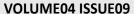
EIJMRMS ISSN: 2750-8587

# EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND MANAGEMENT STUDIES



**DOI:** https://doi.org/10.55640/eijmrms-04-09-05



# THE FREQUENCY OF COMPLICATIONS AFTER THE INSTALLATION OF PARTIAL REMOVABLE DENTURES

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### ABOUT ARTICLE

**Key words:** Removable dentures, osteomyelitis, syphilis, tuberculosis.

**Received:** 20.09.2024 **Accepted:** 25.09.2024 **Published:** 30.09.2024 Abstract: Tooth loss can negatively affect the aesthetics of the face, affect the functions of speech and chewing. Removable prosthetics is a common type of treatment for partial adentia. Based on the physiological, anatomical and psychological needs of the patient, diagnosis and subsequent manufacture of a dental prosthesis can significantly improve the quality of life of patients and positively affect the life expectancy of the elderly population. Nevertheless, some patients are dissatisfied after the treatment and cannot use their removable dentures. The most common problems include increased salivation in the first 72 hours, pain and discomfort, as well as lack of stability and retention.

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#### INTRODUCTION

Tooth loss can negatively affect the aesthetics of the face, affect the functions of speech and chewing. Removable prosthetics is a common type of treatment for partial adentia. Based on the physiological, anatomical and psychological needs of the patient, diagnosis and subsequent manufacture of a dental prosthesis can significantly improve the quality of life of patients and positively affect the life expectancy of the elderly population. Nevertheless, some patients are dissatisfied after the treatment and cannot use their removable dentures. The most common problems include increased salivation in the first 72 hours, pain and discomfort, as well as lack of stability and retention.

Acquired defects are formed most often in adults as a result of diseases of the jaw bones (osteomyelitis, syphilis, tuberculosis), surgical interventions, traumatic injuries, gunshot wounds. Functional disorders

ISSN: 2750-8587

are associated with communication of the oral cavity with the nasal cavity (speech is distorted, breathing, swallowing, chewing, sucking change). The function of the temporomandibular joint is impaired, the patient's psyche changes [1-4].

Surgical interventions on the upper jaw differ in that, very often, even with minor defects, there are messages with the oral cavity and nearby cavities and sinuses: the nose, maxillary and wedge-shaped sinuses, and the eye cavity. After oncological operations, when there is a risk of recurrence, direct reconstructive plastic surgery is not desirable [9-11]. As a result of extensive surgical interventions, there is a shortage of hard and soft tissues, in which reconstructive surgical operations to exclude communication between cavities and restore the integrity of the jaw do not lead to desirable results. The use of modern elastic base materials makes it possible to expand the prosthetic bed and distribute the chewing load on the bone base adjacent to the defect, which is located above the hard palate. In addition, you can get a good stabilization and fixation of the prosthesis. For this purpose, the preserved part of the hard palate, the pterygoid process of the sphenoid bone, the bone base of the fundus of the ocular cavity, etc. are used [5-8].



Why do I need a partial removable prosthesis?

Unlike a complete removable prosthesis, partial denture prosthetics are used to restore a fragment of the dentition. These designs allow you to restore partially lost teeth on both the upper and lower jaw.

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Partial dentures are a budget-based method of restoring lost teeth. The prosthesis consists of a gummimicking base and artificial teeth. The prosthesis material is selected based on the clinical indications and financial capabilities of the patient.

Dentistry today has many advanced technologies aimed at high-quality dental restoration. One of the most popular techniques is removable dentures, performed by means of an orthopedic structure designed for temporary or permanent use.

#### WHEN A PARTIAL REMOVABLE PROSTHESIS IS SHOWN

A partial removable prosthesis is designed to replace a fragment of the dentition with partial absence of teeth. The design allows you to replace several missing units located side by side, or teeth located in different areas of the jaw. The prostheses have a shape and size appropriate for the intended purpose.

Regardless of the type of partial removable prosthesis, all designs have similar characteristics. Thus, the basis visually resembles the shade and structure of soft tissues and palate. The borders of the prosthesis have a clear contour, since otherwise it would be in contact with the base of the lips, and would be as uncomfortable as possible for everyday use. At the base of the structure there are plastic teeth, the task of which is to replace the crown of a natural unit.

The partial prosthesis has a fairly simple design, which makes the orthopedic product as much in demand as possible. All kinds of materials are used for the manufacture of products, but some raw materials can cause an allergic reaction.



#### TYPES OF PROSTHESES TO REPLACE PARTIALLY LOST TEETH

Despite the fact that the designs of removable dentures are very similar to each other, doctors divide them into several types according to such parameters as the number of teeth to be replaced, materials.

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### **CLASP PROSTHESIS**

The product is a metal frame. Thanks to the metal arc on the clasps, the solution looks compact. But due to the metal, it is not possible to achieve high aesthetic indicators. In addition, metal can cause allergies.

### PLATE PROSTHESIS

The removable plate structure has no metal in its composition, and, if compared with a clasp prosthesis, it is equipped with a wide and soft base.

### **ACRYLIC PROSTHESIS**

One of the most budget-friendly solutions that is suitable for temporary replacement of dentition elements. Plastic construction is often used after implantation – the prosthesis provides a comfortable recovery and the ability to chew food. The acrylic model does not have enough rigidity for constant wear. In this case, the design can cause discomfort.

#### **NYLON PROSTHESES**

This is a modern, relatively soft product, which is an excellent alternative to plastic. At the same time, the price in Moscow for such a prosthesis is slightly higher than for its plastic counterpart. The design is more comfortable to use.

### PARTIAL REMOVABLE PROSTHESIS FOR THE UPPER AND LOWER JAW

Partial and complete designs have a number of important differences. For example, in the complete absence of the lower dentition, the structure is held on the alveolar processes, which does not guarantee reliable fastening. Partial dentures for the replacement of several teeth are fixed on natural teeth, therefore they are more practical and durable. The prosthesis for the upper row is equipped with a palate, which gives it an additional advantage in the form of stability. Due to clamps or attachments, the product is quite stable.

#### FEATURES OF THE MANUFACTURE OF REMOVABLE DENTURES

Prosthetics is one of the most relevant techniques for restoring the dentition. The technology has been used in dental practice for decades, so the clinic uses a clear manufacturing mechanism consisting of the following steps:

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- 1. The first visit to the clinic for the purpose of consultation. The doctor examines the oral cavity, diagnoses problems, performs sanitation, takes a cast and sends it to the dental laboratory for further fabrication of the structure.
- 2. Next, the grinding and correction of the structure is carried out.
- 3. Correction of the prosthesis in the articulator, fitting.
- 4. Final installation.

The production time of the prosthesis for partial installation takes about 10-14 days. After installation, the patient may experience discomfort when chewing food and talking – the adaptation period lasts 3-5 weeks, which depends on the type of prosthesis, the jaw on which it is installed. During the process, a person may feel minor pain – if it does not go away, you should visit a dentist to make adjustments to the prosthesis.

#### INSTALLATION AND STABILIZATION

For fixation, the following are used:

- 1. Clamps are special hooks made of metal or silicone. They cover the tooth and secure the structure.
- 2. Attachments are miniature locks that snap the structure.
- 3. Telescopic crowns are a complex design involving the preparation of a tooth, the installation of a metal cap on it, in which the prosthesis is attached.

#### ADVANTAGES OF PARTIAL DENTURES

Partial dentures are a good choice in favor of temporary replacement of lost teeth.

The most high–quality structures include elastic ones - they are made of hypoallergenic materials. If several dental units are missing, removable nylon or plastic plate structures without acrylic content are the optimal solution.

Positive:

- reasonable cost;
- normal aesthetics and good functionality;
- Fast manufacturing and installation;
- undemanding care.

The aim of the study was to assess the complications associated with wearing partial removable dentures and their impact on patient satisfaction.

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#### **METHODS**

The clinical examination was performed by patients of the orthopedic department using partial removable dentures for 4 years (2010-2014). The demographic data of patients and data of partial removable dentures were evaluated: Kennedy classification, jaw location (upper/lower), clinician experience (dental students or orthopedic doctors), type of denture (cobalt-chrome or completely acrylic). Patient satisfaction was assessed according to four criteria: chewing and speech functions, appearance, and comfort parameters on a visual analog scale. The data was analyzed using SPSS version 18 using the Kraskel-Wallis and Mann-Whitney tests.

### **RESULTS**

60 patients (30 men and 30 women, age range 37-64 years) were examined. The most common complications included: ingestion of food under the prosthesis (68.3%), resorption of the alveolar ridge (63.3%), loss of support (36.7%), caries of the supporting tooth (36.7%), loss of retention (35%), as well as pain and discomfort (30%). Patients reported moderate levels of satisfaction (6.2 out of 10). The degree of satisfaction with a partial removable prosthesis in patients 50 years and older was higher than in patients under 50 years of age. Also, in patients using a partial removable prosthesis on the upper jaw, the degree of satisfaction with treatment was higher than in patients with a partial removable prosthesis on the lower jaw. The gender of the patients, the Kennedy classification, and the type of denture did not significantly affect the degree of patient satisfaction.

#### **CONCLUSIONS**

The results of the study revealed that complications associated with wearing partial removable dentures are not uncommon. The degree of patient satisfaction with partial removable dentures after their installation, as well as the frequency of complications, may be influenced by the experience of clinicians involved in the selection and manufacture of prostheses.

ISSN: 2750-8587

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