

## Conventional Frenectomy: A Case Series

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### ABSTRACT:

A mucous membrane fold that attaches the cheek and the lip to the gingiva, the alveolar mucosa, and the underlying periosteum is called frenum. They run the risk of causing a muscle pull or restricting plaque control if they are attached too closely to the gingival margin. In addition, in cases of midline diastema, the maxillary frenum may cause recurrence following orthodontic treatment, either causing aesthetic issues or diminishing orthodontic results. The treatment of such an abnormal frenum can be accomplished through a frenectomy. A case series and a review of frenectomy are presented in this article.

**Keywords:** Frenectomy, Midline diastema, High frenum attachment.

### INTRODUCTION:

The frenum is an anatomic structure made up of a membranous fold of mucous membrane, connective tissue, and frequently muscle fibers.<sup>1</sup>

Its primary function is to stabilize the upper and lower lips and their relationship to the tongue.<sup>2</sup> When the aberrant frenum is too closely attached to the gingival margin, they can cause the gingival recession. This could be caused by muscle pull opening the gingival crevice or by brushing in the wrong place with a toothbrush.<sup>1</sup>

Placek et al. (1974) classified the frenum based on how far the attachment fibers extended:<sup>3</sup>

1. Mucosal– fibers are attached to the mucogingival junction
2. Gingival – fibers are inserted within the attached gingiva
3. Papillary – fibers are extending into the interdental papilla
4. Papilla penetrating – fibers cross the alveolar process and extend up to the palatine papilla.

Papillary and papilla penetrating frenum are considered pathological and have been associated with the recession, loss of papilla, diastema, and malalignment of teeth.<sup>4,5</sup>

Moving the upper lip outward and downward and the lower lip outward and upward can be used to visually diagnose the abnormal frena. The frenum is considered to be aberrant if the gingival margin exhibits movement or blanching as a result of ischemia (tension test).<sup>6</sup>

The aberrant frenum can be treated with either frenectomy or frenotomy procedures. Frenotomy refers to the relocation of the frenal attachment, whereas frenectomy refers to the complete removal of the frenum and its attachment to the underlying bone.<sup>7</sup>

Various surgical techniques of frenectomy are Conventional frenectomy by Archer and Kruger, Miller's technique<sup>8</sup> (unilateral single pedicle flap), Schuchardt Z-plasty<sup>8</sup>, V-Y Plasty<sup>8</sup>, Frenectomy using electrocautery<sup>8</sup>, Laser<sup>9</sup> – Diode, CO<sub>2</sub>, Nd: YAG, Er: YAG and other soft tissue lasers.

In this article we are presenting cases with conventional frenectomy.

## CONVENTIONAL FRENECTOMY

Armamentarium:

- No.15 surgical blade, Haemostat, Gauze, 4-0 black silk sutures, Needle holder, suture cutting scissors.

Procedure:

- Local infiltration was given using 2% lignocaine with 1:80000 adrenaline to anesthetize the area.
- Haemostat will be inserted to the deepest depth of the vestibule.
- With the help of No.15 Bard Parker blade, two parallel vertical incisions will be given.
- The resected triangular frenum will be removed and underlying tissue shall be exposed.
- Horizontal incision will be made to separate the attached fibers with gradual blending of vestibular tissue.
- 4-0 silk suture will be placed.
- Coe-pak will be placed.

Postoperative:

- The patient was recalled after a week for suture removal.

## CASE REPORT 1

A 22-year-old male patient reported to the Department of Periodontology. On clinical examination, there is midline diastema with papillary frenum attachment and also the tension test was positive and therefore frenectomy by Conventional technique was decided. Written informed consent was obtained from the patient before the surgical procedure. (Figure 1, 2, 3 & 4)



Figure 1: Pre-operative



Figure 2: Haemostat inserted to the deepest depth of the vestibule



Figure 3: After the frenum excised, a 4-0 suture placed



Figure 4: Post operative

## CASE REPORT 2

A 45 years old male patient reported with a chief complaint of space in the front teeth for 5 years. On clinical examination pull test revealed a papillary penetrating type of maxillary labial frenum attachment. Medical history was not significant. After obtaining informed consent, labial frenectomy was planned using the classical technique. (Figure 5, 6, 7, 8, 9 & 10)



Figure 5: Pre-operative



Figure 6: Haemostat inserted to the deepest depth of the vestibule



Figure 7: Frenum excision



Figure 8: 4-0 suture placed



Figure 9: Coe-pak placed



Figure 10: Post operative

### CASE REPORT 3

A 32-year-old female patient had a complaint of receding gums in their upper anterior teeth. On clinical examination, there was high frenum considering the patient's concern for aesthetics. After obtaining informed consent, labial frenectomy was planned using the classical technique. (Figure 11, 12, 13, 14, 15 & 16)



Figure 11: Pre operative



Figure 12: Haemostat inserted to deepest depth of vestibule



Figure 13: Incisions given



Figure 14: Frenum excision



Figure 15: Suture placed



Figure 16: Post-operative

#### CASE REPORT 4:

A 20-year-old male patient reported with a chief complaint of space in lower anterior. On clinical examination, there was papillary attachment of mandibular frenum with spacing in right and left mandibular incisors. Tension test was also positive and therefore frenectomy by Conventional technique was decided. Written informed consent was obtained from the patient before the surgical procedure. (Figure 17, 18, 19 & 20)



Figure 17: Pre-operative



Figure 18: Frenum excised



Figure 19: Suture placed



Figure 20: Coe-pak applied



Figure 20: Post-operative



## DISCUSSION:

However, despite a number of proposed changes to the frenectomy procedure, the traditional method is still the one that is most commonly used. Even though this method results in a longitudinal surgical incision and scarring, periodontal issues and an unattractive appearance<sup>8</sup> may occur, necessitating additional modifications.<sup>9</sup>

## CONCLUSION:

Healings were found to be satisfactory after one week. The patients were followed up on further. The patient's soft tissues, gingiva, and superior lip were found to be healthy and aesthetic as a whole.

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