

FLUID MOVEMENT IN TENNIS

Footwork is something every player and coach recognizes as critical. Footwork is the 'technique' of moving, the *how* and *when* of which foot goes where. Every player performs footwork but not every player has fluid movement. We all marvel at how the pros move so fluidly and effortlessly. What are the keys to their flowing movement?

Interrelated Elements

Important as it is, players and coaches need to remember that footwork doesn't happen in a vacuum. Why fluid movement is difficult to master is it's connection to other elements that affect how and why you are moving. The primary ones being:

- Relationship to Impact Point
- Rotation
- Balance (especially the line of gravity and centre of gravity)

Let's take a peek at each of these:

- **Impact Point**

The purpose of footwork is to maneuver yourself in a way that creates the best relationship between you and the ball. A good impact point is the goal of all footwork. One can do many exercises and drills to improve the movements of footwork (and we will see some in this article), but ultimately, the proof is in the hitting.

- **Rotation**

Strongly related to the impact is the ability to use rotational force. In simple terms, you hit more effectively and with less effort when you rotate. There are very few shots in tennis that cannot be improved with better rotation. Take a look at the photo sequence below and see that, even on a volley, the body rotates. See that in the 'loading' phase, volley master Patrick Rafter turns so his back is 45 degrees to the serviceline. He rotates through until his front is turned 45 degrees the other way. It doesn't look like much but, grab a racquet and try it and you will feel how substantial it is.



- **Balance**

Rotation is available only if a player creates a balanced axis to rotate around. Imagine a line running vertically from a player's head, through their centre of gravity (COG), to the ground. This is their, "line of gravity". On groundstrokes and volleys, the straighter the line (no bending at the waist or tipping of the shoulders), the better the axis to rotate around. Of most importance is the relationship between the player's head, and their COG. If a player keeps their head and COG more or less in line, all things are possible.

This principle is true regardless if the player is in motion (dynamic balance) or relatively still (static balance). There will be a slight lean in the direction a player is moving however, the line will basically look straight to an observer and feel straight by the player.

Look at the 'master of movement', Roger Federer in the sequence below. Even though he is on the run, he keeps this line of gravity, regardless of where his legs are.



Photos courtesy www.tennisone.com

After the hit, even though there are big forces created by his movement that work to throw him off balance, he quickly snaps the line back in place to recover. It is this 'recovery', or re-establishment of balance, that sets pros apart from the rest of us even more than their movement to the ball. Many of us can muster looking graceful for one shot in a row. However, to be fluid on multiple shots requires this expert recovery. When a player's head starts to get away from the line of gravity, that is when they look ungraceful and 'jerky'.

So what does impact, rotation, and balance, have to do with footwork? Everything! In my opinion, the 'grace' and 'fluidity' of movement we see in top players are these things in action. The footwork allows for (or hinders) all these elements. Footwork training that doesn't improve these elements ends up being running for no purpose. Having a coach send you to all corners of the court and yell, "run faster!" doesn't develop any of these elements effectively.

Footwork Exercise for Groundstrokes

One of the most powerful non-hitting footwork exercises I know is with a medicine ball. The great advantage of a medicine ball is that it encourages you to be balanced, rotate well, and coordinate all the links in your body. It is defined as a “functional exercise” since it re-creates the real movements of tennis (unlike pushing weights on a machine).

A medicine ball never lies. If you coordinate well, the ball goes harder and further, coordinate poorly and you can't send it with any force. Be warned! This exercise will really expose weaknesses in your movement!

For adults or juniors over 14, use a 3 kg (approx. 6 lbs) ball. The exercise should be done with lateral movement (going wide for forehands & backhands) as well as movement up & back (mimicking going after short balls and deep balls). The photo sequence below shows the lateral versions of the exercise. Raise the ball up with both arms to simulate the preparation of the stroke. Next, run wide, plant (hint: open stance works better), and throw the ball like you were rotating through a stroke. For two-handers, the exercise is the same on both sides.



The sequence below demonstrates what to do if you have a one-handed backhand. Use a smaller 1 kg (2 pound) ball (1 pound for younger or beginning players). For right-handers, hold the ball with your left hand and set your racquet hand behind the ball. Sweep it off your left hand using your backhand action.



The practice prescription is this: Do 8 reps (4 forehands, 4 backhands) with the medicine ball. Send the medicine ball with a 'line drive' trajectory with force to your partner (no 'bloop balls'). Then, take your racquet and have a friend (or ball machine) send 8 balls from side to side that you hit. Most players are very pleased with the first few shots. The goal is to reproduce the same movements and feelings you had with the medicine ball. Doing 8 reps with the ball and 8 with the racquet is one 'set'. Do 3 sets, rest 2 minutes, repeat this 3 times. If you continue doing this 2-3 times per week for 3 months, you will notice significant results. The rotation and balance elements of your movement will clean up considerably.

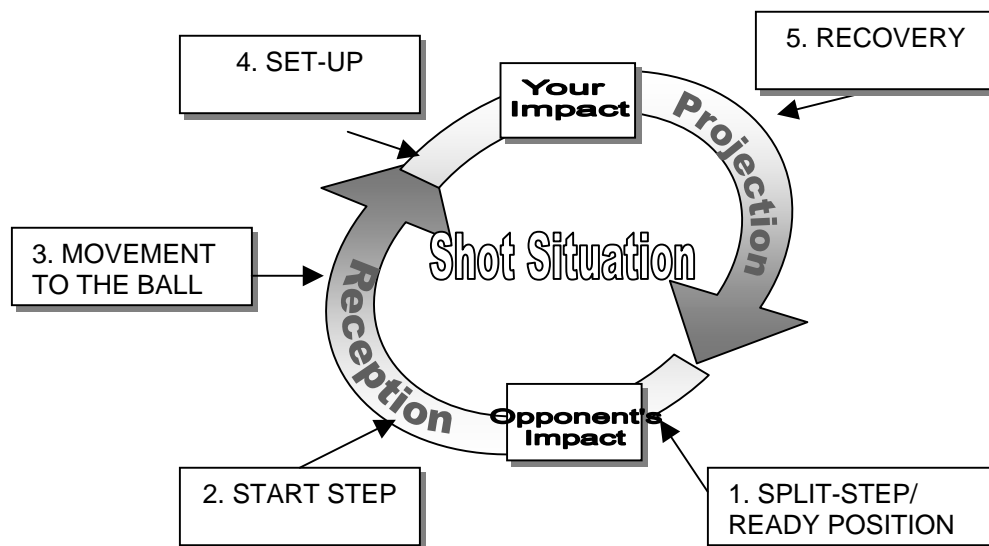
The main point to look for is keeping a good line of gravity though the whole movement (keep your head above your hips). Using a medicine ball is also indirect resistance training. It will strengthen legs, trunk and shoulders. It will make your movement when you don't have the medicine ball seem easier.

How does Footwork Training fit into Situation Training?

Footwork is also part of Game-based Situation Training. Each situation has unique footwork challenges. The exercises outlined above are the preliminary work so your body can access these movements to create the principles mentioned at the beginning (good impact point, balance, rotation). To integrate any footwork training into your game, make sure you practice in the specific situations you encounter when you play.

Each situation goes through a "Footwork Cycle" which includes:

1. Split Step/Ready Position
2. Start Step
3. Movement to the ball
4. Set-up
5. Recovery



The elements outlined in this article are not the only things important in footwork, just the ones I have found if mastered, will make your movement more fluid and effortless.

If you would like to ask a question, give feedback, or want more information, contact us at:
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