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Relevance. In the 60-ies of the last century among orthopaedic surgeons noted particular enthusiasm about the effectiveness of corset treatment, which was replaced by a negativity in the 80-ies. In scientific publications of the time you can even see the categorical statements that corset treatment generally inefficient and it has no place in the Arsenal of orthopedic surgeons. In the 90-ies the situation changed after the works of J. Lonstein, J. Carlson. These authors on a large material demonstrated how progressing scoliosis, and the opportunity to compare the results of corset treatment with the natural course of the disease. The first theoretical studies on the possibility of using CAD/CAM technology in medicine was proposed in the mid 80-ies, in the future, these technologies are widely used in dentistry, then in orthotics. The emergence of scientific publications confirming the efficacy of the corset Cheneau, along with the new computer technologies allow for a conservative treatment at a qualitatively new level.

The purpose of the study. Improving the efficiency of use of correction corsets type Cheneau, made by technology CAD/CAM in the treatment of idiopathic scoliosis in children and adolescents.

Material and methods. From 2010 to 2016 analyzes the results corset the treatment of 136 patients (26 boys and 110 girls) with idiopathic scoliosis who completed the corset-stage of treatment: 54 (39%) or being corset treatment: 82(61%). Static corset (made by technology plaster cast) was used in 64 patients, dynamic corset (manufactured by the technology of 3D modeling) applied in 72 patients.

Static corsets were made in the following organizations: orthopedic enterprise MODES of Zito – 20, and prosthetic enterprise Belarusian NIITO – 19, orthopedic enterprise, Federal state institution, St. Petersburg, NCEP them. G. A. Albrecht Of Ministry Of Labor Of Russia 25. Of the 72 corsets, manufactured by the technology of 3D-modeling (CAD/CAM) technology, 24, manufactured CCtec Deutsches Korsettzentrum GmbH & Co KG, Germany, 17 - Regnier Orthopaedie GmbH, Germany and the 31 Russian-German company "RK".

The patients' age from 3 to 19, the angle of deformation ranged from 20 to 50 degrees Cobb on the front spondylograms, made standing. Patients were corset treatment according to the method permitted in combination with regular physical therapy (Schroth therapy). The study used the final results of corset treatment 25 patients with static (group a) and 25 with dynamic (group B) model of corset Cheneau.

Evaluation of results was carried out according to the following parameters: average time of adaptation to the corset, a correction of the angle of deformation in the process of corset treatment and after the treatment, the results of scoliometer (rotation of apical vertebra) during and after the end of treatment, the average life of the corset.

Results. Corrective corset allows you to change the scoliotic deformation of the body in the growth process of the child, thus preventing the progression of the deformity and providing a correction.

The average time of adaptation (time to 18-21 hour/day) to the corset of the patients in the group A amounted to 21 to 28 days, group B: 14 to 20 days. The average angle of deformation before treatment was 31 degrees according to Cobb ($30,7^{\circ} \pm 5,5$). Primary correction in brace were conducted after adaptation of the patient to the orthosis (3 months after the appointment of the corset) and achieve a time worn per day, 18-21 hours in radiographs of the spine performed in a corset standing. The average correction in group A and in group B was 33% and 35% and allowed to reduce the average angle of deformation from 31 to 20 degrees. The average angle of deformation after the abolition of the corset (according to x-ray of the spine in terms of 6-9 months) was in group A: $27,7^{\circ} \pm 4,6$ and $25,4^{\circ} \pm 3,8$ in group B by reducing the primary (maximum) angle of 3.3(10.6 per cent) and 5.6 (18,1%) respectively.

According to the results of scoliometer in the group A and rotation of apical vertebra is reduced by 4° in the course of treatment and at 1° after the abolition of the corset. In group B, the rotation of the apical vertebra is reduced by 6° during treatment and 3° after the cancellation. The average lifetime of a static corset was 7 ± 2 months, dynamic 14 ± 3 months. Thus, adaptation to dynamic corset is on average 1.5 to 2 times faster than static corset. We identified no fundamental difference to the primary correction in the groups studied, however in the long-term (6-9 months after full withdrawal), we have obtained the best results in derotation and correction of scoliotic arc in the group of patients with dynamic corsets.

Conclusions. The effectiveness of corset treatment depends on the following factors: the personal involvement of the patient - time wearing of a corset per day, the degree of correction as well as technology which made corrective corset. The use of dynamic corsets Cheneau in the treatment of scoliosis allows earlier to adapt to the orthosis, swiping more effective derotation in the treatment process with the best performance of the final result of applying the corset. Corsets made using the technology of CAD/CAM have longer service life.