

As it happens, I am currently at the beginning of my first season as a high school volleyball coach. I have coached the last three years at a middle school, and this year I am coaching 9th grade. This assignment is based off my current players. They are 13-14 year old freshmen in high school. Overall, they are not the most athletic. Some of the girls play other sports, but have not been active—athletically speaking—for the summer. We just completed try outs and are currently in the pre-season. We will have a few weeks of practices before our first official game, which is actually a tournament.

There are many different attributes, physiological and mechanical, that need to be considered when planning a workout regimen for my team. First and foremost, it is important to remember that volleyball is not a continuous game. There are many opportunities for the body to rest during a volleyball game. In fact, the average volleyball play lasts 5-6 seconds, which is usually followed by a rest period of 10-12 seconds or so. These rests do not include time outs of player substitutions. These frequent periods of rest make the sport of volleyball interval in nature. This means that a volleyball player's body must function for shorter periods of time with a high level of effort and require less oxygen. This anaerobic tendency of volleyball uses both the phosphagen system and the glycolytic systems. These energy systems help to replenish the ATP that provides energy for the player's muscles and movements. Volleyball players must be able to perform high levels of activity quickly, while also accounting for the frequent rest periods. Training that is suitable for volleyball include any and all exercises that will help the body make the necessary adaptations in order to be a successful volleyball player.

It is extremely beneficial for volleyball players to work on their strength and power, but not necessarily endurance due to the many rests during plays. Strength and power are needed in order for a volleyball player to perform at their personal best, seeing that each player will have

different abilities and maximum strength and power levels. The shoulders and legs are responsible for the majority of movements during a game of volleyball, and players should have strength in these particular muscle groups in order to successfully complete most actions required in volleyball and to prevent injury. For example, a setter would need to work a lot on her arms and hands, as well as her agility and speed. This would involve developing strength in the arms and legs, but she may not need to work on her shoulder strength as much as a hitter might. A hitter will make more movements in her shoulder than players who are not almost exclusively attacking the ball. Her shoulder needs to have the proper amount of strength in order to allow her to make the best hit possible, as well as to prevent an overuse injury or injury in general the shoulder. The power is needed in order to hit the ball as hard as possible, jump the highest possible, or spike with the right amount of power. Strength is the maximal amount of force that can be produced by a muscle group. In volleyball, it is important that players can produce an incredible amount of force with their shoulder muscles in order to serve, spike, block, etc. They must also be able to produce incredible amounts of force with their legs in order to jump for the aforementioned spikes, block, and serves (if it is a jump serve), and to run on the court in general. Power is equally as important, and is associated with the development of strength. As a player trains in order to gain muscle strength (but not necessarily hypertrophy as it is not really needed in volleyball), their ability to move faster—explode if you will—and strike with power will develop as well.

In addition to producing the maximum amounts of power possible, gains in strength will allow volleyball players to exert the proper amount of force to the volleyball in general. This refers to bumping and passing, setting, serving, spiking, etc. Any time a volleyball player needs to hit the ball, they are required to exact a certain amount of force onto the volleyball. In order to

do this in the most beneficial and productive way for a volleyball player, they must be trained and gain strength in the proper muscle groupings. The amount of force needed for each different way the volleyball can be moved is different depending on many factors. A setter will use a different amount of force depending if they are setting to the middle or outside, and the force will affect how high and how fast the ball will travel. A hitter must be able to exert a tremendous amount of force on the ball in order to make a good, successful hit, and to send the ball to its desired target. Any time a player must serve, they must decide the right amount of force to use in order to make it difficult for the other team to receive the serve.

It is ideal for volleyball players to be able to accelerate quickly, and then move quickly for short periods of time. A volleyball player must decide where the ball is going before it gets there, and they must reach that spot before the ball does. If the ball is moving quickly, the player does not have a lot of time to make the decision. They must move quickly, and in order to do this they must have a good foundation of core muscles and leg strength. This also means that building up muscle mass is not necessary for volleyball players. There is an ideal strength for each individual that would make them their strongest and most valuable that does not add muscle mass that could potentially slow down the player. This is one of the goals of volleyball training under the circumstance mentioned previously; to gain strength and power in order to produce the correct amounts of force, and to allow the player to accelerate and move quickly.