



# ***Treatment of Gummy Smile***

***Ass. Prof. Noor F.K. Al-Khawaja  
Orthodontic Dep.  
Baghdad College of Dentistry  
2024***



# Definition

***Gummy smile or “high smile line” or “gingival smile line” is a condition characterized by excessive exposure of maxillary gingiva during smiling***

***Matthew TG. The anatomy of a smile. J Prosthet Dent 39:128-134,1978***

***Oliveira, et al. defined “gummy smile” as a continuous band of gingival display of more than 3 mm, during spontaneous smile.***

***Oliveira, et al. Gummy smile: A contemporary and multidisciplinary overview. Dental hypothesis. 2013, 4:2. 55-60***



*At smile*



*Over exposure seen in repose of lips*



# Etiology

<b>Periodontal</b>	Delayed passive eruption	Gingival hyperplasia	
<b>Soft tissue</b>	Morphologically short upper lip	Hypermobile upper lip	
<b>Dental</b>	Short clinical crown	Anterior dentoalveolar extrusion	Loss of torque on the anteriors
<b>Skeletal</b>	Vertical maxillary excess	Rotations of maxilla	

*Diagnosis and treatment planning of excessive gingival display- review JIOS 2006*



# *Treatment Methods*

*Treatment of the Gummy Smile varies according to the etiological factors, perception and expectations of the patient.*



# Altered/ delayed passive eruption



## ***Management***

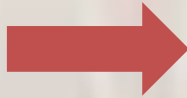
- ***Gingivectomy***
- ***Apically repositioned flap***



# Gingivectomy



- *5 mm of crevice depth with adequate band of keratinized tissue.*
- *Gingivectomy can be use to increase crown length by up to 3 mm*





# *Apically Repositioned Flap*



- Short clinical crowns with large gingival display on smiling
- Insufficient gingival crevice depth for gingivectomy







# Plaque/ Drug-induced Gingival Enlargement



It is most often related to dental plaque and inflammation but can be associated with medication such as phenytoin, cyclosporine and calcium channel blockers.

## Management

Treatment of this condition should focus on meticulous oral hygiene.

Substitution of the drug causing enlargement

Sometimes, periodontal surgery is needed to eliminate the excessive amount of soft tissues.



**Excessive gingival display— Etiology, diagnosis, and treatment modalities** Nir Silberberg, Moshe Goldstein, Smidt, *QUINTESSENCE INTERNATIONAL* 4; 10; 2009



**Surgical Gingivectomy**

**Laser Gingivectomy**



# Morphologically short Upper Lip



Normal upper lip length is about 23mm in males and 20mm in females.

## Management

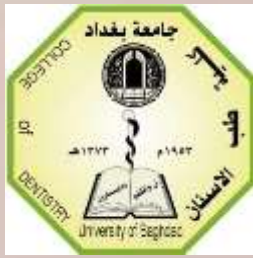
Correction of short philtrum can be achieved with V-Y cheiloplasty performed as an isolated procedure or along with Lefort I impaction or rhinoplasty.

The V-Y procedure helps in increasing the length of the upper lip but then combined with rhinoplasty, the amount of tissue available for lip lengthening is drastically increased



**Diagnosis and treatment planning of excessive gingival display – review JIOS 2006**





# Hyperactive Upper Lip

Management

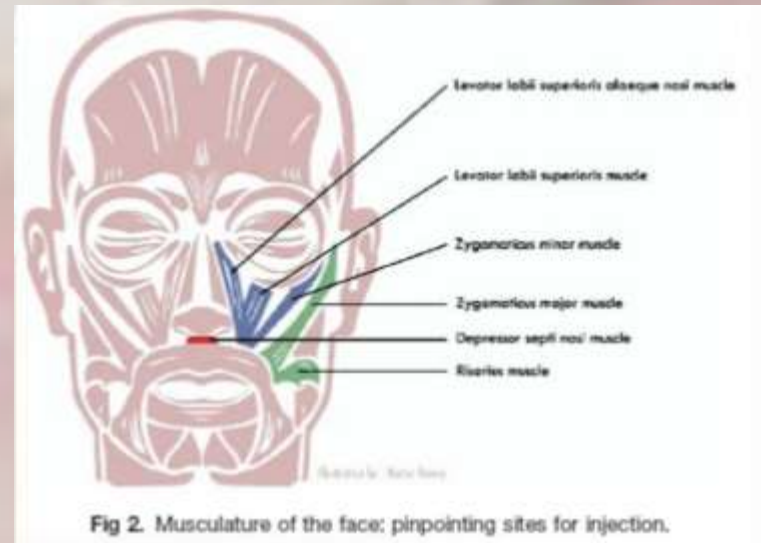
Botox Injection

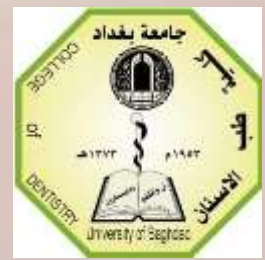
Surgical Lip Repositioning

## Objective:

- To decrease the amount of lip elevation on smiling
- Lowering the height of the **gingivolabial sulcus**

## Botox Injection

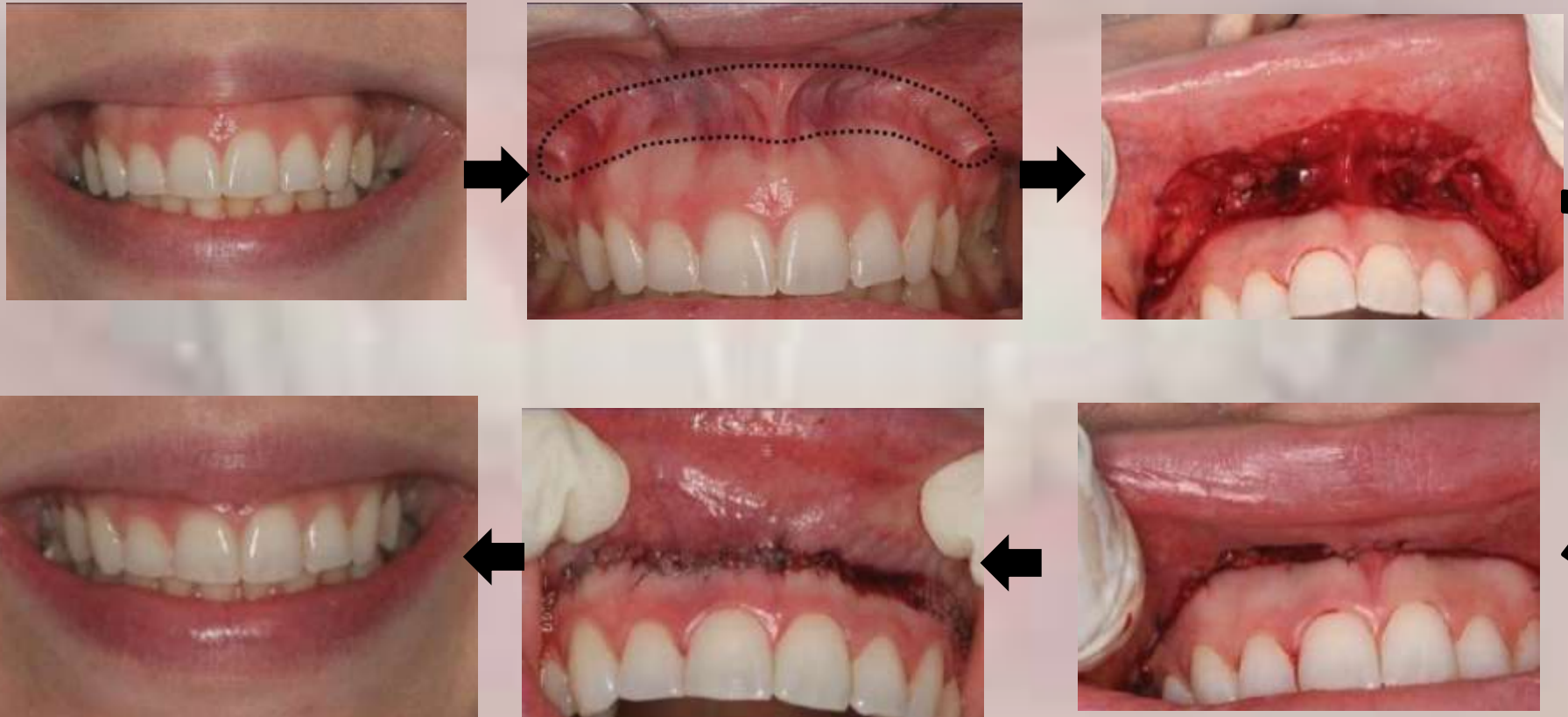




## *Surgical Lip Repositioning*



The procedure restricts the muscle pull of the elevator lip muscles by shortening the vestibule, thus reducing the gingival display when smiling.



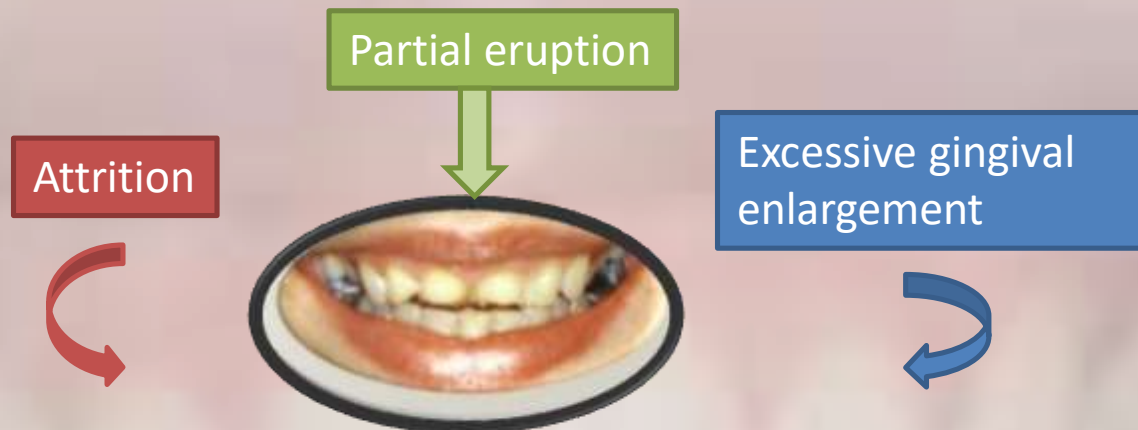
Simon, Rosenblatt and Dorfman. J Cosmetic Dentistry, Spring 2007





# Dental

## 1. Short Clinical Crown



*Average vertical height of Maxillary Incisor:*

- 10.6 mm in males.
- 9.8 mm in females.

## Management


A crown lengthening procedure with crestal bone removal is advisable for short clinical crown with a gingival smile with normal incisor display at rest.



# Dental



## 2. Anterior Dentoalveolar Extrusion

Over eruption of maxillary incisors with their dentogingival complex and this may be associated with tooth wear at the anterior region (compensatory incisor over eruption) or with anterior deep bite.  There is usually a discrepancy in the occlusal plane between the anterior and posterior segments`

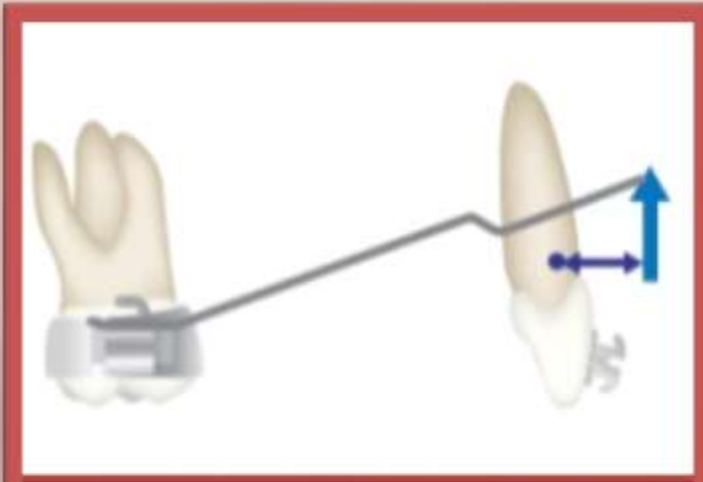
### Management

Orthodontic intrusion:

- Intrusion arch
- Mini implant screw



anterior dentoalveolar extrusion



Orthodontic treatment of gummy smile by using mini-implants: Treatment of vertical growth of upper anterior dentoalveolar complex. Tae-Woo Kim, Benedito Viana Freitas. Dental Press J. Orthod. 2010.

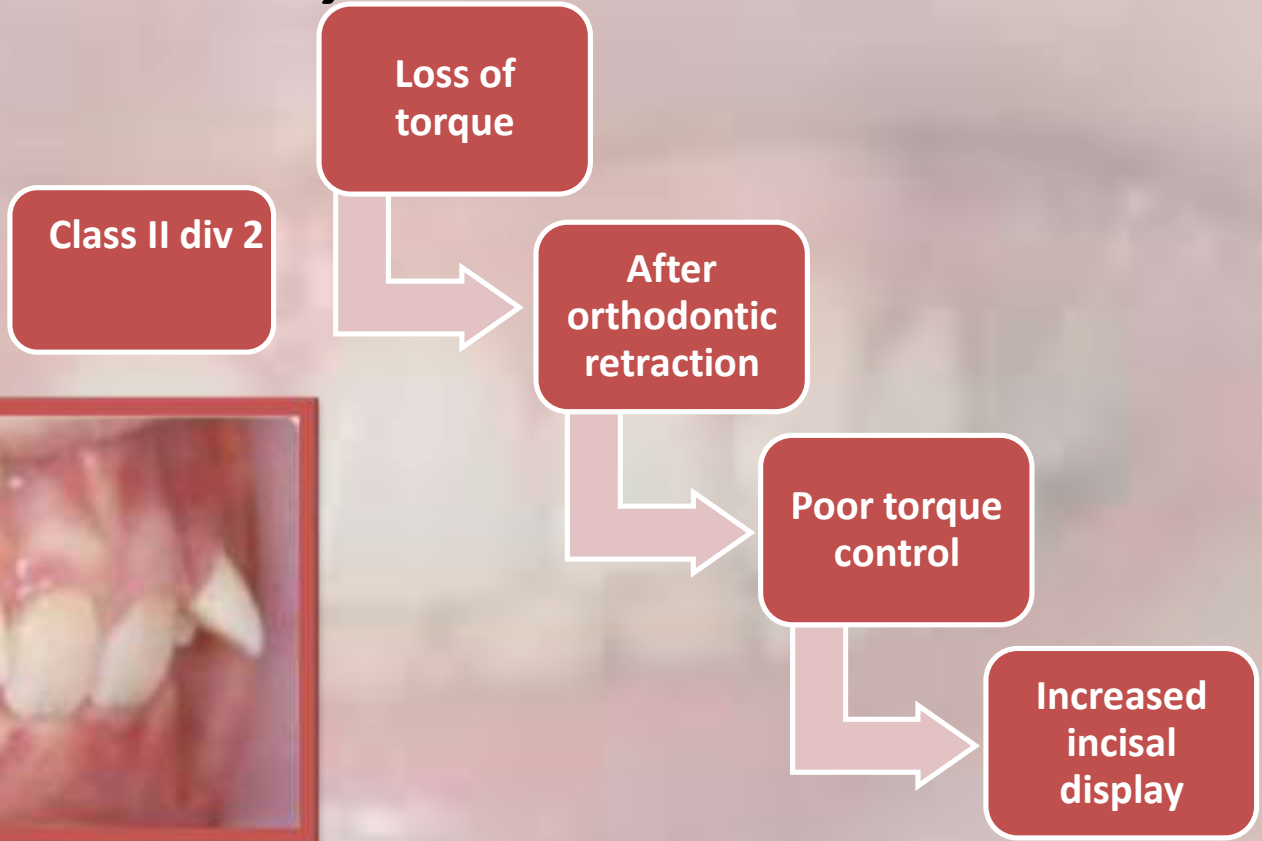
**Burstones one piece intrusion arch  
Should be used in association with  
high pull headgear or TPA**





# Dental

## 3. Loss of Torque or Palatally tipped Maxillary Incisors



**Management**

**If iatrogenic incorporation of torque in wire**



# Skeletal

## 1. Vertical Maxillary Excess



Growing

High pull headgear with or without maxillary splint

Vertical pull chin cup with cervical headgear

Non Growing

Orthognathic surgery

Correction using mini implants

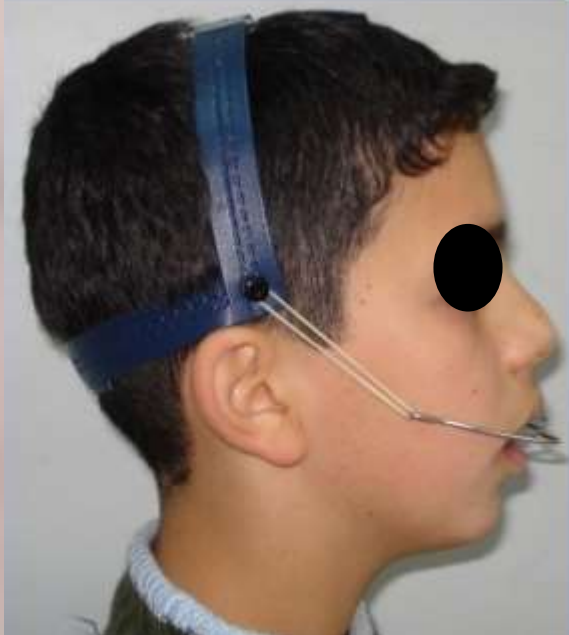
**management**

Degree	Gingival and mucosal display (mm)	Treatment modalities
I	2-4	Orthodontic intrusion Orthodontics and periodontics Periodontal and restorative therapy
II	4-8	Periodontal and restorative therapy Orthognathic surgery (Le Fort I osteotomy)
III	≥ 8	Orthognathic surgery with or without adjunctive periodontal and restorative therapy



# Growing Pt.

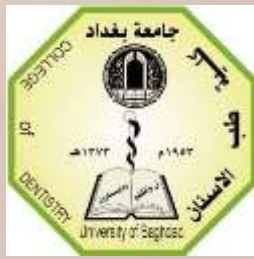
- High – pull headgear
- Bite blocks



- Superior and distal displacement of maxilla
- Clockwise rotation of palatal plane
- Reduction in SNA angle
- Relative intrusion of maxillary molars



High - pull headgear + TPA



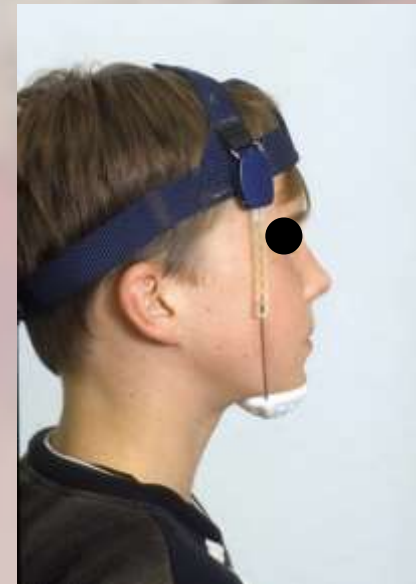
# Mandibular bite blocks with vertical pull chin cup



- Vertical pull chin cup in association with cervical headgear, produces sig. favorable skeletal and dental alterations by inhibiting maxillary, redirecting mandibular growth in amore horizontal direction.

**It provides:**

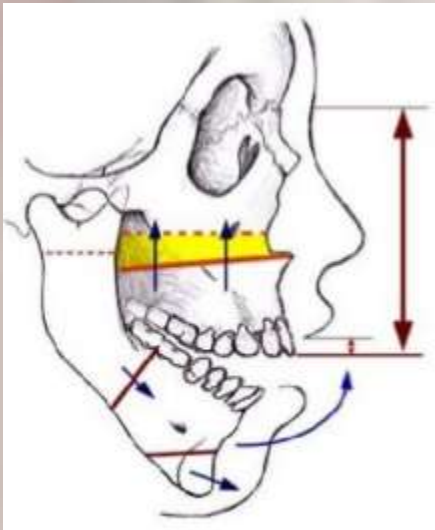
- **Decreased gonial angle**
- **Reduction of condylar growth**



# Non Growing Pt.



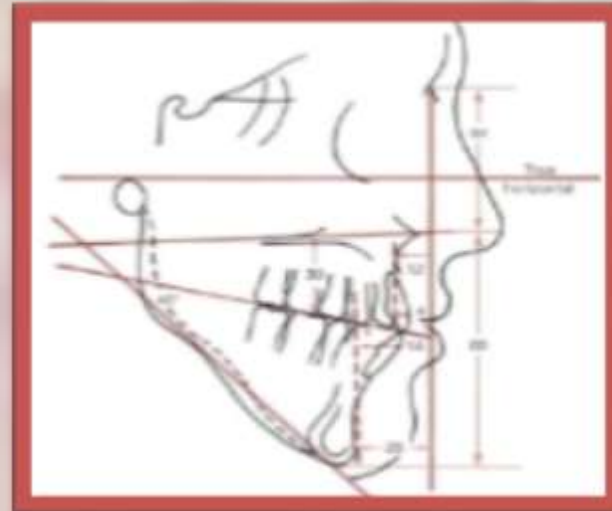
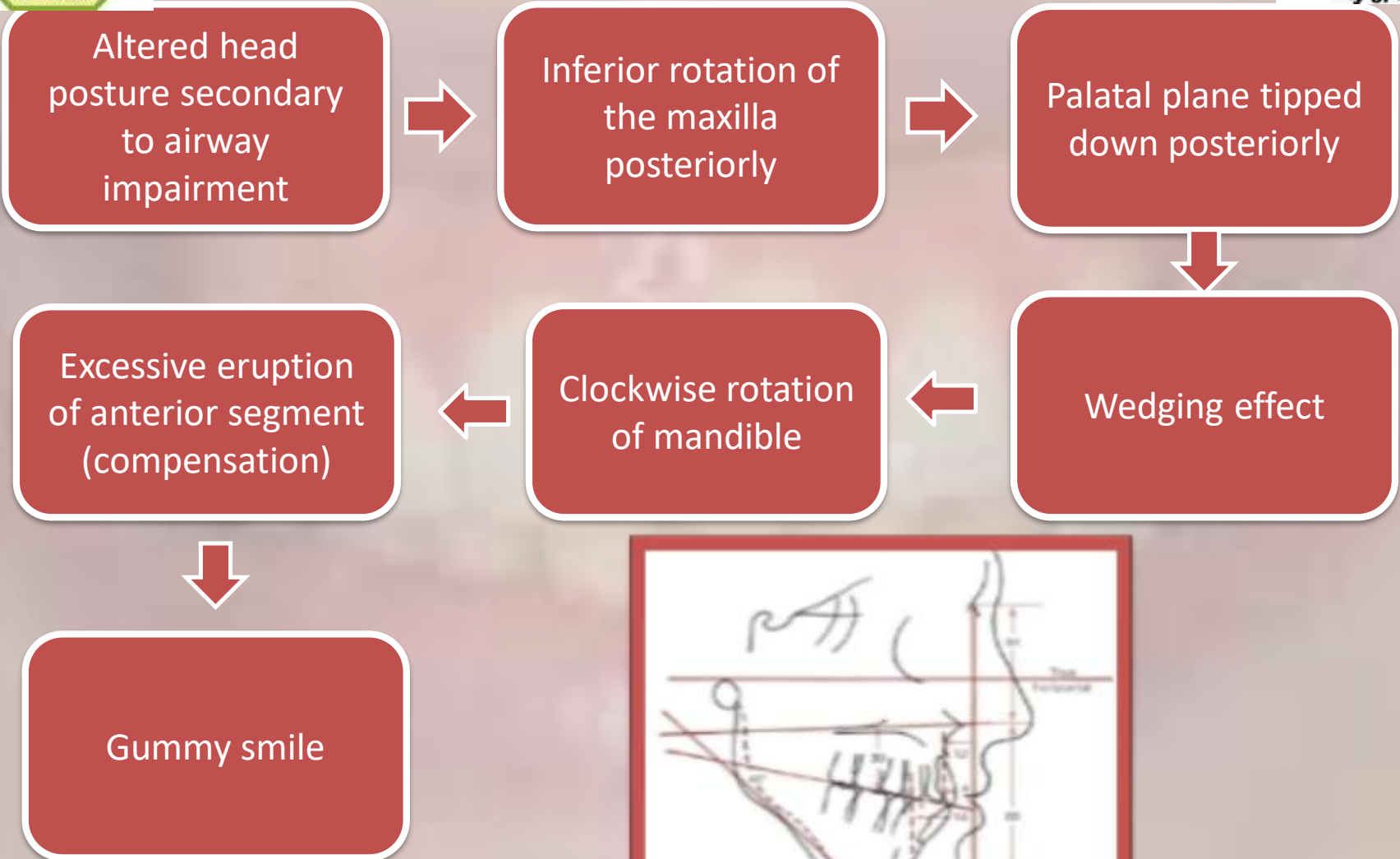
- Maxillary Impaction : *Le Fort I Osteotomy* .
- Mandibular Advancement : *Modified Obwegeser*
- *Genioplasty* : Chin advancement & height reduction



Courtesy , Dr . Nabil Abo Chebel, Beirut-Lebanon



## 2. Rotation of Maxilla







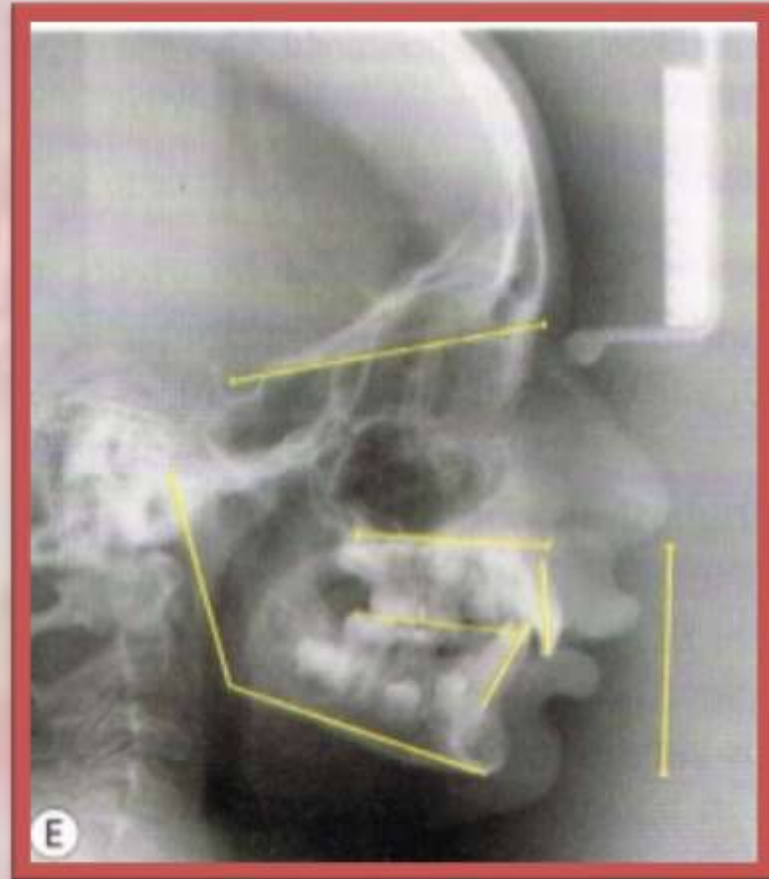
Clockwise rotation  
of maxilla



Increased incisal  
display



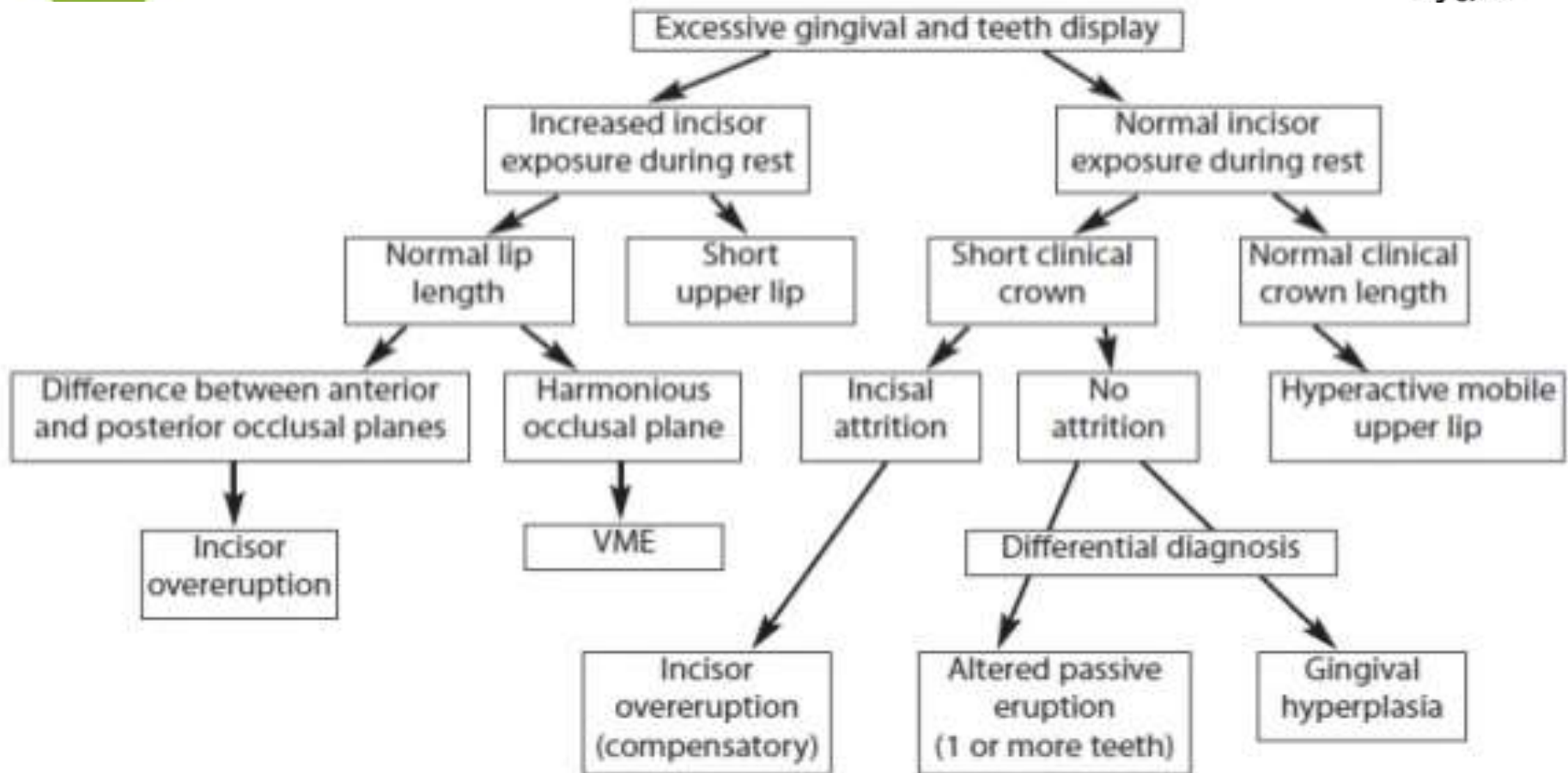
Gummy smile

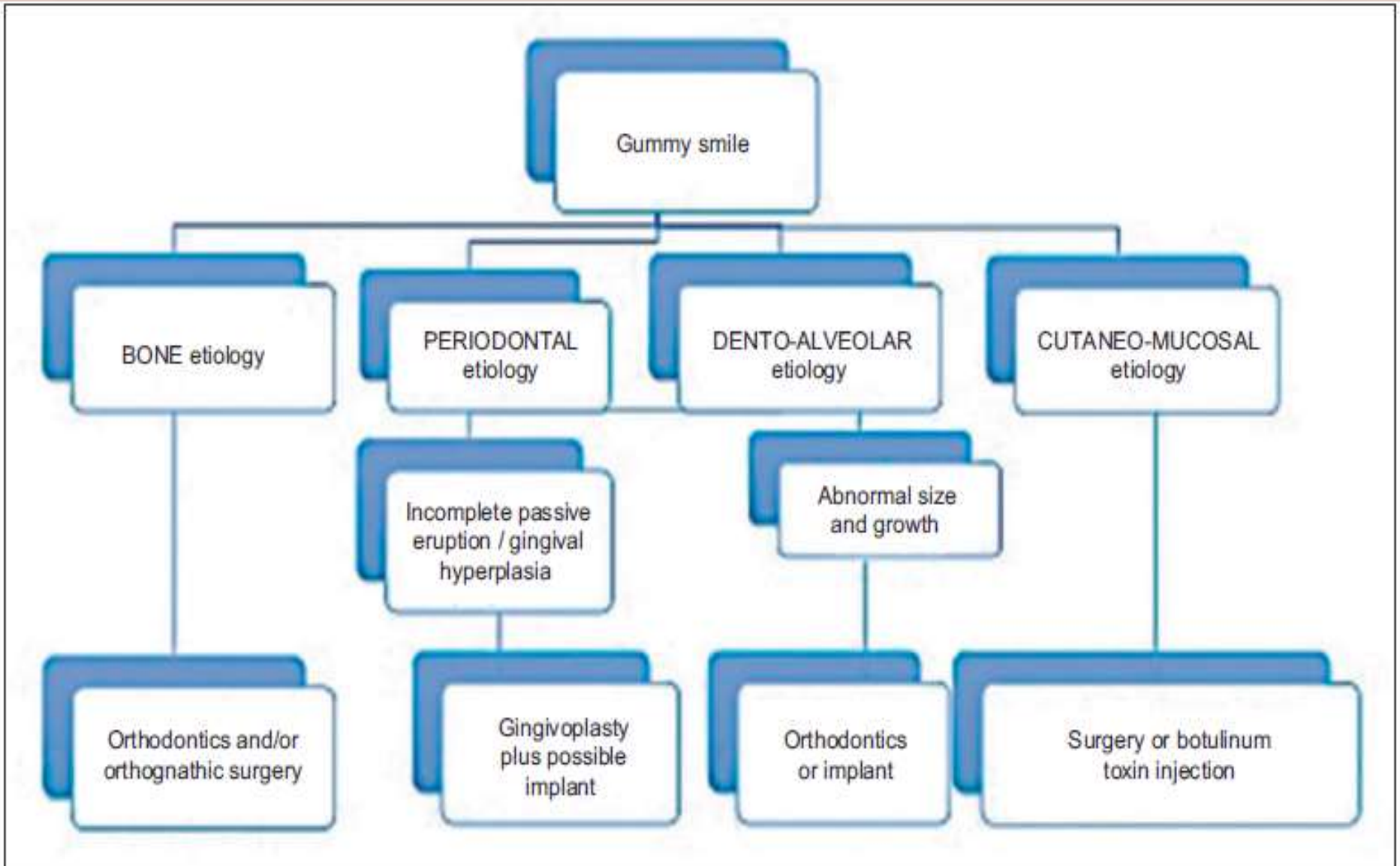






# Summary







# Gummy Smiles

Correct diagnosis is key to solving a complex cosmetic concern

*Thank you*