

## CONCEPT OF CONTINUOUS PASSIVE MOTION IN MEDICAL SYSTEM OF REHABILITATION FOR PATIENTS WITH PATHOLOGY OF HIP AND KNEE (HJ & KJ ) JOINTS

Korolkova A.O., Istomin A.G., Korolkov O.I., Nasr Al Kali

Kharkiv, Ukraine

**Introduction.** An integral part of the rehabilitation treatment for the pathology of the musculoskeletal system is mechanotherapy - one of exercises form that is carried out using various devices and apparatus. In the 70 years of XX century orthopaedic surgeon Robert Salter developed a biological concept of continuous passive motion - CPM-therapy (Continuous Passive Motion).

**The aim:** to sum up the efficiency of continuous passive motion therapy in medical system of rehabilitation for patients with pathology of (HJ & KJ ) joints

**Methodology.** The 2 groups of clinical adult patients were explored. The patients were identical age, sex, type of pathology and type of surgery. The first, control group includes 59 people (84 joints), the second, main group includes 90 people (130 joints), who were operated for pathology of KJ and HJ (arthroscopy and endoscopy). The control group got the standard rehabilitation, patients of second group performed continuous passive motion on domestic Parr «Legtronic» except standard rehabilitation. A survey of patients conducted by conventional techniques before and during treatment.

**Results.** The results of two groups were compared and it was developed that CPM-therapy with domestic Parr apparatus is better for patient's progress in complex restorative treatment of patients with disorders of the knee and hip joints in the postoperative period. This one leads to significantly shortening the rehabilitation of 31%, increases range of motion compared to the control group, with a significant decrease in pain, neurotrophic and myotonic syndromes. It was noted that patients have a positive mental attitude and the desire to "work" on Parr for a long time (from 2 to 8 hours a day!)

**Conclusion.** The expediency and high efficiency of the developed domestic device «Legtronic» for automatic movements in complex restorative treatment of disorders of the knee and hip joints that allows it to recommend broad clinical use in orthopaedic and trauma departments, rehabilitation and health centres.

## THE PRINCIPLES OF SAFE CORRECTION AND THE CHOICE OF THE METHOD AT TREATMENT OF PECTUS EXCAVATUM AT CHILDREN

Kuzmichev V. A., Pykhteev D. A., Gatsutsyn V. V., Nalivkin A.E., Mashkov A. E.

Course of children's surgery at department of surgery of the Moscow Regional Research Clinical Institute of M.F.Vladimirsky (MRRCI). Moscow. Russian Federation

**Purpose:** improvement of results of diagnostics and treatment pectus excavatum (PE) at children.

**Materials and methods.** The result of treatment of 113 children aged from 4 to 17 years operated from 2006 to 2017 concerning PE in MRRCI (18 girls and 95 boys) is analysed. Middle age is 12 years. 15 of them were operated in the open way, on Salamaa-Paltiya-9, on Ravich-6. A lot of sequels during and after operation led to refusal of open methods of surgical treatment of PE. Since 2009 to all children operated concerning PE the low-invasive thoracoplasty of Nass procedure was executed. In the preoperative period to 88 patients the multispiral computer tomography with 3D reconstruction is carried out to avoid possible intraoperative complications. Non-standard installation and installation of two CB allows to achieve more physiologic and cosmetic form. Epidural and general anesthesia were used for all patients. The thoracoplasty with use of a video thoracoscopy excludes possible complications, promotes stable and reliable bracing of CB. Use of a sternal elevator for 76 patients proved safety of carrying out CB through a forward mediastinum. Epidural anesthesia and non-steroidal drugs provided optimum anesthesia during the postoperative period. The postoperative period depressed twice and made  $\approx$  7 days.

**Results:** in a catamnesis of patients from 2 months to 3 years, at 88% from 113 operated the good cosmetic result is received. The total of early complications decreased to 5 that makes 4,4% (a hydrothorax-2, pneumothorax-3). At 3 patients in the late period after operation decubitus in the field of edges of CB are noted that demanded its excision from 1 child.

**Inputs.** Use of a low-invasive thoracoplasty allowed to reduce quantity possible intra-and postoperative complications, achieve the best cosmetic result and reduce hospitalization terms twice.