



Why is PT so important?

Work tasks and other physically demanding activities that require a person to maintain an awkward posture for long periods of time can stress and fatigue the muscles, tendons, and ligaments that are required to hold that posture. Physical therapy helps accelerate the healing process and to have a more complete recovery.

The benefits provided by physical therapy include:

- Strengthening of damaged tissue to prevent recurring injury
- Reduction of scar tissue buildup, which can lead to recurring injury
- Restoration of full elasticity and flexibility to muscles and joints
- Improved blood circulation and oxygenation to the entire body
- Minimized chronic pain
- Work retraining or work simulated activities that help you stay on the job.

Physical therapy starts with specific therapeutic interventions designed to reduce pain and inflammation and enhance mobility and healing. The individual is instructed in taking charge of his or her condition and actively participates in the reconditioning program.



Anne Chiles, Arvada Office Manager

Preventing Volleyball Injuries

By Heather Shaughnessy, DPT

Volleyball is a complex sport comprised of many different motions that have the potential to cause either traumatic or overuse injury to many different joints in the body. The shoulder, knee, and back are common places to get injuries while playing volleyball. Imbalances in strength and flexibility are at the center of many overuse and even some traumatic injuries.

Often times, adolescents have not developed proper control of the muscles which stabilize the body's core. Though some athletes have been playing for many years and are often very good at their sport, they usually still lack the core coordination and strength required to keep them healthy. In the sport of volleyball the core is important for generating strength and arm speed for a harder overhead swing during spiking and serving. Without enough core stability, the athlete ends up using the shoulder muscles to generate speed. Asking these

smaller muscles to do the work of the larger core muscles puts them at a disadvantage and will inevitably lead to breakdown resulting in injury.

Also necessary for a harder spike is thoracic extension, the backward bending of the upper and middle back. This is important for allowing the arm a greater range of motion through which to swing, thus giving it more potential for speed generation. Thoracic extension often goes hand in hand

Accelerate PT has two locations:

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with having good posture. In our culture of TVs and computers,



Heather Shaughnessy, PT, DPT

adolescents and adults alike often end up with a forward head posture, shoulders which are rounded forward, and a slumped upper back. This posture is a result of tightness in the chest muscles and weakness in the upper back muscles. By addressing these issues an athlete can increase their thoracic extension, thereby allowing the core to do more of the work generating power.

Also hand in hand with core strength is hip strength. Some even con-

sider the hips to be part of the body's core. When an athlete has hip weakness it is often in the hip abductors and external rotators- the muscles which raise the leg to the side and turn the thigh out. When these muscles are weak, it allows the knee to fall into a position of genu valgum, also known as being knock-kneed. Even when an athlete does not appear knock-kneed they could have weakness leading to malalignment at the knees which could lead to injury. Weakness at the hips also decreases the overall stability of the hip and knee so when an athlete experiences a collision or lands awkwardly from a jump, they are less able to correct their position before an injury occurs.

There are many factors that can lead to injury in a young and the ones discussed here are only the most common. Proper evaluation and treatment from a licensed physical therapist can determine areas of weakness and/or tightness leading to an injury. A therapist will then be able to create a personalized treatment plan to address these areas, restoring the athlete to health and allowing them to enjoy their sport for years to come.

Preventing Swimming Injuries By Heather Shaughnessy, DPT

Most people don't think of swimming as a very injury prone sport. Because of the low impact nature of swimming it is true that swimmers usually do not undergo as many traumatic injuries as athletes in most other sports. The repetitive nature of swimming does, however, place swimmers at an increased risk of overuse injury to the shoulders, knees, hips, and lower back.

Shoulder injuries are the most common injury among swimmers. Many swimmers have very lax shoulder joints, which is a benefit to them in their sport but also places them at an increased risk of injury. Swimmers often train with high mileage which often leads to fatigue and decreased swimming technique. Poor form combined with shoulder laxity can lead to bony structures in the shoulder bumping into tendons in the shoulder which can cause wear, inflammation, and pain. In order to avoid this it is important for swimmers to strengthen the muscles which stabilize the shoulder blade. In addition to strength, it is important to improve the coordination of these muscles so that as they fatigue they are still able to stabilize the shoulder blade and keep the athlete free from injury.

Another a common complaint among swimmers is knee pain. This is most frequently due to the whip or frog kick employed in breaststroke. This kick places a sudden valgus force on the knee, forcing the knees together faster than the feet. This position places a stretch on the ligaments on the medial (inside) surface of the knee and a compression of the structures on the lateral (outside) surface. Unfortunately, the mechanics of this kick call for the swimmer to repeatedly put forces on the knee which have a great potential for injury. This kick also has the potential to cause irritation in the hip which can lead to hip pain. In order to avoid these injuries, it is important for swimmers to build strong

hips and a strong core to avoid having these same stresses put on the knee and hip during other activities they might be involved in such as PE classes at school. It is also important for swimmers to train in a variety of strokes in order to minimize the repetition and decrease wear on the tissues in the knee and hip.

It is also common for swimmers to experience pain in the lower back. This is partly due to the optimal body position in the water which calls for the head and shoulders to be high in the water. To achieve this position, swimmers often utilize increased low back extension (backwards bending) which puts increased pressure on the disks, nerves, and muscles in the lower back. This position also decreases activation of the abdominal muscles which help stabilize the lower back. Because swimmers are in this position for long periods of time, it is common for this posture to transfer to standing posture which can compound the problem. To avoid this it is important to build strength in the transverse abdominis muscle which supports the back and keeps the spine in proper alignment. This muscle is one of the core muscles which, when strengthened and trained properly, can help prevent a wide array of chronic and traumatic injuries, as well as contribute to athletic performance.

Though swimming is a low impact sport compared to many others, it does come with its own unique set of injuries and complications. The factors described above give a brief overview of some common problems for competitive and recreational swimmers alike. There are many other factors that can contribute to an injury. For a full evaluation and an individualized plan of care, call us today to set up an appointment with one of our licensed physical therapists.