

TISSUE CONDITIONING: DUAL APPROACH

ABOUT CLINICAL CASES

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ABSTRACT

In many cases, wearing old dentures may cause abnormalities and soft tissue lesions, the success of a new prosthetic therapy is conditioned by the elimination of all the lesions and anatomical defects of these tissues. This can be accomplished by performing pre-treatment for tissue conditioning by the use of conditioning materials that allow osteo-mucosal infrastructures to return to their healthy state by reducing and evenly distributing the stresses to which they are subjected.

This approach allows a good adaptation of the new denture by improving intrinsic and extrinsic qualities of the supporting surface and thus will provide a better quality of life to patients.

Key words: tissue conditioning, full denture, delayed setting plastic acrylic resin, transitional denture .

Introduction

It is not uncommon for a patient to present with a prosthesis that has been worn for a very long time. Long-term wear, poor design of prostheses, and the mechanical stresses that the tissues of the residual ridge permanently undergo and sometimes are beyond their tolerance threshold, lead to the irritation and inflammation of the tissues¹.

Considering a new prosthetic therapy with a degraded tissue condition will only complicate the clinical case with impressions duplicating the inflamed and irritated mucosa, erroneous intermaxillary relationship and a reduced free space of unocclusion².

These alterations in the oral mucosa may be in the form of reversible and curable lesions according to a specific treatment plan, or they may be irreversible, indicating surgery as an unavoidable step.

The purpose of this study was to illustrate the contribution of tissue conditioning to these reversible lesions without depriving the patient of his denture while using a tissue conditioner.

Tissue conditioning in complete denture:

LEJOYEUX says: "Conditioning consists of all the preparations and therapies intended to place the patient in the ideal psychological and physical conditions to receive a prosthesis and quickly adapt to it"³.

In the present study, we only evaluated the tissue aspect of this therapy.

Tissue conditioning allows:

- A therapeutic effect on irritated supporting tissues¹;
- To restore to all mucosal, sub-mucosal, connective, muscular, and glandular tissues in contact with the intrados, extrados, and prosthetic edges a histological, morphological, and physiological behavior most favorable to the new prosthetic function;
- To exploit the bearing surfaces as much as possible, in order to optimize the distribution of occlusal loads;
- To increase the biofunctional space that will be occupied by the prosthesis, therefore, make a correct impression using all anatomical areas favorable to prosthetic balance;
- To improve the psychological and organic integration of a new prosthesis with a volume that is often larger than that of the existing prosthesis⁴.

Therapeutic approach:

Good therapeutic conduct results from a thorough clinical examination and a well-established diagnosis.

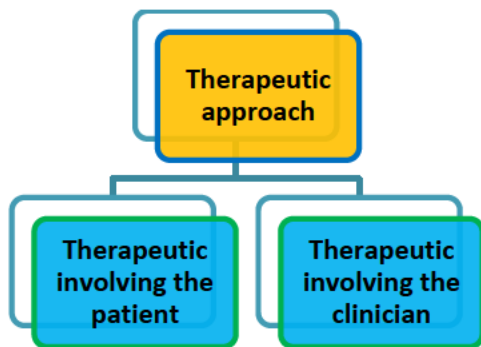
Indication of tissue conditioning:

Tissue conditioning is indicated in cases with Psychological difficulties stopping the creation of a patient-practitioner relationship, the acceptance of prosthetic rehabilitation in the elderly subject;

As it may be indicated in cases of typical organic problems produced by denture; like denture stomatitis, hyperplastic lesions also called epulis fissuratum, and ulcerative lesions;

After pre-prosthetic surgery, its called post-surgical conditioning tissue;

In cases of excessive resorption of Atwood class III or IV, a significant shortening of the biofunctional space or when the ambulatory or piezographic impression is the rule.⁵⁻⁸

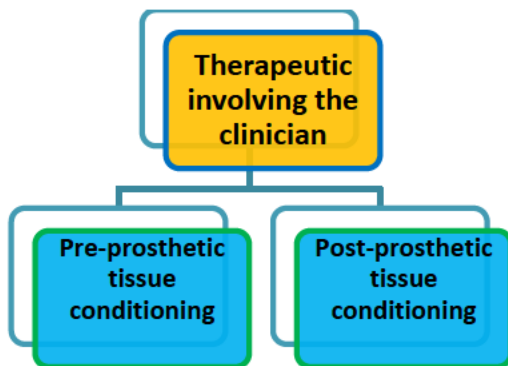


• **Therapeutic involving the patient:**

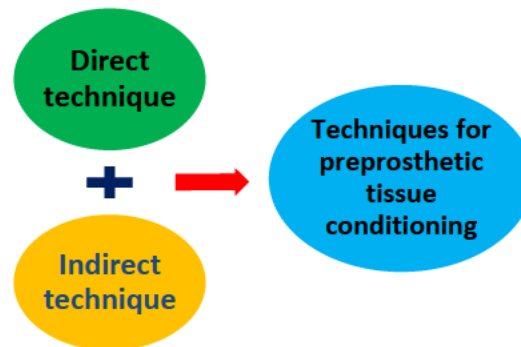
The patient is encouraged to follow the instructions of his/her dentist rigorously and be motivated to succeed in the treatment plan;

As a result, he/she must follow a diet rich in protein, calcium, and vitamin, with impeccable oral hygiene⁹ and sometimes medication and tissue massage^{10,11}.

• **Therapeutic involving the clinician:**



This therapeutic approach as initiated with the **pre-prosthetic tissue conditioning** that takes place before making the final prosthesis and includes making a transient prosthesis over a period of 4 to 6 weeks. It is performed in the presence of hyperhemized and traumatized tissues in patients who have never been fitted with a prosthesis before, or when the prosthesis has an incorrect design¹².



The direct technique consists of making preparations on the intrados of the prosthesis and filling it with the tissue conditioner and leaving the patient with it for 3 to 4 days then renewing the supply until satisfaction³.

The indirect technique reduces the clinical operating time and is similar to direct technique except that the material is renewed in the laboratory³.

After all this, the final prosthesis is designed with all the conventional steps.

Post-prosthetic tissue conditioning is a more modern and rapid approach for non-complex cases with anatomical structures that are only superficially altered and accompanied by minimal disturbance of the neuromuscular, psychic and neuro-articular balance, or even when only one arch is affected.

The same treatment steps are performed except that at the end of the operating sequences the same prosthesis is relined and placed in the mouth¹³.

In this type of treatment, follow-up is of considerable importance and involves the practitioner who must be instructed and intransigent in periodic monitoring, as well as the patient who must be motivated and aware of his oral health.

Monitoring allows the sustainability and maintenance of the obtained results or detection of possible therapeutic failure.

Clinical cases:

1st case:

Miss. B. F., 38 years old, with a total edentulous jaw for one year, presented for prosthetic restoration.

Exo-buccal clinical examination revealed no abnormalities to report, whereas, at the endo-buccal level, a painful lesion was found in the anterior part of the upper crest.

The therapeutic approach followed included preparing a new prosthesis and initiating a post-prosthetic tissue conditioning therapy with motivation and instructions given to the patient, and finally, relining of the prosthesis after the end of the sequences.



Figure 01: Endo-buccal view showing lesions on the anterior crest



Figure 04: Relining the prosthesis with a low-viscosity elastomer.



Figure 02: Appearance of the prosthesis after the tissue conditioner is applied



Figure 05: Prosthetic in the mouth

At the end of the treatment, the patient was satisfied with the treatment while noting the disappearance of the pain.

2nd case:

Miss. M. K., 62 years old, came to the consultation in order to redo her old worn prostheses.

The endo-buccal examination revealed an irregular lower crest with hypertrophy of the vestibular mucosa.



Figure 03: Appearance of lesions after four conditioning sessions spaced three to five days apart



Figure 06: The appearance of the lower crest indicating mucosal hypertrophy

The therapeutic process began with motivation to oral hygiene and a gentle diet, then by the realization of new transitional prostheses and starting the therapeutic sequences as part of a pre-prosthetic tissue conditioning. Finally, we proceeded to relines the prosthesis and its insertion in the mouth.



Figure 07: Appearance of lesions after 5 days

mucosa. this is the clinical picture of prosthetic stomatitis class 3 according to Newton ¹⁴.

Therapeutic approaches:

A pre-prosthetic tissue conditioning was undertaken using her prosthesis as a transitional prosthesis, with motivation for hygiene.

At the end of the treatment sequences, a new prosthesis was made.



Figure 10: Appearance of lesions during the consultation



Figure 08: Appearance of lesions after 12 days



Figure 11: Appearance of lesions after one week



Figure 09: New prosthesis in the mouth

3rd case:

Mrs. Ch.M., 55 years old, completely edentulous, presented herself for consultation for the repair of her old prostheses, which were unsuitable and poorly fitted and were made 10 years ago.

The endo-oral examination revealed a diffuse erythematous reaction at the upper jaw with a hyperplastic papillary



Figure 12: Appearance of lesions after two weeks



Figure 13: Control of the prosthesis in the mouth

Discussion:

Given the inflammatory and traumatic conditions of the supporting surfaces of a large number of patients, the management of the totally edentulous patients for possible prosthetic treatment always remains a therapy without risk of failure¹⁵. It was possible during our approach to treat a few cases that generally presented traumatic hypertrophies, denture stomatitis, and painful lesions of the edentulous ridge. The result of the dual approach involving both patient and clinician cooperation using a tissue conditioner was very promising given the satisfaction of patients in the first position and secondarily the improvement of tissue conditions of the supporting surfaces after therapy.

Despite these results, it is very important not to neglect the possibility of recurrence given the uncertain behavior of the oral mucosa, hence, the importance of post-prosthetic treatment. However, too much credit should not be given to tissue conditioners alone to ensure the quality of the supporting surfaces, it is only when the direct factors causing the trauma are corrected or removed that the use of a specific tissue treatment technique will improve oral health¹⁶.

The purpose of this study was to present the importance of tissue conditioning in the success of prosthetic therapy by acrylic total prosthesis¹ in terms of practice involving both practitioner and patient satisfaction, given the number of failures of the latter without conditioning².

Finally, it is very important to not neglect careful patient follow-up of a complete denture for the maintenance of results¹⁷.

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