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## **COMPLEX REHABILITATION OF PATIENTS AFTER BONE RECONSTRUCTIVE SURGERY IN THE FACIAL AND JAW AREA**

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**Summary:** the article is devoted to the rehabilitation of patients with congenital and acquired anomalies and deformities in the maxillofacial area. The results of the treatment of 216 patients were analyzed. Long-term treatment results were observed retrospectively for up to 10 years. Based on many years of clinical experience, a complex rehabilitation scheme has been developed and introduced into clinical practice, which allows patients to get good anatomical-functional and aesthetic treatment results during bone-plastic and bone-reconstructive operations in the face-jaw area. The results of the rehabilitation of patients depended on the severity of the disease (unilateral or bilateral joint damage), the age of the patient, the method of surgical treatment, the effectiveness of treatment, and prevention measures aimed at optimizing the longitudinal growth of the lower jaw.

**Keywords:** rehabilitation, bone plastic, orthodontic and orthopedic treatment.

### ***Introduction.***

Rehabilitation of patients with anomalies and deformations of the face and jaw is an urgent task of dentistry because any disease or injury in the face-jaw area is accompanied by a clear violation of the functions of chewing, swallowing, breathing, speech, and facial aesthetics. The consequences of diseases and injuries require long-term complex rehabilitation measures by a maxillofacial surgeon, orthodontist,

speech therapist, orthopedist, physiotherapist, therapist-dentist, otorhinolaryngologist, ophthalmologist, and neuropathologist.

Orthodontic treatment allows the creation of optimal conditions for the final stage of rehabilitation of patients - replacement of dental and alveolar tumor defects for complete restoration of chewing efficiency and aesthetics.

Research materials and methods. During 10 years, 216 patients aged 2 to 34 who underwent various bone-plastic and bone-reconstructive operations in the maxillofacial area were under our treatment and control. The follow-up period of patients ranged from 6 months to 10 years. Comprehensive examinations using clinical, anthropometric, radiological, functional, and statistical methods were performed on all patients in the rehabilitation phase. All patients were divided into 3 groups depending on the type of morphofunctional disorders, nature, and extent of rehabilitation measures.

### ***Research results.***

Group 1 included 95 patients who underwent bone with condyle preservation.

The second control group consisted of 64 patients who underwent bone plastic surgery of the lower jaw without a condylar process.

The third control group included 57 patients with congenital and acquired anomalies and deformities of the jaws who required surgical treatment, including osteotomy of the jaws with bone grafting of the defect.

Based on clinical and X-ray observations of patients, we believe that it is necessary to distinguish 3 periods of rehabilitation for children and adolescents during various osteoplastic and reconstructive operations in the face-jaw area.

The first postoperative period begins with operative intervention and ends with graft consolidation of the bone bed. The duration of this period was 1-1.5 months.

The second stage is to replace the graft with a bone regenerator. The duration of this period was 8-18 months, depending on the nature of the recipient bone bed and the type of graft.

The third period is modeling, forming the regenerator of the jaw. Its duration was from 2 to 10 years and ended with the end of the growth of the patient's facial skeleton.

Based on clinical experience, we have developed and put into clinical practice a comprehensive rehabilitation scheme for patients with osteoplastic and bone reconstructive surgeries. The size, sequence, and duration of treatment and preventive measures depended on the dispensary observation group and the period of rehabilitation.

During the first observation period, prevention of suppuration was carried out, conditions were created for reparative regeneration. For the immobilization of the lower jaw, splints, caps, and holding devices were used. Exceptions were patients whose bone fragments were firmly fixed with nickelise-titanium screws or titanium mini plates. All patients underwent electrical stimulation of the masticatory muscles during immobilization.

In the second dispensary period, attention was paid to the prevention of late suppuration. For this purpose, a course in antibacterial therapy was conducted. Low-frequency electrical stimulation was performed according to the instructions. To replace defects in the dental cavity, removable plate prostheses with one or two replacements were prepared for the patients of the first dispensary group. For patients in the second dispensary group, block devices with separating bite pads were prepared to fix the lower jaw in the specified position with hypercorrection. During the second dispensary period, the prosthesis was repaired or completely replaced.

In the period of the third dispensary, according to the generally accepted scheme, provide patients with oral hygiene, and primary prevention of caries and periodontal diseases, according to the instructions, physiotherapy, gymnastics, massage, and electrical stimulation were prescribed.

During the period of temporary bite- once a year, during the period of exchange bite- once every six months, during the period of permanent bite- once in two years, removable plate prostheses were prepared. Orthodontic treatment was

performed according to the instructions. Patients in the second dispensary group underwent orthodontic treatment aimed at normalizing the bite, temporomandibular joint, and the functions of chewing and facial muscles. Using functional impact devices, we tried to create a dentoalveolar extension on the operative side to encourage longitudinal growth of the mandible.

**Compression**-distraction osteosynthesis or repeated bone-plastic operations were performed in the case of inefficiency of conservative rehabilitation measures and periodic delay in the growth of the mandibular regenerator.

Patients in the third dispensary group needed preoperative orthodontic treatment using a brace system aimed at normalizing the shape and size of the dentoalveolar arches, as a result of which it was possible to obtain fissure-fold contacts in the constructive bite during the operation.

At the planning stage, a lateral teleroentgenogram projection and computer modeling of the surgical intervention based on the patient's profile photo was performed in consultation with the maxillofacial surgeon. When the upper and lower jaws are operated on at the same time, a surgical cap is prepared to achieve the correct position of the tooth row and jaws and to stabilize them in the articulator.

During the third dispensary, orthodontic treatment aimed at achieving functional and stable occlusion was carried out.

In the first dispensary group, 91 (95.8%) patients had good morphofunctional and aesthetic results of treatment shortly after surgical treatment, and 4 patients (4.2%) had satisfactory results.

In the second dispensary group, good results were achieved in 49 (76.5%) patients and satisfactory results in 15 (23.5%) patients.

In the third dispensary group, treatment ended with a good result in 46 (80.7%) patients, and 11 (19.3%) had a satisfactory result.

### ***Summary.***

Thus, the results of our research showed that comprehensive rehabilitation of patients undergoing bone-plastic and bone reconstructive operations on the face and

skull is more effective in the first and third dispensary groups with preservation of the condyle process than in the second - no condyle process control group. The results of rehabilitation of patients of the second group depend on the severity of the disease (damage to one or two joints), the age of the patient, the method of surgical treatment, and the effectiveness of therapeutic and preventive measures aimed at optimizing the longitudinal growth of the lower jaw.

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