



# Volleyball ACE™ Power Tips

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## Spiking Fundamentals: How Great Footwork Can Make Your Hitters Great

By Hugh McCutcheon, head coach, USA Men's National Team. Transcribed from McCutcheon's presentation of the same name at the 2007 AVCA Annual Convention, held in December in Sacramento, Calif.

Spiking is a complex motor skill. The approach, jump, arm-swing and landing are all important parts of this whole skill. Yet, there is one piece of the puzzle that determines a spiker's overall greatness.

Good footwork is often undervalued as a coaching emphasis, with more time spent on jump and swing mechanics. However, we (the U.S. national team coaches) believe strongly that the correct biomechanical foot patterns significantly improve the ability of our hitters to be more effective at the net.

One of the goals we have, especially when teaching the fundamental skills of the game, is to have our athletes reach a degree of competency that allows them to perform a skill or motor pattern correctly over and over again. In our gym, we call this "repeatability." When it comes to spiking, we like there to be a high degree of repeatability in the players' footwork, swing mechanics and contact – and we want them to be able to hit the ball with range.

We define range as the ability to hit the ball in different directions (line, seam, angle) with different trajectories (to the middle of the court, to the corners, high hands) and different velocities (as hard as they can, off-speed, tip, roll). Hitters should be able to hit the ball where they want to regardless of the set they are given. (As an aside, they become accountable for the swings they take.)

We believe strongly that in order to do this, the hitter must contact the ball in the correct position relative to his body every time. The best way to ensure this consistency is to develop great footwork patterns that allow the hitter to get to the ball (by increasing the speed and/or changing the direction of the approach) so he can hit every set on the way up, fully extended, with the ball slightly in front of the hitting shoulder.

I like Carl McGown's construct for teaching spike footwork and I am going to use it as the basis for this article. (McGown is the former head men's volleyball coach at Brigham Young University, now retired, and most recently a consultant for the 2004 U.S. Men's Olympic Team with USA Volleyball.) He breaks it down as follows:

1. Four steps. RLRL or LRLR (right-left-right-left or left-right-left-right).

The correct biomechanical foot patterns significantly improve the ability of hitters to be more effective at the net. Photo courtesy of FIVB.



2. Little steps to big steps.
  3. Slow steps to fast steps.
  4. Second step on, or around, the 3-meter line.
- I also like to add a key point coaches need to teach about the athlete going from low body position to full extension.

Following is a discussion of footwork broken down into one step at a time. Initially, I would like to point out that the first key describes the sequence for a four-step approach – and I strongly recommend that you have your hitters use four steps, especially in serve receive (SR). (There are some instances where three steps are acceptable, but a four-step approach will generate more velocity along the horizontal plane, which can then be converted into vertical jump.) Taking four steps also increases your ability to get to the ball and to time the spike correctly. It is also worth noting that the approach should not cover a large distance. A long approach, because of the increased premium on timing, negatively influences the ability of the hitter to get to the ball.

### Step 1

1. Start balanced with the lead foot in front (right for right-handed players and left for left-handed players).
2. Take a small first step with the lead foot to facilitate the weight transfer.

The first step is not big, and we do not want it to be, which is why the lead foot starts in front. It simply gets things going in the right direction. The first step is also important for timing the hitter's approach when he is hitting higher sets.



Taking four steps also increases your ability to get to the ball and to time the spike correctly. Photo courtesy of FIVB.

# CALENDAR

- Feb. 22-23** **2008 Morgan Classic Tournament and Clinic** featuring USC, IPFW-Indiana University-Purdue University Fort Wayne, George Mason University and host Springfield College
- April 11-12** **2008 Molten Division III Men's Invitational Volleyball Championship**  
Blake Arena  
Springfield College, Springfield, Mass.
- May 1-3** **39th Annual National Collegiate Men's Volleyball Championship**  
Bren Events Center  
University of California, Irvine
- June 13-July 20** **2008 FIVB World League Intercontinental Round**  
Various Cities
- July 23-27** **2008 FIVB World League Final Round**  
Rio de Janeiro, Brazil
- Aug. 8-24** **Olympic Games**  
Beijing, China

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Hugh McCutcheon counsels two USA Men's National Team players during the 2007 FIVB Men's World Cup in Japan. Photo courtesy of FIVB.

### Step 2

1. A bigger, faster step.
2. It should be on or around the 3-meter line.

The second step is not much bigger, but it is very important in terms of timing the spike. The second step should be where the hitter is processing the set speed and location to determine how quickly he needs to get on to the third step. Sometimes it is fast, but other times – especially if the pass is not perfect – we like our hitters to pause on their second step. We want this step to be on or around the 3-meter line so the hitter can be in a good position relative to the ball.

### Step 3

1. The biggest and most dynamic step of the sequence.
2. The hitter steps to the ball.

Not only is the third step about power and speed, it is also about direction. You also want to teach your hitters the difference between getting to the ball (proactive) and waiting for the set (reactive).

### Step 4

The fourth step is a closing “brake” step that facilitates the transfer of horizontal velocity into vertical jump. I also like the foot on the fourth step to be turned a little (maybe 45 degrees). This gives a bigger braking surface area and gets the hitter perpendicular to the net, which sets him up to torque when he hits.

### Other Points to Consider

*Footwork Fundamentals for the Slide*

Four Steps - RLRL

1. The first step is small and transfers weight onto the front foot.
2. The second step is faster, bigger and toward the setter.
3. The third step is faster again. The size depends on the play and the hitter runs parallel to the net.

4. The fourth step is where the hitter jumps. He must drive the opposite knee up to lift the center of gravity and maximize the jump.

### Steps and Timing

Describing set speed in terms of approach steps makes it easier for setters and hitters to get on the same page.

### Angle of Approach

As the speed of the offense increases, in serve receive (SR) and in transition, we have to teach the hitters to approach from a variety of angles: Outside/in as well as inside/out.

### Passing and Hitting

When you pass and hit, you need good footwork to get to the ball. The speed of the offense strongly influences the footwork pattern, as well.

1. Do not run to spots. Get to the set as quickly and effectively as you can.
2. The shortest distance between two points is a straight line.
3. Pass, shuffle and hit (straight).
4. Pass and hit (inside out)
5. Do not pass, shuffle and hit (outside in).

### Transition Footwork

Good footwork off the net makes for great footwork to the ball.

1. Four steps - outside hitters.
2. Three steps - middle blockers, outside hitters (in a hurry), right-side attackers.
3. Five steps - right-side attackers.

### Conclusion

A great deal of hard work, dedication and a great four-step approach can lead any player to greater success on the court.

# VOLLEYBALL ACE™ DRILLS

## Mastering the Approach

Joel Dearing, Springfield College, from *Volleyball Fundamentals* (2003)

Number of Players: 6

Number of Balls: 0

### Objective:

The run phase of the attack is vital to successful attacking. This drill reinforces proper technique for the run phase.

### Directions:

1. Six players (L or R) begin on the attack lines of a court.
2. Righties (R) start in court zones 3 or 4. Lefties (L) use court zone 2.

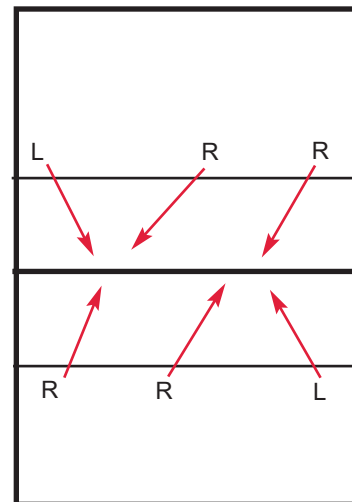
3. All players take a full approach and simulate the arm swing on each approach.

4. Each set focuses on a different part.

5. Players execute five approaches for each set.

6. Players should focus on these parts of the attack one at a time:

- a. Approach the net at a 45-degree angle.
- b. Focus on “right, left, right, left” or “left, right, left, right.”
- c. Jump off both feet.
- d. Focus on using a natural arm swing.
- e. Concentrate on the heel-toe braking action.
- f. Jump with both arms in the air.
- g. Focus on the whiplike action of the attack arm.



## Back-and-Forth

Jim McLaughlin, University of Washington

Number of Players: 2

Number of Balls: Steady supply

### Objective:

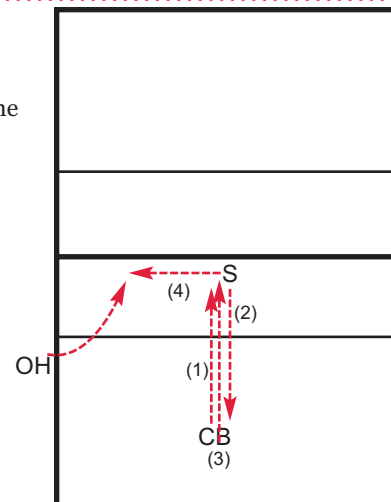
To teach hitters to watch the pass before engaging in the approach.

### Directions:

1. A setter (S) is in the proper front-row position. An outside hitter (OH) in area 4 is ready for the spike approach.
2. A coach (C) tosses a ball to the setter.
3. The setter then passes the ball back to the coach.

4. As the coach passes the ball back to the setter, the hitter makes the appropriate move while observing the pass and its trajectory and location.

5. Vary the pass location and trajectory so that the hitter has to respond to a variety of stimuli.



## Consecutive Swings

Peggy Martin, Central Missouri State University, from *101 Volleyball Drills*, 1998

Number of Players: 2-4

Number of Balls: Steady supply

### Objective:

To help hitters learn the exacting mechanics of approaching and attacking the ball.

### Directions:

1. The coach (C) will toss balls for hitters to approach and attack.
2. The hitters will then transition off the net and approach and attack again.
3. Two hitters are positioned in an attack line at

LF, while another two hitters shag balls.

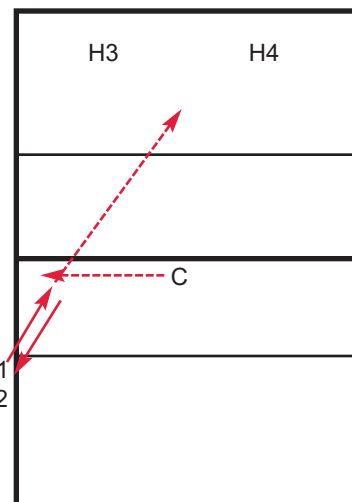
4. The coach starts the drill with tosses from either zone 3 or 4.

5. After the hitters have their timing down, the coach will work his/her way toward zone 7.

6. For MF hitters and RF hitters, the coach will toss all the balls from zone 7.

7. Each hitter will execute 25 attacks consecutively before exiting the drill and each one should proceed through the drill twice.

8. Emphasize the four-step approach for outside hitters, as well as the proper turn-and-go transition off the net.



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