

# Swimming

**S**wimming is a sport in which there is a great diversity among participants. There are both recreational and competitive swimmers, ranging in age from preschool through college.

Most swimming-related orthopedic injuries are related to overuse and are seen in competitive athletes. However, many injuries can be prevented.

The following is information from the American Academy of Pediatrics about how to prevent swimming injuries. Also included is an overview of common swimming-related medical and orthopedic conditions.

## Injury prevention and safety tips

- **Sports physical exam.** Athletes should have a preparticipation physical evaluation (PPE) to make sure they are ready to safely begin the sport. The best time for a PPE is about 4 to 6 weeks before the beginning of the season. Athletes also should see their doctors for routine well-child checkups.

- **Fitness.** Athletes should maintain a good fitness level during the season and off-season. Preseason training should allow time for general conditioning and sport-specific conditioning. Athletes with poor stamina are more likely to get hurt both in and out of the water. Also important are proper warm-up and cool-down exercises.
- **Equipment.** Safety gear should fit properly and be well maintained.
  - Properly fitted goggles
  - Swim caps
  - Sandals in the pool area
  - Sun protection (sunscreen, lip balm with sunblock, sun-protective water shirts) when outdoors
- **Emergency plan.** Teams should develop and practice an emergency plan so that team members know their roles in emergency situations in or out of the water. The plan would include first aid and emergency contact information. All members of the team should receive a written copy each season. Parents also should be familiar with the plan and review it with their children.
- **Rules.** Swimmers should follow *pool rules* at all times, including

## Medical conditions

Condition	Prevention/Treatment
Swimmer's ear	Swimmers should use tight-fitting swim caps that cover the ears. They should see a doctor if symptoms of ear pain and/or drainage develop. Swimmer's ear is usually treated with cleaning, antibiotic drops, and 3 to 10 days out of the pool. Acetic acid drops may help prevent swimmer's ear.
Pinkeye	Symptoms may be caused by irritation from chlorine and other chemicals, but viral and/or bacterial eye infections are highly contagious. Swimmers should see a doctor. Treatment includes prescription antibiotic eyedrops and 3 to 7 days out of the pool.
Athlete's foot and plantar warts	Swimmers should wear sandals on pool decks and locker room floors to help prevent foot infections. Cuts on the foot should be examined by a doctor.
Exercise-induced asthma	Swimmers with asthma vary greatly in their symptoms. Some do better in the warm, humid environment while others do not. Some find heavily chlorinated pools make symptoms worse.  Asthma should not limit participation and performance of swimmers. Every swimmer should have a personal asthma action plan.  Asthmatic swimmers can prevent episodes by taking their medicines and using an inhaler before practices or meets. Inhalers and spacers should always be on hand during activity. Swimmers should stop swimming and see a doctor if they have difficulty breathing while swimming.
Overtraining (excessive fatigue)	This is common in swimmers because of year-round swimming and training. Treatment includes medical and nutritional evaluation and rest from swimming during noncompetition seasons.

- **Never swim alone.** The pool should be supervised.
- **Don't run on pool decks and wet areas.** Abrasions and contusions (bruises) commonly occur from careless falls.
- **Don't dive in shallow water.** Swimmers should know how deep the pool is and avoid diving into shallow pools less than 3 feet deep. This will help prevent serious head and neck injuries.
- **Starting blocks.** Swimmers using starting blocks in the shallow end need to be instructed on proper technique.

**Orthopedic conditions**

Overuse injuries in swimming are related to repetitive stress to the swimmer's body. Symptoms of an overuse injury usually include pain or discomfort, muscle weakness, alterations in stroke style, and the inability to

keep up intense levels of training. Multiple factors must be considered for proper treatment.

Physical therapy often is useful to strengthen weak muscles and stabilize joints. It can also improve a swimmer's endurance and ability to train. Physical therapy should be prescribed by a doctor.

Workload, defined as either yardage or pool time, may need to be decreased during a time of injury. An evaluation of stroke technique may identify weaknesses, bad habits, or muscle-tendon imbalances that require correction.

The table below lists common orthopedic conditions.

**Remember**

Swimming injuries can be prevented when pool rules are followed.

Condition	Description	Treatment
Swimmer's shoulder	A compression or "impingement" of the rotator cuff tendons caused by repetitive overhead shoulder arcs. Overdevelopment of chest muscles and weak back muscles with progressive muscle fatigue can lead to this injury.	Treatment is individualized and must address all contributing factors. Most treatment plans include some form of physical therapy to learn correct posture and exercises to strengthen shoulder blade muscles. Although common for swimmers to do, excessive stretching of the shoulder muscles is not recommended.
Low back pain	Caused by repetitive turns, rotations, and extended back positions. Common causes include muscle strains, joint irritation and, in rare cases, stress fractures. Proper diagnosis by a doctor is essential to ensure the appropriate treatment recommendations are made. X-rays or other testing may be needed.	Treatment usually is rest, medicines, and physical therapy to include core (abdominal, hips, and low back) strengthening exercises.
Breast-stroker's knee	A chronic sprain of the medial collateral ligament on the inside of the knee related to the frog kick in breaststroke. Kneecap pain (patellofemoral pain) is also common due to other forms of kicking.	Treatment is to rest from these types of kicks.
Foot and ankle injuries	Occur from repetitive flutter and dolphin kicking. This places the toes and ankle in an extreme pointed position that strains the top of the foot and causes pain.	Treatment is rest, ice, medicines, and strengthening exercises.

**NOTES**

The information contained in this publication should not be used as a substitute for the medical care and advice of your health care professional. There may be variations in treatment that your health care professional may recommend based on individual facts and circumstances.

© 2011 American Academy of Pediatrics. Reviewed 7/2020. All rights reserved.

American Academy  
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™