



Clasp Prosthetics

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ABSTRACT

In this article it is written about clasp prostheses, pros and cons, features of the prosthetic design and service life, as well as about the manufacturing processes, installation and stages of work.

Keywords:

Clasp Dentures, Materials, Pros And Cons, Indications And Contraindications, Manufacturing Process

The absence of teeth is a big aesthetic and functional problem. The inability to chew normally, the tightness and inconvenience experienced by a person negatively affect the quality of his life. In some cases, clasp prosthetics can help. In St. Petersburg, you can get treatment at the UniDent clinic.

What are clasp dentures and what do they look like

These are removable structures used to restore the included and terminal defects of the dentition. They are lighter and more convenient than plate prostheses with a "palate", and are in demand in cases where it is impossible to perform prosthetics on implants.

Externally, it is a simple structure consisting of a metal arch and a plastic imitation of a gum with artificial teeth. The absence of the "palate" characteristic of plate prostheses makes the clasp a lighter and more compact option. You get used to it faster, you feel less discomfort. It does not interfere with talking and is hardly noticeable in the mouth.

What does a clasp prosthesis consist of, what materials are used in its manufacture

A modern clasp prosthesis made of high-quality materials looks quite aesthetically pleasing. It consists of four parts.

* Frame (bugle). Durable, thin and lightweight. It includes:

- o a cast arc that evenly transfers the load to the jaw in the places of missing teeth, slowing down the processes of bone resorption;

- o mesh for fixing artificial teeth, which allows you to create a single structure;

- o fasteners (clamps, girder structures, telescopic crowns, anchor and magnetic clamps) for rigid, elastic or hinged fastening on supports (healthy teeth, implants, crowns);

- o splinting elements (according to indications – claw-like hooks, clamps, Elbrecht tires).

* Artificial crowns. Materials, dimensions and appearance are formed in accordance with the tone of the enamel and the individual characteristics of the patient's teeth.

* Polymer gum. Closes the uneven gingival contour, allowing you to hide areas of resorption.

Materials for the manufacture of a prosthesis

* Frame, fasteners. According to the classical technology, the basis of the structure is made of metal using modern casting methods. Depending on individual tolerance and other criteria, precious metal alloys, cobalt-nickel-chromium with minor impurities, as well as titanium are used.

Currently, there are more modern materials – thermoplastic polymers that are not inferior in strength to metal, but more elastic and comfortable. The most famous are ACETAL or Dental D from QuattroTi.

* Base. It is made according to classical technology - by the method of hot polymerization from acrylic, and in modern versions, like the frame, from thermopolymers.

*** Teeth. Plastics, composites.**

The choice in favor of a particular material is due to the individual sensitivity, wishes and financial capabilities of the patient.

Pros and cons of clasp prosthetics

This type of replacement construction is the pinnacle of removable prosthetics. On the one hand, it can be used to restore a large number of lost teeth. On the other hand, even in difficult cases (for example, two teeth are missing in front, three on the right, and five on the left) it's still an easy and convenient prosthetic system.

Responsible for the comfort of the clasp prosthetics:

* very thin arc, tightly pressing against the palate when worn;

* reliable fasteners that provide a rigid fixation.

The main advantages of clasp prostheses

1. Functionality. The rigid type of fixation, based not only on the gums, but also on the teeth, completely restores the chewing function.

2. Strength. The presence of a metal frame allows prosthetics of teeth even with severe violations of the integrity of the dentition.

3. Hygiene. Depending on the type of fixation, the clasp prostheses are removable and conditionally removable. Some are easily cleaned at home, others - during hygienic cleaning in a dental clinic.

4. Durability. Durable modern materials and uniform load distribution make the

prosthesis reliable, allowing it to be used for 5-10 years.

5. Aesthetics. The correct selection of the shade of the polymer base and dental crowns makes the artificial part indistinguishable from the patient's own teeth. Variants with attachments on attachments, telescopic crowns and made of thermopolymers are invisible in the smile area.

The production technology is worked out to the smallest detail, optimal in price and time. This is also an important advantage.

Disadvantages of clasp prostheses

1. High cost. If we compare the clasp with a conventional plate prosthesis, the difference in price attracts attention. It is formed taking into account the complex manufacturing technology and the use of expensive materials. This cannot be considered a real disadvantage, because the best quality is additional comfort and aesthetics, as well as 2-3 times longer service life.

2. Sharpening teeth for crowns. In some cases, it may be necessary to dissect healthy tissues and remove the dental nerve to form a support.

3. Do not apply for adentia. In case of complete absence of teeth, the doctor of our dentistry will offer more profitable prosthetics on All-on-4 implants.

Cheaper options have additional disadvantages, including the effect of galvanization and metal allergies, discomfort for 1-2 weeks during the adaptation period, less aesthetics of fasteners, as well as bone resorption (resorption), which can only be avoided by prosthetics on implants.

Indications and contraindications to installation

The choice in favor of clasp prostheses is made in the presence of defects of the dentition, both single (1-3 teeth – "butterfly" Quadrotti) and multiple - included and terminal bilateral.

Contraindications

• * metal allergy;

* complete absence of teeth;

* atrophic processes in the jaw;

* inflammatory gum and periodontal diseases;

* low height of the supporting teeth, insufficient for prosthetics.

Many contraindications relate to classical metal prostheses. The use of technologically more advanced options from thermoplastics expands the range of indications for installation.

Manufacturing and installation process, stages of work

Preparation

The creation of a clasp prosthesis begins with the planning stage. The patient's oral cavity is subjected to a thorough examination. Orthopantomography and CT of the jaw will help to consider all its anatomical features and ongoing processes.

At the same time, it is important to find out:

* Causes of tooth loss. This will help to protect the supporting crowns from caries, as well as para- and periodontal diseases.

* The degree of their mobility. If necessary, the frame is supplemented with hooks, tires and other clamps.

* The presence of jaw atrophy. In advanced cases, a clasp prosthesis is not recommended. Only implantation can help.

How are the clasp prostheses attached, their types, methods of fixation

Artificial structures are fixed by four main methods:

* adhesion. This is the process of coupling of two surfaces. In the clasp, it is acrylic or thermoplastic on the one hand, and the mucosa of the prosthetic bed on the other. This effect is enhanced by the presence of oral fluid;

* sticking. One of the types of adhesion, when there is a stronger adhesion between the molecules of the liquid and the surface during prosthetics than the strength of the intermolecular adhesion of the oral fluid;

* anatomical retention. A number of features of the structure of the jaws allows you to fix and hold the prosthetic structure in the oral cavity. These are the alveolar parts, the maxillary tubercles, the interdental spaces, the circumflex zone of the crowns;

* artificial fixation. It is carried out by manually created fixing elements. Among them, such fixators are distinguished:

o Straight, located on the supporting teeth. Their task is not to let the prosthesis move vertically.

o Indirect, located on the periphery of the structure. They are also referred to as kippmayders. Prevent the dropping of the structure. These include continuous clamps, occlusal pads, as well as special appendages.

Let's consider all the options for artificial fixation in more detail.

On the klammers

These are support-retaining clamps used in prosthetics since 1926. Since their appearance, they have significantly expanded the possibilities of replacing lost teeth.

The structure of the clasps is very diverse. They usually consist of two pointed shoulders and an occlusal pad, but different variations are possible depending on the goals and objectives of fixation (two pads and an elongated shoulder, multi-link splinting options, etc.).

The classification of fixators is carried out according to:

* the principle of creation (bent, cast);

* material (plastic, metal);

* cross-section shape (round, ribbon, semicircular);

* fixation stiffness (rigid, elastic, articulated);

* functional (holding, supporting, combined);

* degrees of coverage of the dental crown (2-shoulder, 1-shoulder, swing, double, multi-link);

* the place of dislocation of the shoulder (dental, alveolar, combined).

There are several requirements for the klammers. They should not:

* harm aesthetics;

* injure periodontal tissues;

* interfere with the closure of the dentition;

* influence the physicochemical constancy of the medium.

They should also be able to reactivate.

On locks (attachments)

Frequently used mechanical clamps. They are used for stabilization and retention. They consist of two parts - the matrix and the matrix. Functions - transfer the load through the axes of

the teeth-supports into the periodontal tissue, participate in the redistribution of masticatory pressure.

Pros - they fix and stabilize better than clasps. Higher hygiene and aesthetics, mechanical reliability and convenience. They allow you to create bridges of high quality and aesthetics when prosthetics of included defects in the smile area.

They are actively used in cases when increased aesthetic requirements are put forward for prostheses, if there are secondary deformations of the dentition, atypical position and high crowns of the supporting teeth.

On telescopic crowns

A fixation system consisting of two crowns – external (in the shape of a tooth) and internal (looks like a cap that is put on prepared supporting tissues). According to the manufacturing method, telescopic crowns are divided into stamped (simpler) and cast (high-quality), according to the overlap of the supports - into closed, open and combined.

Plus – a more reliable redistribution of the load along the axis of the supports during operation. The disadvantage is the need for significant preparation of the supporting teeth.

Beam system

The fixation of the prosthesis with this type of fixation is carried out by connecting the non-removable and removable parts of it. The first one is placed on the tops of crowns or prepared tissues of teeth-supports and has the form of a beam with a rounded section. The second, removable, is located inside the prosthetic frame and is tightly fixed on the beam.

Pros - it is actively used for periodontal diseases. It is recommended in the presence of partial adentia, single symmetrical supporting teeth, as well as a prolonged included defect in the lateral part of the jaw.

On anchors

This is a special type of fixation that works on the principle of a clothing button. The anchor consists of two fasteners - a matrix and a matrix. Most often, the first one is placed on the supporting tooth, and the second one is placed on the structure.

Pros - miniaturization. Due to this, anchors can be placed in areas of the base that are inaccessible to other fixators. Cons - rapid wear during use (when removing / putting on)

Special prosthetic constructions of the clasp type

The Quadrotti "Quattro Ti" clasp prosthesis was manufactured in 1986. The prosthesis is based on a thermopolymer (nylon-based plastic). There is no metal. Thanks to this, the prosthesis has a lot of advantages:

- * hypoallergenic;
- * the highest aesthetics;
- * chemical inertia;
- * short period of adaptation;
- * full biocompatibility;
- * no gum irritation;
- * installation without preparation of teeth.

Attention. Due to the flexibility of the design, its significant advantage is the ability to be used by those who are engaged in boxing, wrestling and other traumatic sports, as well as working in harmful and dangerous production.

Comfort of wearing is provided by high adhesion to the surface of the prosthetic bed, elastic material, soft clasps. Due to the lack of the possibility of relocation, such prostheses must be changed with a frequency of once every 3-3.5 years.

Features of manufacturing Quattro Ti

The Quadrotti prosthesis is made in the dental laboratory individually for each patient by the thermolytic method. For these purposes, special equipment and raw materials are used, from which a future prosthesis is formed based on the impression and model of the jaw.

The manufacturing technology is worked out to the smallest detail, so butterfly prostheses and more extensive thermoplastic structures are perfectly worn. Their invisibility on the teeth is ensured by the presence of several shades of raw materials.

Inside and for hooks (clasps), white plastic is used, and for the manufacture of the gingival part, respectively, red. It practically merges with the color of the oral mucosa, so the design on the teeth is not only not felt, but also invisible.

"Quattro Ti". They need to be cleaned with a soft brush and a special paste designed for

elastic plastics. Disinfection with a special decontamination solution is periodically recommended. Details can be found at the dentist of our clinic.

Prosthetics with complete absence of teeth and for one tooth

In the complete absence of teeth, clasp prostheses are installed in one case - when supported by implants. This is a more perfect principle of prosthetics from a functional point of view. It allows you to avoid resorption of the bone tissues of the jaw, evenly distributing the load on the bone.

Clasp prosthetics for one tooth before the appearance of thermopolymer products was considered illogical, since it required grinding of adjacent and often perfectly healthy crowns. Metal-based prostheses made it possible to replace the lost tooth only as part of complex structures - with lateral end and included defects of the front teeth.

Thanks to Quadrotti technology, there is currently no need to prepare adjacent healthy teeth for a prosthesis. And a single included defect of the dentition is successfully replaced by an elastic thermopolymer "butterfly".

Denture for front teeth

Prosthetics of dental defects in the smile area requires special attention. A high level of aesthetics and functionality is required from the prosthesis.

Of course, the ideal option for such a lack of teeth will be implantation. However, if for objective reasons it cannot be carried out, then the choice often falls on clasp prostheses.

Dentures on attachments and telescopic crowns have proven themselves well when installed on the front teeth. They are light, almost invisible, well attached to the supporting teeth. If desired, you can also choose a Quadrotti prosthesis, the advantages of which we have already mentioned.

Service life and how to care for

On average, the service life of a clasp prosthesis is 2-3 times longer than a conventional plate prosthesis. This is achieved due to more advanced production technology and high-quality raw materials.

With good care - daily home and regular professional hygienic cleaning in dentistry -

your new teeth will last from 5 to 7 years. On implants - up to 10 years due to the absence of resorption, backlash and their displacement during chewing.

Care of clasp prostheses

At least twice a day every day, and ideally - after each meal, it is necessary to brush your teeth. If the prosthesis is removable, take it out and wash it with soap or toothpaste, thoroughly brushing the surfaces. Rinse with boiled or purified water.

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