

Volleyball PowerTips

ACE

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Photo courtesy of Clarkson University

Serving with a Purpose

Johan Dulfer, Clarkson University: Head Women's Volleyball Coach

How do you win more volleyball matches? My answer: "Be in system more than your opponent". How do you do that? Serve tougher than they pass. Easier said than done? Maybe there's a way to get the odds on your side... learn to use speed as your ally.

The cornerstone of my coaching philosophy is our serving game. At Clarkson, all of my players have some sort of variation of a jump serve. Many did not come in with it, but all of them develop it early and are asked to use it and put as much speed on the ball as they can use to be successful. I cannot begin to describe how many people have expressed their concern about how

many serving errors we sometimes make as a team. There are matches where the number is low, but there are of course also matches where the errors outnumber the aces - sometimes by quite a margin. Many of these observers, including many opposing coaches, will proceed to tell me that if we were to just stay standing, and put the ball in play, we would be much more successful. I've heard it all before and it usually just makes me smile. Don't get me wrong; it bothers me when we make the errors, but I know in the grand scheme of things we are on the right track. I'm much more concerned about the average passing numbers of my opponents, than about the aces to

errors ratio. I've read that your ace to error ratio has to be kept at a certain level, but my philosophy is that aces don't tell the whole story. If our serving game disrupts the opponent to the extent that they're out of system for the majority of the game, we are okay with giving them a good number of "free points" (missed serves).

Many serving drills consist of partners serving back and forth, or "mindless" serving into a court (either with passers or without). In the learning stages of a movement, when you haven't mastered the skill yet, this can be very helpful. Coaches walk around and correct the serve, while tweaking little things. However, when you're getting ready for competition and assuming mastery of the serve, doesn't it make sense to also have accurate knowledge of results? And if those results (the passing accuracy of the opponent) are subjective, doesn't it make sense to come up with a way to make them a little bit more objective? As it turns out, the result of your serve might be correlated to its speed. And speed is measurable¹.

Radar: An Effective Training Tool

While working on my graduate degree at the University of Minnesota in the fall of 2001, I was fortunate to work with head coach Mike Hebert, the visionary hall of famer, who had seen the results of incorporating a radar gun in volleyball practices with the USA Women's National Team. Coach Hebert asked me to keep serving stats on all of his players throughout the season, and we kept track of the performance of the serve (float, jump or jump float) and two types of results: the resulting pass, and also the speed of the serve. After the halfway point of the season, I performed an analysis of the speed of the serves and related it to the pass quality. The outcome helped the coaching staff coach the serving game of the team in a way that wouldn't be possible without the aid of the radar gun. Each player received their own individual "serving profile", which showed which speeds were most successful for them. Some needed to hit the ball as hard as possible (this is generally true for topspin jump

servers), while others were more successful hitting zones (and not worrying about speed). In general, we found that float serves and jump float serves were only successful at disrupting the opponent's offense at speeds above 42 mph. In the Big Ten, at that time, anything under that almost always resulted in an easy pass by the opponent (on average).

The next step was to get out the radar gun in practice and give more detailed "knowledge of results" to the players. Rather than saying, "serve faster", or "you are not putting enough pace on the ball", we would have someone patrol the end line with a radar gun and giving exact feedback. The players loved it and became extremely competitive with it. In fact, they liked it so much, that we ended up incorporating it into a promotions scheme during the home games. We would clock every serve with the radar gun and show the speed on the big screen. Anytime a serve exceeded 50mph we would throw T-shirts or mini volleyballs into the stands. It unleashed a fierce battle for the unofficial Gopher volleyball serving record.

At Clarkson, we initially couldn't afford a radar gun. We briefly thought about asking the state police to set up shop in our gym, but then we found a very affordable alternative in the Pocket Radar^{TM2}. Our practices have gone up in intensity and our goal of becoming the strongest serving team in the region is one step closer. During the 2011 season we were consistently ranked in the top of Division III for aces per set, and our stats showed that the number of times our opponents were in system were much lower than they had ever been. At the upper level of Division III, it turns out that serve speeds of 38mph and upwards have the greatest chance of success. In general, from what I've learned so far, it turns out that the faster, the better. But the caveat is keeping an eye on the error percentage. Before we go into any specific serving drills, we make sure that all of our servers know what their "record" is and we assign them a "bandwidth" which consists of their record minus 2mph (if my record is 40, my bandwidth is 38-40). When their record changes, we update it at the end of practice. For some, the bandwidth

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is not their record. The serving profile for our libero, for example, showed us that she is most effective serving around 39mph, while her record is 45mph. At that top speed, however, her error percentage is too high. Her bandwidth is 38-40 in practice, teaching her to be as aggressive as possible, while limiting her errors.

Results

The results have been astounding, thanks in part to the convenience and effectiveness of the Pocket Radar for analyzing serve speeds. My players now understand their goal when they prepare for a serve, i.e. they know how fast to serve it to have the biggest chance of success. In return, it's made my life easier. Gone are the days where I have to have heated timeouts about how many serves we've missed.

As it turns out, reminding my players to serve with purpose and hit their target is a lot easier on my nerves as well as theirs.

To practice these beliefs, we utilize a drill in our gym where we create two groups and put all the primary passers into one group and everyone else into the other group. It is a timed drill where each group serves for 4 minutes while the other group passes. The score gets marked on the white board and the team switches roles for the second 4-minute segment. Every contact changes something on the scoreboard. The flip score is placed in the middle of the court, and after each pass or serve, a player has to jog to the scoreboard to change the score. An assistant coach patrols the end line with the Pocket Radar™ and calls out serving speed.

¹Richard Magill talks about quantitative KR (e.g. 39mph) vs. qualitative KR (e.g. "in" or "out"). His discussion about the advantages of quantitative KR, especially in advanced stages of mastery is especially interesting. Magill, R.A. *Augmented Feedback in Motor Skill Acquisition*. In Singer, R.N., Hausenblas, H.A., & Janelle, C.M. (Eds.). (2000). *Handbook of Sport Psychology* (pp. 84-114). New York: Wiley.

²www.PocketRadar.com

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Challenge the Passers

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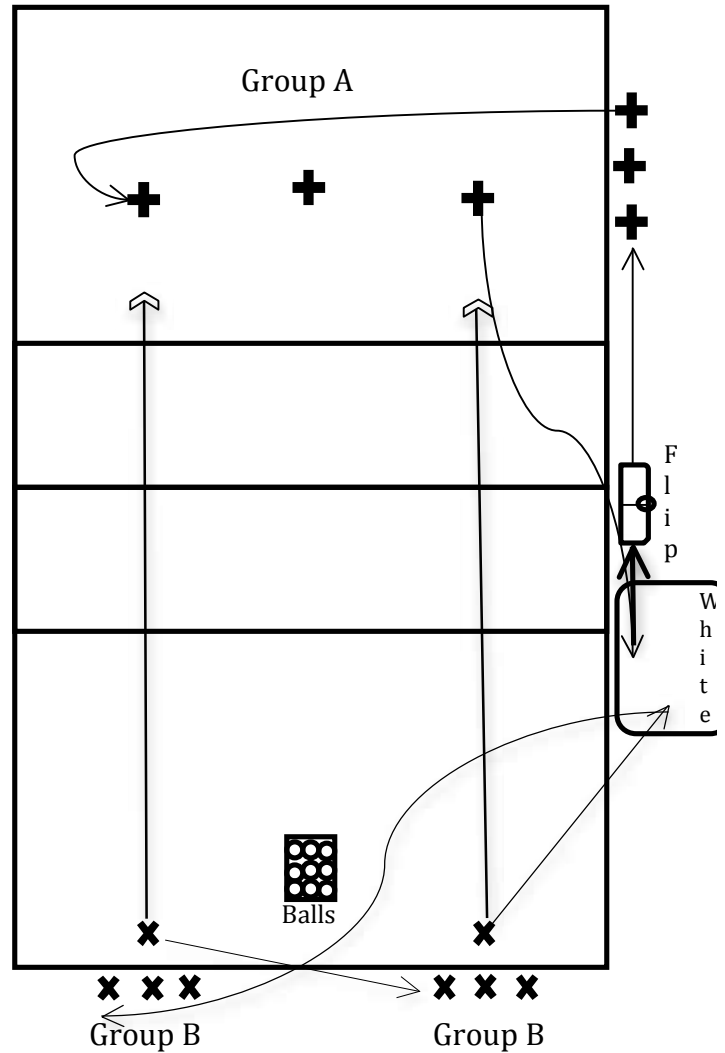
Number of Players: Entire Team
Number of Balls: Steady Supply

Objective: A timed drill that puts focus onto the server to achieve their bandwidth average, while also working on improving passing mechanics and ball control.

Directions:

Important Guidelines: Before we begin this drill, it is necessary to tell the server their "record" speed. They are then assigned their "bandwidth," which is their "record" minus 2 MPH. The Pocket Radar™ is the device we use to measure the speeds.

1. Primary Passers are placed into **Group A**. Labeled as **+**
2. Everyone else is placed into **Group B**. Labeled as **X**
3. **Group B** starts, and will serve for 4 minutes, one at a time, while **Group A** tries to pass as best they can.
4. There are only 3 Passers on the Court at once. When they rotate out, they jog to the white board, and then get back in line.
5. After every pass or serve, both the passer and the server jog to the whiteboard to change the score on their side.
6. During the drill, the Assistant Coach is behind the passers



Example of Scoring

Score:	Passers	Challengers
3 Pass	2	1
2 Pass	1	1
1 Pass	-1	0
Aced	-2	-1
Missed Served	-1	
Under Bandwidth	-1	