

Removable Dentures of Modern Dentistry

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Annotation: Removable prosthesis is still not a thing of the past – it continues to be widely used in dentistry. A modern removable prosthesis is a compact, convenient product that allows you to quickly restore the aesthetics and functionality of the dentition. Removable and conditionally removable prosthetics are an excellent solution if it is impossible to install non-removable prostheses.

Keywords: removable prosthesis, oral cavity, caries.

Modern dentistry uses many types of dentures. They are distinguished by the type of construction, indications for use, material of manufacture, durability, cost and a number of other features. All options can be divided into two types:

- ✓ removable dentures;
- ✓ Non-removable dentures.

Removable dentures

Removable dentures are structures that are not designed for permanent wear. Periodically, they need to be removed during sleep, rest and for their care.

Indications for use:

- ✓ if the jaw is completely devoid of teeth;
- ✓ removal of more than 6 consecutive teeth on one side of the jaw;
- ✓ absence of chewing teeth on one or both jaws;
- ✓ temporary replacement of lost teeth in the preparatory period for the installation of permanent dentures.

In all these cases, a removable prosthesis allows you to restore the chewing function of the dentition and eliminates pronounced cosmetic defects of the oral cavity.

Depending on the design features, dentures can be:

- ✓ completely removable;
- ✓ partially removable.

Fully removable dentures

Removable dentures are an affordable design that does not require surgical intervention during its installation. They are used if the own teeth of the oral cavity are completely absent or have lost their functionality and are subject to removal.

Externally, the prosthesis is an anatomically curved plate in the shape of the gum and palate area (for the upper jaw). It is devoid of special fasteners and is fixed due to the suction effect of the gum.

Fully removable dentures cope with their main task and have the most affordable cost, but they are characterized by a number of limitations and disadvantages:

- ✓ unstable contact with the jaw;
- ✓ a complex adaptation process;
painful sensations with a slight increase in the load on the jaw;
- ✓ restrictions on eating a certain type of food (solid and requiring careful chewing);
- ✓ diction disorders, unpleasant sensations when coughing, laughing;
- ✓ The need for systematic care;
- ✓ gradual thinning of the gum and jawbone tissues;
- ✓ the need for regular dental check-ups;
- ✓ rapid wear of the prosthesis.

Partially removable

They are used if there are still healthy teeth in the oral cavity. A partially removable prosthesis can be used for permanent wear or as a temporary measure in preparation for further dental procedures.

This is the most affordable solution, especially if the patient is not recommended or non-removable prosthetics services are not available.

There are several variants of partially removable dentures.

- Lamellar prosthesis — similar in structure to fully removable dentures, but used in the absence of several chewing teeth. The lack of a suction effect of the gum is compensated by the presence of special hooks (clamps) with which the prostheses are attached to healthy teeth. There are plastic, acrylic and nylon options.
- Immediaprotheses — play the role of temporary correctors of the dentition when preparing the mouth for permanent prosthetics. They are usually made of softer materials (for example, nylon) and are not designed for a long service life.
- One—sided prosthesis - differs from lamellar ones by its one-sided design; it is used in the absence of one or more teeth on one side.
- Clasp prostheses are high—tech and durable structures with optimal load redistribution throughout the jaw due to the built-in metal arc frame. Recently, metal-free clasp models with elastic clasps have also begun to appear, which avoids pre-grinding of the supporting teeth. Unlike other types of partially removable dentures, the clasp does not require mandatory removal at night, so it is much more convenient in everyday use.

On a note! The majority of prostheses are made of plastic, but there are also softer models made of nylon. They are retained in the mouth due to the elastic properties of the material itself and are

more suitable for unilateral and temporary dentures. However, nylon dentures are less wear-resistant and have a characteristic springy effect when chewing.

Non-removable dentures

Fixed structures are installed with the expectation of permanent wear, additional fixation is not required. Surgical techniques and various dental preparation options are actively used during installation. A denture completely imitates lost teeth and, as a rule, does not differ from them either in appearance or in the way of care. It is possible to remove an already installed structure only in a dental office.

Implants

Implantation is a modern way to replace the root part of a completely lost tooth. The implant is an artificial structure that is implanted directly into the bone tissue of the jaw.

Indications for use:

- loss of one or more teeth surrounded by perfectly healthy teeth (implantation allows you to keep them in their original state);
- installation of support implants under the bridge (avoids grinding of healthy teeth);
- discomfort or pain when using removable dentures;
- complete loss of teeth (if the use of removable dentures is aesthetically unacceptable);
- loss of the front incisors.

In dentistry, there are several types of implants, the choice of which is determined by the condition of the tissues of the oral cavity, the location of the lost tooth and the purpose of the structure (under the crown, for the installation of a bridge).

- Endossal (intraosseous) lamellar implants. The base of the structure is made in the form of a plate, which provides a large area of contact with the bone. Such prosthetics are relevant in case of a deficiency of the jaw's own bone tissue for the installation of a root implant.
- Root-shaped implants of screw or cylindrical shape completely imitate the natural tooth root. For installation, they require a sufficient amount of bone tissue (if necessary, you can do a build-up).
- Subperiosteal implants are a complex metal complex that is installed under the gum and takes on part of the load. Such an implant is not embedded in the bone and is used only in case of severe thinning of the latter (for example, in the elderly).
- Intra—mucous dental implants are used for atrophy of the alveolar process (only in the presence of a thick mucosa - at least 2 mm).

It is interesting. Dental implants are manufactured with an individual approach to the patient's characteristics, therefore there is a group of so-called combined implants that can combine the signs of root and lamellar forms, adapting to the needs of the bone and jaw system of a particular patient. For example, a disc implant, which is used for severe bone atrophy, or a transosseous clinical implant, which is implanted through an incision in the chin.

Bridges

The bridge is a rigid structure of 2 crowns and intermediate artificial teeth. It can be attached to healthy supporting teeth or to pre-installed implants. The maximum length of the "span" is 4 teeth.

Indications:

- ✓ if 1 chewing tooth, 2 premolars or up to 4 incisors are lost in a row;
- ✓ the presence of healthy supporting teeth or pre-installed implants.

According to the method of manufacture, bridges are distinguished:

- Stamped (soldered) — they are made by soldering from individual crowns and artificial teeth.
- Solid — the bridge is a single whole, forming a more durable structure than a stamped sample.
- Adhesive is the only type devoid of supporting crowns. The role of the bearing element is performed by a fiberglass arc, which rests with its ends against the drilled holes of the lateral teeth. The support element is too weak, so this design is used only as a temporary measure or for prosthetics of one missing tooth. The artificial analogue of the intermediate tooth itself is formed directly during the installation of the bridge in the oral cavity from modern composites. Such a bridge prosthesis is considered the most gentle.

According to the location of the central part:

- ✓ flushing — a hole remains between the gum and the bridge, which prevents food retention;
- ✓ tangent — the bridge touches the gum in the front;
- ✓ saddle—shaped bridge touches the gum from both the outer and inner sides of the gum (an undesirable option, acceptable only for prosthetics of the front teeth).

In addition, bridge prostheses differ in the material of manufacture and, accordingly, are made of metal, ceramics, cermets, zirconium oxide, plastics, and metal plastics.

Ceramic metal crowns

It is the most advanced form of prosthetics for partially or completely destroyed teeth. It offers functionally and aesthetically complete replacement of the lost representatives of the dentition.

The ceramic metal prosthesis is a thin (0.3-0.5 mm) frame made of a metal alloy of chromium or nickel with cobalt. The ceramic layer of "enamel" is applied in layers and subsequently fired at a temperature of 800 degrees Celsius to give maximum strength and characteristic structure of dental tissues. Such crowns look quite natural and last up to 10 years.

On a note! Classic ceramic metal crowns are not recommended for installation on the front teeth, as the metal on the incisors can shine through, depriving the smile of naturalness. For such cases, it is better to use alternative materials, for example, the metal frame can be replaced with gold, and ceramics with zirconium oxide. In particular, a zirconium crown not only has completely identical appearance to a healthy tooth, but also surpasses conventional ceramics in strength, significantly extending the service life of such a prosthesis (up to 15-20 years).

Micro prostheses

The purpose of microprosthetics is to preserve severely damaged teeth, and the prefix "micro" characterizes the size of the prosthesis used: not the entire tooth twitches, but its individual sections. In some cases, microprosthetics may include the installation of pin prostheses, adhesive bridge prostheses made of fiberglass and even crowns, but in the classical sense, veneers (prosthesis in the form of an overlay) and sealing tabs fall under this definition.

- Filling tabs — fillings for teeth, which are made by a technician according to an individual impression and then installed on the destroyed area, covering the damaged cavity. Such a prosthesis differs from a conventional seal by less shrinkage during installation, which is very important in the treatment of extensive lesions.
- Veneers are thin plates made of biocompatible material that perform mainly cosmetic and preventive tasks. They help to restore and protect teeth, hide existing enamel damage (discoloration, cracks, etc.), mask small chips, erosion and dystopia (curvature) of the smile line with minor dental growth disorders.

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