

Course Title: Excess Gingival Display

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Research - (perception of excess gingival display)

Q: When do people notice a "gummy smile"?

(** measured from gingival margin to bottom of lip on smiling**)

Thresholds:	Orthodontists	3mm
	General Dentists	ND
	Lay People	3mm

(Kokich Jr, et al. *J Esthet Dent* 1999)
(Ker, et al. *JADA* 2008)

Potential Diagnoses for Excess Gingival Display:

- | | | |
|------------------------------------|---|------------------------------------|
| 1. Altered Passive Eruption (APE) | } | Short incisor crown length |
| 2. Altered Active Eruption (AAE) | | |
| 3. Wear and Compensatory Eruption | | |
| 4. Hypermobile Lip / Short Lip | } | Normal incisor crown length |
| 5. Vertical Maxillary Excess (VME) | | |
| 6. Anterior Over-eruption | | |

DIAGNOSTIC QUESTIONS :

NORMAL clinical crown length :

1. What is the incisor crown length?

- this provides initial diagnostic classification as indicated above

2. Are the occlusal and incisal planes coincident?

- **YES** → could be hypermobile lip or VME → **(go to Q: #3)**

- **NO** → this is **anterior over-eruption** → **(DONE)**

3. What is the incisor display at rest?

- **NORMAL** → then the dx is **hypermobile lip** → **(DONE)**

- **EXCESSIVE** → then the dx is **VME** → **(DONE)**

Normal incisor display at rest:

(AGE 30's: ~3.4 mm)

(AGE 40's: ~1.6mm)

(AGE 50's: ~1mm)

(AGE 60's: ~0.5mm)

(Vig, Brundo. *J Prosthet Dent.* 1978)

SHORT clinical crown length :

1. What is the incisor crown length?

- this provides initial diagnostic classification as indicated above

2. Is there any incisal wear?

- **YES** → this is **wear + compensatory eruption** → **(DONE)**

- **NO** → this could be APE or AAE → **(go to Q: #3)**

3. Is the sulcus normal or excessive?

- **NORMAL** → CEJ in the sulcus → **abnormally short crown**
→ CEJ at bone level → **AAE (DONE)**

- **EXCESSIVE** → CEJ in the sulcus → **APE (DONE)**
→ CEJ at bone level → **AAE + APE (DONE)**

TREATMENT OPTIONS:

When treating gummy smile with **short** clinical crown length :

- DX = APE, AAE, Wear + eruption

1. Gingivectomy → (APE)
2. Crown lengthening → (AAE)
3. Intrusion and Restore → (Wear + eruption)

When treating gummy smile with **normal** clinical crown length :

- DX = Hypermobile lip, VME, Anterior over-eruption

1. Botox, lip/elevator muscle surgery → (hypermobile lip)
2. Maxillary impaction → (VME)
3. Orthodontic intrusion → (anterior over-eruption)

KEY: Often more than one diagnosis will be present in an individual patient, therefore multiple treatment options will need to be utilized to properly treat these specific patients