



**STOP  
SPORTS  
INJURIES**



## CONDITIONING TIPS

To improve fitness and sports performance, physical conditioning is often included in athletic sports and exercise training. Physical conditioning usually has multiple components, including power, strength, speed, balance, agility, coordination, and endurance.

### CREATING A CONDITIONING PROGRAM

The first step to improving fitness or sports performance through physical conditioning is to design a program with the goals and needs of the sport in mind. Not every sport or form of exercise requires each component of physical conditioning in equal proportion, if at all. The training programs of a sprinter differ significantly from those of a long-distance runner, for example.



# CONDITIONING

## HOW DO I CREATE A CONDITIONING PROGRAM?

Creating a training program with the help of a strength and conditioning specialist can optimize performance and minimize the chance of injury. Specialists evaluate athletes and their current level of fitness, strength, and endurance and design the program based on the athlete's specific needs.

Conditioning programs also involve cross-training—using various sports or exercises to improve overall performance. Cross-training creates different physical stresses on the athlete's body than those associated with the athlete's usual routine, improving the athlete's overall performance and also decreasing the risk of suffering an overuse injury.

## WHAT ARE THE RISKS TO CONDITIONING?

Acute and overuse injuries often occur with conditioning programs. Acute musculoskeletal injuries, such as muscle strains, fractures, and dislocations typically involve a traumatic event. Treatment of acute injuries depends on the nature and severity of the specific injury. Rest from the activity while applying compression and cold therapy and elevating the injured body part are the first treatments. If the injury is more severe, treatment may include surgical fixation or repair, casts, splints, and many other options.

Overuse injuries occur when athletes increase the frequency, duration, intensity, or resistance of training too rapidly, putting too much stress on a part of the body. Examples of overuse injuries include stress fractures, shin splints, and tendinitis around certain joints. Rest from the offending activity is often the recommended treatment of overuse injuries, but other interventions might be needed depending on the type and severity of the specific injury.

## HOW CAN CONDITIONING INJURIES BE PREVENTED?

Athletes need to design their training programs with an end goal in mind. For instance, a runner planning to run a marathon should allow enough time to properly accelerate the training to have the body ready for the race date. Trying to achieve the goal too quickly might force the runner to increase distance running too rapidly and increase the risk for an overuse injury such as a stress fracture.

Athletes should also consider adding exercise or resistance programs that differ from their normal routines. This variability not only can improve strength, power, agility, or other fitness areas they might lack, but also can decrease the repetitive stress they apply to the one or two body parts that their maintenance program applies. For instance, a swimmer training for an upcoming meet might benefit from a long run once a week to decrease stress on her shoulder.

Athletes who use conditioning to lose weight need to ensure that they are eating enough calories and obtaining the proper vitamins, minerals, fluids, and supplements to meet their training needs. Athletes should consider consulting a sports nutritionist for guidance. In addition, getting enough sleep and rest between exercise sessions may help to optimize performance.

Before starting any exercise or fitness program, athletes should consult with their medical doctor or a sports medicine physician. School or team athletes often undergo pre-participation physicals where any concerns can be addressed. Athletes recovering from surgery or an injury should ask the treating physician or physical therapist how to safely work back into sports. Anyone with an underlying medical condition should always make sure that it does not pose too high a risk with a certain exercise program.

Athletes should never avoid going to the doctor to address aches and pains for fear of being told to stop training. Letting an injury go untreated can worsen the injury or lead to more serious complications. Athletes should see a doctor whenever they have pain or another symptom with activity that is so severe they can't exercise at all. Even when pain is more subtle or a symptom impairs performance mildly—such as knee pain when running down hills or trouble locating fastballs due to tightness in the shoulder—athletes should still consult with a sports medicine specialist.

## EXPERT CONSULTANT

C. David Geier, Jr., M.D.

Sports Tips provide general information only and are not a substitute for your own good judgment or consultation with a physician. To order multiple copies of this fact sheet or learn more about sports injury prevention, please visit [www.STOPSportsInjuries.org](http://www.STOPSportsInjuries.org).