

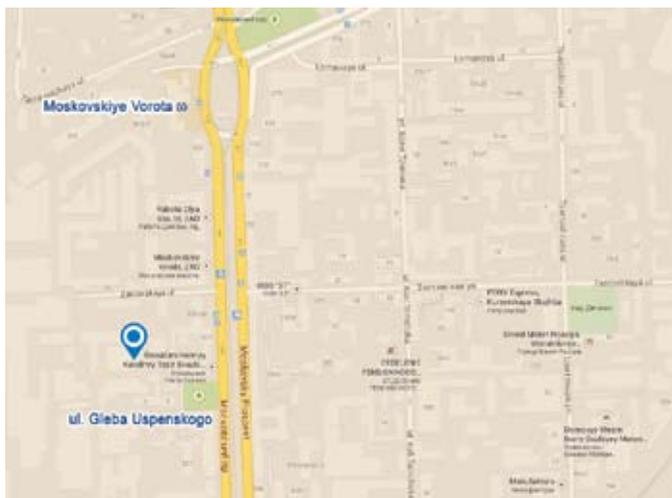
**Regional Charity Foundation  
«Rehabilitation of the Child.  
Center of G.N. Romanov»**



**ORTHOPEDIC WORKSHOP:  
NEW SOLUTIONS FOR OLD PROBLEMS**



## Regional Charity Foundation «Rehabilitation of the Child. Center of G.N. Romanov»



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## «Rehabilitation of the Child. Center of G.N. Romanov».

The purpose of the invention was to create a method for the medical rehabilitation of children with damage to the central and peripheral system, which would provide for the formulation of a new dynamic stereotype. In one of the stages of this method orthopaedic correction is provided for.

For many years the patient's knee and foot joints were stabilised by plaster tapes applied in an anatomically correct position; this permitted the establishment of a correct relationship between the bearing surfaces of all bones, the normalisation of muscle tone, and improved flexibility in the joints and their movement functions. It was necessary to replace the plaster tapes every two to three days. In some patients this produced a negative reaction because of surface bleeding. This problem motivated the specialists to consider the development of physical orthopaedic products, manufactured in plastic, and the setting up of a workshop to produce them.

The alternative was indeed found: orthopaedic products in plastic were developed and patented, whose design ensured anatomically correct joint shape, and even distribution of static and dynamic loads on the patient's bone structure; also permitting normal movement functions. These orthopaedic fittings are without exception made in individual moulds thus providing for the anatomical particularities of the given patient.

The use of these fittings (simultaneously functional, corrective, and load-applying) enjoys an essential emphasis in the medical rehabilitation method employed by the Fund.

Your attention is drawn to the Orthopaedic Fitting Catalogue: thanks to the listed equipment it is now possible to provide an individualised prophylactic and correction for damage to the patient's support and motion functions, and also to formulate correct movement patterns for each patient. The specialists can confirm that the use of these products reduces rehabilitation times by 75% in bone – ligamentous trauma, and by 85% in large medium, and small joint replacements, which occur in infantile cerebral paralysis.



In 1994 the invention (Russian Federation Patent no. RU 2070816) «Rehabilitation method for children with damage to the central and peripheral nervous system».



GN Romanov, Director, Member of the Directorate of Regional Charity Foundation «Rehabilitation of the Child. Center of G.N. Romanov».



GA Suslova, Doctor of Medical Science, President of the Council of Trustees of the Regional Charity Foundation «Rehabilitation of the Child. Center of G.N. Romanov».



**Description of the fitting**

The orthopedic insole is part of the technical rehabilitation, and is used to correct pathology of the leg and ankle joint. It is tailor-made for the individual patient by taking a mold of the foot, which is used to create a prophylactic or orthopedic boot, ensuring optimal correction of the patient's step.

The orthopedic insole is designed for patients who suffer from deformities and/or defects of the foot.

**Principles of action**

The orthopedic sole is made in conformity with the principles of symmetry in the human body's proportions, and employs bandages to facilitate distribution of anatomically correct relationships and distances among the bones of the ankle joint, as well as the lateral and transverse arches of the foot.

**Application**

The orthopedic insole is used as an insert in a prophylactic or orthopedic boot during vertical loads on the patient's lower extremities (standing, walking, physiotherapy) during rehabilitation and in everyday life. It is recommended to use this fitting for the following pathological changes:

- mild plano valgus deformation of the foot
- lengthwise or transverse flat footedness
- deformation of the big toes
- spurs and other exospores of the foot bone, requiring relief.

**The results of regular application**

The use of the orthopedic insole achieves:

- correct formation of joint surfaces in the movement-support apparatus.

- anatomical build-up of correct axial support from the heel mound to the atlanto-occipital articulation of the spine.
- regulation of muscle tone and improvement of reverse communication: local points of the leg (muscles, ligaments, periosteum)-spinal cord-brain-muscles-body control, motor reactions;
- activation of the sensomotor areas of the leg, including gravistatcal Vater-Pacini receptors, to influence physiological reactions throughout the organism.
- control of balance and carriage.



**Description of the fitting**

The ankle orthopedic fitting assists the correction defects of the step and the ankle joint. It is used in traumatology, orthopedics, surgery, sport medicine, for medical rehabilitation and also in day-to-day life.

It consists of a boot, an insole, and a splint. It is created from a custom mold in a plastic material and has the appearance of a sleeve, firmly encompassing the leg and ankle joint, with a fitted orthopedic insole.

The orthopedic fitting achieves optimal fixing of the step and of the bones in the ankle joint in the anatomically correct position.

**Principles of action**

The principles of the body's symmetry are incorporated into the design of this fitting. Use of the fitting achieves proper formation of transverse and lengthwise arches of the foot, and the correct distribution of the patient's body mass along the support axes, which in turn stimulates bone tissue growth and anatomically correct changes in bone shape.

**Application**

The fitting, depending on the particularities of the illness, is used either during training or rehabilitation activities, and/or for constant use fitted into a boot. The fitting is used for the following pathological complaints:

- flat - valgus foot;
- equinus foot;
- varus foot;
- equine-varus foot;
- heel stop

The use of the ankle joint fitting is essential for the medical rehabilitation of patients with Infantile Cerebral Palsy.

**The results of regular application**

The following are achieved by using the ankle fittings:

- correct formation of joint surfaces in the movement-support apparatus.
- an anatomically correct build up of the correct axial support from the heel mound to the atlanto-occipital articulation of the spine.
- regulation of muscle tone and improvement in reverse communication. Local points of the leg (muscles, ligaments, periosteum) - spinal cord - brain - muscles - body control, motor reactions.
- activation of the sensomotor zones of the leg, including the Vater-Pacini gravistatistical receptors, thereby influencing physiological reactions throughout the whole organism
- control of balance and carriage.



**Description of the device**

This modular device is designed for the rehabilitation of patients suffering from the effects of damage to the central nervous system, and to the movement-support/ apparatus. The device can be used in neurology, neurosurgery, traumatology, orthopedics, including the rehabilitation of patients with Infantile Cerebral Palsy, patients with spinal damage, possibly with cases of complex damage to the spinal cord, scoliosis, and with the effects of damage to the brain and cranium, and severe damage to the brain's blood supply. The fitting is made on a tailor-made basis, to suit the complication and type of pathology, the particularities of the patient and his anthropometric data, using individualized molds.

The device consists of a set of four modules, which can be used in various combinations.

**Principles of action**

The device is designed to take into account the principles of comfortable symmetry in the human body's proportions, fixing of the patient in the vertical position with a correct distribution of axial loads onto the movement-support apparatus.

Thanks to the use of a special design of hip hinge, movement of the lower limbs while walking is made possible in an arc (inside/outwards). This permits optimal movement of the head of the vertical cavity. As a result, influenced by the vertical loads, anatomically correct connections in the hip joints are created, and during dynamic loads correct pace movement patterns are achieved.

**Application**

The device is used during rehabilitation work and in everyday life (at home and for

walks). The device, in its various modifications, is recommended for use for the following:

- complex damage to the movement-support system, and also static-kinetic dysfunction.
- isolated deformation of the spine (1st, 2nd degree of scoliosis, curvature of the spine, displacement of waist vertebrae)
- isolated deformations of the hip joints (congenital displacement post-operative dislocation) degradation of muscle tone in the hip joints..
- isolated deformation of the knee joint.
- spastic and flaccid paralysis and paresis of the lower extremities, which produce changes in the movement-support apparatus.
- degradation of carriage and deformations of the spine. It should be borne in mind that the device can be used in conjunction with the ankle orthopedic fitting, or with the orthopedic boot, and when the patient is in the vertical position.

**The results of regular application**

The regular use of the orthopedic device ensures the formation of anatomically correct support surfaces which are part of the large, medium, and small joints in the movement-support apparatus, and an improvement in lower limb function. This permits independent movement, and also helps prevent the appearance of secondary deformations, while creating correct movement patterns.





### Description of the product

The Complex Orthopedic Boot is for treatment of pathology of the ankle joint and of stepping. It is used in traumatology, orthopedics, during medical rehabilitation after surgery, and also in everyday life.

The boot ensures optimal adjustment of the step and of the bones forming part of the ankle joint into an anatomically correct position.

The orthopedic insole, built into the boot, is made in accordance with principles of the human body's comfortable symmetry.

The use of bandages ensure the anatomically correct relationship and distancing of the ankle joint's bones, and ensures the transverse and longitudinal arch of the leg.

The complex orthopedic boot is made on lasts modeled from individual molds taken from the patient.

### Principles of operation

The design of the complex orthopedic boot takes into account the principles of comfortable symmetry in the human body.

Use of the Orthopedic Boot effects the formation of transverse and longitudinal arches of the leg and a correct distribution of the patient's body mass onto the support axes, which in turn provokes growth of bone tissue and anatomically correct changes in bone shape.

### Application

The complex orthopedic boot is used for the following diseases and defects:

- infantile Cerebral Palsy
- inherited static pareses
- post-operative deformation of the ankle joints
- congenital and acquired deformation of the feet;

- plano valgus legs
- longitudinal transverse flat footedness of any etiology
- in-turned toes (inherited, paralytic, or post-traumatic)
- deformation of legs after inflammation of the joints.

### Results of regular application

Wearing the complex orthopedic boot creates a correct walking pattern, suppresses hyperkinesia, eliminates contractions, prevents deformation of the leg, develops proper movement habits, and assists the formation of correct bone growth in the ankle joint.

Data from the use of the complex orthopedic boot shows:

- positive influence on the leg's bone structure with respect to the formation of correct bone growth
- prevention of progressive leg deformation
- creation of conditions for normal leg function
- compensation for defects in soft leg tissue
- redistribution of load along the leg with a view to reduction of pain and fatigue.

Our Centre's orthopedic workshop is fully equipped to provide our patients with the orthopedic fittings required for successful rehabilitation.

According to the Decree of the RF Ministry of Health & Social Development of 31.01.2011, № 57n «Concerning payment of compensation for the independent acquisition by the invalid of means of rehabilitation or services rendered (to include methods for its calculation and for informing the public of the extent of the given compensation, and in conformity with art.11, para 3 of 24th November 1995 №.181 para 3 «Concerning

We provide the documents necessary to obtain compensation for the following orthopedic products:

- Orthopedic Insole
- Ankle orthopedic fitting
- Modular Orthopedic device
- Orthopedic Training Apparatus. Verticaliser
- Complex Orthopedic Boot

We trust that you will not remain unmoved by the problems of rehabilitating children suffering from Infantile Cerebral Palsy. Financial contributions can be made in several ways:

**TRANSFER IN THE CURRENCY (EURO):**

**Regional Charity Foundation «Rehabilitation of the Child. Center of G.N. Romanov»**  
ИИН/КПП 7804078271/781001001

**Beneficiary account number:** 407 03 978 503 000 431 947

**Beneficiary Bank's name:** Branch "Severnaya stolisa" of ZAO Raiffeisenbank in the city of St.Petersburg

**Beneficiary Bank's address:** Moika embankment 36, 191186 St-Petersburg, The Russian Federation

**SWIFT:** RZBMRUMM

Purpose of payment - a charitable donation

OTHERWISE, available on our website [www.romanov-rehab.org](http://www.romanov-rehab.org)



We are grateful to everyone who supported us in conducting free medical rehabilitation activities for children!

social protection of invalids in the RF» - 2010 to regulate the payment of compensation for an individual's acquisition of the technical means of rehabilitation.

Thus, on application to a contact point of the RF Social Security Fund, expenses incurred for orthopedic fittings will be reimbursed in part or in full.

The compensation will be paid on presentation by the parents of details of their expenses for the technical rehabilitation means and of documents indicating outlay.

**The following documents are required:**

- statement
- identity document
- details of the rehabilitation programme

- evidence of pension contributions, incl N.I. number (SNILS)

Payment of compensation is effected within a month.

**Details of the compensation available can be ascertained on RF website [www.zakupki.gov.ru](http://www.zakupki.gov.ru)**

*We extend warmest thanks to the parents who allowed us to use photographs of their children in our brochures.*

*The photographs are of Herman Zharov, Maria Skobeleva, Irina Zabolotskaya, Ekaterina Kuznetsova*

*Translator - David Williams  
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**Possibilities - unlimited  
Possibilities - we are creating them**





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