

## Prosthodontics

### Clinical Phases of Removable Partial Denture Construction

#### 1<sup>st</sup> Phase: Education of patient:

Is the process of informing a patient about a health matter to secure informed consent, patient cooperation, and a high level of patient compliance.

- 1) The dentist and the patient share responsibility for the ultimate success of a removable partial denture.
- 2) Motivation and instruction to the patient for proper oral hygiene as a measure, the patient should understand that removable partial denture causes a periodontal problem, caries, and bad oral hygiene that is why partial denture is not supplied to a patient unless the oral hygiene is satisfactory.
- 3) Patient education should begin at the initial contact with the patient and continue throughout treatment. This educational procedure is especially important when the treatment plan and prognosis are discussed with the patient.
- 4) A patient will not usually retain all the information presented in the oral educational instructions for this reason; patients should be given written suggestions to reinforce the oral presentations.

## 2<sup>nd</sup> Phase: Diagnosis, Treatment Planning, Design, Treatment Sequencing, and Mouth Preparation:

Treatment planning and design begin with thorough medical and dental histories. The complete oral examination must include:

A. Clinical and radiographic interpretations of:-

- 1) Caries.
- 2) The condition of existing restorations.
- 3) Periodontal conditions.
- 4) Responses of teeth (especially abutment teeth) and residual ridges to previous stress.
- 5) The vitality of remaining teeth.

B. Evaluation of the occlusal plane.

C. Evaluation of arch form.

D. Evaluation of occlusal relations of the remaining teeth by clinical visual evaluation and diagnostic mounting of diagnostic casts.

After a complete diagnostic examination has been accomplished and removable partial denture has been selected as treatment of choice, a treatment plan is sequenced and a partial denture design is developed based on the support available. For distal extension situations in which no posterior abutments remain and in which extension bases must derive their principle support from the underlying residual ridge require an entirely different partial denture design than does one in which total abutment support is available.

Sufficient differences exist between the tooth-supported and the tooth and tissue-supported removable restorations to justify a distinction between them.

Principles of design and techniques employed in construction may be completely dissimilar. The points of difference are as follows:-

- 1) The manner in which the prosthesis is supported.
- 2) Impression methods are required for each.
- 3) Types of direct retainer's best suited for each.
- 4) Denture base material best suited for each.
- 5) Need for indirect retention.

The dental cast surveyor is an absolute necessity in which patients are being treated with removable partial dentures. The surveyor is instrumental in diagnosing and guiding the appropriate tooth preparation and verifying that the mouth preparation has been performed correctly.

After treatment planning, a predetermined sequence of mouth preparations can be performed. Mouth preparations, in the appropriate sequence, should be oriented toward the goal of providing:-

- 1) Adequate support, stability, and retention for a partial denture.
- 2) A harmonious occlusion for the partial denture.

Through the aid of diagnostic casts on which the tentative design of the partial denture has been outlined and the mouth preparations have been indicated in colored pencil, occlusal adjustments, abutment restorations, and abutment modifications can be accomplished. Then the final form of the denture framework should be drawn accurately on the master cast after surveying so that the technician can clearly see and understand the exact design of the partial denture framework that is to be fabricated.

### **3<sup>rd</sup> Phase: Support for Distal Extension Denture Bases:**

It does not apply to tooth-supported removable partial dentures because support comes entirely from the abutment teeth through the use of rests.

For the distal extension partial denture (FEE), however, a base made to fit the anatomic ridge form does not provide adequate support under occlusal loading; therefore, a special impression technique is needed to satisfy the requirements for support of any distal extension partial denture base.

The certain soft tissue in the primary supporting area should be recorded or related under some loading so that the base may be made to fit the form of the ridge when under function. This provides support and ensures the maintenance of that support for the longest possible time. This requirement makes the distal extension partial denture unique in that the support from the tissue underlying the distal extension base must be made as equal to and compatible with the tooth support as possible.

#### **4<sup>th</sup> Phase: Establishment and Verification of Occlusal Relations and Tooth Arrangements:**

Whether the partial denture is tooth-supported or has one or more distal extension bases, the recording and verification of occlusal relationships and tooth arrangement are important steps in the construction of a partial denture. For the tooth-supported partial denture, ridge form is of less significance than it is for the tooth-and tissue-supported prosthesis because the ridge is not called on to support the prosthesis. For the distal extension base, however, jaw relation records should be made only after obtaining the best possible support for the denture base. This necessitates the making of a base or bases that will provide the same support as the finished denture. Therefore, the final jaw relations should not be recorded until after the denture framework has been returned to the dentist, the fit of the framework to the abutment teeth and opposing occlusion has been verified and corrected, and a corrected impression has been made. Then either a new resin base or a corrected base must be used to record jaw relations.

### **5<sup>th</sup> Phase: Initial Placement Procedures:**

This phase begins when the patient is given a removable partial denture. It seems that minute changes in the planned occlusal relationships occur during the processing of dentures. Not only must occlusal harmony be ensured before the patient is given the dentures, but also the processed bases must be reasonably perfected to fit the basal seats.

The patient must be understanding the suggestions and recommendation given by the dentist for the care of the dentures and oral structures and understands about expectations in the adjustment phases and use of the restorations.

### **6<sup>th</sup> phase: Periodic Recall:**

Periodic reevaluation of the patient is critical for early recognition of changes in the oral structures to allow steps to be taken to maintain oral health. These examinations must monitor:-

- 1) The condition of the oral tissue.
- 2) The response to the tooth restorations.
- 3) The prosthesis (removable partial denture).
- 4) The patient's acceptance.
- 5) The patient's commitment to maintaining oral hygiene.

Although a 6-month recall period is adequate for most patients, a more frequent evaluation may be required for some.