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# The impact of Speed, Agility and Quickness (SAQ) training on tennis players: A case study report

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**ABSTRACT** ***Objectives:*** The aim of this study was to examine how speed, agility and quickness training programs effect on gaining acceleration, agility and quickness to a tennis player. It is also to identify the effect of SAQ training on developing effective movement for tennis players. **Design:** In this work, an experimental design training program for 4 weeks is used by using quantitative strategies and quasi-experimental methods. **Settings:** One male club tennis player is randomly selected as subjects from the Universiti Pendidikan Sultan Idris (UPSI) tennis club. **Main Measure:** The pre-test and post-test data were collected by measuring a 20-meter sprint (speed), a shuttle run (agility), and a jab step (quickness). These data were examined by comparing both pre-test data and post test data. **Result**s: There were quite significant differences to the athletes in improvement of acceleration, decelerate and quickness during the test and during match even though the training was only for 4 weeks. ***Conclusion:*** showed that the Speed, Agility and Quickness (SAQ) training had an impact on tennis players.

**Keywords:** Speed, Agility, Quickness (SAQ), Training, Movement, Tennis.

## 1 INTRODUCTION

Speed, agility, and quickness (S.A.Q.) training has become a popular way to train athletes no matter they are still school children on a soccer field or professional in a training camp. Metrotra et al. (2011) and Azmi and Kusnanik, (2018) admit that SAQ training can cover the complete spectrum of training intensity, from low to high intensity. Every individual will come into a training programme at a different level; thus, training intensity must coincide with the individual's abilities. As all good tennis players know, it is not about how good you can hit the ball, but it is about how fast you can reach the ball on play. Correct movement skills are vitally important for success on tennis. Tennis requires movement in all directions. Kumar (2019) stated that SAQ exercises produces integrated effects of many physical capacities of any athletes within a single training programme. This training significantly improves dynamic balance ability when it was conducted among their subjects. This justify that SAQ are the best training program to increase the athlete capabilities in controlling the game.

Efficient movement does not only depend on speed and agility, but also quickness. Afifi (2019) indicated that the sport of tennis required its performers to move quickly as well as recognizing and observing quick movements depending greatly on speed and agility. Speed is described as the rate at which a player moves from one location to another while Agility are defined as the capacity to control or maintain body position while quickly changing direction during a series of movements. Quickness is capability to read, react, plus explode which means: read and process cues as to what is happening, react with the appropriate response, and explode with quickness and power to maximize the time the player has to set up for his shot. Moreover, it is the capacity to react and change body position with maximum rate of force production in all planes of motion and from all body positions during functional activities. This includes the

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capability to react to visual, auditory, and kinaesthetic feedback with minimal hesitation during functional activities. The player should take into account the type of sport in which he participates to determine the exercises type and the duration of them. In the current study, the SAQ training will be used to improve speed, agility, and quickness in order to develop the effective movement of tennis players.

## 2 METHODOLOGY

To achieve the purpose of this study, 1 male club tennis player is randomly selected as subjects from the Universiti Pendidikan Sultan Idris (UPSI) tennis club. He is 21 years old with a height of 175cm and body mass at 61 kg with no serious injury or health risk. The athlete was a state player during high school and now one of UPSI representatives currently at their pre-seasons. The athlete's speed, agility and quickness were measured by 20m run, shuttle run and jab step. The data was collected before and after 6 weeks of training. The pre and post-test scores were statistically examined by the researcher.

### *Procedures*

During the study, the athlete agreed not to change his current exercise habits. As shown in table 1, the SAQ exercises Sura Mahmoud Ali et al (2020). The athletes were trained 4 times per week for four weeks, performing a variety of SAQ exercises. The duration of each experimental session was 50-60 minutes with load intensity was kept from low to moderate in the first week and increased progressively in the preceding week moderate to high and repetition and sets were increased respectively.

**Table 1** SAQ Training Program

| **Weeks** | **Exercises (Sets and Repetitions)** | | | | |
|---|---|---|---|---|---|
| **1st Week** | 'A' march walks exercise (1x4) | Figure 8 Drill Exercise (1x4) | In Place Ankle Jump Exercise (1x4) | Butt Kick Exercise (1x4) | Z Pattern Run Exercise (1x4) |
| **(60–70) min** | High Knee Run Exercise (1x4) | Carioca Exercise (1x4) | Bunny Jump Exercise (1x4) | Flying's 30's Exercise (1x4) | 15-yard turn drill exercise (1x4) |
| **2nd Week** | Bunny Jump Exercises (2x3) | Plyo To Sprint (2x3) | Z Pattern Run Exercise (2x3) | Icky Shuffle Exercise (2x3) | Ladder Speed Run Exercise (2x3) |
| **(70-80) min** | In Place ankle Jump Exercise (2x3) | Speed Running Exercise (2x3) | Ladder Speed Run Exercise (2x3) | Plyo To Sprint (2x3) | 20-yard shuttle (pro agility) exercise (2x3) |
| **3rd Week** | Icky Shuffle Exercise (2x4) | 20-yard square exercise (2x4) | Hop Scotch Drill Exercise (2x4) | 20-yard shuttle (pro agility) exercise (2x4) | Hop Scotch Drill Exercise (2x4) |
| **(80-90) min** | Squirm exercise (2x4) | Plyo To Sprint (2x4) | Z Pattern Run Exercise (2x4) | Squirm exercise (2x4) | Lateral Skaters Exercise (2x4) |
| **4th Week** | Vertical Jump To Sprint Exercise (3x3) | T-Drill Exercise (3x3) | Hop Scotch Drill Exercise (3x3) | Partner assisted let go's exercise (3x3) | The Triangle Exercise (3x3) |
| **(80-100) min** | Ladder Speed Run Exercise (3x3) | X Over Zigzag Exercise (3x3) | Plyo To Sprint (3x3) | Bounding Exercise (3x3) | X Over Zigzag Exercise (3x3) |

***Note:** Recovery (between repetitions) – Partial; Recovery (between next exercise)– 03 minutes (1st to 3rd weeks) and 05 minutes (4th Weeks).*

## 3 RESULTS

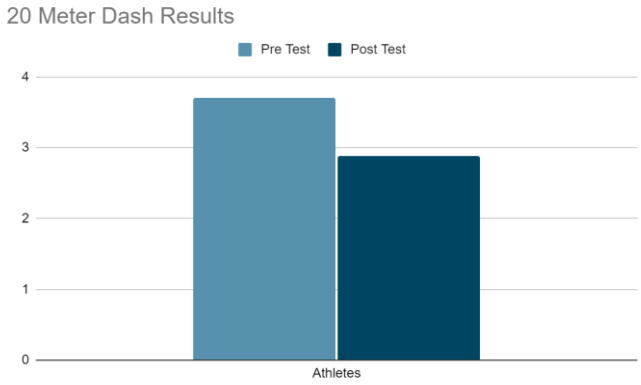
To determine the study outcomes, SAQ test was conducted for both pre and post testing. Both results are used to compare the capacity of a player to be able to move effectively and quickly into a position of predetermined play. The tests were conducted by three types of tests to measure Speed, Agility and Quickness.

***20 Meter Dash***

The aim of this test is to determine the acceleration and maximum speed of the subject. The test involves running a single maximum sprint over 20 meters, with the time recorded. A thorough warm-up should be given, including some practice starts and accelerations. Start from a stationary position, with one foot in front of the other. The front foot must be on or behind the starting line. This starting position should be held for 2 seconds prior to starting, and no rocking movements are allowed.

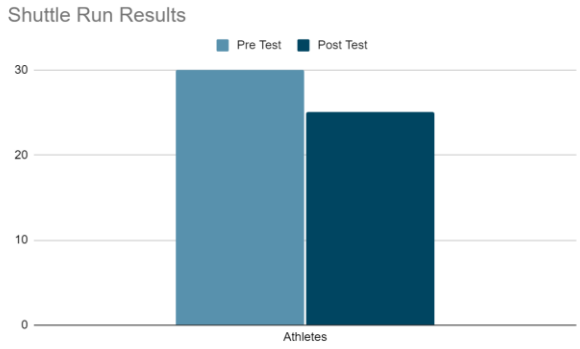
The results for the test pre-test were 3.07 seconds. While the results of the Post-test are 2.89 Seconds. This shows that the athlete has increased his speed by 0.18 Seconds after going through SAQ Training Program for 4 Weeks.

***Shuttle Run***



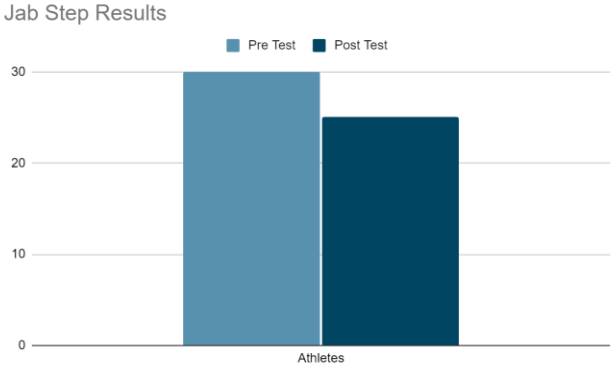

The aim of this test is to determine the athlete's agility by shifting direction. How quickly he can accelerate, stop and shift direction. The test involves 3 points where the subject is required to sprint from point 1 to point 2 then backpedal to point 1 and sprint to point 3 and backpedal to point 1. After the subject crosses point 1 then it would be counted for 1 rep. Subjects are required to do 4 reps and time will be taken.

Two trials had been recorded and the best time was taken. The results for the Pre-Test were 30 seconds for 4 reps. While the Post-Test was 25 seconds for 4 reps. The Result shows that there was an increase of agility where the shifting movements has increased by 5 seconds after going through 4 weeks of SAQ Training.




***Jab Step***

The aim of this test is to determine the quickness of the subject at maximum speed through shifting footwork with smooth transitions. The test should be done with a ladder but it could also be done with a cone. Cones are set up on a straight line differing by one foot. Subjects have to step outside the cone line 3 time and then the foot close to the cone line have to step inside the line before moving forward. Subjects are required to go a full straight line and back to make 1 rep countable. Subjects are required to do 4 reps and time will be taken.




Two trials had been recorded and the best time was taken. The results for the Pre-Test were 30 seconds for 4 reps. While the Post-Test was 25 seconds for 4 reps. The Result shows that there was an increase of quickness where the shifting transitions has increased by 5 seconds after going through 4 weeks of SAQ Training.

## 4 DISCUSSIONS

In our case study, SAQ training is a complex exercise that enables us to improve the physical condition of players (Azmi & Kusnanik, 2018). Based on the study analysis, it aimed to find out that the SAQ training had more impact on tennis players as supported by Khaleel (2022) that these exercises work precisely to raise the physical aspect and raise the physical fitness abilities for sporting events. The study findings revealed that there were significant differences between the experimental SAQ training and control group in the agility planned test. Azmi and Kusnanik, (2018) stated that SAQ exercises is a system of progressive exercise and instruction aimed at developing fundamental motor skills and improving the capacity of the player to be more skilled at faster speeds and with greater precision. Moreover, it develops the capability to exert maximum force during movement activity at high speed. Velmurugan (2013) mentioned that the SAQ training program helped to develop several systems of the player body that required them to move quickly and to be more energetic. Furthermore, it is known that the

motor capacities consist of the balance and coordination control the player body movement especially during activities or playing the sport.

The finding of the study is supported by Pearson (2006) which stated "SAQ training program develops both general and activity specific physical fitness and it helps the player at all levels develop and improve his game to bring about real performance gains". Exercise of SAQ methods can provide a very specific and detailed way that will help players to support the best performance in sport. SAQ training could help to prevent the player from being bored to participate in training activities.

## 5 CONCLUSIONS

Finally, the findings indicated that Speed, Agility and Quickness (SAQ) training for four weeks had more impact for the experiment. Thus, the results have to be taken into consideration by trainers in order to better understand and implicate these concepts in training sessions and lessons. SAQ training plays a major role in developing many of the basic skills required for the sport such as speed, agility, strength, reaction time and quickness. It can be adopted as a part of a strength and conditioning programs for the athletes at all the levels. Starting it at the root level plays an important role in preventing injuries and thus increasing the duration of the sporting career.

## REFERENCES

Akhil Metrotra, Vikram Singh, Shyam Lal, & M.N. Rai. (2011). Effect of six weeks S.A.Q drills training program on selected anthropometrical variables. Indian Journal of Movement Education and Exercises Sciences (IJMEES), Vol. 1, No. 1, July-December 2011. Online, ISSN 2249-6246.

Anindya Bhowmik & Sandeep Kumar. (2019). Effect of SAQ training on vital capacity and peak expiratory flow rate among school students of rural area. Indian Journal of Public Health Research & Development, Vol. 10, No. 10, October 2019.

Cherappurath, N., & Elayaraja, M. (2017). Effects of speed, agility, and quickness (SAQ) training on anaerobic endurance and flexibility of novice tennis players. European Journal of Physical Education and Sport Science.

Isha Garg & Gaurav Kadyan. (2016). Effect of Speed, Agility, and Quickness Protocol on Performance of Junior Tennis Players. Archives of Physical Medicine and Rehabilitation, 97(12), e35.

Jumah H, Ktaiman A, Abdul N, Athab K, Mohammed A. The Effect of Using Pain Management Techniques in the Rehabilitation of Chronic Lower Back Injury in Athletes and Non-Athletes: 108–12.

K. Azmi & N.W. Kusnanik. (2018). Effect of exercise program speed, agility, and quickness (SAQ) in improving speed, agility, and acceleration. Journal of Physics: Conf. Series, 947 (2018), 012043.

Mai Talaat Tolba Afifi. (2019). Effect of S.A.Q. Exercise on some physical and skill abilities in young tennis players. International Journal of Sports and Arts.

Naktal Muzahem Khaleel. (2022). The impact of (S.A.Q) exercises on developing some physical and skill abilities in youth handball players. Journal of Advances in Sports and Physical Education, ISSN 2617-3905.

Prachita Walankar & Josheeta Shetty. (2020). Speed, agility, and quickness: A review. International Journal of Physical Education, Sports and Health, 7(6), 157-159.

Sura Mahmoud Ali, Mokhtes Hassan Haider, & Sama Mahmoud Ali. (2020). The effect of speed, agility, and quickness (SAQ) training on developing the effective movement of tennis players.

Velmurugan, G., & Palanisamy, A. (2013). Effects of SAQ training and plyometric training on speed among college men kabaddi players. Indian Journal of Applied Research, 3, 432-433.

## APPENDIXS

**Picture 1.** Athletes doing 20m Dash

**Picture 2.** Athletes doing Shuttle Run

**Picture3.** Athletes doing Jab Step

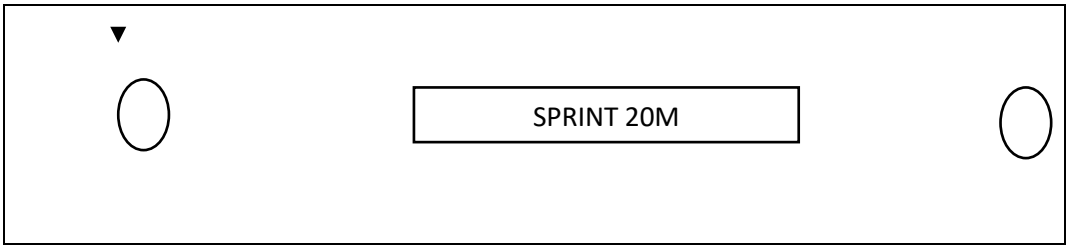



**Diagram 1.** 20 Metre Dash Test Plan

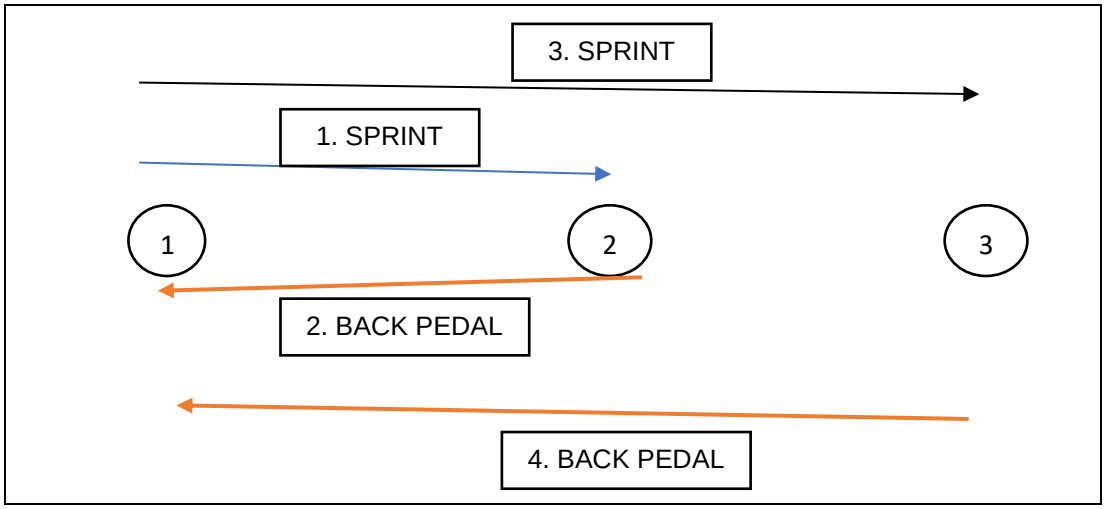



**Diagram 2.** Shuttle Run Test Plan

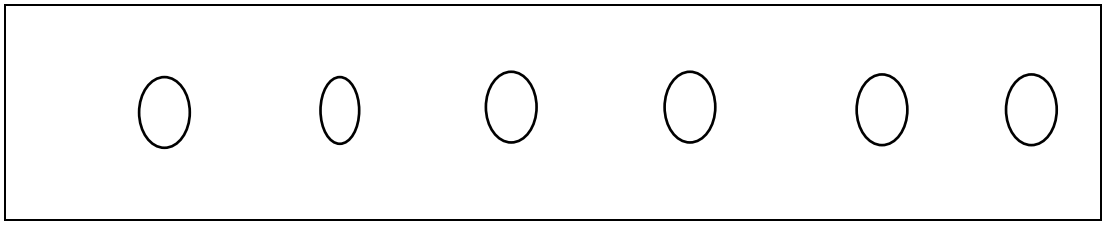


**Diagram 3.** Jab Step Test Plan