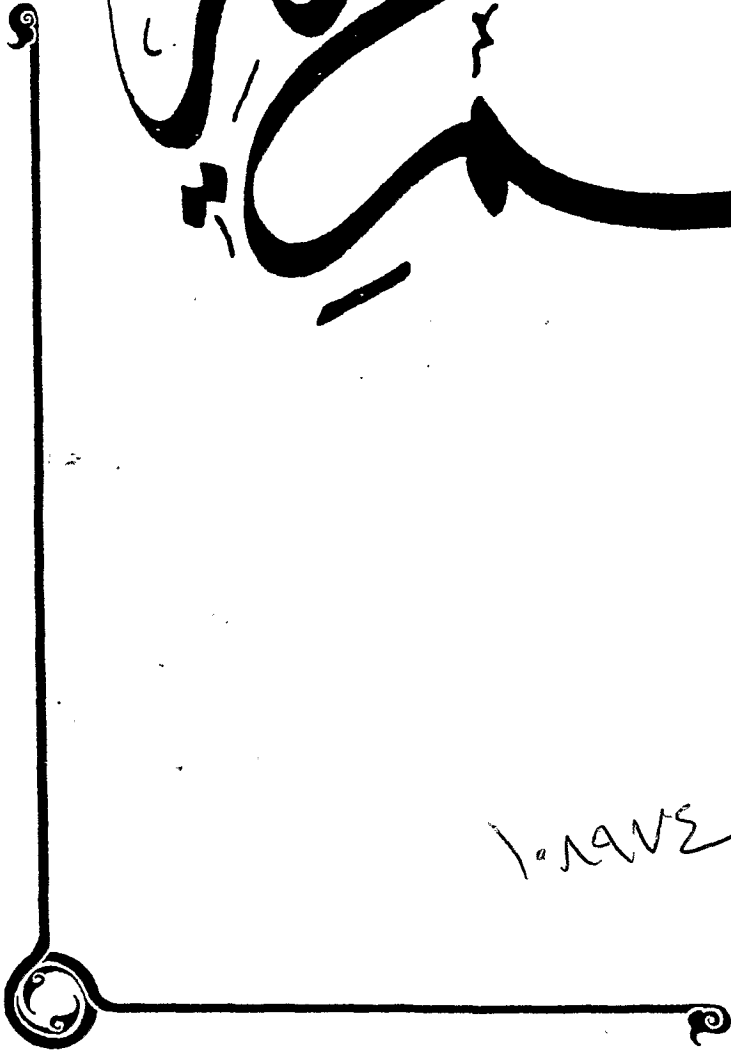


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

١٠١٩٧٤



In The Name Of God

Shiraz University of Medical Sciences

School of Dental Medicine

THESIS

For D.M.D Degree

Immediate Denture

Advisor

Dr. M. Vojdani

Prepared by:

Mohammad Taimoori

1999

1-1999

MAY 19/ 99

Shiraz University of Medical Sciences
School of Dental Medicine

دانشگاه علوم پزشکی شیراز

دانشکده دندانپزشکی

پایان نامه جهت اخذ درجه دکترا در رشته دندانپزشکی

دنچرفوری

به راهنمایی:

سرکار خانم دکتر وجدانی

نگارش:

محمد تیموری

۱۳۷۸

۱۳۸۷ / ۱۷ / ۱۷

کتابخانه تخصصی دندانپزشکی
شیراز

۱۰۸۹۷۴

Acknowledgments

It would be a great pleasure for me to express my deep appreciation to Dr. Mahroo Vojdani Assistant professor of prosthetic Department of Shiraz university for her valuable guidance and advice during the Preparation of this thesis.

To my dear parents to whom
I owe whatever success I have had in life.

To my affectionate wife
who brought light to my life to help me
towards the future

&

to my dear brothers, Ahmad, Morteza and
AmirHossain wishing them success in every moment
of their lives.

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CONVENTIONAL IMMEDIATE COMPLETE DENTURES

Introduction

After thorough examination and evaluation of patients, and after it has been determined that the remaining natural teeth must be removed, the next concern is the treatment plan. Many factors involved in the removal and the replacement of natural teeth with conventional immediate dentures. The number of teeth, age of patient, and local and systemic biologic factors are some of the variables to consider before subscribing to a treatment plan. Never expect any plan to be applicable to all patients. When evaluating the anatomic, physiologic, and psychologic factors involved, it may be difficult to accept and use a particular technique¹.

The use of "coined" terms and abbreviations in scientific publications and presentations frequently leads to misinterpretations and misunderstandings. This is particularly true of the learner or one who is not a student of the particular discipline being considered. For these reasons a review of the definitions and terminology used in immediate complete denture information follows.

In the current literature there is considerable interest in the partially

tooth supported and partially tissue supported complete denture. This denture is frequently inserted as an immediate restoration. This literature does not discuss this service and for clarity uses the term conventional¹.

When one combines the two definitions, a complete denture and an immediate denture, a conventional immediate complete denture is a dental prosthesis constructed to replace the lost dentition and associated structures of the maxillae, mandible, or both for insertion immediately after the last natural tooth (teeth) is removed.

By definition, a conventional immediate complete denture may be inserted after the removal of from one tooth up to and including 32 teeth. One or both arches may be involved. When teeth are to be removed from both arches, it is not mandatory that dentures be inserted in both arches at the same sitting¹.

There are several types of complete dentures that are frequently inserted at the time of removal of some or all of the teeth. These should not be confused with the conventional immediate complete denture; the procedures for their construction are different, and they are not evaluated by the same requirements.

A transitional denture is a partial denture to which teeth may be added as more teeth are lost and that will be replaced after postextraction tissue changes have occurred. A transitional denture may be made into an interim denture.

An interim denture is a dental prosthesis to be used for a short period of time for reasons of esthetics, mastication, occlusal support, convenience, or to condition the patient to the acceptance of an artificial substitute for missing natural teeth until more definitive prosthetic dental treatment can be provided.

The term temporary denture is frequently used. A prosthetic removable appliance, such as a complete denture, is not permanent. When the appliance is referred to as temporary, the patient may interpret this to mean that a subsequent denture is permanent. This interpretation could present an embarrassing situation and is best prevented by elimination of the term¹.

REQUIREMENTS

To determine if the treatment is a success or failure, requirements must be established whereby the denture can be accurately evaluated. At times, even under the best circumstances, clinical evaluation is not reliable. Results from the treatment of one individual vary when compared with the results of another receiving the identical treatment. Vivisections of persons are not always possible, objective evaluation of one's own efforts can be misleading, and what the patient tells or fails to tell is not always an indication of success or failure. A prosthetic treatment, such as an immediate complete denture, requires time for follow-up to record significant data; there are so many variables that the number of patients in the study must be great. In 20 years

of prosthodontics in the United States Navy, even though the number of patients observed was statistically significant, the length of time for evaluating the patients was insufficient. However, invaluable information was accumulated from examining patients for whom immediate complete dentures had been provided by the use of various techniques¹.

A denture is not living tissue, but it must be accepted as part of a system composed of living tissue. It must be physiologic as well as tolerated by the patient. To achieve the maximum degree of success the immediate complete denture should satisfy the following requirements: (1) compatibility with the surrounding oral environment; (2) restoration of masticatory efficiency within limits; (3) harmony with the functions of speech, respiration, and deglutition; (4) esthetic acceptability; and (5) preservation of the remaining hard and soft tissue support. This last requirement is the biggest challenge that the dentist and patient have to combat. The first four can be evaluated by clinical observation and analysis; the last is difficult to achieve and more difficult to evaluate.

The following are not requirements of the denture; they are entities that have to be considered in the treatment plan: availability of the patient, time required both of the dentist and patient, and expense of the total treatment plan¹.

DIAGNOSIS

A thorough patient evaluation is essential to the success of immediate complete denture treatment. It is essential to determine from the medical history if there are any medical contraindications to immediate denture treatment or if medical consultation and support are needed. It is essential to determine from the dental history if the patient's previous dental experiences have been favorable. If the patient's experiences or attitudes toward dental treatment have been unfavorable, it is necessary to determine the reasons for these problems and how unfavorable experiences can be avoided in the future.

It is important to determine the patient's expectations regarding appearance and function. If expectations are greater than the results that can be provided, the patient must be educated to accept a more reasonable result or the patient likely will be dissatisfied with the treatment. It also is important to educate the patient about his or her role in successful denture treatment. Patient education should be initiated at the first appointment and reinforced throughout treatment. The patient cannot be expected to accept his or her responsibilities in tissue health and denture maintenance unless properly educated and motivated by the dentist².

A thorough oral examination also is essential. Visual, digital, and appropriate radiographic examinations should be completed. If a torus is to be removed, the surgery should be scheduled prior to making the master

impression. A surgical stent is required when a torus palatinus is removed. It is desirable to have natural teeth present to retain and support the stent. Low-hanging maxillary tuberosities and tuberosities with displaceable redundant tissue should be corrected surgically prior to making the master impression. Labial frenula requiring surgery because of their attachment near the crest of the residual ridge, however, may be corrected at the time of anterior tooth removal and denture placement, thereby avoiding two surgical procedures in the same area of the oral cavity².

Irreversible hydro colloid impressions are made of the maxillary and mandibular arches. Record bases and occlusion rims are fabricated and the diagnostic casts are mounted on an articulator in centric relation. The mounted diagnostic casts are evaluated to determine if any remaining teeth interfere with closure in centric relation. Immediate dentures must be fabricated in centric relation and not at a position dictated by the remaining teeth. Immediate dentures cannot be fabricated successfully on casts mounted with the teeth in maximum intercuspation if this maxillomanibular relationship differs from centric relation. After the natural teeth are removed, the patient no longer has the proprioceptive mechanism that guided maximum intercuspation².

There are many acceptable approaches to arriving at a diagnosis when a conventional immediate denture is contemplated. When following any of these diagnostic procedures these factors should be kept in mind: (1) It

should not be assumed that the diagnostic procedures for the partially dentulous individual are the same as for the edentulous individual. In both situations the procedures must be thorough and must include the evaluation both of normal and of pathologic conditions, and of the anatomic, physiologic, and psychologic entities as they are related to the local and systemic status of the patient. For the partially dentulous patient the evaluation of the remaining teeth is of concern. It must be decided if some or all of them can be retained, and if they can be used to retain and support a removable partial denture, or if by additional treatment they can be used to support and stabilize a tooth supported complete denture. If the teeth are to be removed all of the factors related to the anticipated surgical procedures must be investigated. (2) Repeated statistical data on significant numbers of denture users show that sixty-five percent of patients who receive dentures tolerate and continue their use regardless of the lack of physiologic acceptance by the oral environment. In the examination of hundreds of immediate denture patients it was hard to understand how a large number continued to use the dentures when tissue abuse was so extensive. This is adequate proof that the patient's acceptance is not a scientific reason for following a procedure. (3) The treatment plan and not the diagnosis is influenced by the availability of the patient, the time required of the dentist and patient, and the total expense. (4) "Diagnosis is a continuous process throughout treatment." A patient who is properly educated in the procedures

does not criticize the dentist if, for scientific reasons, the treatment plan has to be altered. (5) During the consultaion and diagnostic procedures the patient should be educated to his responsibility in the treatment. This step in the treatment has been grossly neglected. It is the responsibility of the dentist, and is not to be treated lightly¹.

ADVANTAGES OF CONVENTIONAL IMMEDIATE COMPLETE DENTURES

The prime motivation for most patients who seek immediate denture treatment is to avoid any change in their appearance that would notify their friends that they wear complete dentures. The immediate denture enables them to engage in business and social activities without an embarrassing period during which they have neither natural nor artificial teeth³.

Today, developments in materials for artificial teeth have reached a point where an exact duplication of all the features of the patient's natural teeth is quite possible. Perhaps the greatest sense of artistic accomplishment is realized by the dentist during the fabrication of immediate dentures. He is provided with a faultless guide to esthetics which demands of him a rigid and specific task. This challenge, when successfully met, is a source of great pleasure.³

Another advantage of immediate dentures is the bandage or dressing effect that the prosthesis offers to the wounds of extraction and alveolectomy. This bandage effect tends to control hemorrhage, to prevent a large measure of outside contamination of the wounds, and to maintain drugs or other therapeutic agents at the site of the wounds³.

Undoubtedly, these dentures promote faster, less painful healing and a quicker return to normal function than conventional dentures. No prolonged

period of dietary change is necessary; the diet is limited to soft foods only for several days, if at all, rather than for several weeks or months as was the case before the advent of immediate denture treatment³.

The decided advantages attendant to this method of treatment are so desirable that the additional cost to the patient. The extra dental appointments necessary, the eventual rebase, and other small disadvantages are rather unimportant to the average patient.

Perhaps the main disadvantage of these prostheses is that they cannot be assessed fully until they are completed. There is no anterior try-in. If the dentist is duplicating anterior tooth arrangement and color exactly, this objection is inconsequential. Occasionally, however, the dentist and patient may desire certain modifications of arrangement, and in these cases, the appraisal must be deferred until the denture can be placed. Such a modification is necessary when vertical overlap of the natural teeth is too great to be accommodated in the dentures³.

Another modification is necessary when the lower teeth are inclined labially to such a degree that duplication of position would seriously impair the retention of the lower denture. The patient, accustomed to a certain horizontal overlap in natural teeth, may be disappointed when this overlap is greater in the dentures. If the overlap per se is maintained while satisfying the positional requirements of the lower anterior teeth, it follows that the upper

anterior teeth must be inclined distally to the position of the natural teeth. This problem of vertical and horizontal overlap is often considerable and must be explained thoroughly to the patient before treatment is started³.

Immediate denture treatment should begin when the necessity for the removal of all teeth has been decided. Study models should be made and preserved for later reference, and a thorough diagnosis and prognosis obtained. The posterior teeth should be removed and the wounds allowed to heal substantially before impressions are made. It is not generally advisable to attempt to construct an immediate denture to replace more than six or eight teeth in an arch, for several reasons. First, there is considerable blood loss during the removal of teeth and associated alveolectomy. If ten or twelve teeth are removed in each arch and alveolectomies are performed, it may be necessary to give the patient a transfusion to prevent shock. Such operations are certainly not routine office procedures; they must be done in a hospital and should be carefully planned. Second, the denture that replaces so many teeth lost simultaneously will be subject to a greater degree of procedural error and will fit only for a short time. Therefore, it is preferable to remove all but the six anterior teeth and perhaps the premolars before taking the final impressions³.

The only patient for whom immediate denture treatment is contraindicated is one who has undergone irradiation therapy, and in such a

person even conventional denture treatment is contraindicated. The danger of the occurrence of an osteoradionecrosis in such patients is considerably greater when they wear complete dentures. Sometimes, however, one must balance the harm done by an oral appliance that serves to obturate a defect, against the benefits of proper speech, mastication, and deglutition offered by such a prosthesis. This becomes a philosophical problem to be solved only by discussion among oncologist, radiologist, and dentist³.

When comparing the advantages of the immediate with the conventional complete denture, the advantages exceed the disadvantages. Some of the proved advantages are as follows: (1) The denture acts as a bandage or splint to help control bleeding, to protect against injury from food, mouth fluids, tongue action, or teeth present in the opposing arch. (2) The bandage or splinting action protects not only the wound but also the blood clot, thereby promoting rapid healing. (3) Individuals appear to function in speech, deglutition, mastication, and respiration sooner than when they have been edentulous even for a short time. (4) Individuals are not as reluctant to have diseased teeth removed when they are assured of replacements immediately. (5) For some individuals it is a financial necessity to continue their businesses with minimal interruption. (6) The lips, tongue, and cheeks have not changed their positions because of lack of support; therefore, it is less difficult to make the polished surfaces of the denture compatible with these structures.

(7) Psychologically, there are two outstanding advantages: first, rarely is it found that a patient having had immediate complete dentures fails to be a continued denture user; second, patients do not have to face their families and friends in an edentulous state, therefore their social and business activities can be carried on without embarrassment³.