

“Global Diagnosis”

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1. The face height measured in repose from the glabella to the base of the nose equals the measurement from the base of the nose to the inferior border of the chin. This means that the middle third of the face should approximately equal the lower third of the face.
2. The lower third of the face is approximately 1/3 above mid-commissure line (maxilla) and 2/3 below mid-commissure line (mandible)
3. Lip length measured in repose from the base of the nose to the inferior border of the maxillary lip in the young adult is approximately:
 - Females: 20-22 mm
 - Males: 22-24 mm
4. Average lip mobility from repose to full smile is 6-8 mm.
5. The upper will lengthen with age. Rough guideline: 1mm per decade starting at age 40.
6. In an antero-posterior plane, the posterior edges of the maxillary teeth should be a continuation of the anterior smile line. There should be no step-up or step-down from maxillary canine to first premolar.
7. In a full smile, the incisal edges of the maxillary anterior teeth are cradled by the lower lip. There should be minimal or no negative space between the maxillary incisal edges and the lip (i.e., reverse smile). If there is space, it should be symmetrical. Conversely, none of the incisal edge of the maxillary anterior teeth should be hidden by the lower lip.
8. In full smile, the upper lip should drape across the maxillary central incisors and the canines at the tooth-gingiva interface (gingival line), displaying the entire clinical crown but very little marginal gingiva.
9. In gentle repose (say “M” or Emma), 3-4 mm of the incisal edges of the maxillary central incisors are displayed in the youthful female smile.

10. The average length of the maxillary central incisor is 10-11mm. It is difficult, if not impossible, to develop optimum esthetics with short maxillary anterior teeth. The ratio of height to width in the maxillary central incisor should be approximately 1.2 to 1.

“Global Diagnoses”

1. Short or Hyperactive Upper Lip
2. Short Teeth (Altered Passive Eruption, Wear, Microdontia)
3. Dentoalveolar Extrusion
4. Skeletal discrepancy

Short/Hyperactive Upper Lip

1. Upper Lip Surgery
2. Behavior Modification
3. Botox
 - 3-4 Month Duration
 - www.mariopolo.com
 - Polo M. Am J Orthod Dentofacial Orthop 2008;133:195

Short Clinical Crown

1. Normal Eruption
 - Active Eruption – Movement of tooth down through bone and soft tissue within 1mm until it couples with opposing tooth in a stable position
 - Passive Eruption – Apical migration of gingival up the anatomic crown until it reaches of the CEJ where it stabilizes
 - Passive Eruption is essentially complete at approximately age 15
Morrow L, Robbins J. et al. J Dent 2000;28;469-73.
2. Altered Passive Eruption
 - Prevalence - 200 post-orthodontic patients
-66% had a height/width ratio greater than 80%
 - Diagnosis
 - Tooth is short
 - Can't feel CEJ In sulcus
 - Esthetic Crown Lengthening Surgery Goals
 - Move alveolar bone 2 mm apical to CEJs from facial line angle to facial line angle
 - Place gingival crest 3 mm coronal to new alveolar crest
 - Level tissue at new position

Dentoalveolar Extrusion

- Overeruption of teeth
- Gingiva and bone move with teeth
- Curved or Concave gingival line in relation to horizon
- Can occur in any teeth in the mouth
- Etiology
 - Uncoupled anterior teeth, ie. Class 2 malocclusion
 - Supereruption secondary to incisal wear
 - Supereruption secondary to lack of opposing teeth
 - Developmental cant
- Primary DAE Treatment Options
 - Functional Crown lengthening Surgery
 - Bond to root
 - Rolled gingival margins
 - Triangular shaped teeth
 - Black interproximal triangles
 - Orthodontic Intrusion
 - 6-12 months duration
 - Absolute vs. Relative Intrusion
 - Relapse high, retention is critical
 - Temporary Anchorage Devices
 - Surgically Facilitated Orthodontics
 - Advantages
 - Expanded scope of treatment
 - Rapid 2-3x faster than conventional orthodontics
 - Long-term stability
 - Restore at Increased Vertical Dimension

Skeletal Discrepancy

Vertical Maxillary Excess

- Excess vertical length of maxilla
- Lower third of the face is longer than middle third of face

Treatment Options

- Maxillary Le Forte I osteotomy
- Botox (masking treatment)

Maxillary/Mandibular Deficiency

- Lower third of the face is shorter than middle third of face
 - - Orthognathic surgery

The 5 “CORE” Questions

1. **Face Height** The face height measured in repose from the glabella (mid-brow point) to the base of the nose equals the measurement from the base of the nose to the inferior border of the chin. This means that the middle third of the face should approximately equal the lower third of the face.

DX: Lower Third of the Face is Longer - Vertical Maxillary Excess

TX: Orthognathic Surgery, Botox (masking)

Face Height The Lower Third of the Face is Shorter than the Middle Third. Rickett’s “E” Line outside normal values.

DX: Maxillary or mandibular deficiency

TX: Orthognathic Surgery

2. **Lip Length** Measured in repose from the base of the nose to the inferior border of the maxillary lip in the young adult is approximately:
Females: 20-22 mm
Males: 22-24 mm

Lip Mobility

Average lip mobility is 6-8 mm

DX: Short or Hyperactive Upper Lip

TX: Botox

3. **Gingival Line** Drawn from Canine to Canine. Centrals should be on that line.

DX: Concave Gingival Line - Dentoalveolar Extrusion

TX: Orthodontic Intrusion, Crown Lengthening Surgery, Increase Vertical Dimension

4. **Length of the maxillary central incisor** 10-11mm.

DX: Less Than 10 mm - Microdontia, Wear, Altered Passive Eruption

5. **Feel the CEJ in the sulcus?**

DX: Can’t Feel CEJ in the Sulcus - Altered Passive Eruption

TX: Esthetic Crown Lengthening Surgery