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Designing footwear for people with defective foot

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Abstract
This article discusses how to design footwear for people with defective feet, measures to protect people's balance and balance one's feet. The results show that these results have a positive impact on the human body.

Keywords: Footwear, body equilibrium, footwear quality, human health, foot pad, foot movement, shape, size, quality marks

Introduction
It is well-known that the modern consumer goods producers are targeted to sharply increase the volume of production. At the same time, it is envisaged to expand the range of products in leather and footwear, to improve their quality, and to expand the production of competitive and new types of products. The mass production generates a minimum range of shoe and provides a complex set of needs for maximizing the population's need for finished products. The solution of this problem is carried out by constructing a measurement typology.

Literature review
1. Haydarov A.A. Basics of modeling of footwear and leather accessories. "Sharq", Tashkent. 2007. In this literature, the following information has been reviewed for the following investigations to improve orthopedic footwear production based on practical anthropology. One of the qualitative indicators of leather goods is their size and shape, which corresponds to the sizes and shapes of the legs and toes, and the correct design of the parameters of the projected product, the design engineer may have full knowledge of the human body.
2. Babaeva.R.X. Applied Anthropology and Biomechanics. Textbook. T. "Heritage-Publisher", 2009. 304 b. This tutorial gives you the ability to accurately determine the biomechanics of the foot, the movement of the foot to the foot, the movement of the leg size, the pressure between the toes and the toes, the correct design of the shoes for the designer, as well as material for the details.

Research methodology
The following information was used for the following investigations and research to improve the production of orthopedic footwear (ankle-affected persons) on the basis of practical anthropology.
One of the qualitative indicators of leather goods is their size and shape, their size and shape corresponds to their size and shape. Therefore, the engineer-designer should have a complete knowledge of the human body when choosing the parameters of the projected product. The design of footwear should be well-known in terms of the anatomical-physiological structure of the foot and the free part of the hand and the rules of their change. Studying the biomechanics of the foot and arm, the movement of the man during walking and walking along the foot of the foot, the movement of the feet and the pelvis, the pressure between the toes and the toes, allows the designer to choose the shoes and the details for the details.
In walking and running, the size of the foot pad changes significantly under the influence of different forces. When the heel portion of the paw rises above the base, all of the load falls to the head of the palm bone and partially to the fingers. The importance of longitudinal and muscle is very important at this time of travel. The length and the muscles are tense.

Tensioning them causes partial change in the transverse dimensions of the foot portion of the leg. At the same time, the apneurosis of the pawl tends to be like a bow.

The fingerprinting of the fingers and the twisting of the finger-tips around the axis of the rotation of the finger and the fingerprinting of the fingers on the ground lead to the prolongation of the footprint. Thus, with the removal of the compensation, the lower part of the leg of the foot extends significantly from the bones of the palm. The same phenomenon occurs when the heel is raised on the heel.

When turning to the penetration, the front part of the legs increases the base surface (footprint) of the foot to 17.5-21 mm. At the same time, bending tenderness and shortening of the muscles reduce the back of the paw by 5.5mm.

The width of the crown decreases by 4-6 mm when it is on the pallet. When the paw rises, the split part is also of the smallest size.

When standing up, it is shown that the size of the leg of the toe should increase by 2% and 4-4.5% depending on the pinch.

The size of the ankle varies considerably when you move the toes to the smallest part of the pawl. When you base on one leg, the size of your embrace through the compensation and bumping points is the highest.

The size of the embryo over the sheets varies less. The change in the size of the legs is substantially the same in different morphological groups, but the difference is only in their size. Often the transverse dimensions are small in size when returning to the heel.

It is necessary to produce the internal size and shape of the footwear, based on the above, not on the static size, but on the motion and the elevation of the heel to the height of the heel. When wearing shoes, the nerves and blood circulatory system (arteries, veins, and capillaries) function in the leg pouch.

The rationality of the mold is assessed by the amount and the pressure of the foot on the foot pad, by turning a large number of leg cuffs into cross-linked sections of the shoe shape based on the aggregate shapes and sizes. Therefore, special attention is paid to the theoretical and experimental investigations of the interaction force and the permissible strength of the shoe in the range of the analytic method of transforming the shape and size of the leg area into mold parameters.

During loading, the height, width, and height of the embryo, especially the fingers, increase the size of the toes. When downloaded, the shape and size of the pad return to its original state. In shoes, the foot is different from the state of the holder. The base and tear sheltie of the footwear limits the mobility of the toes and squeezes it during loading. This event results in pressure on the top and side surfaces of the foot pad at the top of the shoe.

When it comes to the pressure on the trace of the pacemaker, there is a reaction force distribution on the base surface.

During the operation, shoes are exposed to similar forces. In V. Piiba's research, the hypothesis suggests that the upper parts of the shoe can be used as an elastic (shell) crust. Depending on the distribution of footwear details on the leg cuff, the deformation of the soft tissue and the shoe detail depends on the geometric and power settings.

The foot cuff can be seen in the cut shape, which is defined as the geometric pattern of the shoe system and the sophisticated contact surfaces with the interior of the shoe. This contact surface can be fully imaged with up to 8 transverse-vertical sections. These segments are perpendicular to the neutral base (base) plane, the pterion (the most 0.18 $L_{o.n.}$, 0,3 $L_{o.n.}$, 0,4 $L_{o.\,n.}$, 0,5 $L_{o\,n}$, 0,62 $L_{o.\,n.}$, 068 $L_{o.\,n.}$, 073 $L_{o.\,n.}$ ва 0,8 $L_{o.\,n.}$ equal distances (Picture 1).

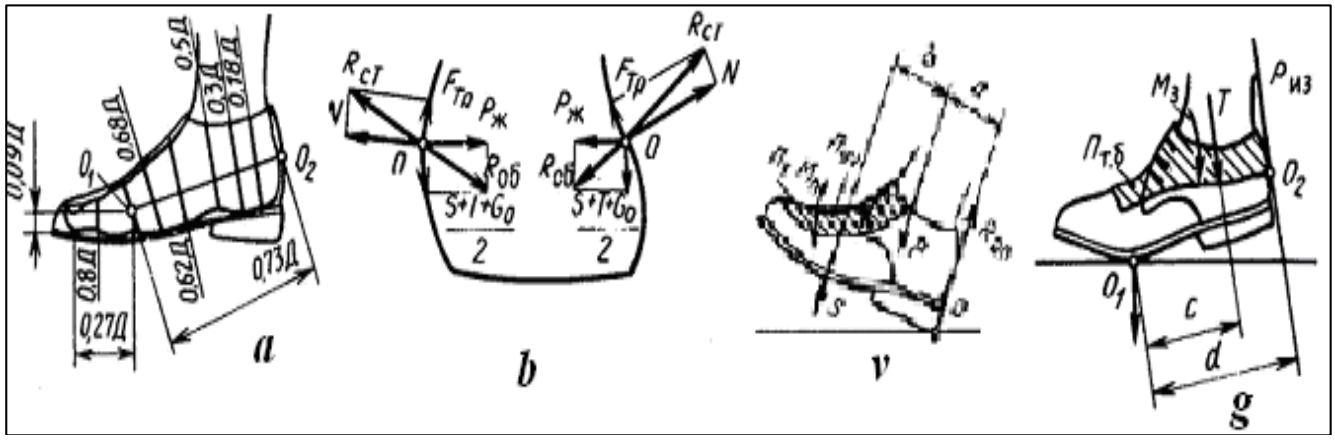

Fig 1: Segments on the foot pad (a) are the scheme for the generation of power moments in forces (b) and compensation (c) and back (g) impacts on open type footwear.

To describe footwear in all ages, the following conditions are considered: a basic condition, a condition of anxiety, an all-legged condition, a back stroke. These four states represent the basic periods of walking, without taking into account intermediate states. These can be summarized by describing all the changes in the size and shape of the foot paw.

Results of the analysis.

Footwear with different headrest height has been studied by using the leg clamp pressure on the base. As a result, the characteristic points of the foot cuff and the pressure associated with the height of the shoe were determined to vary from zero to dose.

Regardless of the height of the headrest, the greatest pressure is standing under the bones of the ankle bone, at the head of the fifth skeleton and under the thumb. As the height of the poshna changes, the base length increases and the pressure of the panja parts changes to the pressure.

Footwear heel height $B_к$ (20, 30, 40, 50*ми* and so forth) is the main parameter of the rise angle relative to the base line. Because the corner provides the most accurate picture of the

tenderness in the limbs of the ankle and the position of the bones.

The height of the heel when the angle is the same B_n depending on the length of the foot pad (Figure 3). With the height of recovery λ The following link exists in the angle range: $B_n = 0{,}7L_{o.n.} \cdot \sin\alpha$

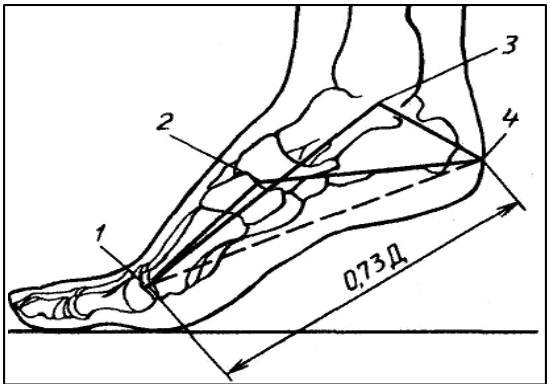

Fig 2: Conditional vibration center in the spine of the foot paw

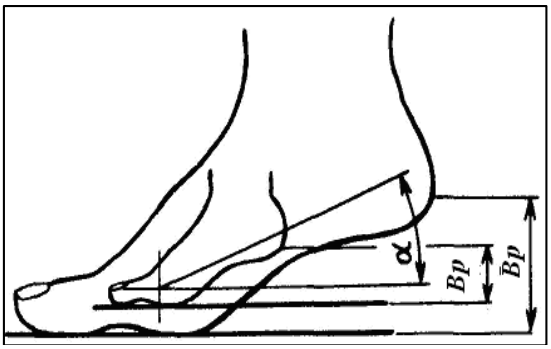

Fig 3: Affect the feet the height of the rise (Vp).

It is important to pay attention to the shape of the foot pad and its density when examining it. Ganch reproduction and measurement of the ankle, resulting from radiographic examination, the incidence of the heel $\boldsymbol{\alpha}$=12^0 angular angle when it rises $\boldsymbol{\beta}$ each 6-7^0 for α when the corner rises 1,30 and height of flare up to 1mm. If $\boldsymbol{\alpha}$ =18^0 then, $\boldsymbol{\beta}$ the angle increases to 5.60 and the height is 2-3mm. This, in turn, leads to a decrease in the distance between points 1-4 (Picture 2, 3)

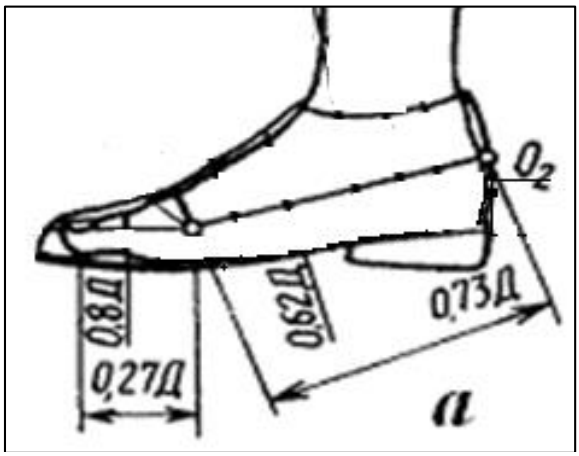

Fig 4: An additional layerless appearance of the footwear

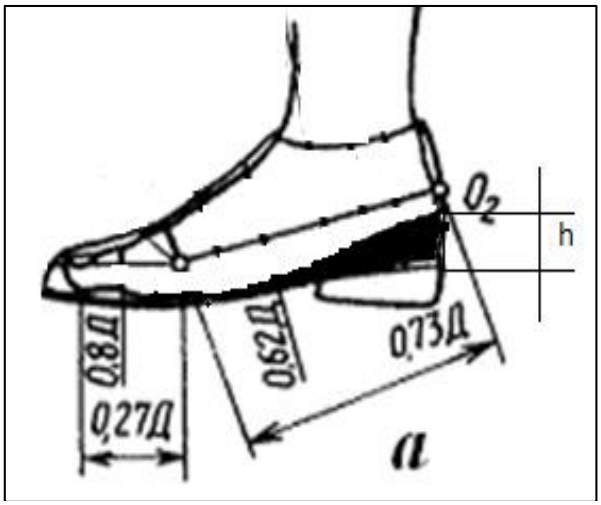

Fig 5: After an additional layer appearance of the footwear

Conclusion

In conclusion, it is known that in the production of orthopedic shoes one leg is shorter than the second leg, the body balance is broken. An additional layerless appearance of the footwear (Figure 4). The legs will be short, and the stroke will increase. In order to eliminate this, one can use the extra thickness of the ankle in the inner part of the height of the toe so that it is kept in the right position for a smaller foot (Fig. 5). Then the shortest part of the leg of the foot paralyzes the longest part of the leg paw. This ensures that the body is balanced.

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