



## CLASSIFICATION OF INDIVIDUAL BODY STRUCTURE IN ATHLETIC GYMNASTICS

Yu.A.Mirzakarimov

Andijan State University

Andijan city, Uzbekistan

To contact the author:

yuldashboy74yil@gmail.com

<https://doi.org/10.5281/zenodo.11532403>

**Annotation.** This article is aimed at determining the structure of one's own body in gymnastics, which is a mass sport and organizing proper training methods in accordance with it. The observation work was carried out among the 1st year students of the Faculty of Physical Culture of Andijan State University.

**Keywords.** Physical education, sports, gymnastics, health, ectomorph, mesomorph, endomorph, stretching, gainer, protein, cardio, amplitude.

**Introduction.** In our society, a modern generation of students is being formed physically matured, spiritually imbued with noble ideas, and working productively. One of the strategic tasks of the independent Republic of Uzbekistan is to bring up a physically healthy and spiritually mature person to carry out all good deeds in the future. In the Law of the Republic of Uzbekistan "On Education" and the "National Program of Personnel Training" great attention is paid to educating the young generation to be physically fit, to provide deep and solid knowledge, and to use national traditions.

Today, it is time to increase the effectiveness of activities aimed at promoting legal culture, healthy lifestyle, physical activity and sports among our youth. The implementation of the activities defined in the programs in this regard will be strictly continued based on the norms of the law "On State Policy Regarding Youth", which was recently adopted.[1]

The leading expert scientists of our country work effectively in improving physical culture and sports education. Based on their scientific research, textbooks, training manuals, monographs, methodological manuals were developed. They serve to improve the process of personnel training, improving the health of the population, improving sports skills, and providing education to young people in the republic.

In accordance with the "National Personnel Training Program" implemented in our country, the development of public sports is an extremely important condition for striving for a healthy lifestyle and instilling love for sports in the formation of physical and spiritual health of the young generation.

**The purpose of the study.** The subject of "Athletic gymnastics" has an effective role in teaching students about physical education in schools, lyceums and colleges, as well as in restoring the health of students with various health defects, in educating young people in the spirit of patriotism, and in implementing a healthy lifestyle. In athletic gymnastics, it is necessary to correctly determine the body structure and organize the exercises, as well as to teach how to make a diet in accordance with the three body structures.[2,6]

**Research materials and methods.** In all sports, physical fitness depends on the functional state, while in athletic gymnastics it depends on developing it through one's own body structure. In the proportional development of the body, it is shown the importance of

determining the structure of the body when using these methods instead of one or the other.

To determine the body structure for athletic gymnastics, we conducted a simple test control consisting of the following seven questions, consisting of answers A, B, V, each of which defines the body structure separately:

Question 1:

When you were a child, your body...

- A)...very thin, even with visible bones.
- B) ... tall or athletic.
- C) ...tense or convex.

Question 2:

Chest circumference....

- A)...was less than 94 cm.
- B) ...was between 94 and 112 cm.
- C) ...was more than 112 cm.

Question 3: Usually...

- A)...you gain muscle mass and fat with difficulty, but if you gain barely 2 kg, your body will quickly return to its previous state.
- B)...your body can easily gain muscle mass but not fat.
- C)...your body can put on fat just as quickly and easily as it can put on muscle mass.

Question 4:

Your shoulder width...

- A)...the pelvis is smaller than the hip.
- B)...the pelvis is the same width as the thigh.
- V)...the pelvis is wider than the hip.

Question 5:

In the imagination of your friends, you are...

- A)...active and cheerful.
- B)...observant and sensitive.
- C)...relaxed and outgoing.

Question 6:

Your body looks like...

- A)...he doesn't remember anything from top to bottom.
- B)...the hourglass resembles an hourglass.
- V)...reminds a pear.

Question 7:

Grasp your wrist joint with your thumb and middle finger.

- A)...your fingers touch each other.
- B)...your fingers meet without touching each other.
- C)...your fingers don't touch at all.

1. According to the test result, if the letter "A" is more correct in the student, then his body has an ectomorph body structure

2. According to the test result, if the letter "B" is more correct in the student, then his body has a mesomorphic body structure

3. According to the test result, if the letter "V" is more correct in the student, then his body has an endomorphic body structure

**Table 1 Sports activity wrestling group**

№	Name	1 question:	2 question:	3 question:	4 question:	5 question:	6 question:	7 question:
1	АБ	Б	Б	Б	Б	А	Б	Б
2	АА	Б	Б	Б	Б	А	Б	Б
3	АС	Б	Б	Б	Б	А	Б	Б
4	АА	Б	Б	Б	Б	А	Б	Б
5	ТЭ	Б	Б	Б	Б	А	Б	Б
6	АМ	Б	Б	Б	Б	А	Б	Б
7	АФ	Б	Б	А	Б	А	Б	Б
8	ЙО	Б	Б	Б	Б	А	Б	Б
9	УМ	Б	Б	А	Б	А	Б	Б
10	КЗ	Б	Б	Б	Б	А	Б	Б
11	БН	Б	Б	Б	Б	А	Б	Б
12	АИ	Б	Б	Б	Б	А	Б	Б
13	БМ	Б	Б	Б	Б	А	Б	Б
14	НЖ	Б	Б	Б	Б	А	Б	Б
15	РО	Б	Б	Б	Б	А	Б	Б
16	АБ	В	В	В	В	В	В	В
17	ЗХ	Б	Б	Б	Б	А	Б	Б
18	ТР	Б	Б	А	Б	А	Б	Б
19	ТМ	Б	Б	Б	Б	А	Б	Б
20	СТ	Б	Б	Б	Б	А	Б	Б
21	ХБ	Б	Б	Б	Б	А	Б	Б
22	ИА	Б	Б	Б	Б	А	Б	Б
23	ТА	Б	Б	Б	Б	А	Б	Б
24	АУ	Б	Б	Б	Б	А	Б	Б
25	УМ	Б	Б	Б	Б	А	Б	Б



**Table 2 Sports activity football group**

№	Name	1 question	2 question	3 question	4 question	5 question	6 question	7 question
1	Т Д	А	А	А	А	А	А	А
2	М М	А	А	А	А	А	А	А
3	М Х	А	А	А	А	А	А	А
4	И М	А	А	А	А	А	А	А
5	СХ Ф	А	А	А	А	А	А	А
6	А М	А	А	А	А	А	А	А
7	А Ф	А	А	А	Б	А	А	А
8	Й О	А	А	А	А	А	А	А
9	У М	А	А	Б	А	А	А	А
10	К З	А	А	А	А	А	А	А
11	Б Н	А	А	А	А	А	А	А
12	А И	А	А	В	В	А	А	А
13	Б М	А	А	А	А	А	А	А
14	Н Ж	А	А	Б	А	А	А	А
15	Р О	А	А	А	А	А	А	А
16	А Б	А	А	А	Б	А	А	А
17	З Х	А	А	А	А	А	А	А
18	Т Р	А	Б	А	А	А	А	А
19	Т М	А	А	А	А	А	А	А
20	С Т	А	А	А	А	А	А	А
21	Х Б	А	Б	А	А	А	А	А
22	И А	А	А	А	А	А	А	А
23	Т А	А	А	А	А	А	А	А
24	А У	А	Б	А	А	А	А	А
25	У М	А	А	А	А	А	А	А



**Table 3 Sports activity boxing group**

№	Name	1 question	2 question	3 question	4 question	5 question	6 question	7 question
1	АМ	Б	Б	Б	Б	Б	Б	Б
2	АФ	Б	Б	Б	Б	Б	Б	Б
3	ЙО	Б	Б	Б	Б	Б	Б	Б
4	УМ	Б	Б	А	Б	Б	Б	Б
5	КЗ	Б	Б	Б	Б	А	Б	в
6	БН	Б	Б	Б	Б	Б	Б	Б
7	АИ	Б	Б	Б	Б	Б	Б	Б
8	БМ	Б	Б	А	Б	Б	Б	Б
9	НЖ	Б	А	Б	Б	Б	Б	Б
10	РО	Б	Б	Б	Б	Б	Б	Б
11	АБ	Б	Б	Б	Б	Б	Б	Б
12	ЗХ	Б	Б	Б	Б	Б	Б	Б
13	ТР	Б	Б	Б	А	Б	Б	Б
14	ТМ	Б	Б	Б	Б	Б	Б	Б
15	СТ	Б	А	Б	Б	Б	Б	Б
16	ХБ	Б	Б	Б	Б	Б	Б	Б
17	ИА	Б	Б	Б	Б	Б	Б	Б
18	ТА	Б	Б	Б	А	Б	Б	Б
19	АУ	Б	Б	Б	Б	Б	Б	Б
20	ИМ	Б	Б	Б	Б	Б	Б	Б
21	СХФ	Б	Б	А	Б	Б	Б	Б
22	АМ	Б	Б	Б	Б	Б	А	Б
23	АФ	Б	Б	Б	А	Б	Б	Б
24	ЭА	Б	Б	Б	Б	Б	Б	Б
25	БА	Б	Б	Б	Б	Б	Б	Б

According to the results of research, body structures related to the chosen sport were determined when somatypes were studied for all three body structures. The most optimal body structure for doing athletic gymnastics is the mesomorph. That's why the majority of wrestlers and boxers, excluding lightweights, had a mesomorphic body structure. Endomorph body structure was found in heavyweight wrestlers and boxers. We have seen that most of the football players fit the ectomorph body structure.

Mesomorphs are one of the body structures in athletics.[5] These are divided into two types. Mesomorphic stature can be placed between ectomorph and endomorph types. A classic mesomorph is considered successful in terms of its bone skeleton and muscle structure. Such athletes are observed to have a large head, strong broad shoulders and a large chest, excellent thigh and forearm muscles. The speed of muscle development is very

important depending on the right training and diet. It is advisable to plan training three days a week with one day of cardio.

Along with the main exercises, in addition to growing the muscles, special attention should also be paid to the exercises that divide them (relief)

As we mentioned above, mesomorphs can work to gain weight and shape a beautiful figure at the same time. Therefore, muscle weight and muscle growth are achieved at the same time. Mesomorphs achieve faster success in athletic gymnastics than ectomorphs and endomorphs. It will be lighter and easier for them than other genes. They are also called naturally lucky. [9,10] It is also possible not to follow any diet. It is enough to reduce the consumption of fat and carbohydrates, but it is recommended to consume valuable branched chain amino acids VSAA, creatine, glutamine and special arginines, which are full of necessary vitamins and minerals and the body cannot produce them. It is also possible to diet protein, such as eggs, fish, beans, and similar legumes. 2-3 grams of protein per kg of weight is considered normal.

Calorie distribution;

-30-40% protein,

-40-50% carbohydrate

-10-20% fats

An ectomorph is a body structure that has a "failure" physique in terms of the amount of fat tissue, but a negative bonus for massive gains in the form of a fast metabolism of burning normal amounts of calories. [2,3] To build muscle, focus on programs that add 0.3-0.4 kg of food calories per week with such exercise. Effective dieting is important for muscle growth. The amount of calories should be calculated based on body weight according to the following formula: 45-55 kcal per kilogram as a starting value. For example: with an initial weight of 65 kg, you need to eat 2900-3600 kcal per day.

Plan to eat more protein in 6-8 meals a day. Meals should be taken every 2.5-3 hours during the day.

Protein consumption is about 25-30%, carbohydrates should be 50% of the total amount, and finally fats should occupy about 20%.

When practicing athletic gymnastics, ectomorphs should also spend time on aerobic exercises, and basic exercises should occupy the main part of the training. The naturally fast metabolism of ectomorphs prevents them from increasing their body weight and increasing pure muscle mass. It cannot be overcome by normal daily diet. People with an ectomorphic body structure should have a diet rich in proteins and carbohydrates. [7,8]

1. In athletic gymnastics, programs have been developed that help ectomorphs gain body weight and grow muscles at the maximum level in a short period of time.

2. In the first half of the year, ectomorphs should do basic exercises and only then switch to split training. Split program is considered one training for 1-2 muscle groups.

3. Each split scheme consists of high-intensity exercises and is carried out for a month with increasing load, increasing sets and repetitions.

4. Maximum intensity training should not exceed 8 repetitions in one set for one hour.

Auxiliary repetitions and supersets are allowed only in certain points. Aerobics is minimally or completely excluded from training.

Endomorph is a type of construct or construct identified by the American psychologist Sheldon, along with mesomorph and ectomorph. A healthy endomorph is represented by partner forms as much as possible for a person. In such people, as a rule, there are no shoulders and hips, a large belly, a wide chest and body, a short body, but thin elbows and ankles. This body structure is mainly accompanied by excess body fat, which requires proper training and nutrition.

Taking into account the above changes, the basic training is suitable for endomorphs. Another important element of the training program is aerobics, aerobics that can be performed as quickly as possible (five times a week for one hour).

**Summary.** Based on the classification of individual body structures (ectomorph, mesomorph, endomorph body structures) in athletic gymnastics, we came to the following conclusion as a result of developing training methods and nutrition strategies.

We learned that in order to achieve good results in sports, it is necessary not only to perform the necessary movements correctly, but also to choose training and nutrition suitable for the body structure.

We learned the importance of developing a specific training system for each body structure, and that 96% of success in this sport is focused on the right nutrition strategy.

It ensures athletes to achieve sports results quickly by correctly identifying the difference between samotypes.

We believe it is important to have trainers-instructors with excellent knowledge and skills in this type of sport.

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