



## 14. Injury Prevention

By Brian Mackenzie  
British Athletic Federation (BAF) Senior Coach

### Introduction

Like most athletes, you undoubtedly want to lower your chances of incurring an injury while participating in your favorite sport. Injuries decrease the amount of time you can spend in leisure activities, lower your fitness, downgrade competitive performance, and can lead to long term health problems such as arthritis.

There are some general rules for injury avoidance which apply to all sports. Sports scientists suggest that injury rates could be reduced by 25% if athletes took appropriate preventative action.

### Common Misconceptions

Coaches and athletes believe that males have higher injury rates than females. Male and female athletes have about the same injury rate per hour of training. Among runners it is considered that training speed is the cause of injuries (Speed Kills) but research indicates that there is no link between speed and injury risk.

### Do not overdo it

The amount of training you carry out plays a key role in determining your real injury risk. Studies have shown that your best direct injury predictor may be the amount of training you completed last month. Fatigued muscles do a poor job of protecting their associated connective tissues, increasing the risk of damage to bone, cartilage, tendons and ligaments. If you are a runner, the link between training quantity and injury means that the total mileage is an excellent indicator of your injury risk. The more miles you accrue per week, the higher the chances of injury. One recent investigation found a marked upswing in injury risk above 40 miles of running per week.

### The two best predictors of injury

If you have been injured before you are much more likely to get hurt than an athlete who has been injury free. Regular exercises has a way of uncovering the weak areas of the body. If you have knees that are put under heavy stress, because of your unique biomechanics during exercises, your knees are likely to hurt when you engage in your sport for a prolonged time. After recovery you reestablish your desired training load without modification to your biomechanics then your knees are likely to be injured again.

The second predictor of injury is probably the number of consecutive days of training you carry out each week. Scientific studies strongly suggest that reducing the

number of consecutive days of training can lower the risk of injury. Recovery time reduces injury rates by giving muscles and connective tissues an opportunity to restore and repair themselves between workouts.

### Psychological Factors

Some studies have shown that athletes who are aggressive, tense, and compulsive have a higher risk of injury than their relaxed peers. Tension may make muscles and tendons tighter, increasing the risk that they will be harmed during workouts.

### Weak Muscles

Many injuries are caused by weak muscles which simply are not ready to handle the specific demands of your sport. This is why people who start a running program for the first time often do well for a few weeks but then, as they add the mileage on, suddenly develop foot or ankle problems, hamstring soreness or perhaps lower back pain. Their bodies simply are not strong enough to cope with the demands of the increased training load. For this reason, it is always wise to couple resistance training with regular training.

### Make it specific

Resistance training can fortify muscles and make them less susceptible to damage, especially if the strength building exercises involve movements that are similar to those associated with the sport. Time should be devoted to developing the muscle groups, strength training, appropriate to the demands of your sport. If you are a thrower then lots of time should be spent developing muscles at the front of the shoulder which increases the force with which you can throw, but you must also work systematically on the muscles at the back of the shoulder which control and stabilize the shoulder joint.

### Injury Prevention Tips

1. Avoid training when you are tired
2. Increase your consumption of carbohydrate during periods of heavy training
3. Increase in training should be matched with increases in resting
4. Any increase in training load should be preceded by an increase in strengthening
5. Treat even seemingly minor injuries very carefully to prevent them becoming a big problem
6. If you experience pain when training STOP your training session immediately
7. Never train hard if you are stiff from the previous effort
8. Introduce new activities very gradually
9. Allow lots of time for warming up and cooling off



## MARTIAL ART & TAEKWONDO SCIENCE ACADEMY

무도와 태권도 과학 학원

[www.ipttkd.com](http://www.ipttkd.com)



10. Check over training and competition courses beforehand
11. Train on different surfaces, using the right footwear
12. Shower and change immediately after the cool down
13. Aim for maximum comfort when traveling
14. Stay away from infectious areas when training or competing very hard
15. Be extremely fussy about hygiene in hot weather
16. Monitor daily for signs of fatigue, if in doubt ease off.

### Coaches

The key is rapid action when the injury first appears and a lot of psychological support to back up the remedial treatment. It is when things are not going well that the athlete really needs their coach.