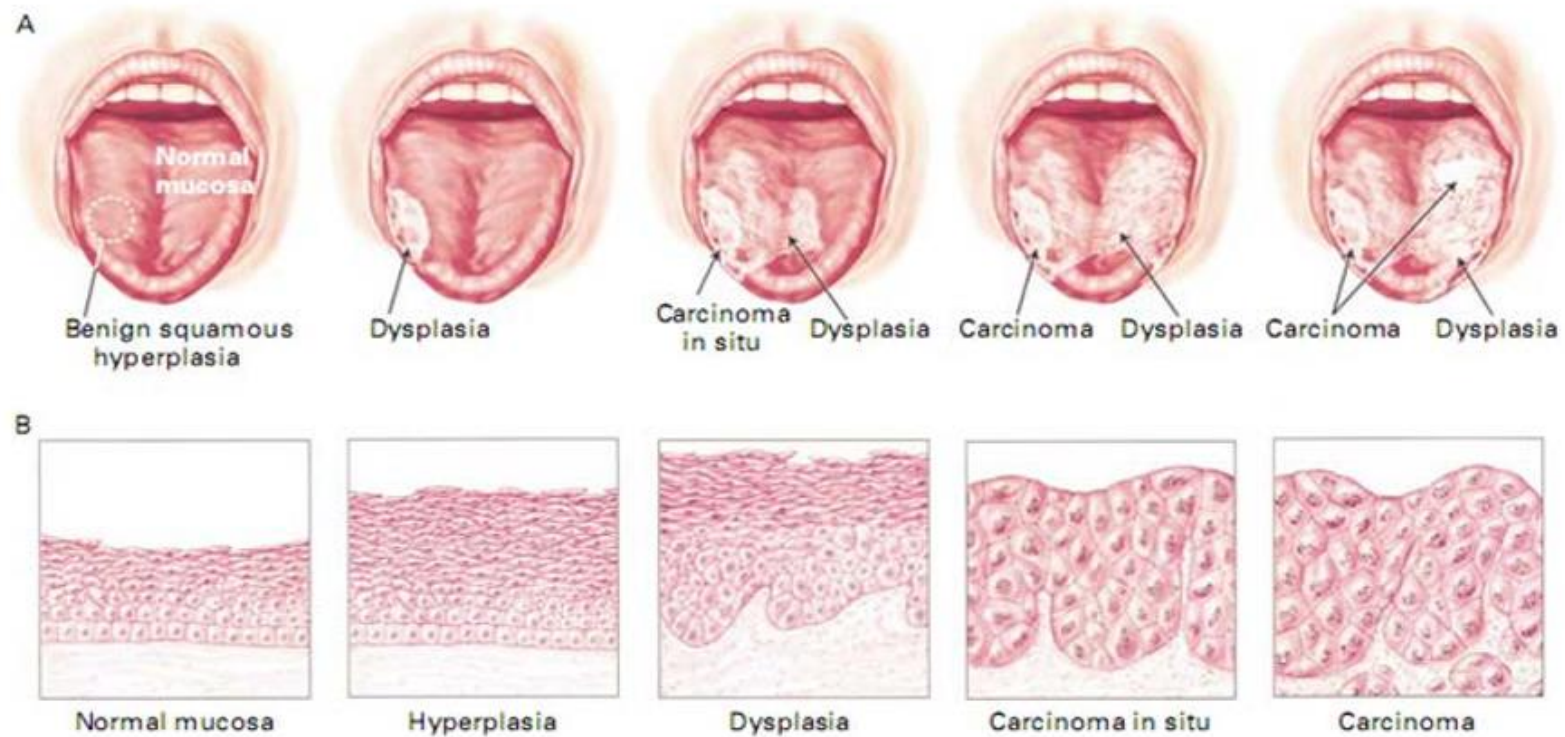
# Oral Cancer

- Scalpel Biopsy

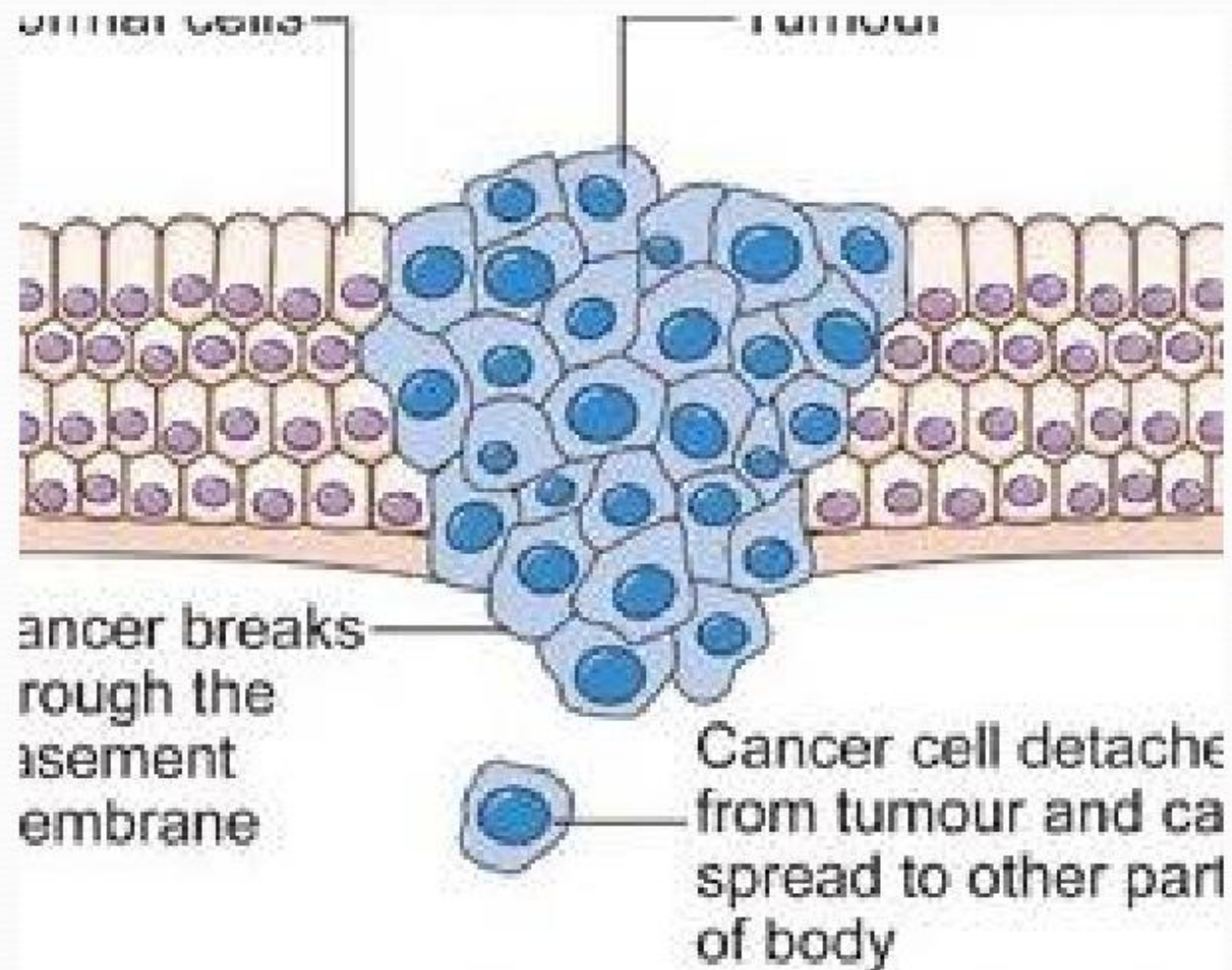




# Oral Cancer



# Oral Cancer



# Prognostic factors in Oral cancer

- TNM staging
  - T-stage
  - N-stage
  - M-stage
- Site
- Histological Factors
- Vascular & Perineural Invasion
- Surgical Margins
- Age, sex, race

T primary lesion	
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma in situ
T1	Tumor 2 cm or less in greatest dimension
T2	Tumor more than 2 cm but not more than 4 cm in greatest dimension
T3	Tumor more than 4 cm in greatest dimension
T4a*	Tumor invades adjacent structures (e.g., through cortical bone, into deep [extrinsic] muscle of the tongue, maxillary sinus, skin of face) (resectable)
T4b	Tumor invades masticator space, pterygoid plates, or skull base or encases internal carotid artery (unresectable)

N Regional lymph node	
NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
N2	Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension; or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N2a	Metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension
N2b	Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
N2c	Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N3	Metastasis in a lymph node more than 6 cm in greatest dimension



**N1**  
 $< 3$  cm



**N2a**  
 3-6 cm



**N2b**  
 Multiple nodes



Bilateral

**N2c**  
 or



Contralateral  
 node(s)  
 $< 6$  cm



**N3**  
 $> 6$  cm  
 Single or multiple



# TNM Staging

Stage Grouping			
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T4a	N0	M0
	T4a	N1	M0
	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

# Prognosis-Site

- Oral better than oropharynx
- Anterior better than posterior
- From local recurrence point of view buccal mucosa, is the worst
- Tongue ? Recurrence or invasion

# Staging

	N0	N1	N1–3, M+	
T1	I. ( $\geq 80\%$ )*			
T2	II. (60–80%)*			
T3	III. (40–60%)*			
T4				
	IV. (20–40%)*			

# Prognosis-Histological

The aggressive behavior of the tumor

- Perineural and vascular invasion
- Differentiation
- Surgical Margins

# Prognosis (Age, sex, race)

- Younger than 40 increase
- Male or female?
- Africans

# Relative Survival Rate

5-year relative survival rate	Race/ sex
62.4%	White Male
63.8%	White Female
38.2%	Black Male
53.2%	Black Female



# **Modalities of management of oral cancer**

**1-Surgery**

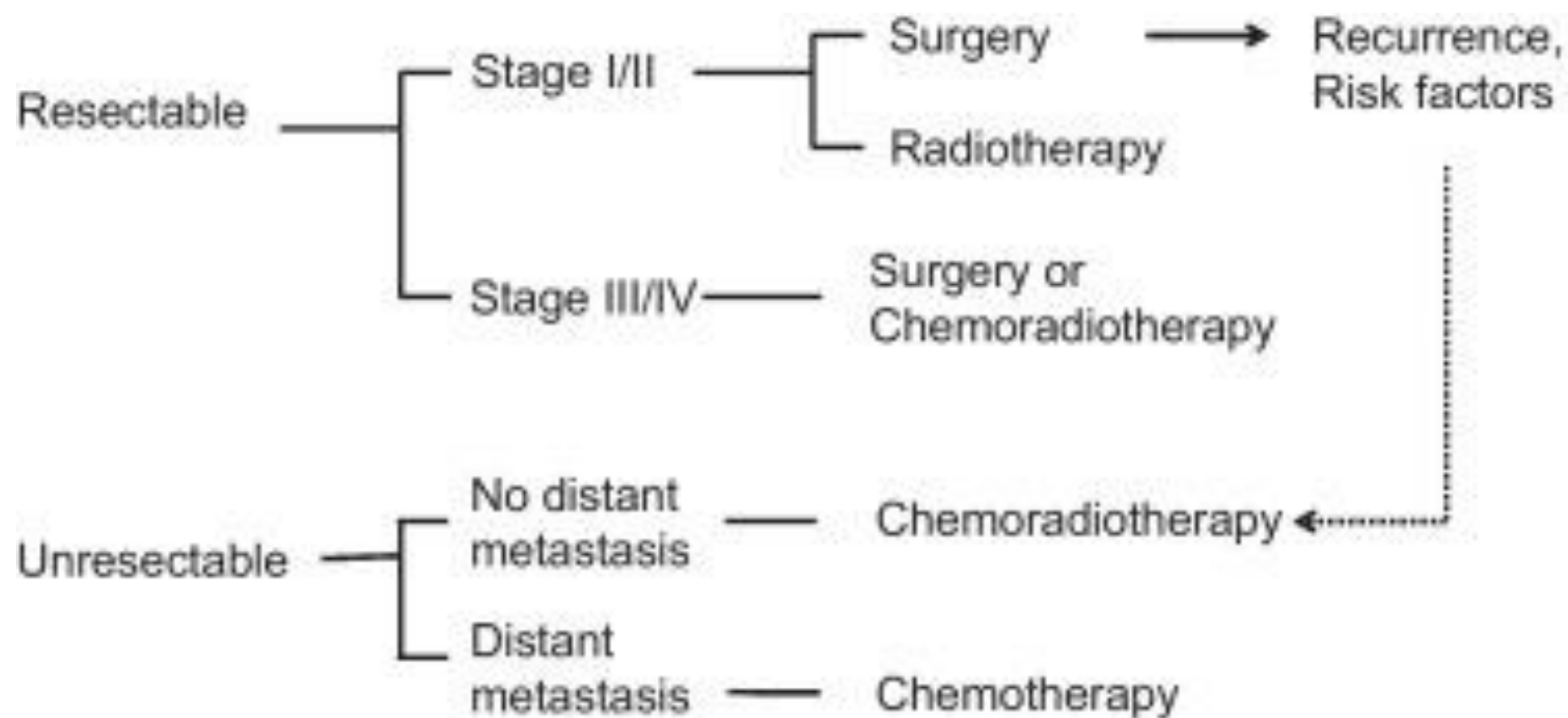
**2-Radiotherapy**

**3-Chemotherapy**

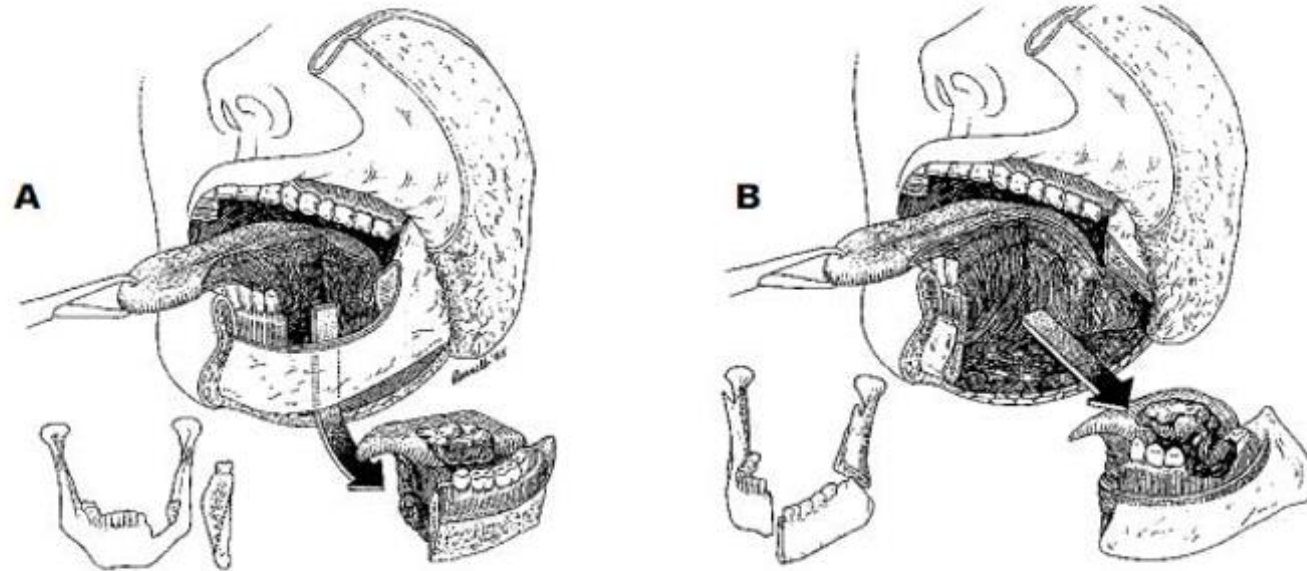
# Management of oral cancer

**Curative**

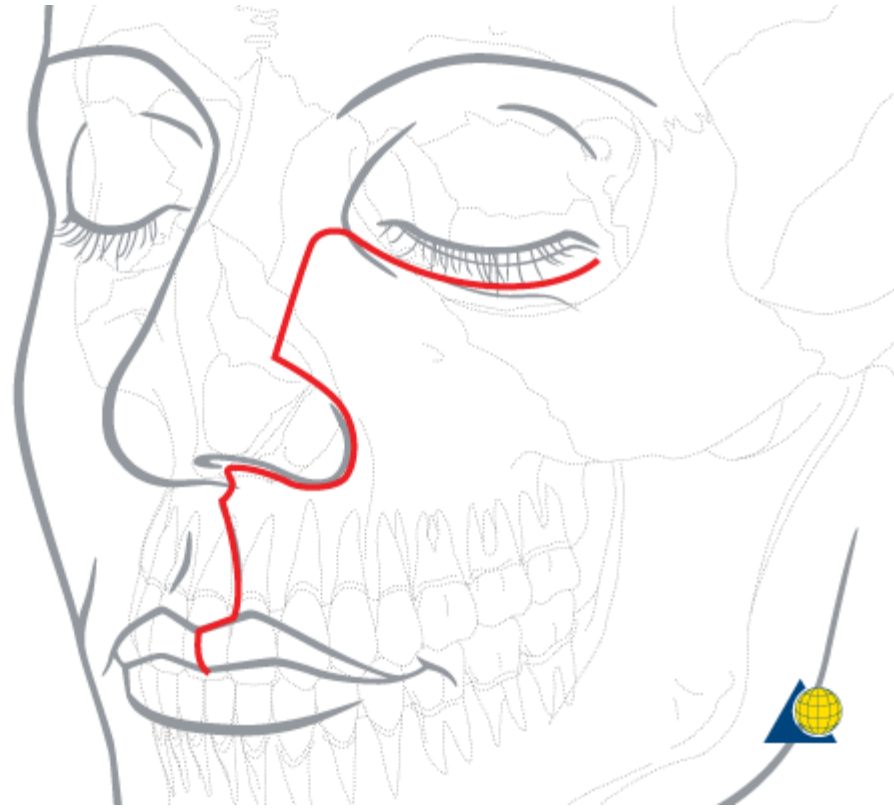
**Palliative**



# Bone resection



Weber Ferguson incision is used for approach to maxillectomy



# Indications of radiotherapy

- T1-T2 lesions
- T3,T4 Locally advanced lesions
  - Post surgical treatment
  - Only therapy if surgery not possible

- Cervical lymph node

Pre-surgical & post surgical in combination with neck dissection for clinically positive lymph nodes.



# Complications of radiotherapy

COMPLICATION	INCIDENCE
Xerostomia (dry mouth)	78%–95%
Dysgeusia (change in taste)	90%
Anorexia/weight loss/malnutrition	55%–85%
Chewing/eating difficulties	70%
Mucositis/stomatitis	39%
Dysphagia	65%
Radiation necrosis (osteoradionecrosis)	5%–15%
Infection	14%

# Neck management

- 30-40% neck involved during presentation
- Occult metastases
- Sentinel lymph node biopsy

# Neck dissection

- Remove and detect occult metastases “elective”
- Remove clinically evident neck “therapeutic”

# Neck Dissection

- Radical Neck Dissection (RND) 1906
  - Lymph nodes (I-V)
  - Non-lymphatic structures
    - SAN
    - SCM
    - IJV

