

## FEATURES OF CONSTRUCTION OF STRUCTURES IN LONG-TERM TRAINING ACROBATICS AT THE MODERN STAGE

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**Annotation.** *Purpose:* the basic directions of the structure of long-term training in sports acrobatics are ground. The objectives of the study was to determine the leading requirements and criteria, the main stages of a multi-year training in acrobatics. *Material:* analysis of special scientific and methodical literature, revealing the specific features of the construction of long-term training in sports and gymnastics, acrobatic rock 'n' roll, a number of other sports. *Results:* general structure, goals, objectives and provisions of the basic stages of a multi-year training in sports acrobatics. Singled leading indicators and criteria for each of the main stages of long-term sports training in acrobatics. Recommended duration of training sessions and key requirements for the preparation of acrobats. *Conclusions:* outlines the main requirements and benchmarks that can guide the trainer in a training and competitive activity when working with acrobats all age groups and different sports qualification.

**Keywords:** stages, structure, long-term training, acrobatics.

### Introduction

Nowadays competition program of sport acrobatics has rather complicated and reached certain limit. Dynamics and virtuosity of exercises increased, new original elements and combinations appear (S.K. Malinovskiy, 2003, O.V. Shebaldina, 2004) [8, 15].

All changes, which have happened, require significant correction of certain theoretical and methodic approaches to process of acrobats' many-years' training. Все те изменения, которые произошли, требуют значительной коррекции определенных теоретических и методических подходов к процессу многолетней подготовки акробатов (S.K. Malinovskiy, 2003; M.I. Pyliuk, [8, 10].

The purpose of many years' training of acrobats, like in any other kind of sports, is maintaining of optimal dynamics of physical qualities and functional potentials as well as achievement of maximal for every sportsman sport result (I.G. Gibaddulin, 2005; A.A. Ruziyev, 1999; T.M. Absaliamov, 1996) [1, 4, 13].

Theoretical analysis and generalization of special literature showed that determination of perspective directions for perfection of many years training's structure in acrobatics have not had proper scientific foundation and require additional work, considering the kind of sports.

Analyzing the above said we may state that on modern stage of sport acrobatics in Ukraine scientifically grounded conception of differentiated approach to training of acrobats, considering kinds of acrobatics, role in exercise, functional characteristics and gender distinctions of sportsmen.

### Purpose, tasks of the work, material and methods

*The purpose of the research* is to give foundation for perspective directions of structure of many years' training in sport acrobatics.

*The tasks of the research* are to determine main indicators, criteria and main requirements of structure of many years' training in sport acrobatics.

*The methods of the research:* structural-functional analysis; synthesis; theoretical analysis of special scientific methodic literature and generalization; analogy and systemizing; pedagogic control over training and competition functioning of sportsmen; questioning, interviewing.

### Results of the research

Analysis of a number of scientific publications, dissertations and programs for CJSS, SCJSS, devoted to acrobatics and other kinds of sports with complex coordination, permitted to form and mark out main directions of structure of many years' training in sport acrobatics (Ye.V. Bogatina, L.E. Pasmurova, "Criteria and orientations in sport acrobatics"/ Ye.V. Bogatina, L.E. Pasmurova, //Materials of V International students' electronic scientific conference "Students' scientific forum" URL: <http://www.scienceforum.ru>) [5-7, 9, 12, 16].

For realization of aims of many years' training it is necessary to fulfill the following conditions:

- Development of general plan of training and competition processes' construction on all stages of many years' training;
- Control of main parameters of training and competition loads, which are directed on achievement of the set aims, both intermediate and current;
- Planned and gradual increasing of scope of special physical training (SPT) in respect to general physical training (GPT);
- Compulsory consideration of age and gender characteristics;
- Development of acrobats' physical qualities in certain age periods.

In process of many years' training its integral part is pedagogic control. It is realized for determination of dynamics of multi-functional development, level of general and special physical fitness, correspondence of planned physical loads to potentials of trainees and to temp of their biological growth.

Stage-by-stage control in sport acrobatics, as a rule, is conducted at the beginning and at the end of academic year. Its main tasks are: dynamic of physical condition's progressing as well as sportsmen's general and special physical fitness; determination of results' increment during year in comparison with standard requirements.

Current control is carried out at every training lesson as well as at the end of week cycle of training for analysis of organism's functional changes. Main tasks of it: determination of degree of tiredness and sportsman's recreation after training loads; degree of sportsman's readiness to taking of planned loads.

For direct registering of results of one training exercise, combination, composition and training in general operative control if fulfilled [5, 12, 21].

Sport training in acrobatics is a many years' annual process, which includes comprehensive development, training, and education of trainees.

Main forms of trainings in sport acrobatics are:

- Trainings-lessons of practical and theoretical character;
- Intermittent (after competition and transitive period) and summarizing (after academic year) testing;
- Regular participation in different competitions;
- Studying of video-records of qualified acrobats' trainings and competitions;
- Trainings as home by individual program;
- Regular trainings at camps;
- Trainings at health related sport camps;
- Studying of refereeing [5, 6, 12].

On all stages of many ears' training in acrobatics main tasks are solved on the base of realization of curriculum, considering program schedule and standard requirements. Also mastering of training loads in compliance with curriculum is required.

Requirements and content of standards change depending of stage of training. Fulfillment of demanded criteria is compulsory for passing of trainees to next stage of many years' training.

Efficiency of many years' system of acrobats' training depends on a number of factors:

1. Age at beginning of sport acrobatic training. 2. Age at achievement of the highest results. 3. Consideration of regularities of formation of sportsmanship different sides in acrobats of different sex, formation of adaptation processes in main functions of organism. 4. Consideration of individual and gender distinctions of acrobats when planning training loads. 5. Means and methods of trainings, dynamic of training loads. 6. Peculiarities of building of training process's different structural formations.

In different kinds of sport acrobatics there are certain requirements to coach, videlicet:

- Presence of knowledge about methodic, practical and scientific achievements in acrobatics, about changes in classification and training programs;
- Knowledge about characteristics of motor, physical and functional development of trainees;
- Having techniques of sport exercises and means of teaching and sport training;
- умение анализировать и оценивать изменения в правилах соревнований.

With orienting of trainees on such exercises as jumps on acrobatic track coach shall be guided by the following principles:

- health condition and harmonious development of trainees;
- ability of trainees to effectively master acrobatic jumps;
- stability and reliability in fulfillment of exercises at trainings and competitions;
- high level of speed-power qualities, orientation in space and in time as well as integral sensor-motor coordination [2, 3].

In pair-group acrobatics trainees fulfill different functional roles, i.e. roles: upper, lower – in women, men and mixed pairs; upper, lower, central – in women groups; lower, first, central, second central, upper in men groups (four).

In every role acrobats need the following:

- prevailing development of strength, flexibility, quickness, endurance;
- balance in system of interacting bodies;
- space-time indicators of movements;
- reliable balance;
- sport techniques of supports, different stances (on one and two hands), throws, flights, catching, landing on hands and shoulders of partners;
- high level of choreographic fitness, musical abilities, artistry;
- presence of optimal weight-height indicators.

When completing of pair-group kinds of acrobatics coach shall compare biomechanically points of links (wrists-wrists), supporting points (shoulders-feet), working postures and consider sport techniques of such exercises with partners' combined actions [2, 3, 17].

Interconnections of kinds of training and main tasks are given in table 1 [5].

Table 1

*Main tasks in kinds of sport acrobatics (generalized and processed data of L.V. Savonik, 2008)*

<b>Kinds of training</b>	<b>Tasks (requirements)</b>
<b>Physical</b>	
General physical	Development of special physical qualities
Special physical	
Special motion	Development of abilities, required for mastering acrobatic exercises
<b>Technical</b>	
With objects	Mastering of basic exercises
Compositional	Training of competition programs
Choreographic	Perfection of elements of classic and other dances
<b>Tactic</b>	
In individual kinds	Training of competition program Working out of tactic for competition
In pair (group) exercises	Logic disposition of acrobats and training of their interaction in pairs (groups)
In team	Formation of team. Setting of team and personal tasks. The sequence of performances at competitions
<b>Competition</b>	
All kinds of acrobatics	Acquiring of experience of participation in competitions. Stability and reliability of fulfillment of competition program

### **Stage of initial training**

As analysis of special scientific methodic literature shows certain difficulties of selection in sport acrobatics are connected with sharp rejuvenation of sports. At initial stage mainly boy and girls of 6-8 years age are enrolled in sport acrobatic groups. This age period is favorable for mastering of new movements and the more of them will be mastered, the better, in future, difficult elements will be trained. This stage lasts 1-2 years [10, 11, 14].

At this stage, in acrobatic, main role is played by anthropometrical and morphological characteristics of trainees [2, 8, 9, 11, 15].

When selecting children to acrobatic sport groups it is recommended by specialists to use a number of tests: balance, asymmetry of limbs' movements, latent period of motion response, quickness and frequency of movements, temp, posture. Sportsman's body height; size of foot, hand are important elements for choosing of sport acrobatic kind. Special accent is made on orientation of movements, which witnesses about physical condition and fitness, about condition of nervous system (strength, balance, mobility, dynamic) (Ye.V. Bogatina, L.E. Pasmurova, "Criteria and orientations in sport acrobatics"/ Ye.V. Bogatina, L.E. Pasmurova, //Materials of V International students' electronic scientific conference "Students' scientific forum" URL: <http://www.scienceforum.ru>); V.N. Boloban, 2008) [2, 3].

In connection with not stable in this age period attention it is recommended to use at trainings play form with methods of encouragement. Visual method of explanation is also widely used at trainings of such type.

On initial stage there is realized work, oriented on comprehensive physical progressing, teaching to principles of acrobatic techniques, fulfillment of tests for passing to next stage of training and cultivation of steady interest to sport acrobatic trainings.

Trainings are planned without usage of significant physical or psychological loads with accent on warming up exercises from different kinds of sports [7, 11, 14, 18-20, 22].

**Main tasks** of training at this stage are:

1. Selection of children for acrobatic training, considering morphological criteria and motor abilities.
2. Strengthening of health.
3. Harmonious physical development (removal of defects in physical condition).
4. Teaching to principles of acrobatic techniques' principles and to wide circle of motion skills.
5. Comprehensive development of physical qualities: flexibility, endurance, coordination, speed and power abilities.
6. Cultivation of moral-will qualities.
7. Formation of trainees' firm interest to systemic acrobatic trainings.

High level of trainings' effectiveness on this stage depends on a number of factors:

- Optimal age of starting of acrobatic trainings;

- Selection of children with characteristics of composition, which correspond to requirements of sport acrobatic requirements;

- Complex evaluation of motion abilities' correspondence;
- Individual level of mastering of simple and complex elements.

Elements for accuracy and coordination are gradually introduced in trainings. Acrobats master space, time and power characteristics of movements, fulfilled with high amplitude, quickness and temp.

The basis of program includes GPT and SPT exercises, special movements training (SMT) and special technical training (STT). GPT include general developing exercises, run, jumps, climbing. SMT tasks include development of coordination abilities both of static and dynamic character.

Main tasks of STT at initial stage are mastering of basic elements of acrobatic, choreographic elements as well as exercises on battue. Evaluation of individual achievements reduces to fulfillment of control tests by trainees, i.e. tests, close to program of physical and technical trainings [5, 6, 7, 15].

**Stage of preliminary basic training.** To this stage trainees, who were trained at initial stage not less than 1-2 years, pass.

Optimal age for the beginning of basic stage of initial specialization in acrobatics is 8-10 years. Duration of the stage is, in average, 3-5 years. Trainings take place in trainings groups [5, 6, 9, 12].

The necessary conditions are: fulfillment of special tests in general and special physical, technical trainings, which are determined by curriculum.

**Main tasks** of training are:

1. Strengthening of health.
2. Removal of defects in physical condition.
3. Perfection of level of general and specialized physical fitness.
4. Harmonious physical development.
5. Formation of steady interest to purposeful many-years' sport training.
6. Creation of firm motion potential for successful mastering of different motion skills.
7. Teaching to acrobatic techniques.
8. Preparation for tactical and psychological readiness.
9. Cultivation of moral-will qualities.

**Stage of specialized training** is especially important in formation of sportsmen. In this period main motion qualities are formed, great number of specific for acrobatic motion skills (elements and combinations) is mastered. Sportsmen acquire experience of participation in competitions. Basic elements are formed in basic combinations, which facilitate mastering of techniques in pair-group acrobatics. Some more difficult elements are mastered. For years of training at this stage the trainees are awarded with qualification sport grades.

Age of starting and finishing of this stage is influenced by individual temps of biological development.

Perfection of technique is based on material of the chosen kind of acrobatic. Comprehensive training with little scope of special exercises is characteristic for it. Such training results in formation of sportsmen's quick mastering of technique of the chosen kind of acrobatics.

Against the background of physical qualities' increment large loads shall not be planned at this stage.

Within this stage two periods are usually marked out: initial specialized training and profound specialized training. **In period of initial specialized training** acrobats master material of classification programs as well as perspective elements, links and combinations. In this period, as a rule, selection of acrobats in pairs or groups is conducted for more intensive deepened training.

**In period of profound specialized training** large scope of elements and combinations of technical training and SPT are criteria of acrobats' progress. Coaches conduct active pedagogic control for determination of promising sportsmen, who, in their age, go ahead of their peers. For starting of stage of profound specialization age of 10-12 year is considered to be optimal. This stage lasts 3-4 years.

Sportsmen are tested regularly by control tests for physical and technical fitness.

In this period sportsmen show increasing of physical fitness's level as well as sport results, considering individual features.

Main tasks of specialized profound training are: 1. Strengthening of health and comprehensive physical development. 2. Training and perfection of pair-group techniques. 3. Gradual leading of sportsmen to higher physical loads. 4. Dozed increase of training loads' intensity. 5. Mastering of complex elements and combinations, connected with combined rotations. 6. Moral will training, applied at competitions.

At this stage training means resemble competition exercises. We can observe increase of SPT and tactical training, means of power and special endurance.

There are certain factors, which restrict application of high physical loads at this stage: 1. Peculiarities of growing of junior sportsmen, i.e. functional specificities of organism. 2. Unevenness in morphological functional indicators and indicators of cardio-vascular system, body length and development of strength.

At stage of specialized training sportsmen, as a rule, master programs of candidate master of sports and even master of sports [5, 6, 9].

To **stage of sport perfection** usually sportsmen (as a rule 13-14 years old and older), who passed tests not less than for candidate master of sports, get. It is characterized by further deepening of specialized training, by mastering of standards for master of sports. Intensive increase of training loads coincides with active phase of acrobats' puberty. So individualized work is required; motor density of training increases. Coach work by individual plans in compliance with the set tasks.

**Main tasks of this stage:**

1. Planning of individual trainings (for every sportsman of acrobatic pair or group separately). 2. Perfection of technique of earlier mastered elements. 3. Mastering of elements of increased complexity. 4. Successful performance of sportsmen by program of master of sports at competitions of different ranks (in particular at championships of Ukraine). 5. Achievement of high and stable results and maintaining of results at high level for long time. 6. Fulfillment of tests for master of sports. 7. Making of competition program for participation in final of Ukrainian championships. 8. Selection and training of promising sportsmen for combined junior teams for participation in international competitions.

At this stage great physical loads are actively used; scope of fitness increases as well as integral and tactic fitness [5, 6, 9].

**Stage of highest sport achievements** is regarded for every separate sportsman or pair (group) individually. For some sportsmen the highest sport result can be performance by program of master of sports, for other – medals at international competitions of different ranks.

One of the most important indicator of training process's effectiveness is results of acrobats' fitness: level of their technique in acrobatic elements and combinations; complexity of exercises (as per tables of complexity); reliability of fulfillment of competition compositions.

At this stage it is necessary to plan scope and intensity of loads, considering reliability and stability of mastering of competition program.

Coaches work individually with every sportsman, pair or group, who are in national combined team. Level of acrobats' sportsmanship is on high level. At this stage main criterion of progress is mastering of new competition programs, introduction of new elements in compliance with rising requirements.

**At stage of finishing of sport career** it is important to gradually reduce great training loads for [preservation of sportsmen's health. Sharp reduction of loads can negatively influence on health of trainees. In acrobatics, after sport career, advanced sportsmen, after special casting, have opportunity to work in different show programs, in particular in famous Canadian circus "Dusseli".

However, usually acrobats, at the end of acrobatic career, shall pass to 3-5 trainings a week mode (maintaining mode). Also, sportsmen can pass to other kinds of sports.

Duration of trainings and most important requirements to training of acrobats are briefly given in table 2.

Table 2

*Structure of many years' training in sport acrobatics*

<b>Training stages</b>	<b>Groups</b>	<b>Requirements</b>	<b>Q-ty of trainings</b>
Initial training	Initial training	Fulfillment of tests for mass grades	2-3 times a week/ 1-2 hours
Preliminary basic	Training	III, II, I adult grade CMS	4-6 times a week/ 3-4 hours
Specialized basic	Sport perfection	CMS	6-8 times (1-2 times a week, double trainings)
Preparation for highest achievements	Of highest sportsmanship  National combined teams		
Maximal realization of individual potentials			
Maintenance of highest sportsmanship			6-8 times/ 3-4 hours a day
Gradual reduction of achievements		MS IMS	3-5 times a week / 2-3 hours



### Conclusions:

Analyzing of main tasks of all stages of many years' training we may conclude about the following:

1. At initial stage leading indicators are: efficiency of selection of trainees in acrobatic groups; preservation as much of contingent of trainees as possible; control of indicators of expelling of not promising sportsmen.
2. At stage of specialized training the criteria are: quantity and quality of mastered and steadily fulfilled elements of basic technical and physical fitness, acquiring of sport grades by trainees.
3. At stage of sport perfection leading requirements are: presence of free and final program, corresponding to model characteristics of promising acrobats, pairs and groups.
4. At stage of highest achievements main bench marks are: high sport result, membership in national combined team; continuous growth of competition programs' complexity and achievement of personal peak.
5. At stage of sport career's finalizing one can observe stabilizing of sport results, when complexity (competition difficulty) of exercises shows no dynamic. Results gradually reduce.

Some differences in age indicators of sportsmen's results are explained by specificities of early specialization; by coming of sportsmen from adjoining kinds of sports, in particular from sport gymnastic to acrobatics; by specificity of role (upper, lower, central), by different periods of puberty.

Further researches are planned in direction of studying of morphological functional distinctions of acrobats of different age and roles.

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