The majority of the female athletes I work, especially volleyball with have problems with their posture. Poor posture seems innocent enough, but decreases athletic performance and places unnecessary stress on the musculoskeletal structures of the body, potentially leading to injuries over time. Due to the intricate connection of bones, muscles, tendons and ligaments, poor posture will affect the alignment of the entire body and cause limited range of motion in movements that are crucial to volleyball. The athlete will likely still be able to function in the sport, but not at their potential or optimal level.

One of the most common postural issues I see with female volleyball players is rounded shoulders and excessive arch of the lower back. Let’s look at the shoulder first.

**Rounded Shoulders**

Rounded shoulders result from a combination of strong, tight internal rotator muscles and weak, lax external rotator muscles. In essence, the stronger muscles overpower the weaker muscles, pulling the shoulders forward and the scapulae, or shoulder blades, apart. As the shoulders roll forward, the neck is pulled forward and down. As you can see in the above rounded shoulder picture, straightening the head up to a normal position will also shorten the muscles on the back of the neck. Volleyball emphasizes powerful internal rotation movements like the serve and the spike while lacking in external rotation movements. Repetitively performing the same movement patterns causes the body to adapt, tightening the internal rotators and stretching the external rotators. Matters often become even worse in the weight room where lifts such as the bench press are staples and exercises that counteract the presses are usually just something to do with extra time.

Fixing postural problems requires performing movements opposite of what your body has been programmed to perform. In the case of rounded shoulders, this means stretching your internal rotators and strengthening your external rotators and scapular retractors (the muscles that squeeze your shoulder blades together). Below are two suggested stretches and one strength exercise for improving shoulder posture in the volleyball athlete.
Stretches

### Pectoral Wall Stretch
With elbow at shoulder level and flexed at 90° place forearm, upper arm, and shoulder against wall, rotate opposite shoulder and hip away from the wall until you feel a moderate stretch in your chest and front of the shoulder. Hold 20-30s on each arm. Perform at least once a day.

### Standing Lat Stretch
Stand roughly one foot from a volleyball pole or squat rack and grasp it with interlocked fingers. Keep arms and legs straight while lowering your hips down and back and lowering your head between your arms until you feel a moderate stretch in the sides of your upper back. Hold 20-30s. Perform at least once a day.

Strength

### Resistance Band Pull – Start
Begin by grasping a resistance band (also called resistance tubing) or length of Thera-band with hands shoulder width apart or slightly wider. Keep arms straight and in one motion, squeeze shoulder blades together and pull arms back until band touches the chest. Slowly and smoothly let the band pull your arms back to starting position. Keep arms at shoulder level through entire range of motion. To make exercise easier, move hands further apart in starting position. Moving hands closer together will make the exercise more difficult. Perform 2-3 sets of 15-20 repetitions 2-3 times a week.

### Lower Back Arch (Lordosis)
Lordosis, or excessive arch of the lower back is another common problem in women. We see lordosis even more frequently than rounded shoulders.
Lordosis is a result of forward tilting of the pelvis. This tilting of the pelvis is caused by a combination of tight hip flexors and lower back, and weak abdominal and gluteal muscles. Because everyone has a natural and important curve in their lower back, it is sometimes difficult to determine how much is too much. In most unhealthy cases however it is typically quite obvious and characterized by protruding buttocks and stomach. In most athletes with lordosis, we find the gluteals aren’t firing when they are supposed to and these athletes need to be taught how to contract their glutes. The glutes are one of the key muscle groups for jumping, so it’s easy to see the importance of the glutes contracting when they are supposed to. When the glutes shut down, you lose all of the power they are capable of. The same is true of the abdominals. Besides being crucial stabilizers of the spine, they are also extremely important in creating a powerful serve or spike. All movement should originate in the core with the abdominals contracting followed immediately by the glutes. When either the glutes or abdominals aren’t doing their job as is often the case with lordosis, the rest of the body compensates and adapts to doing the work without the most important muscles. In addition to severely limiting performance, this puts the body out of alignment, teaches the body to function in an incorrect manner, and can lead to injuries and chronic aches and pains.

Fixing this problem requires re-teaching the body to function as intended and performing movements opposite of what your body has adapted to. For lordosis, this means stretching the tight hip flexors and strengthening the gluteal and abdominal muscles. Because weak abdominals and glutes are so prevalent, the majority of athletes, even those without excessive lordosis will benefit from the following stretches and exercises.

### Stretches

**Hip Flexor Stretch**

To stretch the hip flexor, begin on one knee with opposite foot out in front. While keeping torso erect (avoid leaning forward), push the hips forward until stretch is felt on the front of the hip. With good flexibility, knee on floor should be behind hips rather than directly underneath.

To increase the stretch, rotate the spine and reach up and across your body over the front leg. If the right leg is forward, reach with the left arm. Hold first stretch 10-15s, then lead into the stretch with twist for an additional 10-15s. Perform at least once a day.

**Hip Flexor Stretch w/ Twist**

**Strength**

**Dead Bug**

Lying flat on the floor, extend right leg and bend opposite knee toward the chest. With both feet off the ground, raise right arm above your head and left down beside left leg. Keep extended leg just above the floor, belly pulled in toward the spine and lower back pressed firmly against the floor. Hold this position as long as possible (usually 10-30s to begin), then take a quick break and switch sides. If the lower back begins to raise up, roll hips up and back down, settling lower back against the floor again. Perform 2-3 sets 2-3 times a week, holding for as long as possible.
Clamshell

Place mini band (available at www.performbetter.com) just above knees and lie on side. Squeeze the glutes and pull knees apart while keeping feet together and without letting the hips roll. Slowly allow the band to pull your knees back together. This exercise helps re-train the glutes to fire correctly and works well either as part of a warm-up before your regular workout, or immediately following your workout. Perform 2-3 sets of 10-12 reps on each side 2-3 times a week.

Short Hip Lift

Lie on back with feet approximately shoulder width apart. Squeeze glutes to raise hips 4-5 inches off floor. Keep shoulder blades completely on the ground. Pause and lower hips to just before they touch the floor. Continue to pulse slowly up and down within the short 4-5 inches off the floor. If the hips are lifted too high, the hamstrings will take over for the glutes, so keep the range of motion small. Perform 2-3 sets of 15-20 reps 2-3 times a week.

Most athletes will benefit from choosing one of the above exercises, or alternating them with each workout. For advanced athletes, make these exercises more challenging by performing clamshell and then the short hip lift immediately after. Leaving the mini band above the knees will also make the hip lift more difficult.

These exercises and stretches are a great addition to the exercise program of any volleyball player, regardless of their posture. The vast majority of all people will benefit from increased strength in the external rotators of the shoulder, gluteals, and abdominals. Time to hit the gym!

More Information Please!

Arlo specializes in volleyball performance training and works with indoor and outdoor players of all levels. You may contact Arlo at arlo@competitiveedgefitness.com