



## Frenectomy By Paralleling Technique – A Case Report

<sup>1</sup>Dr. Moitri Ojha, <sup>2</sup>Dr. Deepika Pawar Chandrashekara Rao, <sup>3</sup>Dr. Manohar Sharma,  
<sup>4</sup>Dr. Medha Sharma

<sup>1</sup>Assistant Professor, <sup>2</sup>Former Professor and HOD, <sup>3,4</sup>Former Post-Graduate Student,  
Department of Periodontology,

<sup>2,3,4</sup>JSS Dental College & Hospital, JSS Academy of Higher Education & Research. SS Nagar, Mysore 570015

<sup>1</sup>Teerthanker Mahaveer Dental College and Research Centre, Moradabad, Uttar Pradesh, India

**\*Corresponding Author:**

**Dr. Moitri Ojha**

Assistant Professor, Department of Periodontology, Teerthanker Mahaveer Dental College and Research  
Centre, Moradabad, Uttar Pradesh, India

Type of Publication: Case Report

Conflicts of Interest: Nil

### Abstract

A thick/ aberrant frenum is categorized as a mucogingival problem in the oral cavity that can interfere with oral health and smile harmony. The surgical approaches for such problems are simple and consume less time. Routine scalpel techniques, lasers and electrocautery have shown satisfactory outcomes, yet each of them has its limitation. One of the key goals of periodontist while performing such surgery is to limit the extension of the wound with minimum post-operative complications and discomfort. Paralleling technique by scalpel is a precise surgical procedure that creates a narrow surgical wound with no scar tissue formation. This case report stresses on the significance and advantages of frenectomy by paralleling technique.

**Keywords:** NIL

### Introduction

The oral cavity possesses distinctive anatomical features like tongue, palate, vestibule, uvula, teeth and frenum. A frenum or a frenulum is a fold of mucous membrane enclosing muscle fibers.<sup>1</sup> Few authors believed that these are the continuity of the orbicularis oris muscle. Others have commented on the existence of collagen and elastic fibers in the histological samples of frenum but no muscle fibers. Numerous frenum are present in the oral cavity which are named according to their location such as the labial, buccal and lingual. Depending on their extension, they have been classified into mucosal, gingival, papillary and papillary penetrating type.<sup>2</sup> Embryologically, it has been postulated that these are the remnants of the ectolabial band. Their prime function is to stabilize the lips. However, its role in mastication and harmonizing facial growth is controversial.<sup>3,4</sup>

The labial frenum forms the attachment apparatus that connects the upper lip to the gingiva and underlying periosteum. Nonetheless, high frenal attachments, thick/aberrant or ectopic frenum have occasionally posed severe problems in the oral cavity which include the formation of midline diastema, inability to maintain proper oral hygiene, increased pocket depth, loss of papilla, recession, mobility and bone loss.<sup>5,6</sup> Frenotomy and frenectomy are the common surgical modalities adopted for frenal anomalies. In particular, conventional frenectomies are frequently practiced by clinicians in such scenarios. According to the literature review, routine scalpel excision has demonstrated better healing in lesser duration when compared to excision with laser or electrocautery. Also, the risks of burns, explosions and the generation of surgical smoke can be avoided. However, they do lead to excess gaping of wounds

which can further cause post-operative bleeding, swelling and pain.<sup>7</sup> A more conservative approach towards the excision of frenal attachment is by the paralleling technique. In the present report, a high frenal attachment was excised using scalpel by paralleling technique.

#### Case report:

A 22 year-old male patient reported to our institution with the chief complaint of bleeding gums for 3 months. No significant medical or dental history was reported. On extra-oral examination, no palpable lymph nodes or TMJ anomalies were observed. On intra-oral examination, plaque and calculus deposits were noted with a carious tooth w.r.t 36. Midline diastema was detected w.r.t 11 and 21. Also, the patient demonstrated high frenal attachment w.r.t 11 and 21 that blanched on the tension test. Moreover, the movement of the tip of the interdental papilla while performing the test was a strong indication of frenectomy. **(fig: 1)**

The patient was explained about the procedure and a written informed consent was obtained from the patient. Oral prophylaxis was performed and the patient was scheduled for surgery after a week. Blood investigations did not show any abnormalities.

On the day of surgery, the patient was elucidated about the procedure again. Pre-procedural mouth rinse was advised. Anterior superior alveolar nerve block and nasopalatine nerve block were administered to the patient. Subjective and objective symptoms were checked after 5 minutes of local anesthesia administration. With the help of 11 no. blade, two parallel incisions were placed on either side of the frenal ridge. **(fig: 2,3)** The band of frenum was cautiously separated through and through. Releasing incisions were then given on the top and bottom to excise the frenum completely. **(fig: 4)** Undermining of the wound edges was done to prevent relapse. The wounds were then approximated by simple interrupted sutures. **(fig: 5)** A periodontal pack was placed and post-operative instructions were given. 0.2% chlorhexidine mouthwash and analgesics were prescribed to the patient.

The patient was recalled after 7 days for suture removal. The surgical site was analyzed which revealed uneventful wound healing. The patient was followed-up for one month. **(fig: 6)** The surgical site

displayed satisfactory healing with no scar tissue formation.

#### Discussion:

Frenal anomalies can compromise periodontal health and esthetic appearance. Besides, this can jeopardize orthodontic treatments and can interfere with the retention of dentures. The commonly practiced classical frenectomy technique was popularized by Archer (1961) and Kruger (1964).<sup>4</sup> The technique involves the complete elimination of frenum along with the removal of some amount of interdental tissues and palatine papilla. However, the technique leaves a long incision, widens the wound causing pain and excessive bleeding, and scars the area leading to an unpleasant appearance.<sup>6</sup> Laser and electrocautery excisions are costly and can lead to necrosis of bone if not used cautiously. Hence, attempts were made to modify this technique. Various surgical approaches for high frenal attachments like Miller's technique, V-Y plasty, Z plasty and paralleling technique were adopted.<sup>8,9</sup>

Paralleling technique for frenectomy limits tissue removal and narrows the wounded area. Shahabe et al. conducted a study to compare two frenectomy techniques- the conventional and paralleling techniques. Patient response and efficacy to maintain oral hygiene in twenty patient were evaluated. The authors proposed that the paralleling technique showed better results in both the aspects.

Nandini et al. performed paralleling frenectomy technique in a 24-year-old patient with Miller's class III recession, endo-perio lesion and luxation w.r.t 21. The treatment included retreatment of root canal, root coverage therapy, frenectomy with paralleling technique and apicoectomy. The wound and the scar created by surgery was minimal and demonstrated satisfactory healing.

Poonam et al. performed a labial frenectomy by the paralleling technique of a papilla penetrating frenum. Primary closure of the wound was done by simple interrupted sutures. A small narrow wound area was produced that healed by primary intention.

Abdul et al. compared two conservative approaches for frenectomies- paralleling technique and diode laser-assisted excision in thirty patients. Visual analogue scale was adopted to record pain, discomfort and speech difficulty. Oral hygiene index

was measured using plaque and gingival indices. The results demonstrated were better in laser-assisted frenectomy than the paralleling technique.

### Conclusion:

The paralleling technique of frenectomy offers the advantage of better and faster wound healing than the classical technique with no loss of interdental papilla or surgical scarring. Hence, can be considered as an alternative technique to the conventional methods practiced.

### References:

1. Priyanka M, Sruthi R, Ramakrishnan T, Emmadi P, Ambalavanan N. An overview of frenal attachments. *J Indian Soc Periodontol.* 2013 Jan;17(1):12-5.
2. Iwanaga J, Takeuchi N, Oskouian RJ, Tubbs RS. Clinical Anatomy of the Frenulum of the Oral Vestibule. *Cureus.* 2017 Jun 29;9(6):e1410.
3. Jonathan, P T; Thakur, Himani; Galhotra, Abhiruchi<sup>1</sup>; Galhotra, Virat; Gupta, Neha. Maxillary labial frenum morphology and midline diastema among 3 to 12-year-old schoolgoing children in Sri Ganganagar city: A cross-sectional study. *Journal of Indian Society of Pedodontics and Preventive Dentistry* 36(3):p 234-239, Jul–Sep 2018.
4. Devishree, Gujjari SK, Shubhashini PV. Frenectomy: a review with the reports of surgical techniques. *J Clin Diagn Res.* 2012 Nov;6(9):1587-92.
5. S. Baiju, Karuna Joshi, Ria Virmani, Gunjan Gupta, Pawandeep Kaur. Surgical Techniques for Correcting Aberrant Frenal Attachment: A Clinical Review. *Dental Journal of Advance Studies* 2021; 09(03): 111-115
6. Dr.Sajid.T.Hussain, Dr.Surendranath.P. Frenectomy – A Case Review. *European Journal of Molecular & Clinical Medicine*, 2020; 7(8) : 1853-1855
7. Preeti Patil, Karthik J Kabbur, Hemanth Madaiah, Sunil Satyanarayana. Diode laser frenectomy: A case report with review of literature. *Journal of dental lasers.* 2019; 13(1): 19-22
8. Neetu, Sakshis Mehta, Neena Vats, Shobna Thind, Sourabh Jindal. An overview of frenectomy: A review. *International Journal of Medical and Health Research.*2021; 7(4): 13-15
9. Sæthre T, Berg E, Bunæs DF, Leknes KN. Complication following frenectomy: A case report. *Clin Case Rep.* 2021 Oct 4;9(10):e04888.
10. Abullais SS, Dani N, Ningappa P, Golvankar K, Chavan A, Malgaonkar N, Gore A. Paralleling technique for frenectomy and oral hygiene evaluation after frenectomy. *J Indian Soc Periodontol.* 2016 Jan-Feb;20(1):28-31.
11. Nandini Anindita Sumitro and Rezmelia Sari. Paralleling Technique for Frenectomy to Prevent Black Triangle in Pre-Orthodontic Patients: A Case Report. *The International Online Seminar Series on Periodontology in conjunction with Scientific Seminar, KnE Medicine*, 2022: 252–2592022
12. Mannan, A., Aggarwal, R., Pareek, P., Kalra, P., Kapoor, S. K., & Choudhary, D. Comparative evaluation of the effect of parallel incision and diode laser assisted frenectomy on oral hygiene and patients prospective: A randomized clinical trial. *International Journal of Health Sciences.*2022; 6(3) :7683-7689.

### Figure legends:

1. Pre-operative view of high frenal attachment
2. Scalpel position
3. Incision on either side of the ridge
4. Complete excision of frenum
5. Wound approximation by simple interrupted sutures
6. Post-operative view at 1 month follow-up





