

## Swimming

Swimming is a sport that people of all ages can enjoy. It is one of the most popular low-impact fitness activities worldwide. Competitive swimmers may train throughout the year to maintain optimal level of fitness, but this training regimen may possibly cause injuries to shoulders, knees, hips, back due to constant overuse. It is important to act quickly with head injuries, especially because of the aquatic environment. This could lead to keeping swimmers out of the pool permanently. Both competitive and recreational swimmers should be taught proper stroke management to avoid these types of injuries.

### What Causes Swimming Injuries?

Most swimming injuries come from overuse and fatigue of your muscles and joints. Usually repetitive overhead swimming strokes, causes pain in the upper extremities, but it can also occur in the lower extremities through kicking. The shoulder pain could be created from instability or tendonitis.

### What are the Most Common Types of Swimming Injuries?

#### Upper Extremity Injuries

The shoulder is one of the most common injured sites in swimming due to overuse. Typical overuse shoulder injuries include rotator cuff impingement, bicep tendonitis, and shoulder instability. Rotator Cuff impingement is pain in the shoulder due to inflammation of the tendons of the rotator cuff. Bicep Tendonitis is pain at the front of the elbow due to inflammation of the biceps tendon, usually from friction at a bony prominence. Shoulder instability occurs when the upper arm (humerus) becomes displaced from its normal positioning in the center of the socket (glenoid) and the joint surfaces no longer touch each other.



#### Lower Extremity Injuries

Knee injuries may occur from constant kicking in competitive swimming. "Breastroker's knee" has been termed when there is medial pain in the knee from swimming. Improper kicking techniques increase these problems, causing weakness in the knee from constant flexing and extending.

Common hip injuries are strains during strokes such as the breaststroke when one is kicking; the muscles or tendons are stretched and possibly tear from continuous repetition.

Lower back issues may develop from the constant kicking motion in the legs. Spondylolysis is a stress or a fracture of a part of the spine due to constant repetition causing the area not to heal.

#### Head Injuries

Concussions are becoming more and more prominent in swimming. In competitive swimming, closed head injuries may occur during laps or diving from hitting the wall or base of the pool. Concussion symptoms include (but are not limited to) temporary loss of consciousness, slight memory loss, headaches, dizziness, changes in vision, and emotional instability.

### How Can Swimming Injuries be Prevented and Treated?

- Properly teach swimming stroke technique
- Proper communication efforts starting from athlete, parent, coach and sports medicine professional
- Ensure athlete has proper diet and nutrition
- Create a proper body strengthening regimen for pre and post competition (Conditioning)
- Follow the PRICES method in the event of an injury: Protection to prevent further injury, Rest, Ice, Compression (i.e. an ace bandage), Elevation, and Support (i.e. a splint, brace, or crutches, if needed)
- Consult with a sports medicine professional or athletic trainer if you have any concerns about particular injuries or prevention methods