



# Intra-Oral Delivery of Hyaluronic Acid Dermal Filler for the Correction of Deep Nasolabial Fold: A Case Report

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## KEYWORDS:

Facial aging, Hyaluronic acid, Dermal filler, Nasolabial fold, injection

## ABSTRACT:

**Background:** Nasolabial folds (NLFs) are a common aesthetic concern caused by age-related soft tissue volume loss and dermal changes. Hyaluronic acid (HA) dermal fillers are widely used for correction; however, conventional extra-oral techniques may lead to complications such as bruising, pigmentation, and visible needle marks.

**Objective:** To present a case demonstrating the efficacy of an intra-oral approach for dermal filler delivery in the correction of nasolabial folds.

**Case Summary:** A young patient presented with prominent nasolabial folds and a history of post-inflammatory pigmentation following extra-oral filler injections. Clinical examination revealed Fitzpatrick type IV skin with no intra-oral pathology.

**Intervention:** An intra-oral injection of 1 ml HA filler (Juvederm®) was performed under infraorbital nerve block, delivering the filler into the subdermal plane via the buccal mucosa.

**Results:** Immediate aesthetic improvement was observed with no complications.

**Conclusion:** The intra-oral technique is a safe and effective alternative to conventional approaches, particularly beneficial in patients prone to pigmentation.

These community or clinic-based models empower qualified nurses to provide comprehensive geriatric assessment, chronic disease management, preventive education, and psychosocial support, effectively complementing physician services through task-shifting.

## 1. Introduction

Facial aging involves progressive loss of soft tissue volume, dermal thinning, and ligament laxity, leading to the formation of nasolabial folds. These folds are among the most prominent aesthetic concerns, contributing significantly to an aged facial appearance.

Hyaluronic acid dermal fillers have become the gold standard for soft tissue augmentation due to their biocompatibility, reversibility, and predictable outcomes. Traditionally, fillers are administered through extra-oral techniques; however, these approaches may result in complications such as bruising, post-

inflammatory hyperpigmentation, and visible needle entry marks.

The intra-oral approach for filler delivery represents an emerging technique that allows direct access to the nasolabial region through the buccal mucosa. This method minimizes cutaneous trauma while maintaining effective volumization.

This report highlights the clinical application and advantages of intra-oral hyaluronic acid filler injection in the correction of nasolabial folds.



## 2. History and Initial Presentation

A young patient presented with the chief complaint of deep nasolabial folds affecting facial aesthetics. The patient had previously undergone dermal filler treatment via an extra-oral route, which resulted in post-inflammatory pigmentation.

Given the patient's Fitzpatrick type IV skin and prior adverse outcome, an alternative approach was considered to minimize the risk of recurrence.

### Extra-Oral Findings:

- Fitzpatrick Skin Type IV
- Prominent bilateral nasolabial folds
- Mild facial pigmentation and freckles
- Closed comedones on the forehead
- Atrophic scar over the left eyebrow
- No signs of active infection or inflammation

### Intra-Oral Findings:

- Healthy oral mucosa
- Adequate vestibular depth
- No mucosal lesions or ulcerations
- Good oral hygiene

Based on the clinical findings, a diagnosis of deep nasolabial folds requiring aesthetic correction was made.

## 3. Surgical Procedure

After obtaining informed consent and adhering to institutional ethical protocols, the procedure was carried out under the supervision of a senior clinician.

An intra-oral infraorbital nerve block was administered to achieve adequate anesthesia of the nasolabial region.

A total of 1 ml of hyaluronic acid dermal filler (Juvederm®) was used.

### Technique:

- The injection was performed through the buccal mucosa.
- The needle was directed toward the nasolabial fold region.

- The filler was deposited in the subdermal plane to restore volume.
- Gentle massage was performed to ensure even distribution.

Post-operative instructions were provided to the patient.

### Outcome:

Immediate improvement in the depth of the nasolabial folds was observed with enhanced facial contour and symmetry. No intra-operative or post-operative complications were reported.

## 4. Discussion

Nasolabial fold correction is one of the most frequently performed procedures in facial aesthetic practice. Hyaluronic acid fillers are preferred due to their excellent safety profile and predictable outcomes.

However, conventional extra-oral injection techniques may result in:

- Bruising
- Post-inflammatory hyperpigmentation
- Visible needle marks

These complications are more common in individuals with higher Fitzpatrick skin types.

The intra-oral approach offers several advantages:

- Eliminates visible skin puncture marks
- Reduces risk of pigmentation
- Provides direct anatomical access
- Minimizes soft tissue trauma
- Improves patient comfort

Previous studies (Narins et al., Beer et al.) have demonstrated high efficacy and patient satisfaction with HA fillers. The present case supports these findings and further emphasizes the benefits of intra-oral delivery.

The technique allows precise filler placement in the subdermal plane while avoiding cutaneous complications. It is particularly advantageous in patients with prior adverse outcomes from extra-oral injections.

However, the procedure requires:



- Thorough anatomical knowledge
- Careful injection technique
- Awareness of vascular structures

to prevent complications such as vascular occlusion.

## 5. Conclusion

The intra-oral administration of hyaluronic acid dermal fillers is a safe, minimally invasive, and effective technique for the correction of nasolabial folds.

This approach provides significant advantages over conventional techniques, including reduced risk of pigmentation, absence of visible needle marks, and improved patient comfort.

It is particularly beneficial in patients with darker skin types or those with a history of cutaneous complications. Further studies with larger sample sizes and long-term follow-up are recommended to validate its clinical efficacy.

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