






# Aesthetic Gingival Recontouring

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## ABSTRACT

The dramatic appeal of a face, especially caught in a smile or laugh, lies in the interplay between the lips, teeth, and periodontium. Any deviation from the ideal form alters perceived attractiveness. Excessive marginal or papillary soft tissue because of inflammation, altered passive eruption, and a myriad of other pathologies distorts dental silhouettes. Modification of the gingiva, then, instead of tooth structure, often resolves cosmetic deformities. In this case report, we discuss about aesthetic crown lengthening, that aims to reduce excessive soft and hard tissues to establish a natural smile with harmonious proportion between the teeth and the dentogingival complex.

**Keywords:** Altered passive eruption; cemento-enamel junction; gingival zenith; gingivectomy.

## INTRODUCTION

Altered passive eruption is a condition characterised by gingival margins located incisally to the tooth cervical convexity, results in shorter square clinical crowns. Altered passive eruption occurs as a result of a failure of the gingival tissues to retract to their full extent, during the passive phase of tooth eruption. It was defined by Goldman and Cohen in 1968 and is characterised by patients with: a high smile line, which implies a visible exposure of gingiva of more than two millimetres from the inferior rim of the upper lip; thick gingival tissue biotype and a square appearance of the clinical crown.

## CASE REPORT

This case report highlights a case of aesthetic crown lengthening procedure of a 30-year-old female patient. The patient reported to the Department of Periodontics and Oral Implantology, Peoples Dental College and Hospital with the chief complaint of excessive display of gums while smiling for ten years

(Figure 1). The patient was uncomfortable while smiling and talking. Patient was systemically healthy and had undergone cleaning of teeth five years back.

On extra oral examination, no abnormalities were detected. On intraoral examination, oral hygiene was inferred as good oral hygiene. Preoperative dento-facial view showed excessive gingival display with short square shaped maxillary central incisors, lateral incisors; with the gingival zenith of central incisors placed coronal to that of canines (Figure 2). On clinical examination, sulcus depth was two millimetres and transgingival probing depth was 4 millimetres. Intraoral periapical radiograph revealed the alveolar crest about 1.5-2 mm apical to cemento-enamel junction, with adequate crown to root ratio and absence of caries (Figure 3). Hence, the patient had Type I Subgroup A. A treatment plan was formulated and it was planned for gingivectomy procedure.

Informed consent was taken. Phase I therapy was carried out and this was followed by surgical phase. Surgical site, maxillary anteriors were adequately anaesthetised. Gingival zenith was marked with pocket marker (Figure 4). The anticipated margin was marked with the help of marker. Gingivectomy was performed with number 15 Bard and Parker blade. External bevel incisions were made within the facial line angles of the incisors and canines. The incised gingival tissue was then removed with curette. The completed gingivectomy showed almost equal

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Figure 1: Excessive gingival display.



Figure 2: Square shaped incisors and unequal gingival zenith.



Figure 3: Intra oral periapical radiograph.



Figure 4: Bleeding points marked with pocket marker.



Figure 5: Completed gingivectomy.



Figure 6: Post-operative photograph.

zeniths of central incisors and canines, and zenith of lateral incisors located two millimetres coronally (Figure 5). Periodontal dressing was given to cover the entire surgical site. Analgesics were prescribed. On the seventh postoperative day, periodontal dressing was removed and healing was noted (Figure 6).

## DISCUSSION

The appearance of gingival tissues plays an important role in the esthetics of the maxillary anterior teeth and the abnormalities in symmetry and contour can significantly affect the harmony of the natural or prosthetically restored dentition.<sup>1</sup> Gingival

morphology, contour and visibility play important role in a beautiful smile and are among the first fundamental esthetic objectives during treatment planning.

Altered passive eruption treatment should aim to achieve reduction in the excess gingival tissue, full exposure of the anatomical crowns, balance of the gingival contours, reestablishment of the appropriate biological width.<sup>2</sup>

Gingival zenith position is the most apical part of gingival margin which significantly influences the aesthetics. It is an important anatomic landmark

and has been described to have a specific spatial orientation in the apico-coronal and mesio-distal directions. Correct spatial positioning of the zenith following therapeutic manipulation is mandatory, because it can greatly influence the emergence profile and axial inclination of the teeth by modifying the line angle position of the long axis of the emergence of the crown from the gingiva and thus, add the proper symmetry to the entire soft tissue system.<sup>1</sup>

The American Academy of Periodontology has identified altered passive eruption as a mucogingival deformity around teeth.<sup>3</sup> The correction of excessive gingival display can be important for the aesthetics of the smile and for patient self-esteem.<sup>4,5</sup> The crown lengthening options varies depending on the type of altered passive eruption. Gingivectomy is done for Type 1A, gingivectomy with ostectomy and osteoplasty for Type 1B, for Type 2A gingivectomy and apically

positioned flap is done, and for type 2B intrasulcular incision with ostectomy and osteoplasty and apically positioned flap. Altered passive eruption treatment should aim to achieve reduction in the excess gingival tissue, full exposure of the anatomical crowns, balance of the gingival contours, reestablishment of the appropriate biological width, and improvement of the possibly associated excessive gingival display.<sup>2</sup> Further studies may be necessary to determine the long-term stability of the gingival margin position following aesthetic crown lengthening procedures, as well as the potential variables introduced by different periodontal biotypes.<sup>6</sup> Surgical treatment of altered passive eruption can markedly improve patient appearance and smile, but research is lacking on patients perception of the treatment outcome.<sup>7</sup>

**Conflict of interest: None.**

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