

Injury Prevention

CORE STRENGTH AND FLEXIBILITY
ARE VITAL TO STAYING HEALTHY

By Andrew DeGruccio, MD

The best advice an orthopedic surgeon or sports specialist can give a young athlete would be how to prevent injury in the first place. Unfortunately, the athletes only end up in the specialist's office after an injury, so the information does not always get out to those who need it most.

Preventing all injuries would be impossible, since most truly occur as a result of an accident or fluke. But many injuries can be reduced in frequency, and sports medicine research has proven this. Prevention does not cost a lot of money or involve elaborate bracing, taping or equipment. For the most part, the best mode of injury prevention is conditioning. Physical fitness is not just to help improve sports performance, but is also for injury prevention and longevity. Those that keep themselves more physically fit traditionally have a longer sustained lifespan within their sport. Reducing the number of serious injuries is how this is achieved.

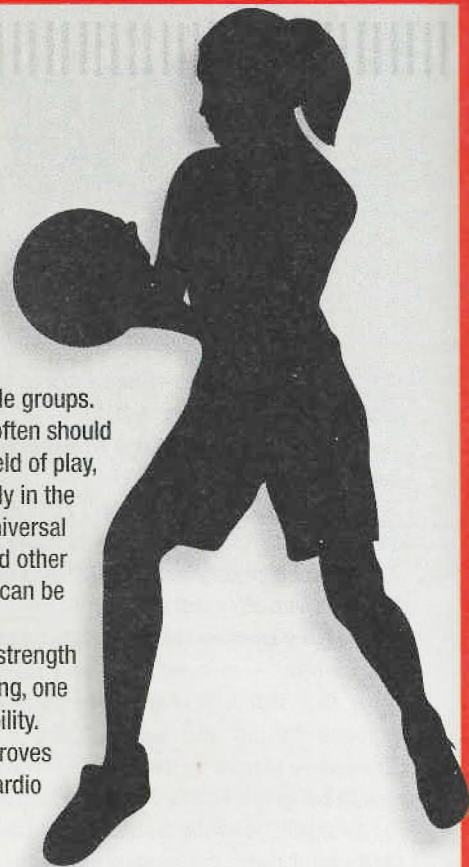
The sports that have the higher rates of serious injury involve quick stops and starts, changes in direction, jumping and contact. Most coaches and athletes prepare for their sport by repetitively performing routines specific to their sport. However, this may not be enough, and may exclude certain forms of conditioning that may be helpful to prevent injury. For instance, most running sports concentrate on running routines. The mistake is neglecting core strengthening, which requires more resistance and strength training. Core strengthening has been found to be pivotal in preventing significant knee injuries in running athletes.

Core strengthening involves exercises to target the back, abdominals, gluteals and thighs. Improving the strength of these muscle groups improves stability at the knee and hip and helps with landing from a jump. An adequate program would include resistance-type training 4-5 days/week

targeting these muscle groups. This type of training often should not be done on the field of play, but more appropriately in the gym, where use of universal weight equipment and other resistance machines can be optimized.

As one improves strength with resistance training, one must not forget flexibility. While endurance improves with sport-specific cardio work, and strength improves with resistance training, flexibility must be addressed as well. Each of the major muscle groups worked will tighten from strength training, actually increasing the susceptibility to certain strain type injuries. Hence, before and after each exercise routine, some flexibility should be worked as well. Flexibility is improved by taking a muscle group to maximal stretch and maintaining the stretch for 20-30 seconds. Stretching is more effective after workouts when the muscles are warm.

The perfect conditioning program would include sport-specific cardio, resistance strengthening of core muscles and flexibility. Programs have been developed with the assistance of sports specialists, and are accessible via the Internet. The "PEP program" is a well recognized examples of this. These websites review and explain the "PEP program" in detail: [http://aafla.org/\(under the Coaching Education\)](http://aafla.org/(under the Coaching Education)) and www.aclprevent.com/.



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