

Determining the trajectory of specific body movements of "Ko'pkari" equestrian riders

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ABSTRACT

In this article, the body movements of the rider and the changes in the dimensions of the human body are studied. The measurement characteristics of coffee beans that have the maximum variability in a certain state in dynamics have been studied. In horse sports, the most active situations of the rider are given.

Ushbu maqolada chavandozning tana harakatlari va inson tanasidagi o'lchamlarning o'zgarishi o'rganilgan. Chavandozlarning dinamikada ma'lum bir holatda maksimal o'zgaruvchanlikka ega bo'lgan o'lchov xususiyatlari o'rganilgan. Ot sportida chavandozning eng ko'p harakat qiladigan holatlari keltirilgan.

ARTICLE INFO

Received: 10th June 2024

Accepted: 8th July 2024

KEY WORDS:

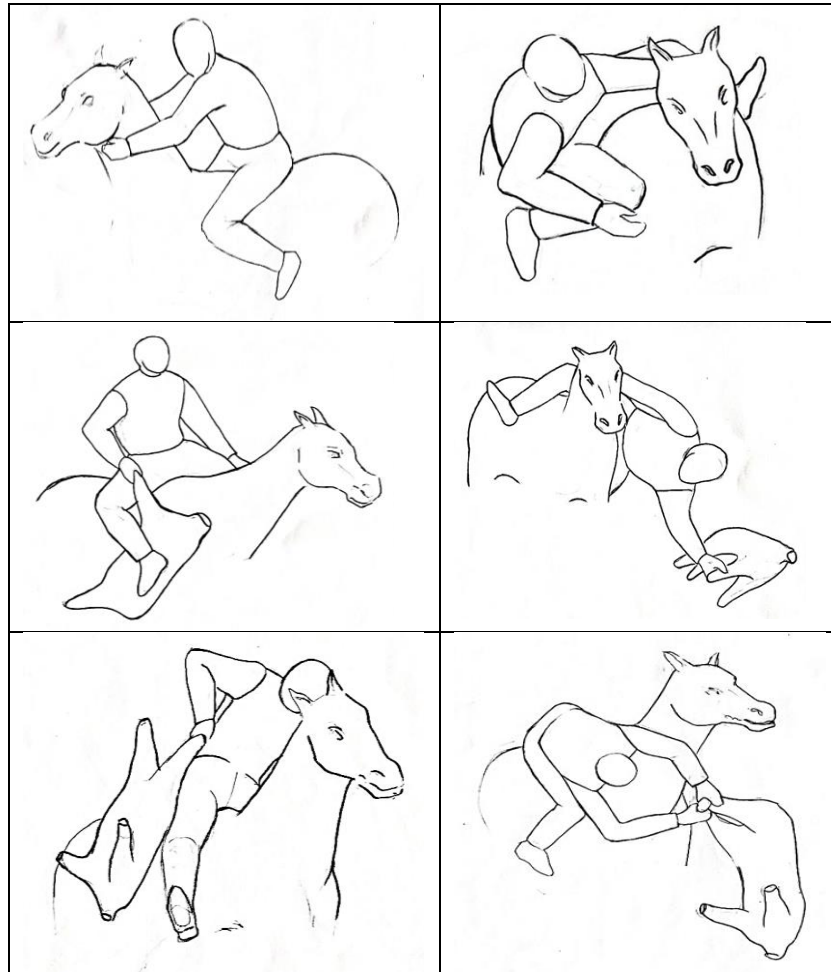
equestrian sport, clothing, rider, ergonomics, dynamic conditions, extreme condition, measurement signs, dynamic fit. ot sporti, kiyim, chavandoz, ergonomika, dinamik holatlar, ekstremal holat, o'lchov belgilar, dinamik moslik.

Determining the trajectory of body movements of the human body is carried out by determining the types of movements and their sufficient number. The choice of typical actions was made based on the analysis of the activity of the riders during most of the equestrian games. In carrying out ergonomic studies, the most extreme actions that are extreme for the riders of the equestrian game and the most performed during the game were selected. Based on these actions, six extreme cases were identified, which lead to the greatest change in the value of body dimensions.



The results of the observations of the multi-equestrian game showed that during the game, six extreme cases of extreme intensity were detected in the riders. In order to get a more complete picture, a survey was conducted among many horse racing game riders. 100 riders participated in the survey.

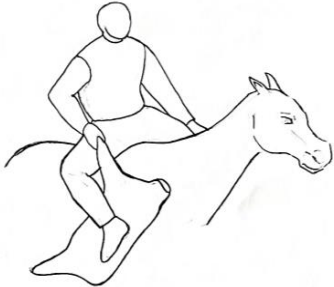

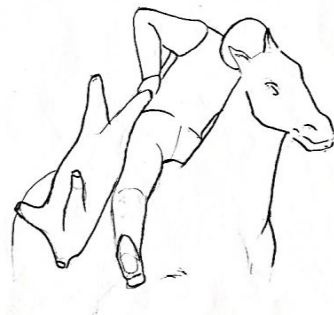
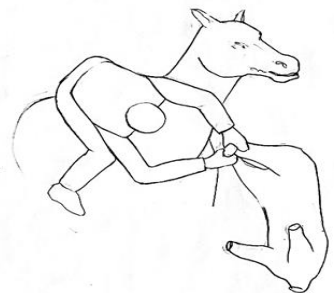
According to the results of the survey, the six most active extreme actions among the actions during the game were determined.

Dynamic movements and ergonomic conditions were selected based on the most common movements of riders for further anthropo dynamic studies. The schematic view of ergonomic conditions is shown in the figure and is divided as follows: 1- in the position of sitting on a horse, the body is bent forward with the arms bent at the elbow joint and the legs bent at the knee joint; 2 - in the position of picking up the carcass of the animal from the ground, with the body bent to the right, bending the arm at the elbow joint, bending the left and right legs; 3- in the position of sitting on a horse with the carcass, standing straight, the left arm is bent at the elbow joint and the knees are bent; 4 - in the position of raising the carcass from the ground, the body is maximally bent to the ground, the legs are bent at the knee joint; 5 - in the position of raising the body, bending the body back, arms bent at the elbows, legs stretched forward; 6 - bend down the body in a fighting position to grab the carcass from the opponent, with the legs bent at the knee joint and the arms bent at the elbow joint;



The most common actions and situations of the rider selected for anthropometric research

№	Ergonomic conditions Description of extreme cases	Description of extreme cases
1.		While sitting on a horse, the body is bent forward with the arms bent at the elbows and the legs bent at the knees.
2.		In the position of taking the carcass of the animal from the ground, the body is bent to the right, the arm is bent at the elbow joint, the left and right legs are bent at the knee joint

3.		<p>The body of the animal is sitting on the horse with the carcass, the body is held straight, the left arm is bent at the elbow, the right arm is extended and the knees are bent.</p>
4.		<p>The animal is in the position of lifting the carcass from the ground, the body is maximally bent to the ground, the legs are bent at the knee joint</p>
5.		<p>in the position of lifting the body, the body is bent back, the arms are bent at the elbows, the legs are stretched forward</p>
6.		<p>in the position of lifting the body, the body is bent back, the arms are bent at the elbows, the legs are stretched forward</p>

From the data presented in the table, it can be seen that significant changes in the sizes of the riders' special clothing were found when certain actions were performed by the riders. and a number of dimensions that should be taken into account in the development of the basic structure have been identified.

The anthropodynamic study program includes 10 measurement signs describing the position of anthropometric points such as shoulder, elbow, neck, lateral neck support point, back and front corners of the armpit. The selection of measurement symbols was made from the point of view of taking them into account later in the design of clothes.

The main movements of the rider consist of movements of arms and legs. During arm movements, rear shoulder width and sleeve length experience the greatest changes, and during leg movements, the knee regions and waist and hip circumferences experience the greatest changes, so the combined underarm and back shoulder widths are used to assess dynamic fit. value as well as leg length are accepted.

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