




---

---

---

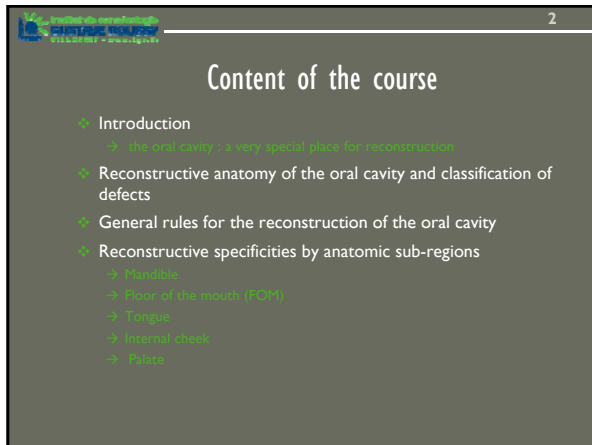
---

---

---

---

---




---

---

---

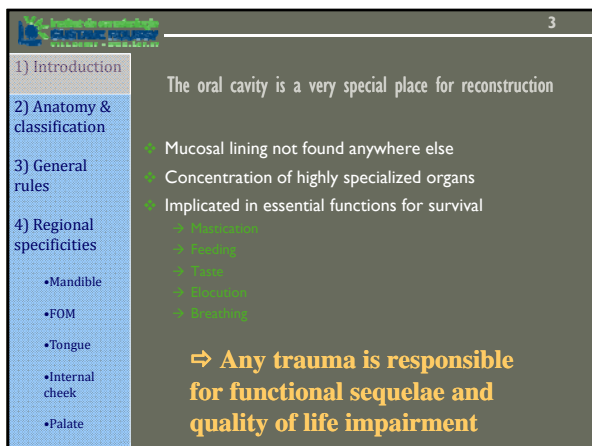
---

---

---

---

---




---

---

---

---

---

---

---

---

4

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Concentration of highly specialized organs and tissues
  - Topographic division of the oral cavity
  - General rules for reconstruction
  - Special reconstructive demands for each area and organ
- Need for a clear classification of the defect
  - Guide for the reconstructive decision making
  - Preparation for the evaluation of results
    - quality of life
    - functional outcomes

---

---

---

---

---

---

---

---

5

1) Introduction

2) Anatomy & classification

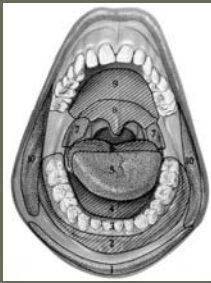
3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Topographic division of the oral cavity

- Lip
- Floor of mouth (FOM)
- Internal cheek
- Hard palate
- Soft palate
- Mobile tongue




---

---

---

---

---

---

---

---

6

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Classification of defect

*Ulken L. & col Arch Otolaryngol Head Neck Surg, 117, 1991*

- Almost exhaustive
  - Bone + Mandibular reconstruction
  - Soft tissue defects
    - Pharynx
    - Tongue
    - Lip
  - Reconstructive defects
- But excluding the hard palate

---

---

---

---

---

---

---

---

7

Classification of defect  
*Ulken L. & col Arch Otolaryngol Head Neck Surg. 117, 1991*

1) Introduction  
 2) Anatomy & classification  
 3) General rules  
 4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Bone
  - Mandible
  - CMM

---

---

---

---

---

---

---

---

8

Classification of defect  
*Ulken L. & col Arch Otolaryngol Head Neck Surg. 117, 1991*

1) Introduction  
 2) Anatomy & classification  
 3) General rules  
 4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Bone
- Soft tissues
  - Pharynx
  - Larynx
  - Vocal folds
  - Soft palate
  - Hard palate
  - Uvula

---

---

---

---

---

---

---

---

9

Classification of defect  
*Ulken L. & col Arch Otolaryngol Head Neck Surg. 117, 1991*

1) Introduction  
 2) Anatomy & classification  
 3) General rules  
 4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Bone
- Soft tissues
  - Tongue
  - Hard palate
  - Soft palate
  - Uvula

---

---

---

---

---

---

---

---

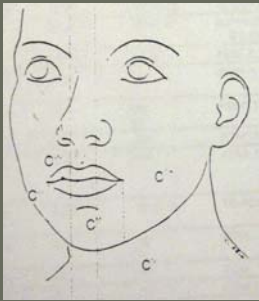
10

### Classification of defect

*Ulken L. & col Arch Otolaryngol Head Neck Surg. 117, 1991*

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Bone
  - Chin - C2-C4
  - Neck - C4
  - Chin - C4
  - Lip - C2-C4
  - Lower lip - C2-C4
  - Lower lip - C2-C4
- Soft tissues
  - Chin




---

---

---

---

---

---

---

---

---

---

---

---

11

### Classification of defect

*Ulken L. & col Arch Otolaryngol Head Neck Surg. 117, 1991*

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Bone
- Soft tissues
  - Lip - C2-C4
  - Lip - C2-C4
- Neurologic
  - Hypoglossal - C12
  - Lingual - C12
  - Inferior alveolar - C12

---

---

---

---

---

---

---

---

---

---

---

---

12

### Evaluation of results

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Essential :
  - To assess the efficiency of the reconstructive technique
  - To compare results in between institutions
- Assessment on 2 criteria
  - Subjective = Quality of life questionnaire
    - FOM (10 - 40) 0-100
  - Objective = an universal tool

---

---

---

---

---

---

---

---

---

---

---

---

13

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Follows the fundamental rules of plastic surgery

- Every reconstructive procedure has 3 goals
  1. Restore the survival of the patient
  2. Restore the plastic and aesthetic of the region
  3. Restore the function of the organ

---

---

---

---

---

---

---

---

14

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

1) Assure the survival of the patient

1. Post-operative hemorrhagic accident
  - After oral cavity carcinoma surgery it can be dangerous because of the high vascularisation
  - Measures to prevent hemorrhage
    - 1. Tightening of the free flaps to prevent artery bleed
    - 2. Protection of the incision line
      - When ?
        - o After radical neck dissection
        - o In salvage surgery
      - By which means ?
        - o Interregional muscular flap ( Functional repair)
2. Post-operative Airway patency impairment
  1. Head extension
  2. Artery intubation

---

---

---

---

---

---

---

---

15

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The character of the face is define by the association of hard and soft tissues
  - Hard tissues
    - 1. Composed by bone and cartilage
    - 2. Creating a scaffolding & serving for the face reconstruction
    - 3. Responsible for projection height & contour of the face

---

---

---

---

---

---

---

---

16

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face




---

---

---

---

---

---

---

---

17

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The character of the face is define by the association of hard and soft tissues
  - **Hard tissues**
    - Governed by teeth and cartilage
    - Governing a sculpting & forming for the face construction
    - Responsible for projection height & contour of the face
  - **Soft tissues**
    - Including muscles in terms of the face covered by the skin
    - Responsible for the mobility, the expression and the definition of the face

---

---

---

---

---

---

---

---

18

1) Introduction


2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face




---

---

---

---

---

---

---

---



22

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The character of the face is define by the association of hard and soft tissues
- Each of these components have to be reconstructed independently to avoid major aesthetic sequelae
- Golden rules & workhorse techniques
  - Bone reconstruction
    - When to use bone graft / reconstructed bone flap
    - Microsurgical techniques for Mandible & tongue-recovery after
  - Soft tissue coverage
    - Regional fascial flaps for aesthetic reconstruction

---

---

---

---

---

---

---

---

---

---

---

---

23

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The character of the face is define by the association of hard and soft tissues
- Each of these components have to be reconstructed independently to avoid major aesthetic sequelae
- Golden rules & workhorse techniques
  - Bone reconstruction
    - When to use bone graft / reconstructed bone flap
    - Microsurgical techniques for Mandible & tongue-recovery after
  - Soft tissue coverage
    - Regional fascial flaps for aesthetic reconstruction

---

---

---

---

---

---

---

---

---

---

---

---

24

1) Introduction


2) Anatomy & classification

3) General rules


4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face



Tension lines



Anatomic Units

---

---

---

---

---

---

---

---

---

---

---

---

25

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The character of the face is define by the association of hard and soft tissues
- Each of these components have to be reconstructed independently to avoid major aesthetic sequelae
- Golden rules & workhorse techniques
  - Free flaps
    - When to use free graft: considered lower lip
    - Microsurgical techniques for "Mandible & tongue-mandible" only
  - Soft tissue coverage
    - Buccal fat pad flap: no aesthetic sequelae
    - Forehead scalp flap: "There is no better tissue than scalp tissue" (2016)
    - Microsurgical and vascularized head skin flaps

---

---

---

---

---

---

---

---

---

---

26

1) Introduction

2) Anatomy & classification

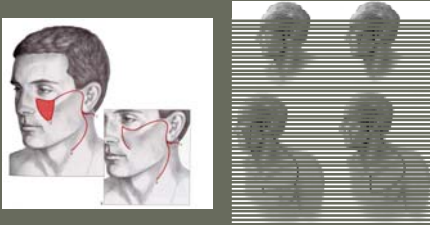
3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The cervico-jugal flap




---

---

---

---

---

---

---

---

---

---

27

1) Introduction

2) Anatomy & classification

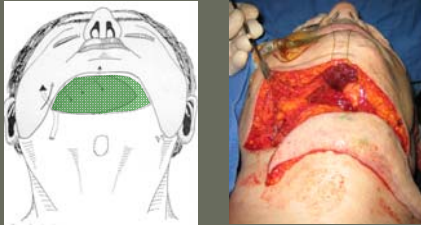
3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The cervico-jugal flap
- The submental perforator flap




---

---

---

---

---

---

---

---

---

---

28

1) Introduction

2) Anatomy & classification


3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

2) Recreate the plastic and aesthetic of the lower 1/3 of the face

- The cervico-jugal flap
- The submental perforator flap
- The supraclavicular flap




---

---

---

---

---

---

---

---

29

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

3) Restore the function

- No Autologous flap have the characteristic of oral tissues
- The Golden rules are:
  - Preserve and help the function of the remaining organs
  - If possible, check with local tissues (FOM) – Buccinator Flap but don't use all in other situations
  - The flaps is often the better
  - Avoid the softening and the swelling effect

---

---

---

---

---

---

---

---

30

1) Introduction

2) Anatomy & classification

3) General rules

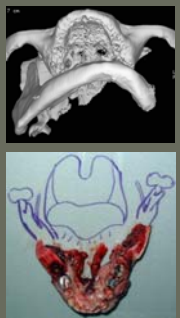
4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Specificities of mandibular defects secondary to carcinologic resection

- Long defects
- Two major types
  - Vertical
  - Horizontal
- Associated with large soft tissues resection
- Irradiated tissues

⇒ Reconstruction with vascularized bone flaps




---

---

---

---

---

---

---

---

31

3 major donor sites

1) Introduction

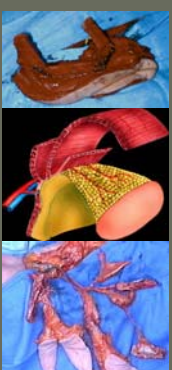
2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Fibula
  - Pidgeon CD. Fibula free flap for mandibular reconstruction. Plast Reconstr Surg 1989
- Iliac crest
  - Thomas C. The free microvascular fibula: transfer to head and neck. Br J Plast Surg 1982
- Scapula
  - Sauer H.H. The scapula: a vascular flap for mandibular and maxillary reconstruction. Plast Reconstr Surg 1988




---

---

---

---

---

---

---

---

---

---

---

---

32

3 major donor sites  
*With their advantages and drawbacks*

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Flap	Tissue Composition of the flap			Donor site parameters	
	Bone	Skin paddle	Pedicle	Position	Morbidity
Fibula	A	C	B	A	A
Radius	D	A	A	C	D
Scapula	C	B	B	D	D
Iliac crest	B	D	D	B	C

---

---

---

---

---

---

---

---

---

---

---

---

33

Decision making process

3 questions

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Is there any vascular contra-indication for free flap surgery ?
  - Arterio-venous fistula of the neck and lower extremities
  - If yes : free flap reconstruction or microvascular free and microvascular free-regional flap
- Is the bone defect lateral or central ?
  - If lateral: bone replacement is not mandatory
  - If central: bone replacement is mandatory
- Is the bone defect alone or associated to soft tissues resection ?
  - If alone: bone replacement is the primary goal of reconstruction
  - If associated: soft tissue replacement can be the primary goal of the reconstruction

---

---

---

---

---

---

---

---

---

---

---

---

34

Clinical situation 1

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- The answer to the 3 questions
  1. The mandible carries indications for free flap
  2. Limited options
  3. Reconstruction
- Reconstructive decision
  - Bone reconstruction is not mandatory for the survival of the patient
  - The bone reconstruction improves quality and functional results
  - Bone reconstruction has to be proposed to patient
- Goals of reconstruction
  - Survival of patient
  - Plastic & Aesthetic → social comfort of the flap
  - Functional → restore deglutition & speech capabilities
- First choice free flap
  - Flaps

---

---

---

---

---

---

---

---

---

---

35

Clinical situation 2

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- The answer to the 3 questions
  1. The mandible carries indications for free flap
  2. Limited options
  3. Bone flaps
- Reconstructive decision
  - Central defect of the mandible is responsible for severe plastic and functional sequelae
  - Bone reconstruction is mandatory
- Goals of reconstruction
  - Survival of patient → continuity of airway
  - Plastic & Aesthetic → social body image
  - Functional → restore the quality, deglutition capabilities, speech, swallowing
- First choice free flap
  - Flaps

---

---

---

---

---

---

---

---

---

---

36

Clinical situation 3

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- The answer to the 3 questions
  1. The mandible carries indications for free flap
  2. Limited options
  3. Bone reconstruction is not always the Tongue or Internal cheek of mandible
- Reconstructive decision
  - Bone reconstruction is the primary goal
  - Bone reconstruction of the mandible & a second goal
- Goals of reconstruction
- Survival of patient = protection of vessels and airways
  - Plastic & Aesthetic → social comfort of the flap
  - Functional → restore deglutition & deglutition, speech capabilities
- First choice free flap
  - The free flap is chosen → free tongue reconstruction
  - Flaps available
    - Internal cheek
    - Tongue
    - FOM
    - Flap

---

---

---

---

---

---

---

---

---

---

37

### Clinical situation 4

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- The answer to the 3 questions
  1. The vascular territory responsible for free flap
  2. General defects
  3. Flaps associated with each vascular territory (region, flap)
- Reconstructive decision
  - Flaps used with different considerations are both primary goals
  - Complete reconstruction is mandatory
- Goals of reconstruction
  - Survival of patient → overall prognosis, always
  - Function & aesthetics → overall body goals
  - Functional → restore the primary, reconstructive, degenerative, speech, breathing
- First choice free flap
  - The single flap will not do the job properly
  - 1 flap with sacrifice of some goals
  - 2 free flaps

---

---

---

---

---

---

---

---

---

---

38

### Decision making process

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- The goals of reconstruction
  1. Survival of patient
    - Tight packing of the oral cavity
  2. Function & aesthetics
  3. Functional
    - Allow free movement of the mobile tongue and dental occlusion
    - Restore the contact between mobile tongue and teeth
- First choice flap
  - The single flaps
    - Local mandible flap (FOM) and buccinator
    - Free flaps defects
  - Local buccal-mandible flap (with buccinator flap)
  - Trans-mandible free flap (buccinator flap)

---

---

---

---

---

---

---

---

---

---

39

### Specificities of tongue defects secondary to carcinologic resection

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Anatomy of the tongue
  - Divided in 2 parts: oral and laryngeal
  - Mobile tongue (MT)
  - Base of the tongue (BT)
  - Dividing in 3 segments: superior
  - Mobile tongue (MT) → oral cavity
  - Base of the tongue (BT) → laryngopharynx
- Relation of the tongue with neighborhood organs
  - Close relations with other vital organs, degenerative & chronic consequences
- Carcinologic resection does not respect anatomic divisions
  - Global tongue reconstruction will be required

---

---

---

---

---

---

---

---

---

---

40

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

### Specificities of tongue reconstructive procedure

- The tongue is a
  - Unique organ in the body
  - Highly specialized in every context & essential functions (breathing, speech, eating)
- Consequence for the reconstruction = remain humble
  - No satisfactory replanting tissues
  - Aimed to restore the function of remaining organs
  - Restore the remaining functions
  - The most tongue procedures goes after the first results (Dr. Conzel, Arch Otolaryngol Head Neck surg. 1998)

---

---

---

---

---

---

---

---

---

---

41

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

### Function of the tongue

- Mobile tongue (MT) = mobility
  - First phase of deglutition
  - Buccal pressure applies 1, 2, 3, 4
  - Tense force to be released
  - Sensitivity (lingual nerves)
- Base of tongue (BT) = Bulk
  - Directly under pharynx (groups of deglutition)
  - Buccal pressure applies 5, 6, 7, 8, 9
  - Compression (mastication)
  - Swallowing
  - Airway protection

---

---

---

---

---

---

---

---

---

---

42

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

### Goals of reconstruction

- Assure survival of the patient
  - Maximal preservation
  - Airway protection & deglutition
- Recreate Plastic & aesthetic of the face
- Restore Function
  - Mobile tongue (MT) = Mobility
    - Restore the contact between tongue and FOM to avoid the swallowing defect
    - Restore shape the buccal tongue & be in tongue control
    - Restore sensitivity & sensitive nerve innervation in lingual nerve
  - Base of tongue (BT) = Bulk
    - Restore ability bulk to prevent reflux & lower airway infection
    - Restore ability to masticate (mastication)
    - Airway protection

---

---

---

---

---

---

---

---

---

---

43

**Flap proposed for reconstruction**

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Mobile tongue
  - Local free flap = FPMH, Buccinator
  - Local free flap = submental
  - Free flap = upper/lower esophageal
  - Pharyngeal free flap

---

---

---

---

---

---

---

---

---

---

---

---

44

**Forearm flap for mobile tongue (MT) reconstruction**

1) Introduction

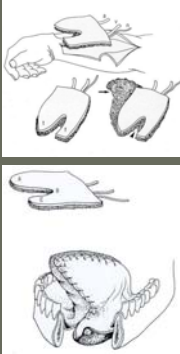
2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Specificities
  - Thin & pliable
  - Vascular
- Indications
  - Pharyngoesophageal with FPMH resection
  - Buccinator flap




---

---

---

---

---

---

---

---

---

---

---

---

45

**Flap proposed for reconstruction**

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Mobile tongue
  - Local free flap = FPMH, Buccinator
  - Local free flap = submental
  - Free flap = upper/lower esophageal
  - Pharyngeal free flap
  - Buccinator free flap

---

---

---

---

---

---

---

---

---

---

---

---

46

### Flap proposed for reconstruction

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Mobile tongue
  - Local free flap → FPMR, Buccinator
  - Local free flap → submandibular
  - Free flap → upper/lower esophageal
    - Pharyngeal free flap
    - Interoesophageal flap
- Base of the tongue
  - Local free flap → submandibular
  - Free flap →
    - Latissimus dorsi free flap

---

---

---

---

---

---

---

---

---

---

---

---


47

### Free latissimus dorsi musculo-cutaneous flap for base of tongue (BT) reconstruction

Thompson, J. Otolaryngology 1977

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Specificities
  - Bulk
  - Muscle innervation
  - Not suitable bulk with taste (BTT)
- Indications
  - Base of tongue carcinoma
  - Tongue dysplasia
  - Laryngeal suspension




---

---

---

---

---

---

---

---

---

---

---

---

48

### Flap proposed for reconstruction

- 1) Introduction
- 2) Anatomy & classification
- 3) General rules
- 4) Regional specificities
  - Mandible
  - FOM
  - Tongue
  - Internal cheek
  - Palate

- Mobile tongue
  - Local free flap → FPMR, Buccinator
  - Local free flap → submandibular
  - Free flap → upper/lower esophageal
    - Pharyngeal free flap
    - Interoesophageal flap
- Base of the tongue
  - Local free flap → submandibular
  - Free flap →
    - Latissimus dorsi free flap
    - Pharyngeal free flap
    - Interoesophageal free flap

---

---

---

---

---

---

---

---

---

---

---

---

49

Free rectus abdominis musculo-cutaneous flap for base of tongue (BT) reconstruction  
Wang, H. H., et al. J Oral Maxillofac Surg. 1998; 56(12):1385-1390

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Specificities
  - Back
  - Donor site (transverse incision)
  - Flaps and vascular pedicle
  - Ankle back neck line (ABN)
- Indications
  - Base of tongue resection
  - Total glossectomy
  - Laryngeal suspension

---

---

---

---

---

---

---

---

---

---

---

---

50

Flap proposed for reconstruction

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Mobile tongue
  - Local island flap = FOM, Buccinator
  - Local island flap = submandibular
  - Free flap = upper lip, buccinator
  - Free flap = buccinator
  - Free flap =
- Base of the tongue
  - Local island flap = submandibular
  - Free flap =
  - Free flap =
  - Free flap =

---

---

---

---

---

---

---

---

---

---

---

---

51

Clinical application and indications

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Classification of the defect (Liken L. & col Arch Otolaryngol Head Neck Surg. 1971; 104:11)
- Groups of defects according with the indication of reconstruction
  1. Mobile Glossectomy
    1. Group = T1a
    2. Group = T1b
  2. Hemiglossectomy of BT = Group T2a
  3. Total Glossectomy of BT = Group T2b
  4. Hemiglossectomy of BT = Group T3a
  5. Subtotal Glossectomy = Group T3b
  6. Total glossectomy = Group T3c
- Indication of the reconstructive technique according to the group of defect

---

---

---

---

---

---

---

---

---

---

---

---

52

Group I = marginal glossectomy

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Goal
  - Restore the function of the remaining tongue
- Technique
  - Secondary intention healing
  - Skin graft
  - Pharyngeal flap (FAPPT, tongueless)

---

---

---

---

---

---

---

---

---

---

---

---

53

Group II = hemiglossectomy of MT

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Goal
  - Restore the mobility of the remaining MT
  - Preserve the FOM
  - Restore swallowing
- Technique
  - Free flaps → Bilateral forearm free flap
  - Second choice → microvascular thigh free flap
  - Secondary nerve anastomosis

---

---

---

---

---

---

---

---

---

---

---

---

54

Group III = Total glossectomy of MT

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Goal
  - Restore the shape of the MT (dental and lip contact)
  - Support & help to the base of the tongue mobility
  - Avoid the anterior gaiting effect
  - Restore swallowing
- Technique
  - Combined tongue flaps or microvascular thigh flap
  - Secondary nerve anastomosis

---

---

---

---

---

---

---

---

---

---

---

---

55

Group IV = hemiglossectomy of BT

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Goal
  - Restore volume without compromising the mobility of the remaining BT
  - Closure flap with stable volume
  - Restore consistency
- Technique
  - Free flaps + microvascular thigh flap

---

---

---

---

---

---

---

---

56

Group VI = Total glossectomy

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Goal
  - Bring stable volume
  - Preserve the volume + functional consistency
  - Restore consistency
- Technique
  - Free flaps + microvascular
  - Second choice = microvascular thigh flap

---

---

---

---

---

---

---

---

57

Reconstruction des glossectomies totales *Groupe TG*

- But
  - Répondre au volume stable avec un organe de réserve
  - Restaurer la consistance
  - Prévenir les rétrécissements
  - Prévenir les fuites
- Moyen
  - Appliquer les principes généraux de la chirurgie
  - Améliorer les résultats fonctionnels

---

---

---

---

---

---

---

---

58

**Goals and workhorse technique of the reconstruction**

- Assure survival of the patient
- Recreate plastic and aesthetic
  - Good hair coverage flap over through and through incision
- Restore the function
  - The tongue must bring to table
  - Allow wide spectrum movement from closed to deep opening without constant tension
  - Large oral gable is necessary
  - Place scars in the oral commissure to avoid commissure flap
  - Free flaps + anastomosis flap flap

1) Introduction  
2) Anatomy & classification  
3) General rules  
4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

---

---

---

---

---

---

---

---

---

---

---

---

59

**Goals of the reconstruction**

- Assure survival of patient
- Recreate plastic and aesthetic
  - Good hair coverage + PMJ pillar
  - Soft tissue coverage +
  - Good movement if possible for lip and nose reconstruction
- Restore function
  - Close the buccal pouch and nasal commissure
  - Restore the contour of the nasal cavity
  - Avoid velopharyngeal insufficiency
  - Prepare dental rehabilitation

1) Introduction  
2) Anatomy & classification  
3) General rules  
4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

---

---

---

---

---

---

---

---

---

---

---

---

60

**The P parameter**

1) Introduction  
2) Anatomy & classification  
3) General rules  
4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

---

---

---

---

---

---

---

---

---

---

---

---

61

### Class VI

#### No PM pillar interruption

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

---

---

---

---

---

---

---

---

---

---

---

---

62

### The H parameter is essential

- Defines the PM pillar interruption
- The canine point is the key
  - Measure of the protrusion
  - Forward maxillary inclination
  - Assess the stability of the dental prosthesis

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

---

---

---

---

---

---

---

---

---

---

---

---

63

### Class I

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

---

---

---

---

---

---

---

---

---

---

---

---

64

**Class III**

1) Introduction  
 2) Anatomy & classification  
 3) General rules  
 4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Is the PM pillar interrupted?

Y

Location/canine point?

Class III

Is it subtotal?

Y N

Fibula flap Scapulo-dorsal flap

---

---

---

---

---

---

---

---

---

---

---

---

65

**Class IV**

1) Introduction  
 2) Anatomy & classification  
 3) General rules  
 4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Is PM pillar interrupted?

Y

Location/canine point?

Class IV

Fibula flap

---

---

---

---

---

---

---

---

---

---

---

---

66

**Class V**

1) Introduction  
 2) Anatomy & classification  
 3) General rules  
 4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Is PM pillar interrupted?

Y

Location/canine point?

Class V

Other units resected?

Y N

1 choice = prosthesis  
 2 choice = forearm flap + iliac crest graft  
 Combined rehabilitation

---

---

---

---

---

---

---

---

---

---

---

---

67

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Class II = center of the problem

❖The canine fossae = key point  
❖The premaxillar = base of the central structure of the midface

---

---

---

---

---

---

---

---

---

---

---

---

68

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

The V parameter = complete the H

•Interruption of the other pillar  
•ZM  
•FM

---

---

---

---

---

---

---

---

---

---

---

---

69

Influence du paramètre V dans le groupe II

---

---

---

---

---

---

---

---

---

---

---

---

70

### Class II

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

Is the PM pillar interrupted?

Y

Location / canine point ?

Class II

Interruption of other pillar ?

Y: Scapulo-dorsal flap

N: Prothesis

---

---

---

---

---

---

---

---

---

---

71

### Summary

1) Introduction

2) Anatomy & classification

3) General rules

4) Regional specificities

- Mandible
- FOM
- Tongue
- Internal cheek
- Palate

- Classification with 3 parameters
- Regrouping patients in 6 classes

---

---

---

---

---

---

---

---

---

---