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CLASP DENTURES – IMPROVEMENT OF TECHNOLOGY

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Abstract
The production of a clasp prosthesis with a locking type of fixation for prosthetics of partial defects in the dentition is the most functional and aesthetic. Clasp dentures are used: when there is an insufficient number of supporting teeth for the manufacture of fixed dentures; the presence of supporting teeth with insufficient periodontal reserve forces, with varying degrees of periodontal atrophy; unilateral and bilateral distally not limited defects of the dentition.

Keywords. Clasp prosthesis, locking fastening, impression.

Introduction

When using these structures, sometimes it becomes necessary to remove the abutment tooth due to the progression of periodontal diseases, caries and its complications, and a decrease in the reserve forces of the periodontium. Subsequently, these structures cannot be used after the removal of an abutment tooth with unreliable periodontal tissues, so there is a need to manufacture new dentures.

Patients may present with the problem that the removable part of the structure is lost (loss, breakage of the clasp denture), while the non-removable part remains in the oral cavity and is fixed on the supporting teeth. There is a known method for manufacturing a clasp prosthesis, including taking an impression, obtaining a plaster and duplicated fire-resistant model from it, placing a container attachment around a spherical retainer, modeling the clasp frame from wax, converting the frame to metal, connecting the container attachment to the frame, installing the clasp frame on a plaster model, placement of artificial teeth on a clasp frame, formation of a plastic base of the prosthesis, removal of the prosthesis from the plaster model and installation of the prosthesis in the oral cavity.

Results

The technology for manufacturing a clasp prosthesis was improved during the orthopedic treatment of 27 patients. Using an individual tray, the orthopedic dentist takes impressions from silicone (for example, Express) or polyester impression material (Impregum Penta Soft). To prevent the formation of separation at the border of the base and corrective materials, a corrective layer is applied only to the dentition, without applying it to the base layer of the impression. Reasons for lift-off may include different flow characteristics of the materials and different times

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required for the two layers of material to cure when using a one-step impression technique. When receiving a two-layer impression using a one-stage or two-stage technique, a uniform distribution of the corrective layer of material and a uniform thickness throughout the entire length of the impression are achieved. The thinning of the corrective layer of material is determined by its transparency. The main layer of material should not be visible through the corrective layer or not be covered with a corrective layer. In this case, the orthopedic structure made from such an impression will not have enough space for fitting. The structure can become blocked during fitting and exert excessive pressure on the tissues of the supporting tooth, which can lead to the formation of microcracks and tooth splitting**.**

The frame drawing from the working model is transferred to the fire-resistant model, according to which the future frame of the clasp prosthesis is modeled. The wax frame is coated with a finishing varnish and transferred to the foundry laboratory for casting the frame. To speed up the polishing process, an electrochemical polishing device is used. The working model is installed in the articulator and the artificial teeth are placed. Elastic bushings with locking fastening are installed into the finished prosthesis and the accuracy of manufacturing the clasp prosthesis with locking fastening is checked.

Conclusion

To obtain a high-quality impression due to the absence of braces and pores on the surface of the tooth stump, a greater depth of penetration of the impression material into the periodontal sulcus, a method for obtaining an impression for prosthetics on implants and teeth and a method for making an individual tray for obtaining impressions in the case of partial absence of teeth were used. When using a clasp prosthesis in case of a questionable prognosis of the abutment tooth (a design in which the abutment tooth with unreliable periodontal tissues, covered with a telescopic cap, can be removed due to the progression of periodontal diseases, caries and its complications), after removal the clasp prosthesis is relined, filling the telescopic crown with base plastic. At the same time, the design of the clasp prosthesis remains unchanged.

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