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Short Communication

What are Flat Feet? - A Short Communication

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Received: May 25, 2021; **Published:** June 26, 2021

Maybe this question will seem strange to doctors, but how will they explain that over the past 60 years, the percentage of deformities of the feet and spine has grown from 7 - 19% to 87 - 95%. Such rapid growth has not been seen in previous centuries. Maybe they are not being treated that way, or it is a virus of education, the fact that medicine is not a science.

The term deformation refers to the section of mechanics, biomechanics, from the standpoint of which they should be considered. Displacements in the joints are a consequence of the action of forces that cannot fully compensate the muscles. When they do not cope with the load, the ligaments take it. They stretch and the bones shift from neutral. If, after the cessation of the action of the forces, the bones do not return to their original neutral position, then this is a deformation. The force leading to the displacement of the bones of the skeleton is the static and dynamic forces that arise when the General Center of Gravity of the body deviates from the axis of symmetry of the skeleton.

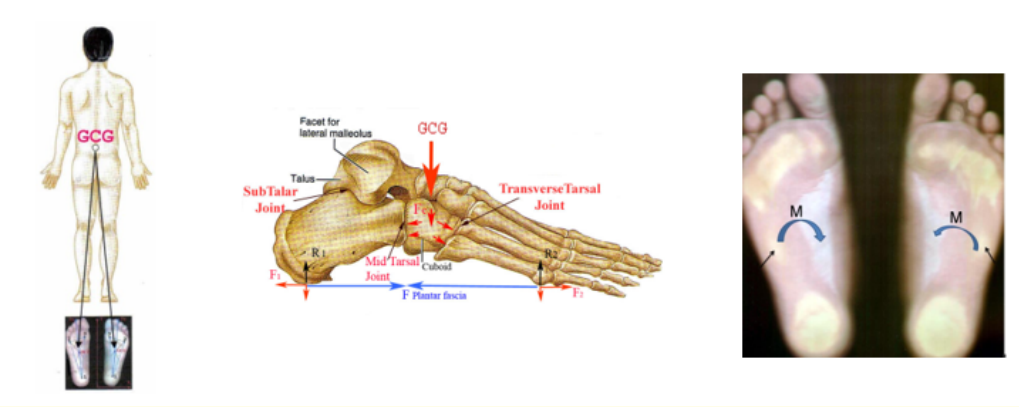

Figure 1

Deformities cannot be regarded as a "symptomatology" of the disease. And although there is a physiological relationship between deformations and disturbances in the body's work, doctors do not pay attention to this. Their actions are not aimed at identifying the root causes of violations of the pumping function of muscles, - metabolic processes in the body. Considering the relationship of the functionality of the arches of the feet with the position of the subtalar joint, it is said that supination of the lifting of the arches of the foot is accompanied by the closure of the tarsal joints into a rigid lever for performing a push. But this situation, as well as the use of high heels, leads to poor circulation. The height of the heel characterizes in what neutral position the arches are, that they do not know how it is determined.

With subtalar pronation, the feet easily adapt to the profile of the bearing surface. But all these observations do not say how this happens, under the influence of what forces. Biomechanics explains that all movements are the result of the action of forces arising from the displacement of the body's GTC. Walking is a fall of the body's GCT and, in order not to fall, we substitute our leg.

The neutral position of the subtalar joint provides the foot, like any other joint, with dynamic stability, which prevents accelerated wear of the cartilaginous rubbing surfaces. When flat feet are considered as a decrease in the height of the inner arch, and not as a result of the deviation of the body GCT relative to the CG of the support triangle of the feet, then the actions to raise the inner arch look illiterate. They do not affect the position of the bones of the subtalar joint in any way. This is described in the works of Root M., e.a., 1977. But, and he did not point to the relationship with the position of the body GCT, as the main cause of bone displacement in the joints. A similar situation is in other branches of medicine, when the actions of a doctor of narrow specialization are abstract, scientifically unsubstantiated. Thus, raising the inner arch with an insole, filling the gap under it, deprives the foot of the ability to absorb, which gives the foot artificially flat feet. They say that there is a violation of arterial circulation in the limbs, they do not think about the fact that this is a violation of the outflow of venous blood, the sequence of contraction of the muscles of the venous-muscular pumps. Orthopedic specialists do not know the laws of geometry, mechanics, that the main vaults are the supporting outer and transverse vaults. All deformations begin with the deformations of these arches. The inner vault rests and begins to overturn on the calcaneus of the subtalar joint when support appears under the apex of the outer vault, its cuboid bone. This is how an overturning moment of forces (M) arises relative to the emerging pivot point. But no one diagnoses or corrects the support vaults. The two surfaces have three common points of contact with each other. You will not find them in orthopedic insoles and modern footwear. This is the tubercle of the calcaneus and the head of the first and fifth metatarsal bones. The support triangle of the feet is formed by the outer (1 - 2) and transverse (2 - 3) arches. They keep the body's CBG in the support area, i.e. body from falling. The function of the inner vault is to damp the speed of the leg transfer from 18-30 km / h to zero, before starting the movement from the second limb.

Figure 1

The overturning moment also occurs when walking with the feet turning outward. The greater the angle of abduction of the feet, the greater the overturning moment. By placing the feet parallel, the calcaneus and lateral bones will take a natural position without the use of the insole. Therefore, when correcting the arches, it is necessary to pay attention to the nature of the gait. You have to walk with your feet parallel to each other. This is inherent in nature. This is how we run and this is how we must keep our feet when walking.

The inner vault consists of five joints that allow it to lie down on a complex curved surface of the ground. When support points appear under the outer vault in any of its places, then on the opposite side of the inner vault its overhang will be observed. The appearance of support under any point of the outer vault causes pronation on the opposite side of the inner vault. The highest point of the vault describes a long arc, which can be equated with the braking distance of a car.

But the main reason for the occurrence of deformities is that each individual has an anatomical difference in the length of the legs. To compensate for it, it is first necessary to eliminate the functional component of shortening, which is achieved by the insoles. Only after that, the body GCT is brought to the vertical axis of the body by compensating for the anatomical difference in leg lengths. All this brings the bones of the subtalar joint into a neutral position. Without this, it is impossible to correct the arches of the feet, eliminate the skew in the ilio-sacral joints of the pelvis, the support of the spine, - the root causes of the formation of scoliotic posture. All these actions will eliminate disturbances in the work of lymphatic and venous-muscular pumps, metabolic processes of body cells. Speaking about the height of the inner vault, one must remember that it is associated with muscle tone. Today, most people (65%) have it increased. This manifests itself in the sensation of cold feet and hands, cramps and heartburn, in increased human activity. In its pure form, flat feet are rare, it is still the same 7-19%. All other variants of deformations of the supporting arches are derivatives associated with the deformation of the supporting arches, deviations of the calcaneus from the vertical on the long limb, which ultimately determines the displacement of the GCT of the body. Improperly made shoes and improper walking only add to the statistics on the development of deformities.

The foot is in the shoe for a long time and the muscle work is limited. On a hard surface, the muscles do not contract. To this should be added the fact that 90% of the shoes began to distort the position of the support points of the skeleton of the feet. This has already begun to manifest itself in children 3-7 years old, during the formation of the foot. Hence, the percentage of spinal deformities and diseases of internal organs among children increased.

Figure 3

Orthopedic insoles fabricators work with skeletal structures that lie at the level of the ankle joint. So the knee and hip joints, and with them the position of the pelvis, became ownerless. There is no one to correct posture, to help the body restore its functions. Deformities of the feet cannot be considered outside the relationship with the state of the spine, with the biomechanics of walking. Otherwise, the meaning of the stop correction is distorted. The overload of the central nervous system, which, together with the vestibular apparatus, ensures the stability of the body, brings the head and the vestibular apparatus to an upright position, is also not taken into account. Failure to understand the root causes always leads to wrong actions, which in turn further disrupt the functionality of the organism as a whole. Work on the correction of the musculoskeletal frame requires knowledge and ability to work with a load, the reactions of forces arising in the joints, which must compensate for the muscles. Muscles constitute 50% of body weight. Internal organs are responsible for their activity and performance.

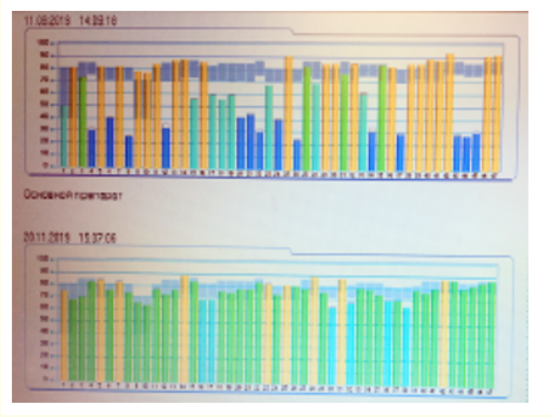

Figure 4

By eliminating the deformities of the feet and spine, it means to restore lymph and blood circulation, the energy of cells, the self-regulating function of the body. Functional correction of the musculoskeletal framework is the basis for the restoration of the body's self-regulating function.

Volume 12 Issue 7 July 2021