

GUMMY SMILE ORTHODENTICS PROBLEM IN ADULTS

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Introduction

Comprehensive & Adjunctive orthodontics has become a major treatment modality in adult patients recently.

Adjunctive orthodontic treatment must be coordinated carefully with the periodontal and restorative treatment which may involve repositioning teeth that have drifted after extractions or bone loss, alignment of anterior teeth to allow more esthetic restorations, correction of cross bite if it compromises jaw function.

In contrast comprehensive orthodontic treatment for adults is to produce the best combination of dental occlusion, dental & facial appearance & stability of the result to maximize benefit.

Effects on life

In determination of an orthodontic treatment plan, health and in particular dental health is a most important consideration. Along with improved oral function and improved esthetics, health gain is one of the three principal reasons for performing orthodontics treatment.

The presence of a malocclusion in adults may have two psychological effects. The first will be via the response of others to the deformity, and the second will be the effect the deformity has on a person's own sense of well being and self-esteem. Unpredictable responses to malocclusion produce anxiety and can have strongly deleterious effects on one's personality. Severe malocclusions can lead to teasing and the individuals being unhappy with their appearance.

Gummy smile

A smile is considered a "gummy smile" if a significant amount of gingival tissue (gums) can be seen as a person smiles. Although a gummy smile is considered a normal variation of human anatomy, many people with gummy smiles are very self-conscious when smiling.

TYPES OF GUMMY SMILES:

When patients comment on their gummy smiles, they may be referring to a single tooth, a specific group of teeth, or the entire jaw containing all of the teeth, in both the upper and lower parts of the mouth. These gummy smiles may be caused by an array of factors, such as previous orthodontic treatment, developmental or genetic influences, or medication-induced reactions.

Gummy smiles are classified according to the amount of gum tissue that shows in relation to how much tooth structure is displayed when smiling. These classifications are determined by measuring the patient's gum tissue as a percentage of total tooth length. Gummy smiles range from mild, moderate, and advanced, to severe.

MILD GUMMY SMILE:

If the amount of gum tissue displayed while smiling is less than 25% of the entire length of the teeth, it is considered a mild gummy

MODERATE GUMMY SMILE:

If the amount of gum tissue displayed is between 25% and 50% of the length of the teeth, it is considered a moderate gummy smile.

ADVANCED GUMMY SMILE:

If the amount of gum tissue displayed is between 50% and 100% of the length of the teeth, it is considered an advanced gummy smile.

SEVERE GUMMY SMILE:

If the amount of gum tissue displayed is greater than 100% of the length of the teeth, it is considered a severe gummy smile.

CAUSES OF GUMMY SMILE:

There are several possible causes of gummy smile, including: An excessive display of gum tissue in your upper jaw can result from the abnormal eruption of the teeth. Teeth covered by excessive gum tissue appear short, even though they may actually be the proper length.

The muscle that controls the movement of your upper lip could be hyperactive, causing your upper lip to rise up higher than normal. When this occurs, more of your gum tissue is exposed when you smile.

The manner in which your upper jaw bone grew and developed could cause the appearance of a gummy smile. For instance, if there was an excessive bulging protrusion of the upper jaw within the gum tissue, you would experience an obvious gummy appearance when you smile.

Incisor Display, Normal age related changes & Correlation of lips and incisors:-

Vertical position of lips is progressively changed under the influence of age. Peck et al reported that normal visible area of the upper incisors when lips are loose/at the condition of rest at the age of 15 are 4.7mm in boys & 5.3mm in girls. The average values of the norm for different age groups are as follows;

Age Groups	Lower central incisors	Upper central incisors
Up to 30	3.5 mm	0.5mm
30-40	1.5mm	1.0 mm
40-50	1.0mm	2.0mm
50-60	0.5mm	2.5mm
After 60	0.0mm	3.0 mm

Gender Differences:-

In the degree of crown display in the anterior teeth area, in females of all ages upper teeth are seen more & lower teeth less as compared to males. According to Vig & brundo in adult females the degree of tooth display (upper anterior) in the condition of rest is twice more (3.4mm) as compared to males (1.9mm) of the same age.

Standard procedure of registration of the degree of anterior tooth display:-

Registration of the degree of tooth display at rest & while smiling:

Before taking a patient's photograph ask him to keep his lips in his habitual & normal position to register lip position in the condition of rest. In the condition of rest ask the patient to say "Emma" or "Mississippi", teeth should not be joined, soft tissues near the mouth should not be tensed & mandible should be loose.

While smiling asks the patient to say "Cheese", teeth should be joined a bit.

TREATMENT OF GUMMY SMILE:

Treatment of gummy smile depends upon the severity of the underlying cause. Following are few options which are to be considered in for the treatment;

1. Same-day laser treatments (in minor cases).
2. Surgical lip repositioning.
3. Orthodontics for moving teeth into more suitable positions.
4. Surgical Sculpting of the gingival tissues and bone to create healthier and more attractive looking gum contours.
5. Maxillofacial surgery to reposition the bone (surgical superior maxillary displacement of in cases of vertical maxillary excess.)

We will be more emphasizing on the orthodontic treatment for gummy smile.

In mild cases with class-II div 1 malocclusion with increase over jet & lower facial height & excessive display of gingival tissue resulting in gummy smile can be treated with bracket system causing intrusion of the anterior teeth resulting in more esthetic results.

Using intrusion arches will result into some improvement of the smile line. Orthognathic surgery like Leforte I osteotomy will reposition the maxilla superiorly and surgical repositioning of lip help improve smile esthetics.

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