



Speed development for 10 and under tennis players

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ABSTRACT

Children must be cultured in and from a broad base of motor skills in tennis programs. The children's speed abilities cannot be challenged and therefore fully stimulated in a tennis-specific context. At this stage the acquired tennis skills are unstable under pressure. Consequently, we should consider developing the speed abilities for 10 & under tennis players in a non-specific, yet challenging context within a motor skills practice.

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INTRODUCTION

A natural reasoning for us as coaches is that speed training serves the player development with regard to improving performance. From this perspective the theory and discipline for speed training generally adopts a 'top-down high performance' approach. We learn from what we see at the highest level and from what these top players have done to get there.

We should also bear in mind that over 95% of the tennis community consists of recreational players and the circumstances for player development are changing. More and more children turn to tennis at a very young age, whereas the motor readiness of these children strongly runs backwards. Tennis-programs are inadequate in terms of ensuring well-rounded player development.

SPEED DEVELOPMENT FOR TENNIS AND ITS APPLICATION TO THE 10 AND UNDER AGE GROUP

Although it is suggested that speed should be practiced off-court for 10 & under players, the necessary basic skills for an outstanding tennis-specific speed performance must be acquired. Speed training for tennis is highlighted from the perspective of the game specific demands and performance determining factors. With respect to the nature of the game, speed in tennis is much more than running, stopping, sliding, changing direction, hitting hard, high frequency footwork, ... A player's speed performance relies on the ability to adapt and control acquired skills within their personal constraints under time-pressure.

Before considering the type of movement speed, and which movement skills are to be employed, it is important that the players are inspired to make the movement actions as fast as possible in order to exploit their speed potential. In this case, the context is created by the coach along with the set of rules of the game/task.

The coach needs to set (realistic) high standards, a positive and supportive attitude towards the players while simultaneously allowing for the playful nature of children at that age. You could argue that we do not aim for 'Deliberate Practice' for children between the ages of 7 to 12 years, we prefer to call it 'Deliberate Play'.

The game/task design should lead to a mind-set within the children that encourages them to accomplish their actions fast(er). The coach has to adapt the degree of the coordinative complexity based on the ability of the children. Experience shows that despite the skilfulness of the children it is advisable to start-off with speed drills that have a simple organisation like

a back and forth relay and a straightforward action and build the speed challenge from there. Such a step-by-step-approach helps coaches to get the children familiar with the situation and necessary skills, to work with larger groups and to achieve the main goal, namely to train speed.

TRAINING SPEED ABILITIES FOR TENNIS

Tennis players are considerably and predominantly dependent on their perceptual skills for speed performance. They must be able to simultaneously track the ball, coordinate their movements, orient their position and observe the actions of the opponent. In addition, they must realize several successive intended actions based on the perceived information in real time. After many years of tactical and technical training, a player's brain is able to interpret game situations and formulate applicable motion responses. Although the children have not yet acquired the sport specific skilfulness, that doesn't necessarily mean that the perceptual and brain skills that precede a flawless motor control cannot be trained. From 6/7 years old children can be encouraged to perform (sequences of) general motor skills in a dynamic or even interactive context as fast as possible, allowing them to develop their primordial split-vision and thinking-and-doing capabilities.

Besides the ability to organize various tasks sequentially and/or simultaneously in a dynamic environment, a player must be able to tap into their acquired fast movement abilities. During a rally a player needs to run, hit, shuffle, push-off, twist, turn ... quickly, invoking their basic motor skills. With the right speed training stimuli players can build the necessary fast action blocks for explosive movement actions. As these blocks are acquired through the construction of a fast brain pattern and the development of the necessary physical abilities, training strategies for speed training should focus on evoking a favourable improvement on both levels. To ensure a well-rounded development and for planning & periodization reasons, it is useful to categorize the types of speed training. Multi SkillZ, a specialized motor development method for success in sports for children between the ages of 6 and 12 defines 4 types of speed abilities: 1- (Re) action Speed, 2- Agility, 3- Start, Stop & Running Speed and 4- Speed Coordination. To reach the ultimate speed performance ability in the long run, Multi SkillZ promotes general motor skills being challenged to their fullest extent under time pressure in a dynamic context through various games

and (inter) active motor tasks.



Achieving the maximum speed potential assumes that the appropriate incentives have been offered throughout the long-term development. Before puberty, the neural system reaches a maturation level of 98% around the age of 6-7 years. The window of opportunity where the development of the predominantly physical abilities, such as stamina, strength and anaerobic power, is particularly effective and starts at the Peak Height Velocity (PHV) during the first phase of puberty. During the 'FUNDamentals' (6-8/9 years) and 'Learning to Train' (8/9 - 11/12 years) phase before PHV, the priority is motor development. Balyi & Hamilton suggest stimulating the ABC's (Agility, Balance, Coordination and Speed) continuously for 12 & under players. Between the ages of 7 to 10, there is a unique period of time, called 'Peak Speed Velocity 1', which accelerates the development of the speed capability. This period corresponds with a number of favourable neuro-physiological changes. The Peak Motor Control Velocity is introduced to the 'FUNDamentals' and the 'Learning to Train' phases, representing the start of the golden period to develop motor control and motor skilfulness. As the physical abilities of the children are underdeveloped before the PHV, the speed incentives should target the improvement of the neural aspects of the speed development through various movements. As Multi SkillZ suggests: 1- (Re) action Speed, 2- Agility, 3- Start, Stop & Running Speed and 4- Speed Coordination.



LONG-TERM SPEED DEVELOPMENT AND SENSITIVE PHASES

Speed training for the world's elite consists of specific on-court drills, set-up with or without side exercises (complex training), flanked by off-court agility, start-, stop-, run- & displacement and striking drills. Furthermore, the players' limits are pushed by physical conditioning methods such as specific complex, power, strength, endurance and flexibility training. This predominant tennis specific and physically orientated approach is not what you are looking for in developing the speed abilities with the 10 and under age group.

The load capacity of children compared with adult players, is in many ways limited, yet unique opportunities do exist for the 10/12 and under age group to help them reach their maximum tennis potential.

To adapt and control the tennis specific skills under the ever-changing challenging situations, players need to utilize their (implicit) motor abilities, in particular when there is a need to react and move quickly. These implicit skills are mainly built up during the first 12 years of our lives through our movement experiences. Alongside the contribution of talent, a great wealth of movement experience allows players to select, control and execute movement actions more effectively.

CONCLUSION

As more and more children turn to tennis at a very young age and the existing tennis-programs are fundamentally inadequate in ensuring a well-rounded player development, there is a need for a high quality motor skills program for Red, Orange and Green programs. The problem is that most of the information available to coaches focuses on top-down tennis and strength & conditioning development models when the motor readiness of children is heavily deteriorating.

To increase the motivation & participation and to accelerate the development of speed abilities, children must be cultured in and from a broad base of motor skills in tennis programs. After all, the physical load capacity of the children is limited and their motor readiness is concentrated primarily in the coordination and skills level.

Bearing in mind that the tennis specific skills are unstable and that there are unique opportunities to positively influence the speed abilities in the 10 & under age group, it is recommended that general speed training forms a fixed value in the training program. As young children prefer play competitively, the speed practice should be fun, include elements of surprise, variety, of playing together and be open skilled ... as the main ingredients. To fulfil the players' speed potential, it makes sense to develop both rapid action movements and fast perceiving-thinking-and-doing strategies for 10 & under tennis players.

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