Diagnosis and Treatment Planning For Removable Partial Denture

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Diagnosis and Treatment Planning

For any disease or condition to be treated, it is very important to know the background and forms of the disease itself, so that it can be identified in the various patterns that it presents, and the necessary treatment be instituted. So, an accurate diagnosis is important.

Many failures in removable partial denture treatment can be traced to inadequate diagnosis and incomplete treatment planning.

Therefore, a thorough, properly sequenced treatment plan is essential to successful removable partial denture therapy.
The restoration of a partially edentulous mouth presents the challenge to re-establish masticatory efficiency, esthetics, and comfort. As the remaining teeth and edentulous ridges have to sustain greater stress than that intended by nature, the preservation of these tissues is one of the primary objectives.

Before any rehabilitation procedures are attempted, patient information must be gathered to provide the evidence necessary to arrive at an accurate diagnosis and develop a treatment plan.
Patient interview

The interview, an opportunity to develop a connection with the patient, involves listening to and understanding the patient’s chief complaint or concern about his or her oral health.

The chief complaint is referred to the illness as described by the patient word. This can include

- Clinical symptoms of pain
- Difficulty with function,
- Concern about appearance,
- Problems with an existing prosthesis, or any combination of symptoms related to the teeth, periodontium, jaws, or previous dental treatment.
Purpose of the interview and clinical examination

1-Understanding the patient’s desire or chief complain

2-Ascertaining the patient’s dental need through a diagnostic clinical examination.

3-Develop a treatment plan that reflects the best management of desire and need.

4-Executing appropriately sequenced treatment with planned follow-up.
The patient interview and clinical examination should follow a sequence that includes:

1. Chief complaint
2. Medical history
3. Dental History
4. Patient expectations
Medical history review

1-Diabetics

- Uncontrolled diabetes - accompanied by multiple small oral abscesses and poor tissue tone.
- Reduced salivary output – significantly reduces the ability of a patient to wear the prosthesis with comfort and increase the possibility for occurrence of caries.

2-Arthritis:

If arthritic changes occur in the temporomandibular joint, the making of jaw relation records can be difficult, and changes in the occlusion may occur.
3-Hyperparathyroidism

The patient is likely to suffer rapid destruction of the alveolar bone as well as generalized osteoporosis.

The dental radiographs typically show a complete or partial loss of lamina dura. Such a patient is a poor risk for partial denture therapy.
4-Epilepsy

(muscle spasms and prolonged loss of consciousness) seizure may result in fracture and aspiration of the prosthesis, and possibly the loss of additional teeth. Consultation with the patient’s physician is essential before treatment is initiated. Construction of removable partial dentures is usually contraindicated if the patient has frequent, severe seizures with little or no warning.
5-Cardiovascular diseases

Patients with the following require medical consultation before any dental Procedures

Acute or recent myocardial infarction
Unstable or recent onset of angina pectoris.
Congestive heart failure.
Uncontrolled arrhythmia.
Uncontrolled hypertension.

The patient’s physician should be consulted, and written approval should be obtained before any dental treatment is initiated.
Oral complications are also a common side effect of radiation and chemotherapy for malignancies in areas other than the head and neck.

- Mucosal irritations.
- Xerostomia.
- Bacterial and fungal infections.

These symptoms will complicate the construction and wear of the removable partial denture.
Dental History

How did he/she lose his/her teeth? Caries? Periodontal?

Gather information about existing dentures. (reason for dissatisfaction)

The presence of a large number of restored teeth, signs of recurrent caries, the evidence of decalcification – susceptible to caries

Unless an exceptional level of plaque control can be achieved, the prognosis for the treatment is poor.

The placement of crowns on the abutment teeth may be indicated if the patient is highly susceptible to caries.
Extra-oral examination

It includes

facial symmetry,

T.M.J with mandibular movement, and muscles of mastication.
Intra-oral examination

1-Visual examination

1- Signs of dental disease consideration of caries susceptibility are of primary importance. The number of restored teeth presents signs of recurrent caries on initial examination.

2- Examination of periodontal disease, gingival inflammation, the degree of gingival recession, and mucogingival relationships should be observed.

3- The number of teeth remaining, the location of the edentulous area, and the quality of definite bearing on the proportionate amount of support that the RPD will receive from the teeth & and the edentulous ridges.

4- Tissue contour may appear to present a well-formed edentulous residual ridge.
5- The presence of tori or other bony exostosis must be detected and an evaluation of their presence in relation to framework design must be made.

6- Examining the occlusal relationship with the opposing arch must be considered separately.

7- Determination of the height of the floor of the mouth to locate inferior borders of lingual mandibular major connectors.
Evaluation of oral hygiene:
Inadequate oral hygiene must be recognized.
The ultimate success of the treatment depends on the home care of the patient and the technical procedures provided by the dentist.

Oral prophylaxis
Supra gingival calculus should be removed, and oral prophylaxis should be performed. The diagnostic casts and the definitive intra-oral examination will be more accurate if the teeth are clean.
2-Radiographic examination

The objectives of a radiographic examination are

1- To determine and locate areas of infection and other pathosis that may be present.

2- To the presence and extent of caries and the relation of carious lesions to the pulp and periodontal attachment;

3- To presence of root canal fillings and permit their evaluation as to future prognosis (the design of the partial denture may hinge on the decision to retreat or extract an

4- To evaluate the alveolar bone that support of abutment teeth
Habits
Evaluated to determine their effect on prognosis

Bruxism
Bruxism is often initiated by interceptive occlusal contacts
The occlusion should be analyzed to determine if any correction is indicated, if the efforts are unsuccessful the patient should wear an occlusal splint to protect the remaining teeth.
Tongue thrusting:
This could cause extensive stress on the teeth retaining and supporting the partial denture. Eliminate the habit before fabrication of the prosthesis, if it persists. The partial denture should be designed to distribute the forces to as many teeth and supporting structures as possible.
diagnostic cast

A diagnostic cast should be an accurate reproduction of all the potential features that aid diagnosis. These include the teeth locations, contours, and occlusal plane relationship; the residual ridge contour, size, and mucosal consistency; and the oral anatomy delineating the prosthesis extensions.
Differential Diagnosis: Fixed Or Removable Partial Dentures

Indications for fixed restorations:
Tooth-bounded edentulous regions
Any edentulous space (short span) bounded by teeth suitable for use as abutments should be restored with a fixed partial denture
Additional modification spaces in Class III modification II situation:
Class III arch is better supported and stabilized when a modification area on the opposite side of the arch is present.
Indications for removable partial dentures:

Although a removable partial denture should be considered only when a fixed restoration is contraindicated, there are several specific indications for the use of a removable restoration.

1. Long span:
A long edentulous span would have abutment teeth that cannot bear the trauma of horizontal occlusal forces.

2. No posterior abutment for a fixed prosthesis

3. Excessive alveolar bone loss (esthetic problem)

4. Reduced periodontal support of remaining teeth.

5. Need for immediate replacement of extracted teeth
References
Thank You