Rowing

Rowing is a lifelong, year-round sport that requires dedication and intense training. Rowing on the water, an ergometer, and indoor water tanks along with weight training and running are integral parts of training. In high school and college this sport is also called *crew*.

Most rowing injuries are due to the repetitive motions of the sport. While not all injuries can be prevented, the risk of injuries can be reduced.

The following is information from the American Academy of Pediatrics about how to prevent rowing injuries. Also included is an overview of common injuries.

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. Also important are proper warm-up and cool-down exercises.
- **Technique.** Athletes should learn and practice safe techniques for performing the skills that are integral to their sport. Athletes should work with coaches and athletic trainers on achieving proper technique.

Common injuries

Low back pain

Low back pain is very common in rowers. It can occur suddenly (from twisting when reaching at the catch or pulling back during the drive) or over time (from repetitive movements or when the back is bent forward). Power used to accelerate the drive portion of the stroke should come from the legs, but if the legs are weak or not used, or the back is in a rounded and slumped position, the back takes the brunt of the stress. Athletes who do not "sit up" enough at the finish of the stroke can also stress the low back. Rowing on an ergometer can increase back strain if there is too much machine resistance or poor technique. Weight training, specifically Olympic lifts (squats, power cleans, and dead lifts), if done incorrectly, and/or lifting the shell (boat) improperly in and out of the water can also lead to back pain.

Common back injuries include muscle strains/spasm, facet pain, lumbar disc disease, and stress fractures. Treatment of these injuries includes rest, ice, and/or heat, and nonsteroidal anti-inflammatory drugs (NSAIDs). Pain that lasts for more than 5 to 7 days should be evaluated by a doctor. Warning signs of a more serious injury include severe pain, numbness or tingling down the legs, bowel or bladder problems, or leg weakness. Athletes can help prevent back injuries by

- Strengthening the abdominal, gluteal, hip, and buttock muscles
- Using proper technique: proper positioning at the catch and finish, pushing with the legs and not the back, not opening up too quickly during the drive, and proper adjustment of the boat rigging

Wrist injuries

Wrist tendonitis (also known as *intersection syndrome*) is the most common wrist injury seen in rowers. The feathering hand (the inside hand that twists the oar) is more frequently injured due to repetitive extension of the wrist to get the blade in and out of the water. Common symptoms include pain, weakness, swelling, and creaking of the wrist. Icing the wrist after activity and use of NSAIDs can help with pain and swelling. Strengthening the shoulder blade muscles and proper technique/feathering can decrease the risk of injury.

Taping the wrist to avoid excessive wrist extension during feathering may also help. Use of a wrist brace when not rowing can give rest to the arm. Sometimes complete rest is needed to allow the area to heal.

Knee injuries

Knee injuries may occur when the knees are flexed and loaded at the catch. Knee pain can also occur with improper technique during weight training, particularly squats. Patellofemoral stress syndrome (kneecap pain) and iliotibial band syndrome (pain at the outside knee) can occur with increased loading and too much knee bend at the catch. Immediate treatment consists of the use of ice and NSAIDs. Core body strengthening, especially of the hip rotators, should be part of treatment. Modifying the shoes or foot stretcher position and decreasing knee bend at the catch can decrease symptoms.

Rib pain

Rib pain can occur in the muscles, in between the ribs, or on the bone. Muscle strains can occur with repetitive use and pull on the same chest muscle. Athletes with weak back muscles but strong chest muscles may place uneven loads on the muscles or bone, causing pain. Repetitive motions can load the bone and cause a stress reaction or stress fracture. Rowing with hatchet blades may increase the forces on the chest wall.

Bone pain associated with rib stress fractures can occur when rowing, when at rest, or with deep breathing. X-rays are usually normal if symptoms have been present less than 3 to 4 weeks, so a bone scan or magnetic resonance imaging (MRI) may be needed to diagnose a rib stress fracture. Ice and pain medicine may help with initial pain.

Treatment includes rest, strengthening of the surrounding muscles, and evaluation of rowing technique. Not sitting up enough at the finish, pulling into the rib cage too much at the finish, or reaching too far at the catch may predispose rowers to rib stress fractures. Boat rigging should be evaluated and changed if necessary. Sometimes rowers will switch sides of the boat (starboard or port) to decrease stress on a certain side of the chest.

Blisters

Blisters are a common problem in the novice rower. They usually occur along the heel of the palm or just below the fingers at the junction of the palm. Blisters are often caused by friction from pulling and feathering the oar. In more experienced rowers, calluses form where blisters once were.

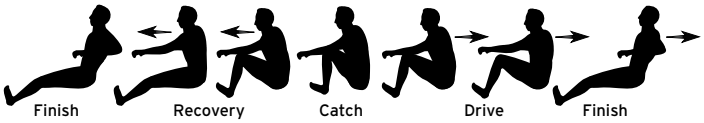
Blisters can become infected, especially after exposure to dirt or river water, so proper care of them is necessary. Signs of infection include swelling and redness around the area, pus drainage, and increasing pain. Blisters should be kept clean and dry. Hand washing and use of antibacterial ointment are helpful. Fluid-filled blisters should be drained but the overlying skin kept intact to protect the surface from further damage.

Tape can be used to cover blisters and prevent new ones, but care should be taken as the tape itself may cause a new blister to form. Tape should never have wrinkles, should wrap around the entire hand, and should be larger than the blister being covered. Gloves are not practical while rowing.

Track bites

Track bites are irritations that occur on the back of the calves when the legs hit the slide at the finish. Scrapes, blisters, and bleeding can occur. Taping the area, readjusting the foot stretchers and slide, and not jamming the legs down at the finish can prevent this injury. Care should be taken to prevent infection.

The rowing stroke



Sweep rowing: Each rower has one oar and is either a starboard (right side) or a port (left side).

Sculling: Each rower has 2 oars.

Finish: The beginning of the stroke where the rower is sitting tall with a straight back and the arms bent, feathering the oar and removing it from the water.

Recovery: The steady pursuit up the slide while keeping the boat on keel and the blades off of the water.

Catch: The rower approaches the top of the slide with their knees bent and squares the oar to catch the water.

Drive: The push off from the catch using the legs, back, and arms for power ending in the finish.

Remember

Rowing injuries can be prevented when athletes use the appropriate safety equipment and safety guidelines are followed.

Notes

American Academy of Pediatrics

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