Develop efficient footwork with young players

Cyril Genevois, PhD
Tennis movement characteristic (volume)

On average:
- From the ready position, the player moves:
  - 80% < 2,5 m
  - 10% between 2,5 and 4,5 m
  - Less than 5% > 4,5 m
- In the course of a point, a player runs 8 to 12 m
- In the course of a point changes directions 3 to 5 times
- Each player strikes the ball 2 to 3 times per rally

(Weber et al, 2007)

(Werner, 2010)

(Fernandez – Fernandez et al, 2009)
Tennis movement characteristic (intensity)

- 20 well-trained adolescent male athletes (13 ± 1 y) during simulated match (Hoppe et al, 2014)

- Tennis players covered around 90% of total distance **accelerating and decelerating**
- Tennis = explosivity on the first step (and sometimes the second) then deceleration !!!
- Not possible to reach high speed ...

(Hoppe et al, 2014)
What are the goals for physical training

Opponent hits the ball

Reaction ➔ Movement to ➔ Hit ➔ Movement from

Single leg reactive strength

Lower body explosive strength (acceleration)
Single leg eccentric strength (deceleration)

Stabilization strength (vertical axis)
Lower and upper body explosive strength (hitting)

Single leg reactive strength (change of direction)
Lower body explosive strength (acceleration)
- Evolution of movement pattern of the split step: landing with two feet simultaneously is out-of-date.

- Now elite players react in the air during the split and land on the foot furthest from their intended direction.

- Greater activity for ankle extensor muscles of the outside leg compared to the other one before landing to better use the stretch-shortening cycle during the first lateral movement (Uzu et al, 2009)

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Movement to the ball under time pressure

4 contacts with the ground before hitting the ball (3 steps)
Recovery movement for distances over 3 m

- Cross over step to start recovering before lateral shuffle

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Explosive strength of the first step (movement to the ball)

- Lateral single-leg jumps (skating) with stabilized landing (hip abduction)
- Lateral single-leg pliometric jumps (hip abduction)
Practical exercises

jumps

hops

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Explosive strength of the first step (recover to the center)

- Lateral single-leg jumps with stabilized landing (hip adduction)
- Cross over step against resistance
Practical exercises

1. Jumps

2. Cross over step
   Against resistance

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