

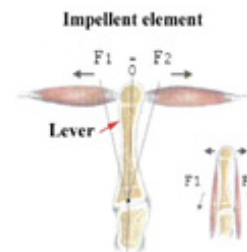
Two foot correction methods

Opinion

In modern global orthopedics, there is no understanding that the position of all the overlying structures of the musculoskeletal frame of the body, which support the metabolic processes of the body's cells, depends on the correction of the feet. Although medicine deals with individual insoles, they do not belong to medical products and are not considered from the standpoint of their influence on the functionality of the body. They are made by orthopedists, they are made by shoe specialists. Foot correction and insoles manufacturing techniques are not based on knowledge of biomechanics. They do not indicate how to correct the feet, or why joint abnormalities occurred in the overlying skeletal structures, although the body did not lose its stability. In medicine, there is no understanding that scoliosis or other displacements in the joints of the skeleton are a reaction of the Central Nervous (CN) system, its unconditioned reflexes aimed at keeping the body in an upright position. Knowing that the stability of any figure is determined by the position of the General Center of Gravity (GCG) of the body relative to the area of support, the specialist must first eliminate its displacement. And to do this, you need to know that every person has a difference in leg lengths and understand how to eliminate the functional and anatomical components. In the actions of specialists, there is no connection between what is diagnosed and the basis on which and how the insoles are made. Technical products are manufactured and controlled based on the drawing. Medicine has not formulated criteria for assessing the quality of insoles. It still does not answer the question of what deformation is and how it affects the functionality of the body. And all this despite the fact that the musculoskeletal frame of the body makes up more than 75% of the body weight, and that it is responsible for the metabolic processes of the body's cells. Over the past 50-60 years, the percentage of deformities of the feet and spine has increased from 6-19% to 85-97%. Isn't this the merit of modern medicine?



When considering the pumping function of skeletal muscles, it should be noted that deterioration of blood circulation occurs in the system of paired muscles when the bones are displaced from a neutral position. Disturbance of arterial blood flow is primarily a deterioration of venous outflow of blood. In order to understand the reasons for this, one must also understand what the biomechanics of the arches of the feet are, the role of unconditioned reflexes in nature's maintenance of polished gait cycles. Without going deeply into the theory of biomechanics, we present as axioms the definition of what deformation is.



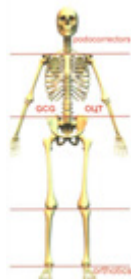
1. Violation of the contractile, pumping function of skeletal muscles. These disorders should be considered as basic, reflecting the physiological essence of a self-regulating organism. All orthopedics aimed at correcting the feet, and with them the overlying skeletal structures, should be aimed at restoring the pumping function of the muscles.



2. Displacement of the CG of the body relative to the CG of the supporting triangle of the feet. This displacement should be considered in conjunction with the presence of anatomical shortening of the limb relative to three body coordinates. For this reason, functional displacements in the joints and an asymmetrical position of the articular surfaces in the iliosacral joints, on which the sacrum of the spine rests, occur. This is how the spine receives an inclination in one plane or another, and unconditioned reflexes form its scoliotic shape, to bring the head into a vertical position and give the body stability.



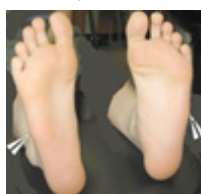
3. Bringing the bones of the three arches of the feet to a mid-balanced (neutral) position. This occurs as a result of an imbalance of forces between the load and the strength of the muscles holding the skeleton. In this case, it is necessary to take into account the position of the body's central gravity and muscle tone.



All three formulations are interconnected. It is impossible to restore the pumping function of the muscles without bringing the skeleton to a neutral position, without compensating for the difference in the lengths of the limbs, without bringing the body's central gravitational center to the CG of the supporting triangle of the feet. In all these actions, the main components of deformation are the load, the point of application of the body's central gravity and the tone of the muscles that compensate for the moments of force that arise. These are the parameters that are considered when designing and calculating parts for prosthetic artificial limbs, which include orthopedic insoles. Naturally, the doctor does not know these categories, and therefore does not solve the problem of giving the insoles properties that help restore the functionality of the feet - the body as a whole.



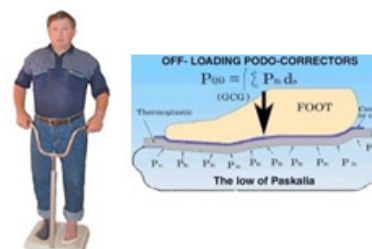
Today, specialists in the manufacture of insoles work in the area of the skeleton of the feet up to the level of the ankle joint. The main parameter load and the direction of its action cannot be taken into account in this case. Conditions are not created for bringing the musculoskeletal frame of the arches of the feet to a neutral position under load, which determines the pumping function of the muscles. Such an important parameter as the difference in leg lengths is also not taken into account. It is associated not only with deformations of the feet and joints, but also with the position of the hips, the tilt of which will cause scoliotic posture. The doctor does not know the kinematics of the movement of the arches, the transition of the foot from an elastic state to a rigid system in each of the five phases of the step cycle. Therefore, by placing support under the inner arch and lifting it, they deprive the arch of the ability to dampen the speed of the leg's movement when touching the support, which characterizes flat feet. The supporting arches of the feet are not corrected. The cuboid bone of the external arch is not brought back to its original upper position. When this bone touches the support, the rotation of the internal arch begins. All this leads to the development of even more complex deformities, disturbances in the biomechanics of walking and blood circulation in the body.



The way prints are taken is also wrong. Sitting, lying down without taking into account the load, the position of the body's central center relative to the support points of the feet. To obtain an insole from plaster prints (negatives), a number of technological operations are required, after which one can only guess about the problems of the feet, and sometimes even determine which insole is left and which is right.



The list of errors does not end there. Suffice it to say that if the load and the direction of its action are not taken into account and it is not compensated by the muscles, then the skeleton is not brought to a neutral position and no correction can be made. This is how orthopedists all over the world work. Another technology, fundamentally different from those used in different countries of the world, is the method of hydrostatic correction of the musculoskeletal elements of the entire musculoskeletal system, which is therapy for a self-regulating organism. Standing on the cushions of communicating vessels, the body (GCT) occupies a stable vertical position. Body weight is compensated by Pascal forces directed from bottom to top and is evenly distributed over the surface of the insoles. Communicating vessels compensated for the difference in limb lengths. The arches occupy a neutral position.



This is how a positive imprint of already corrected feet is obtained, which does not require additional operations other than gluing the pilots under the arches and the heel bone. The imprint is an anatomical copy of the corrected foot. The imprint is used to diagnose the feet, determining the nature of the deformations: the position of the heels, the difference in leg lengths and the height of the heels of the shoes, in which the arches are in a neutral position, resting on three reference points of the skeleton.



All this makes it possible to cope with such complex deformities as: hyperpronation of the subtalar joint, deformation of the transverse arch, fingers, pain in the heels, joints, scoliosis, varicose veins, ischemia of the heart, legs, brain and many other disorders that are considered incurable. Diagnosis, correction of feet, and production of insoles should be carried out by specialists who know the basics of mechanics and biomechanics. They must understand the reasons for the violation of skeletal symmetry. Understand the difference between the anatomical and functional difference in limb lengths and be able to balance the skeleton at the pelvic level, eliminating

scoliotic posture, that this is the work of unconditioned reflexes compensating for unskilled work on correcting the arches of the feet. Only in this case can we say that the insoles will solve the problems of correcting the musculoskeletal frame of the body and will help restore the metabolism of the body's cells. In the meantime, the doctor does not eliminate the causes, but only comes up with a diagnosis, and the worker who makes the insoles, who has not seen the patient, makes them. The insoles are not adjusted and tested when issued to the patient; their effect on the musculoskeletal structures and the body as a whole is not checked.



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None.

Conflicts of interest

The authors declare no conflicts of interest.

