



The Ultimate Three-Hit

Due to the repetitive nature of jumping movements in volleyball, strength, power and aerobic endurance are critical. A well-structured volleyball training program can increase explosive power, vertical jump height, stamina, speed and agility around the court, as well as, reduce the incidence and severity of injury. Skill training alone, such as practicing kills, won't develop the physical traits necessary to play to the athlete's full potential.

At POTENTRx, we understand the specific demands required for volleyball and how to help you maximize your athletic potential. This is why we have created the Volleyball Combine. The Volleyball Combine is designed to determine where you are, where you need to be and how to get there by using the latest technology and scientific methodology. The POTENTRx Volleyball Combine includes the following services, spread across two separate sessions:

Day One | Testing Session

- 1-hour musculoskeletal exam with our physical therapist to determine any limitations with your mechanics
- 1-hour 3-D motion capture analysis of your volleyball mechanics with our biomechanist
- 1-hour testing session with our exercise physiologist to assess your volleyball fitness and performance potential

Day Two | Follow-up Session

- 1-hour consultation with our biomechanist who provides a written and video summary of your jumping, setting, and spiking technique with recommendations, tips, and drills for the necessary modifications that will help you 1) acquire consistent and efficient mechanics 2) increase kill accuracy, and 3) increase jumping power..
- 1-hour consultation with our exercise physiologist who provides written and illustrated results of your musculoskeletal exam and volleyball fitness with training recommendations to help you develop 1) endurance, 2) agility, 3) mobility, 4) vertical jump height, 5) recovery, 6) strength, and 7) power for optimum volleyball performance and to reduce the risk of injury associated with poor volleyball mechanics and/or poor fitness.



Volleyball-Specific Services | Available through our combine or on an individual basis

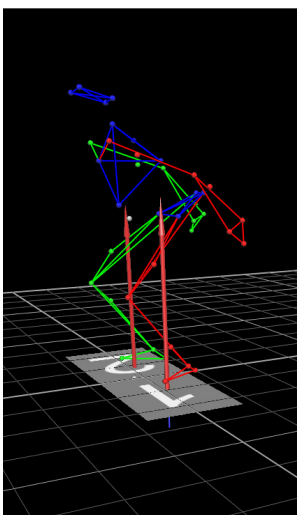
Physiological Fitness

• AEROBIC CAPACITY

Is the maximum capacity of your body to transport and utilize oxygen during incremental training, which reflects your level of physical fitness. This is important in determining your capacity to perform sustained training and when correlated to heart rate, it can be used to develop training zones. Having a high aerobic capacity can help reduce the effect of fatigue throughout multiple rallies or matches.

• BODY COMPOSITION

Provides an accurate measure of fat and lean mass, both of which are vital aspects of volleyball performance. To ensure accuracy and reliability, the staff calculates body composition through three different methods – girth and proportionality, a four-site skin fold measurement with calipers, and bioimpedance.



(continued)

- **MUSCULAR STRENGTH TESTING**

Using computer monitored strength training equipment, staff can determine a 1RM for each volleyball-specific exercise, assess muscle strength imbalances and proportionality, compute maximal power and decay of maximal power (fatigue profile) and thus determine the precise number of repetitions that can be performed without significant fatigue to the desired metabolic system.

- **ANAEROBIC POWER**

In general, the staff uses the Wingate Test for Anaerobic Power in which you perform 30 seconds of pedaling at full speed against a weight-adjusted resistance. Some of the measures that can be gained from this test are mean and peak power, relative peak power and a fatigue index determined from the decline in power.

- **FORCE PLATE VERTICAL JUMP TESTING**

Vertical power is tested by using two different protocols while standing on force plates; 1) with momentum and 2) without momentum. The differences that exist between the two protocols highlight whether the player needs to work on strength training, plyometrics training, or both, to improve their vertical.

Biomechanical Optimization

- **3-D MOTION ANALYSIS**

A computerized six-camera system is used to analyze volleyball mechanics. By placing reflective markers on the joints, the cameras provide the computer with the data to set up a 3-D model. When combined with force, pressure, acceleration and muscle activation technologies, we can track joint positioning, velocity, acceleration and trajectories, calculate joint angles, track the center of mass distribution and determine the muscle sequencing and frequency. This data gives our staff precise information to make finite but critical adjustments to reduce injury and improve performance.

- **2-D ANALYSIS**

Using a 2-D video camera and specialized editing software, our staff will film you from several different angles while you perform volleyball-specific skills (set, pass, spike) and review your movements, looking for abnormalities that are creating problems or are caused by a problem. Our staff then creates an illustrated and annotated video file that outlines modifications that can help you reduce pain and improve your technique.

- **MUSCULOSKELETAL EXAM**

Using observation, palpitation, and selected functional tests, a physical therapist conducts a 65-point assessment of posture, balance, reflex mechanisms, muscular strength symmetry, range of motion (flexibility) in all three planes, dynamic capacity and kinetic chain stability that result in a clear understanding of your musculoskeletal integrity.

For more details about the services listed in this flyer, please call (206) 432-9436



POTENTRx Affiliates

American Council on Exercise (ACE) • Bainbridge Fire Department • Club ZUM • Cosmed • Pocock Rowing Foundation • Precor • Rainier Vista Boys & Girls Club • Seattle Fire Department • Seattle Sockeye • Seattle Thunderbirds • Seattle University Athletic Department • Skillshow • Snohomish Fire Department • Technogym USA • USA Rowing • USA Rugby • Vicon • Washington Athletic Club • Waypoint Outdoor • YMCA of Greater Seattle