

# Changes in the level of technical-tactical readiness indicators of tennis players at the stage of preliminary basic training

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**Purpose:** investigate changes in the level of technical-tactical readiness indicators of tennis players at the stage of preliminary basic preparation of the preparatory period of the macrocycle.

**Material & Methods:** the study involved 8 tennis players aged 11–13 years who were training in the basic training group of the Park Tennis Club in Kharkiv. The following methods were used: analysis of scientific and methodological literature, pedagogical testing, methods of mathematical statistics.

**Results:** reliable changes in the indicators of the level of technical-tactical readiness in the exercises "shot through the net" by 19,6% were obtained; "shot from rebound through the net" by 2,2%; "shot after the ball bounces off the wall" by 10,4%; "serve through the net to the target" by 1,8%.

**Conclusion:** young tennis players of the basic training group improved the level of technical-tactical readiness indicators in the preparatory period of the macrocycle in the execution of an accurate directional serve, active and stable back line shot and one timer shot at the net.

**Keywords:** tennis players, technical and tactical readiness, indicators.

## Introduction

Technical and tactical training is one of the most important types of training in tennis. Many tennis experts have been involved in the research of technical and tactical preparedness of tennis players. The works of M. Crespo (2013), N. Bollettieri, (2003), N. V. Ibraimova, A. V. Khanyukova (2013), and others determine that technical and tactical training when working with tennis players occupies one of the most important places because it means learning to play. The basis of the game in tennis is the ability to own a racket, that is, the technique, and the ability to dispose of it is nothing more than a tactic. As defined by S. P. Belitsa-Gayman (2003), Yu. Chunhuan, V. L. Bochkovskaya, S. S. Aganov (2018), L. Crognier, Y. Fery (2005), C. Triolet, N. Benguigui, C. Runigo, A. M. Williams (2013) and many other authors in tennis need to choose the way, place and time of action, react quickly and correctly to the ball and the actions of the opponent, be able to and consciously direct the ball to the court to win in the drawings and in general matches.

Thus, the problem of raising the level of technical and tactical preparedness in the training process of young athletes is one of the urgent tasks in the preparation of tennis players.

**Purpose:** investigate changes in the level of technical-tactical readiness indicators of tennis players at the stage of preliminary basic preparation of the preparatory period of the macrocycle.

*Objectives of the study:*

1. Analysis of the scientific and methodological literature on the improvement of technical and tactical preparedness of tennis players in the training process.
2. Investigate changes in the level of technical-tactical readi-

ness indicators at the stage of preliminary basic training for tennis players in the preparatory period of the macrocycle.

## Material and Methods of the research

The study involved 8 tennis players aged 11–13 years, practicing in the basic training group of the tennis club "Park", Kharkiv.

**Research methods:** analysis of scientific and methodological literature, pedagogical testing, methods of mathematical statistics.

Testing indicators of technical and tactical preparedness was conducted with exercises:

"Shot after the ball bounces off the wall" – it was proposed to perform without stopping the maximum number of blows from the rebound against the wall. At a distance of 1,2 m from the floor, a "net line" was drawn. Only those shots ranked above the "net line" were counted. To perform the exercise was given 2 attempts. Counted the best attempt.

"Shot the ball out of the rebound through the net with the basket" – it is necessary to perform 16 shocks to the right and left from the rebound diagonally (along the line) by a comfortable thrown trainer to the ball in the specified "corridor" (1,5x1,5 m), the pace of ball hits – 16 times in 1 minute. 2 exercises were performed for the exercise. Counted the best attempt.

"Serve through the net to the target" – it was necessary to complete 10 serve – 5 hits in the first feed after serve and 5 hits – in the second field feed after serve without interruptions. 1 attempt was given for execution.

"Volley shot through the net into the corridor". The subject must perform 10 take-off strikes on the ball conveniently thrown over by the trainer diagonally into the indicated "corridor" (1,5x1,5 m). There were 2 attempts at execution Counted the best attempt.

In the selection of exercises for testing, the authors' studies were guided (S. P. Belitsa-Geymn, 2001; M. V. Ibrahimova, 2012).

Pedagogical testing took place in three stages: in November 2017 and January and April 2018, which allowed determining and evaluating the indicators of the level of technical and tactical readiness of young tennis players in the training process. The testing was conducted for the purpose of operational monitoring of the indicators.

## Results of the research

The analysis of the research shows that a number of specialists were involved in determining the closure between the indicators of physical and technical fitness of tennis players (C. Pereira and others, 2017), others showed the effectiveness of technical and tactical actions in competitive activities (M. Crespo, 2013; V. I. Muzhichuk, A. A. Shevchenko, 2017; Yu. Chunhuan, V. L. Bochkovskaya, S. S. Aganov, 2018; L. Crognier, Y. A. Fery, 2005), Estimation of Tennis Indicators (A. Ahmadi, D. Rowlands, D. A. James, 2009). This study revealed changes in the indicators of technical and tactical preparedness of tennis players in the preparatory period of the macrocycle.

At the primary tests in November 2017, no athlete received a high score. The following test assessments of the exercise were determined: "Volley shot through the net" – 25% of tennis players received a grade of 4, 25% rated a score of 3, 50% of athletes received a score of 3; "Shot after the ball bounces off the wall" – 50% of tennis players each received marks "3" and "2"; " Shot the ball out of the rebound through the net" – "3" – 12,5%, "2" – 25%, "1" – 62,5%; "Serve through the net to the target" – rating "3" – 12,5%, "2" – 75%, "1" – 12,5% of athletes. These results can be attributed to the end of the sports season and the decrease in fitness.

Analyzing changes in the results of technical and tactical readiness for the period from November 2017 to January 2018, it can be noted that the results have slightly increased,

but did not have a significant difference. On the second control test, which took place in January 2018, young tennis players slightly improved the average number of hits in the "volley shot through the net" exercise – by 1,13 times, which is 0,9%; in the "shot after the ball bounces off the wall" the average number of hits increased by 0,13 times, which is 0,13%; in the " shot the ball out of the rebound through the net" the average number of hits increased by 0,5 times, which is 0,47%; In the "serve through the net to the target" the number of hits increased by 0,88 times, which is 0,7%.

Considering the results obtained in April 2018, it can be noted that the indicators of control tests have improved significantly, compared with January 2018 (Table 1).

Thus, in the "volley shot through the net", the average number of hits increased by 2,3 times, which is 1,7%; in "shot after the ball bounces off the wall", they added 15,1 times the average number of hits, which is 10,4%; in the "shot the ball out of the rebound through the net", the average number of hits increased by 2,35 times, which is 1,9%; in the "serve through the net to the target", the average number of hits increased by 2,92 times, which is 1,8%.

Analysis of the research results obtained in November 2017, with indicators of results that were obtained in April 2018, revealed significant changes (Table 1).

The indicators in the exercise "volley shot through the net" increased by 3,35 times, which is 19,6% ( $t=4,4$ ;  $P<0,01$ );

In terms of "shot after the ball bounces off the wall", the average number of hits increased by 15,15 times, which is 10,4% ( $t=3,3$ ;  $P<0,05$ ).

The average number of hits in the "shot the ball out of the rebound through the net" exercise increased by 2,85 times, which is 2,2% ( $t=3,3$ ;  $P<0,05$ ).

In terms of "serve through the net to the target", the average number of hits increased by 3,8 times, which was 1,8% ( $t=6,8$ ;  $P<0,001$ ).

Analysis of the estimates obtained in the tests showed positive changes in the results at the end of the preparatory period of the macrocycle. In testing in April 2018, a high score of "5" received for the exercise "volley shot through the net" – 3 ath-

**Table 1**  
**Changes in indicators of technical and tactical readiness during the study (November 2017 – April 2018), (n=8)**

Test	Number of hits, $\bar{X} \pm m$			Reliability of changes		
	November, 2017	January, 2018	April, 2018	November – January	November – April	January – April
				t P	t P	t P
Volley shot through the net	4,75±0,56	5,88±0,52	8,1±0,52	1,5 >0,05	4,4 <0,01	3 <0,05
Shot after the ball bounces off the wall	33,25±2,2	33,38±1,88	48,4±3,97	0,05 >0,05	3,3 <0,05	3,4 <0,05
Shot the ball out of the rebound through the net	8,25±0,59	8,75±0,65	11,1±0,52	0,57 >0,05	3,6 <0,05	2,8 <0,05
Serve through the net to the target	3,5±0,33	4,38±0,42	7,3±0,45	1,6 >0,05	6,8 <0,001	4,7 <0,01

Table 2

Results of the evaluation of technical and tactical preparedness of tennis players, n=8

Ratings	volley shot through the net						shot after the ball bounces off the wall						shot the ball out of the rebound through the net						Serve through the net to the target											
	November		January		April		November		January		April		November		January		April		November		January		April							
	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%	Q-ty ratings	%						
1													5	62,5	4	50							1	12,5						
2	4	50	1	12,5			4	50	2	25			2	25	2	25	3	37,5	6	75	5	62,5								
3	2	25	5	62,5	1	12,5	4	50	6	75	6	75	1	12,5	2	25	3	37,5	1	12,5	1	12,5	3	37,5						
4	2	25	2	25	4	50					2	25					2	25			2	25	3	37,5						
5					3	37,5																	2	25						

letes and in the exercise "serve through the net to the target" – 3 athletes. The score "4" in the exercise "volley shot through the net", was obtained by 50% of tennis players, the grade "3" – 12,5%. In the exercise "shot after the ball bounces off the wall", the score "4" received 25%, the score "3" – 75%, in the impact on the shot the ball out of the rebound through the net, the rating "4" received 25% of tennis players, the score "3" – 37,5 %, estimate "2" – 37,5%. In the exercise "serve through the net to the target" the score "4" was 37,5%, the score "3" – 37,5% of tennis players (Table 2).

### Conclusions / Discussion

Analysis of the scientific and methodological literature has shown that the successful use of the basics of technical and tactical training will allow athletes to win the match and lays a solid foundation in preparing young tennis players to participate in professional tours.

Primary pedagogical testing of indicators revealed a low level of technical-tactical readiness indicators. No athlete has received high test scores.

Reliable changes of the indicators of the level of technical and tactical readiness in the exercises "volley shot through the net" were received – by 19,6%; "shot the ball out of the rebound through the net" – by 2,2%; "shot after the ball bounces off the wall" – by 10,4%; "serve through the net to the target" – by 1,8%.

In the final testing of a high score of "5", 3 athletes received 37,5% of the exercises, "volley shot through the net", and 2

athletes in the exercise "serve through the net to the target", which is 25%. The "4" rating was determined in the "volley shot through the net" exercises – 50% of tennis players, "shot after the ball bounces off the wall" – 25%, "shot the ball out of the rebound through the net" – in 25% of tennis players, "serve through the net to the target" – in 37,5%.

Thus, it can be argued that the young tennis players of the basic training group have improved the level of technical and tactical readiness in the preparatory period of the macrocycle in the execution of the precise directional serve, active and stable strikes on the back line and the impact of volley shot through the net.

The results obtained confirm the results of studies by other authors (Crespo, M., 2013; Triolet, C., Benguigui, N., Le Runigo, C., & Williams, A. M. 2013, Bollettieri, N., 2003; Beliza-Gayman, S. P. (2001), supplemented by works by Ibraimov, M. V. & Hanyukova, O. V., 2013, Crognier, L., & Fery, Y. A., 2005.

The analysis of the obtained indicators shows that in the training process, the direction was made to improve the attacking shots in the attack with accurate aiming, active and stable play on the back line and exits to the net for the game of. Further training process should be directed to the effective application of techniques in educational games and competitions.

**Prospects for further research.** Based on the above, further research is planned to be carried out in the direction of increasing the efficiency of technical and tactical readiness in the competitive activities of tennis players of the basic training group.

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### References

1. Belits-Geyman, S.P. (2001), *Tennis. Uchebnoe posobie dlya VUZov fiz. Kultury* [Tennis. Textbook], Moscow. (in Russ.)
2. Bolleter, N. (2003), *Tennisnaya akademiya* [Tennis Academy], Moscow. (in Russ.)
3. Ibraimova, M.V. (2012), *Tenis: Navchalna prohrama dlia dytiacho-iunatskykh sportyvnykh shkil, spetsializovanykh dytiacho-iunatskykh shkil olimpiiskoho rezervu, shkil vyshchoi sportyvnoi maisternosti ta spetsializovanykh navchalnykh zakladiv sportyvnoho profilu* [Tennis: A training program for children's and youth sports schools, specialized children's and youth schools of the Olympic reserve, schools of higher sporting skills and specialized educational institutions of sports], Kyiv. (in Ukr.)
4. Ibraimova, M.V. & Khaniukova, O.V. (2013), *Suchasni tendentsii tekhniko-taktychnoi pidhotovky yunikh tenisystiv 6-7 roktiv* [Modern tendencies of technical and tactical training of young tennis players 6-7 years]. (in Ukr.)
5. Crespo, M. (2013), *Podgotovka yunikh tennisistov: uchebno-metodicheskoe posobie dlya trenerov* [Training young tennis players: a teaching aid for coaches], Valencia. (in Russ.)
6. Muzhychuk, V.I. & Shevchenko, O.O. (2017), "Changes in the level of effectiveness of technical and tactical actions in the competitive activity

of tennis players 13-14 years old", *Sportyvnye yhry*, No. (3), pp. 25-28. (in Ukr.)

7. Khaniukova, O.V. (2015), "Analiz vplyvu metodyky planuvannia navchalno-trenavalnoho protsesu na riven ovobodniiia tekhnichnymy navychkamy tenisystiv pershoho roku navchannia", *Naukovyi chasopys NPU imeni MP Drahomanova. Seriiia 15: Naukovo-pedahohichni problemy fizychnoi kultury (fizychna kultura i sport)*, No (11), pp. 156-160. (in Ukr.)

8. Chunguan, Yu., Bochkovskaya, V.L. & Aganov, S.S. (2018), "Characteristics of the performance indicators of tennis players in the game", *Uchenye zapiski universiteta im. PF Lesgafta*, No. 3, p. 157. (in Russ.)

9. Ahmadi, A., Rowlands, D., & James, D.A. (2009), "Towards a wearable device for skill assessment and skill acquisition of a tennis player during the first serve", *SportsTechnology*, No. 2(3-4), pp. 129-136, doi:10.1080/19346182.2009.9648510.

10. Crognier, L. & Fřry, Y.A. (2005), "Effect of tactical initiative on predicting passing shots in tennis. Applied Cognitive Psychology", *The Official Journal of the Society for Applied Research in Memory and Cognition*, No. 19(5), pp. 637-649.

11. Pereira, C., Nakamura, F.Y., de Jesus, M.T., Vieira, C.L., Misuta, M.S., de Barros, R.M. & Moura, F.A. (2017), "Analysis Of The Distances Covered And Technical Actions Performed By Professional Tennis Players During Official Matches", *Journal of Sports Sciences*, No. 35(4), pp. 361-368, doi:10.1080/02640414.2016.1165858.

12. Triolet, C., Benguigui, N., Le Runigo, C. & Williams, A.M. (2013), "Quantifying the nature of anticipation in professional tennis", *Journal of Sports Sciences*, No. 31(8), pp. 820-830, doi:10.1080/02640414.2012.759658.

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