

# Management of a Mandibular Anterior Flabby Ridge Using the Window Impression Technique with Impression Plaster for Fabrication of Complete Dentures: A Case Report

Arpit Sikri<sup>1\*</sup>, Priyanka Johar<sup>2</sup>, Jyotsana Sikri<sup>3</sup>

<sup>1</sup>Professor & Post Graduate Teacher, Department of Prosthodontics, Crown & Bridge and Oral Implantology, Bhojia Dental College & Hospital, Budh (Baddi), Tehsil Baddi, District Solan, Himachal Pradesh, India.

<sup>2</sup>Consultant Prosthodontist, Panchkula, Haryana, India.

<sup>3</sup>Associate Professor & Post Graduate Teacher, Department of Conservative Dentistry & Endodontics, Bhojia Dental College & Hospital, Budh (Baddi), Tehsil Baddi, District Solan, Himachal Pradesh, India.

**\*Corresponding Author:** Dr. Arpit Sikri, Professor & Post Graduate Teacher, Department of Prosthodontics, Crown & Bridge and Oral Implantology, Bhojia Dental College & Hospital, Budh (Baddi), Tehsil Baddi, District Solan, Himachal Pradesh, India.

<https://doi.org/10.58624/SVOADE.2026.07.033>

**Received:** July 07, 2026

**Published:** August 14, 2026

**Citation:** Sikri A, Johar P, Sikri J. Management of a Mandibular Anterior Flabby Ridge Using the Window Impression Technique with Impression Plaster for Fabrication of Complete Dentures: A Case Report. *SVOA Dentistry* 2026, 7:4, 248-264. doi: 10.58624/SVOADE.2026.07.033

## Abstract

**Background:** The presence of flabby or displaceable residual ridge tissue presents a significant challenge during complete denture fabrication because conventional impression techniques often compress the mobile tissues, resulting in inaccurate impressions, compromised denture stability, poor retention, and patient discomfort. Various impression techniques have been proposed to minimize tissue distortion during impression making. Among these, the window impression technique enables selective recording of the flabby tissues in a mucostatic state while adequately supporting the remaining denture-bearing tissues.

**Case Presentation:** A completely edentulous patient presented with a flabby ridge involving the anterior mandibular residual ridge. Clinical examination revealed excessive mobility of the anterior alveolar mucosa extending from canine to canine. A treatment plan involving conventional maxillary complete denture fabrication and mandibular complete denture fabrication using the window impression technique was formulated. A custom tray with a window corresponding to the flabby tissue was fabricated. Border molding and final impression of the normal denture-bearing areas were completed using zinc oxide eugenol impression paste. The flabby tissue was subsequently recorded separately through the tray window using impression plaster without tissue displacement. Master casts were obtained, followed by conventional jaw relation, teeth arrangement, trial evaluation, processing, insertion, and post-insertion adjustments.

**Results:** The completed dentures demonstrated satisfactory retention, stability, support, and border seal. The mandibular denture exhibited minimal displacement during functional movements. The patient reported significant improvement in mastication, speech, comfort, and overall satisfaction during follow-up visits.

**Conclusion:** The window impression technique combined with impression plaster remains a simple, economical, and highly effective method for recording flabby ridges. Selective management of mobile tissues while preserving the morphology of the supporting tissues contributes to improved denture fit and patient satisfaction.

**Keywords:** Complete Denture, Flabby Ridge, Impression Plaster, Mandibular Ridge, Mucostatic Impression, Window Technique

## Introduction

Successful complete denture therapy depends on the accurate recording of the denture-bearing tissues while maintaining the physiological relationship between the oral mucosa and the underlying residual ridge. The final impression plays a decisive role in determining denture retention, stability, support, and patient comfort. An inaccurate impression inevitably compromises prosthesis function and long-term patient satisfaction.<sup>1</sup>

Residual ridge resorption is a continuous and irreversible process following tooth extraction. Progressive resorption alters the quantity and quality of the supporting tissues, frequently leading to the development of localized hypermobile or flabby tissues.<sup>2</sup> These tissues consist primarily of fibrous connective tissue that replaces the resorbed alveolar bone and are highly susceptible to distortion during impression making.<sup>3</sup>

A flabby ridge is defined as excessive movable fibrous soft tissue replacing alveolar bone within the residual ridge. It is frequently encountered in long-term denture wearers, especially when opposing natural dentition or fixed prostheses generate excessive occlusal loading on the residual ridge.<sup>4</sup> Kelly described the characteristic combination of maxillary anterior flabby tissues associated with mandibular anterior natural teeth as the "Combination Syndrome."<sup>5</sup> Although the syndrome classically involves the maxillary anterior ridge, flabby tissues may also develop independently in the mandibular anterior region because of chronic trauma, severe ridge resorption, ill-fitting dentures, or parafunctional forces.<sup>6</sup>

The prevalence of flabby ridges has been reported to range from approximately 5% to 24% among edentulous patients, with considerable variation depending on patient population and diagnostic criteria.<sup>7</sup> Hypermobile tissues present a significant clinical challenge because they are readily displaced during impression procedures. When compressed during impression making, the tissues rebound after denture insertion, resulting in instability, loss of peripheral seal, occlusal discrepancies, pain, and compromised masticatory efficiency.<sup>8</sup>

Several treatment modalities have been proposed for the management of flabby ridges. Surgical excision of the hypermobile tissue may be indicated in selected patients with adequate residual bone; however, surgery may further reduce ridge height and is often contraindicated in elderly or medically compromised individuals.<sup>9</sup> Implant-supported prostheses provide excellent stability but may not be feasible because of financial limitations, inadequate bone volume, systemic conditions, or patient preference.<sup>10</sup> Consequently, conservative prosthodontic management remains the treatment of choice for most patients.

Various impression techniques have been advocated to minimize tissue displacement during impression making. These include selective pressure techniques, mucostatic impressions, the window technique, dual-tray techniques, two-viscosity elastomeric techniques, controlled lateral pressure techniques, and modified custom tray designs.<sup>11-15</sup> The underlying principle of these techniques is to record the flabby tissues in their undisplaced state while simultaneously obtaining adequate support from the healthy denture-bearing tissues.

Among these approaches, the window impression technique described by Watson has gained widespread acceptance because of its simplicity, predictability, and ability to record mobile tissues without compression.<sup>11</sup> In this technique, a window is created in the custom tray overlying the flabby tissue. After the surrounding tissues are recorded using a conventional impression material, the mobile tissue is recorded separately through the window using a minimally displacing material such as impression plaster.<sup>16</sup> Impression plaster possesses excellent flow characteristics, negligible polymerization shrinkage, and minimal pressure generation during setting, allowing faithful reproduction of the flabby tissues in a mucostatic condition.<sup>17</sup>

The present case report describes the prosthodontic management of a completely edentulous patient presenting with a flabby mandibular anterior ridge using the window impression technique and impression plaster. The report highlights the clinical steps involved in the impression procedure and discusses the rationale, advantages, and clinical significance of this conservative treatment approach.

## Case Presentation

A 68-year-old female reported to the Department of Prosthodontics with the chief complaint of difficulty in chewing food and poor retention of his existing complete dentures for approximately three years. The patient expressed dissatisfaction with the mobility of the mandibular denture during mastication and speech.

The patient's medical history was non-contributory, with no systemic disease contraindicating conventional prosthodontic treatment.

Dental history revealed complete edentulism of both arches for nearly fifteen years. The patient had been wearing complete dentures fabricated approximately eight years earlier, which had progressively become loose because of continuous residual ridge resorption.

### Clinical Examination

Extraoral examination revealed no facial asymmetry or temporomandibular joint abnormalities. The vertical facial proportions appeared reduced because of wear of the artificial teeth and loss of occlusal vertical dimension.

Intraoral examination demonstrated completely edentulous maxillary and mandibular arches (Figure 1).



**Figure 1.** Completely edentulous maxillary & mandibular ridge.

The maxillary residual ridge exhibited moderate resorption with firm and healthy mucosa. The mandibular residual ridge showed advanced resorption, particularly in the anterior region.

A localized flabby ridge extending approximately from the right canine to the left canine was observed on the mandibular anterior residual ridge (Figure 2).



**Figure 2.** Examination of the flabby ridge.

The tissue appeared pink, healthy, compressible, and highly mobile upon digital palpation. The posterior mandibular ridge exhibited firm attached mucosa suitable for providing denture support.

No evidence of ulceration, inflammatory hyperplasia, or mucosal pathology was noted. Salivary flow was adequate, and neuromuscular coordination appeared satisfactory.

Based on the clinical findings, a diagnosis of completely edentulous maxillary and mandibular arches with localized anterior mandibular flabby ridge was established.

## Treatment Planning

Various treatment options were discussed with the patient, including:

- Surgical excision of the flabby tissue followed by conventional denture fabrication.
- Implant-supported mandibular overdenture.
- Conventional complete dentures using a modified impression technique.

Considering the patient's age, financial considerations, adequate health of the remaining supporting tissues, and preference for a non-surgical approach, conservative prosthodontic rehabilitation using the window impression technique was selected.

Written informed consent was obtained before initiation of treatment.

## Preliminary Impression

Preliminary impressions of both arches were made using irreversible hydrocolloid in stock edentulous trays. The impressions were poured immediately in Type III dental stone to obtain diagnostic casts.

The diagnostic casts were examined carefully to determine the extent of the flabby tissue and to facilitate custom tray design.

## Custom Tray Fabrication

A wax spacer was adapted over the diagnostic casts. On the mandibular cast, the anterior flabby ridge was carefully outlined with an indelible pencil. An acrylic resin custom tray was fabricated using autopolymerizing acrylic resin.

Following polymerization, a window corresponding precisely to the outlined flabby tissue (Figure 3) was created in the anterior portion of the tray.



**Figure 3.** Outlining the flabby ridge area.

The borders of the window were finished and rounded to avoid tissue injury and to permit smooth application of impression plaster during the final impression procedure.

## Border Molding

Border molding was performed using low-fusing impression compound to accurately record the functional depth and width of the vestibules.

The patient was instructed to perform functional movements including tongue protrusion, swallowing, lip movements, and cheek manipulation to ensure optimal border extension.

Following border molding, the tray was evaluated intraorally for stability and extension.

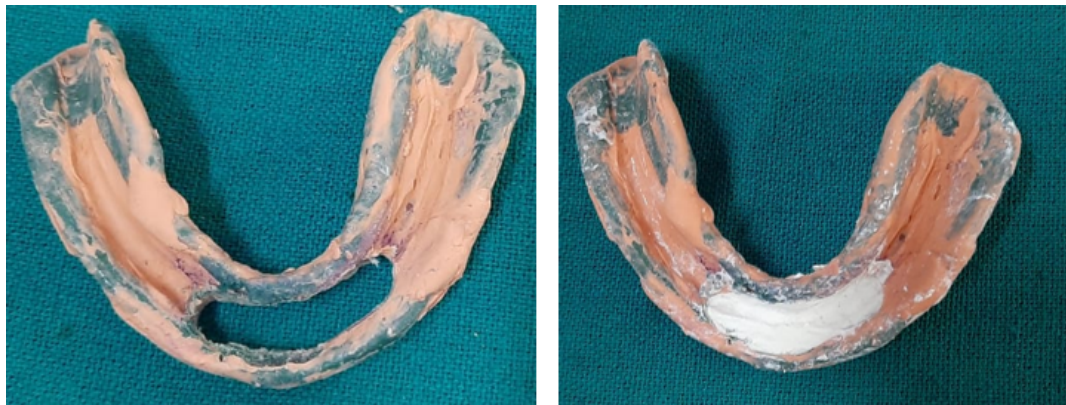
## Final Impression

The custom tray was coated with tray adhesive where appropriate.

The healthy posterior denture-bearing tissues were recorded using zinc oxide eugenol impression paste while ensuring that the impression material did not extend into the window area.

After complete setting of the zinc oxide eugenol impression, the tray was reinserted intraorally.

Freshly mixed impression plaster (Figure 4) was then painted gently through the anterior window directly onto the flabby tissues using a camel hair brush without exerting pressure. The patient was instructed to remain still while the plaster set.



**Figure 4.** Mucostatic impression of flabby ridge using impression plaster (Window technique)

The impression was carefully removed after complete setting, ensuring that the impression plaster remained securely attached to the zinc oxide eugenol impression.

Clinical examination confirmed accurate recording of both the healthy supporting tissues and the anterior flabby ridge without visible distortion.

The impression was disinfected and poured in Type III dental stone to obtain the definitive master cast.

## Jaw Relation Record

Following the fabrication of the master casts, temporary denture bases were fabricated using autopolymerizing acrylic resin. Occlusal rims were constructed with modeling wax and adjusted intraorally. The maxillary occlusal rim was oriented parallel to the interpupillary line anteriorly and the ala-tragus line posteriorly. The vertical dimension at rest (VDR) and vertical dimension of occlusion (VDO) were established using conventional clinical methods, including assessment of facial proportions, phonetics, swallowing, and interocclusal rest space.



**Figure 5.** Jaw relation record

Centric relation was recorded (Figure 5) using the wax occlusal rims after obtaining an acceptable vertical dimension. Facebow transfer was not deemed necessary in the present case because no significant temporomandibular joint abnormalities were detected. The casts were mounted on a mean value articulator.

### Teeth Arrangement and Try-in

Semi-anatomic acrylic resin teeth were selected considering the patient's age, esthetic requirements, and neuromuscular control. The teeth were arranged according to the principles of balanced occlusion to enhance denture stability during functional movements.

The wax trial dentures (Figure 6) were evaluated intraorally for:

- Esthetics
- Lip support
- Occlusal vertical dimension
- Centric relation
- Phonetics
- Facial profile
- Bilateral balanced occlusion

Minor adjustments in anterior tooth inclination and occlusal contacts were made. The patient expressed satisfaction with the appearance and phonetics, and the trial dentures were approved for processing.



**Figure 6.** Try-in Denture Processing

The dentures were processed using conventional heat-polymerized polymethyl methacrylate (PMMA) resin following compression molding techniques. After deflasking, finishing, and polishing, the dentures were carefully inspected for processing errors, porosities, and occlusal discrepancies.

Clinical remounting was performed to eliminate processing-induced occlusal errors before insertion.

### Denture Insertion

The dentures were inserted (Figure 7) after evaluating:

- Tissue adaptation
- Border extension
- Peripheral seal
- Retention
- Stability
- Occlusion
- Esthetics



**Figure 7.** Final complete dentures (in patients mouth)

Pressure-indicating paste was used to identify pressure areas, which were selectively relieved. Occlusion was refined using articulating paper to establish bilateral balanced contacts in centric and eccentric movements.

The patient received detailed verbal and written instructions regarding:

- Denture hygiene
- Adaptation period
- Dietary modifications
- Speech exercises
- Overnight denture removal
- Recall schedule

### **Follow-up**

The patient was reviewed after:

- 24 hours
- One week
- One month
- Three months

At the 24-hour recall, minor sore spots in the mandibular retromolar pad region were relieved.

At one week, the patient reported considerable improvement in denture comfort and mastication (Figure 8).



**Figure 8.** Follow up

At one month, the mandibular denture demonstrated satisfactory retention and stability during speech and mastication. No displacement of the anterior denture base was observed over the flabby ridge.

At the three-month follow-up, the patient expressed high overall satisfaction with the prosthesis. Clinical examination revealed healthy supporting tissues, absence of traumatic ulceration, satisfactory occlusal stability, and excellent adaptation of the mandibular denture.

## Discussion

Successful prosthodontic rehabilitation of completely edentulous patients depends largely on obtaining an accurate impression of the denture-bearing tissues. The presence of a flabby ridge remains one of the most challenging situations encountered during complete denture therapy because of the highly compressible nature of the mobile tissues. If these tissues are displaced during impression making, they tend to recoil after denture insertion, producing instability, loss of retention, uneven stress distribution, and patient discomfort (1–3).

A flabby ridge is generally composed of hyperplastic fibrous connective tissue replacing resorbed alveolar bone. Histologically, these tissues consist predominantly of loosely arranged collagen fibers with increased vascularity and minimal underlying cortical bone support. Consequently, even slight pressure during impression making may result in considerable tissue distortion (4).

### Etiology of Flabby Ridge

Several factors contribute to the formation of flabby ridges.

The most common cause is chronic residual ridge resorption associated with long-term complete denture wear. Continuous occlusal loading accelerates bone loss, and the resulting space becomes occupied by fibrous connective tissue rather than mineralized bone.

Ill-fitting dentures further aggravate tissue displacement by concentrating excessive stresses over localized areas of the ridge.

Combination syndrome described by Kelly represents another important etiological factor. In such cases, loss of posterior occlusal support results in excessive functional loading of the anterior residual ridge, ultimately producing mobile fibrous tissue.

Additional contributing factors include:

- traumatic occlusion,
- parafunctional habits,
- periodontal disease before tooth extraction,
- multiple denture replacements,
- age-related tissue changes,
- severe ridge atrophy.

Although flabby tissues are classically described in the anterior maxilla, mandibular anterior flabby ridges are not uncommon in patients with advanced mandibular ridge resorption, as observed in the present case.

### Clinical Challenges

Recording flabby tissues accurately presents several clinical difficulties.

During conventional impression making, pressure from impression materials compresses the mobile tissues. Once the denture is fabricated and inserted, these tissues rebound toward their original position, displacing the denture during function.

The consequences include:

- loss of peripheral seal,
- compromised retention,
- denture instability,
- pain during mastication,
- accelerated residual ridge resorption,
- occlusal discrepancies,
- patient dissatisfaction.

Therefore, the primary objective is to record the flabby tissues in an undisplaced or minimally displaced state while simultaneously obtaining functional support from the remaining healthy denture-bearing tissues.

### **Treatment Options**

Various treatment modalities have been proposed for management of flabby ridges.

### **Surgical Management**

Surgical excision removes the mobile fibrous tissue before denture fabrication. This approach may be appropriate when sufficient residual bone remains to support the denture.

However, surgery has several disadvantages.

Removal of fibrous tissue often results in:

- reduced vestibular depth,
- decreased ridge height,
- compromised denture support,
- prolonged healing period,
- increased patient morbidity.

In elderly patients, medically compromised individuals, or those with advanced ridge resorption, surgery may actually worsen the prosthodontic prognosis.

The patient in the present case declined surgical intervention, making conservative management more appropriate.

### **Implant-Supported Prosthesis**

Implant-retained overdentures provide excellent retention and stability regardless of tissue mobility.

However, implant therapy is frequently limited by:

- financial constraints,
- inadequate bone volume,
- systemic diseases,
- patient preference,
- surgical anxiety.

Since the patient desired a conservative, economical treatment option, implant therapy was not selected.

### **Prosthodontic Management**

Several impression techniques have been described in the literature for managing flabby ridges.

These techniques differ primarily in the manner in which they control pressure over the mobile tissues.

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### **Mucostatic Impression Technique**

The mucostatic philosophy advocated by Richardson and later by Basker recommends recording tissues under minimal pressure.

Low-viscosity materials such as impression plaster are capable of reproducing soft tissues without significant displacement.

Although mucostatic impressions preserve tissue morphology, they may compromise peripheral seal because border tissues are not functionally molded.

### **Selective Pressure Impression Technique**

The selective pressure philosophy combines the advantages of mucostatic and mucocompressive techniques.

Pressure is selectively applied over stress-bearing areas while relief is provided over delicate or mobile tissues.

This concept remains one of the most widely accepted philosophies in complete denture impression making.

### **Window Technique**

Among all conservative methods, the window technique has received the greatest clinical acceptance.

Originally described by Watson, the technique involves fabrication of a custom tray with an opening over the flabby ridge.

The surrounding tissues are recorded conventionally, whereas the mobile tissue is recorded separately through the window using impression plaster or another minimally displacing material.

The principal advantages include:

- minimal tissue distortion,
- excellent adaptation,
- preservation of tissue morphology,
- simple laboratory procedures,
- inexpensive materials,
- predictable clinical outcomes.

These advantages explain why the technique was selected for the present patient.

### **Impression Plaster**

Impression plaster has largely been replaced by elastomeric materials in routine prosthodontics but continues to possess unique advantages for recording flabby tissues.

Its favorable properties include:

- extremely low viscosity,
- excellent flow,
- negligible polymerization shrinkage,
- high dimensional accuracy,
- minimal tissue displacement,
- excellent surface detail reproduction.

Unlike elastomeric materials, impression plaster exerts virtually no elastic recoil on the underlying tissues during setting.

Consequently, the flabby ridge is recorded in a true mucostatic condition.

One limitation is its brittle nature after setting.

Careful manipulation during removal is therefore essential to avoid fracture.

Fortunately, in the present case, the impression was removed without damage.

Flabby ridges have been recognized as a significant challenge in complete denture prosthodontics for many decades. The mobility of the residual ridge tissues compromises impression accuracy, leading to instability and reduced patient satisfaction. Numerous authors have proposed conservative and surgical techniques to manage these tissues, with the choice depending on the extent of the flabby tissue, residual bone support, patient-related factors, and clinician preference.

### **Historical Perspective**

One of the earliest descriptions of hypermobile residual ridge tissue was provided by **Osborne (1964)**, who emphasized that mobile soft tissues should be recorded without distortion to prevent instability of the completed prosthesis. Osborne advocated selective recording of the denture-bearing tissues while avoiding unnecessary pressure over hyperplastic areas.<sup>18</sup>

Subsequently, Liddelow (1964) introduced the concept of selectively relieving the flabby tissues using perforated trays and low-viscosity impression materials. This represented one of the earliest conservative approaches for preserving the morphology of mobile tissues during impression making.<sup>19</sup>

Perhaps the most influential contribution came from Watson (1970), who described the window impression technique, which has since become one of the most widely accepted methods for managing flabby ridges. Watson recommended fabrication of a custom tray with an opening over the mobile tissues so that the remaining denture-bearing areas could be recorded conventionally while the flabby tissue was captured separately using impression plaster. This approach minimizes tissue displacement and allows the flabby tissues to be recorded in their undisplaced form.<sup>20</sup>

The present case followed the same biological principle advocated by Watson, employing a custom tray with an anterior window and impression plaster to record the mandibular flabby ridge.

### **Biological Basis of the Window Technique**

The rationale behind the window technique is founded on the viscoelastic behavior of oral mucosa. Normal attached mucosa covering healthy cortical bone exhibits relatively limited displacement under functional loading and is therefore suitable for providing denture support. Conversely, flabby tissues contain loosely arranged fibrous connective tissue with minimal osseous support and are readily displaced even under light pressure.

When these tissues are compressed during impression making, they undergo elastic deformation. Following removal of the impression material, they rebound toward their resting position. A denture fabricated on a distorted cast consequently becomes unstable because the tissues attempt to return to their physiologic position beneath the denture base.

The window technique avoids this problem by allowing the mobile tissues to be recorded without compression while simultaneously obtaining functional support from the healthy portions of the ridge. Thus, the final denture rests on tissues recorded under appropriate pressure conditions rather than on distorted anatomy.

### **Impression Materials Used for Flabby Ridge Management**

A variety of impression materials have been advocated for recording flabby tissues.

#### **Impression Plaster**

Impression plaster remains one of the most accurate materials for recording hypermobile tissues because of its extremely fluid consistency before setting. It exerts minimal pressure on the tissues and reproduces surface details with excellent dimensional accuracy.

The principal advantages of impression plaster include:

- Minimal tissue displacement
- Excellent flow characteristics
- Superior surface detail reproduction
- High dimensional stability
- Low cost
- Wide availability

Its primary disadvantages include brittleness after setting, difficulty in manipulation, unpleasant taste, and relatively long setting time.

Despite these limitations, impression plaster remains the material of choice for the window technique because of its superior mucostatic recording ability.

Unlike elastomeric materials, impression plaster exerts virtually no elastic recoil on the underlying tissues during setting.

### **Zinc Oxide Eugenol Impression Paste**

Zinc oxide eugenol (ZOE) impression paste has traditionally been regarded as the gold standard for recording healthy edentulous ridges. Its excellent dimensional stability, low viscosity, and ability to produce accurate surface details make it particularly suitable for the posterior stress-bearing areas.

In the present case, ZOE impression paste was used to record the normal denture-bearing tissues, while impression plaster was reserved exclusively for the flabby anterior ridge. This combination allowed each tissue type to be recorded under optimal conditions.

### **Elastomeric Impression Materials**

Modern elastomeric materials such as polyvinyl siloxane (PVS) and polyether have also been used for managing flabby ridges. Light-body PVS demonstrates excellent flow and dimensional stability and can be injected through a window in the custom tray in a manner similar to impression plaster.

Several investigators have reported favorable clinical outcomes with addition silicone because of its superior elastic recovery and ease of manipulation. However, elastomeric materials remain more expensive than impression plaster and may still exert slightly greater pressure during polymerization.

Consequently, impression plaster continues to be preferred by many prosthodontists when absolute mucostatic recording is desired.

### **Alternative Impression Techniques**

Numerous modifications of the conventional impression technique have been proposed.

#### **Selective Pressure Technique**

The selective pressure technique is based on the philosophy proposed by Boucher, in which pressure is directed toward primary stress-bearing areas while relief is provided over vulnerable tissues.

Advantages include:

- Good support
- Improved stability
- Familiar clinical procedure

However, complete elimination of pressure over highly mobile tissues may not always be achieved.

## **Double-Tray Technique**

The double-tray technique utilizes two independently fabricated trays. One tray records the supporting tissues, while the second tray records the flabby tissues.

Although accurate, this technique is technically demanding, time-consuming, and less practical in routine clinical practice.

## **Controlled Lateral Pressure Technique**

The controlled lateral pressure technique attempts to minimize horizontal tissue displacement during impression making by carefully directing impression pressure.

Clinical studies have demonstrated acceptable retention and stability using this method; however, its success depends greatly on operator experience.

## **Two-Viscosity Silicone Technique**

This technique combines heavy-body and light-body addition silicone impression materials.

Heavy-body material supports the tray and records the healthy tissues, while light-body silicone records the flabby areas.

Advantages include:

- Excellent dimensional stability
- Elastic recovery
- Easy manipulation
- Patient comfort

Disadvantages include:

- Increased material cost
- Requirement for meticulous handling
- Potential pressure transmission from the heavy-body material

## **Fluid Wax Technique**

Fluid wax impressions have also been advocated for recording flabby ridges.

Because wax remains plastic for an extended period, tissues are recorded under minimal pressure.

Nevertheless, fluid wax impressions are highly technique-sensitive and difficult to manipulate, limiting their routine clinical application.

## **Digital Prosthodontics**

Recent advances in intraoral scanning have generated interest in digital recording of edentulous arches. Digital impressions eliminate several disadvantages associated with conventional materials and permit rapid data acquisition.

However, scanning completely edentulous arches remains challenging because mobile tissues continue to deform during scanner movement and functional border molding cannot yet be reproduced predictably.

Current evidence suggests that conventional impression techniques remain superior for patients with extensive flabby ridges.

Consequently, the window technique continues to represent a reliable and evidence-based clinical option.

## **Clinical Significance of Impression Plaster**

Although impression plaster has become less common following the introduction of elastomeric materials, its physical properties continue to offer unique advantages in specific clinical situations.

The material produces negligible polymerization shrinkage, flows readily over mobile tissues, and records fine surface details without exerting significant pressure.

These characteristics explain why impression plaster remains the preferred material in numerous published reports describing management of flabby ridges.

The successful outcome observed in the present patient further supports its continued relevance in contemporary prosthodontic practice.

## **Advantages of the Window Technique**

The window technique offers several clinical advantages:

- Minimal displacement of flabby tissues
- Accurate reproduction of tissue morphology
- Improved denture stability
- Better retention
- Enhanced support from healthy tissues
- Reduced post-insertion soreness
- Cost-effective treatment
- Simple laboratory procedures
- No additional equipment required
- Suitable for medically compromised patients
- Conservative and non-invasive

## **Limitations**

Despite its advantages, the technique has certain limitations.

The procedure is more time-consuming than conventional impressions because two different materials are used.

Proper tray design is essential to avoid distortion at the junction of the impression materials.

Impression plaster is brittle and requires careful handling during removal and cast pouring.

The technique also demands a thorough understanding of impression philosophies and precise clinical execution.

## **Clinical Outcome of the Present Case**

The present patient demonstrated excellent adaptation to the dentures during the follow-up period.

The mandibular denture exhibited satisfactory retention and stability despite the presence of extensive anterior flabby tissue.

The accurate mucostatic recording of the hypermobile tissues prevented displacement of the denture base during mastication and speech.

The patient reported significant improvements in:

- Masticatory efficiency
- Speech
- Comfort
- Confidence
- Overall oral health-related quality of life

These findings are consistent with previous reports demonstrating superior clinical performance of the window impression technique when compared with conventional mucocompressive impressions.

## Conclusion

The presence of a flabby residual ridge poses a significant challenge in complete denture prosthodontics because of its tendency to undergo displacement during impression making, resulting in compromised denture retention, stability, and support. Conservative prosthodontic management remains the treatment of choice in patients who are medically compromised, unwilling to undergo surgical intervention, or unsuitable for implant therapy.

The window impression technique provides a predictable and biologically sound approach for recording hypermobile tissues by allowing the flabby ridge to be captured in an undisplaced, mucostatic state while simultaneously recording the remaining denture-bearing tissues under selective pressure. In the present case, the use of impression plaster through a custom tray window enabled accurate reproduction of the anterior mandibular flabby ridge without tissue distortion.

The completed maxillary and mandibular complete dentures demonstrated satisfactory retention, stability, support, esthetics, and function. Follow-up examinations confirmed healthy supporting tissues, absence of denture-induced trauma, and high patient satisfaction with mastication, speech, and comfort.

Although numerous impression techniques have been described for the management of flabby ridges, no single technique has been proven universally superior. The choice should therefore be individualized according to the extent and location of the mobile tissues, operator experience, material availability, and patient-specific clinical considerations. The window impression technique using impression plaster remains a simple, economical, and highly effective method that continues to have an important role in contemporary complete denture prosthodontics.

## Clinical Significance

- Accurate recording of flabby tissues is essential for achieving stable and retentive complete dentures.
- The window impression technique minimizes distortion of mobile tissues by recording them without compression.
- Impression plaster remains a valuable mucostatic material for recording flabby ridges despite the availability of modern elastomeric materials.
- Conservative management can provide excellent clinical outcomes without surgical intervention in appropriately selected patients.
- Proper diagnosis and selection of the impression philosophy significantly improve long-term patient satisfaction and prosthesis success.

## Patient Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying clinical photographs. The patient's identity has been kept confidential in accordance with the Declaration of Helsinki.

## Conflict of Interest

The authors declare that there are no conflicts of interest related to this case report.

## Funding

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## Funding

No financial support was received for this study.

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