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# Implants in Orthopaedic Dentistry

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**Abstract**

**With the help of implantation, it is possible to restore a beautiful smile if one or more teeth are lost. The procedure is the implantation of a screw or implant into the lower or upper jaw, which will act as an artificial root. Let's take a closer look at what they are and how they differ.**

**Keywords:**

## Introduction

### Types of implants in surgical dentistry

With the help of implantation, it is possible to restore a beautiful smile if one or more teeth are lost. The procedure is the implantation of a screw or implant into the lower or upper jaw, which will act as an artificial root. Let's take a closer look at what they are and how they differ.

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**What is a prosthesis?**

Implantation is a modern and reliable method of prosthetics. And intraosseous implants are a universal type of prostheses. They are located in the bone and are the support of the future structure, which consists of:

an abutment — a connecting part that is located in the gum;

crowns — fixed at the gum level and can be a single element or a bridge-like structure.

Remember that the number of missing teeth does not determine the number of implants that will need to be installed in the jaw. For example, if there are no three teeth, it is likely that the doctor will suggest putting two screws and a double crown. This is necessary in cases where there is not enough space to install individual artificial roots, because there should be at least 3 mm of bone tissue between them.

**What materials are used for implants?**

It is important that the artificial root takes root well in the tissues of the jaw and does not cause allergies. Therefore, biocompatible materials are used for the manufacture of implants. The most common are titanium and its alloy with zirconium.

**Metals are popular in dentistry because they have a number of properties:**

biologically inert,

strong, durable and lightweight,

hypoallergenic,

not rejected by the human body.

The doctor selects the appropriate material depending on the individual clinical case.

What else is different about implants?

Artificial roots differ in the way the surface is treated. For better survival, their manufacturers:

etch them with acid,

treat them with a sandblaster,
make plasma spraying from titanium.
The rough surface promotes the germination of young bone cells and increases the strength of the implant attachment.
Prostheses are also distinguished by the method of fixation:
root—shaped - they are installed in the absence of the necessary density and height of bone tissue;
zygomatic — shown in the complete absence of teeth of the upper jaw and its pronounced atrophy;

**Basal implants are classic implants.**

The thing is that the cost of dental prosthetics and their restoration with implants includes the price of an abutment (a pin inserted into the implant and performing the function of a tooth stump). The doctor subsequently attaches the crown itself to it. Thus, both the price of the abutment and the price of the crown installed on the implant depend on the total price of the chosen implantation method. The entire amount directly depends on the manufacturer of the implants.
However, why are prices so different? In addition to the reason already mentioned above, the cost is significantly influenced by the work itself on making a crown, since its creation takes much more time and effort. In the laboratory, according to an individual impression of the patient's jaw, specialists already select an abutment (after all, not all of them are ideal for all situations), mill it (remove excess parts to form a high-quality base) and create a reliable base for fixing the crown. This process requires great skill from the dental technician, because the tooth must be made from scratch, while at the same time so that it cannot be distinguished from the rest of the patient's teeth. Creating a conventional crown for a tooth in dentistry is much easier, because the basis for it is not an abutment, but the sharpened tooth of the patient himself. This part of the tooth helps laboratory workers to easily select a design of a suitable shape for it and simulate a crown. To install the implant, the crown is created from scratch after tooth extraction, and all the future beauty of the patient's smile and its convenience depend on the skilled hands of a specialist.
So, the main reason for the difference in the cost of the usual option from the crown for implantation is that the price of the latter includes the price of an abutment and the skillful work of a dental technician to create a new tooth for the patient. Compliance with oral hygiene will prolong the life of the implant.
then the crown is fixed on it.
Prosthetics and orthopedics can also be used to restore teeth. The shape and size of the tooth is determined by a dental technician and an orthopedist using a wax model and in accordance with the wishes of the patient.
Thus, with the help of dental implants, periodontics, crowns, prosthetics and orthopedics, it is possible to carry out high-quality dental restoration and ensure full-fledged rehabilitation of the patient.

**Non-surgical methods of dental restoration**

Dental restoration is an important task of modern dentistry. In addition to implantation and prosthetics, there are non-surgical methods to solve the problem of tooth loss. They are used in cases where the teeth are not badly damaged and need only partial or superficial restoration.

One of these methods is the use of crowns. Crowns are reliable intraoral prostheses that are fixed to the teeth. They are made of various materials: metals, ceramics, composite materials, gold. Thanks to crowns, it is possible to restore teeth damaged by caries, wear or other factors.

Another method is the use of orthopedic dentistry. It includes the manufacture of individual dentals and prostheses for implants, as well as the use of special materials, such as polymer and metal structures. These methods are used in cases where the teeth are severely damaged and it is assumed that their restoration will allow them to be preserved for a long time.

In some cases, when the problem is related to gum disease, periodontics and endodontics methods are used. Periodontics is aimed at treating diseases of the tissues surrounding the teeth and helps to maintain the health of the gums. Endodontics is engaged in the treatment of the tooth from the inside, using methods of removing the affected tissue and subsequent treatment of the tooth.

**Conclusion:**

Dental restoration is an important procedure that can be solved both by non–surgical methods (crowns, orthopedics) and operative (implantation). The choice of the method of solving the problem in each case depends on the type of dental damage and the doctor's testimony. The variety of modern technologies in this area allows you to achieve good results with minimal time and effort.

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