

## Typical Soccer Injuries and the Reason They Occur

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Considering its popularity, soccer is far ahead than any other sports. There are about 300 million people playing soccer worldwide. Germany alone has 6 million people involved in organized soccer and this number constantly increases, especially after adding of the women's soccer competitions on the highest level - World Cups and Olympic games.

The advantages of soccer over other sports are pretty much obvious. Some of them are the simple rules and equipment, team spirit, excitement, no special requirements for the size of the body. A well-prepared soccer player has an advantage over other athletes by the versatility of the development of the physical qualities - speed, endurance, agility, strength and flexibility.

That's why soccer is a wonderful way to shape the body for male and female athletes of all ages. There are some concerns about a large number of women and girls, getting involved in the sport of soccer lately, especially for overloading of their inner organs, because of the high endurance requirement. Research undoubtedly proves that such statement is ungrounded since endurance is the physical quality women are the closest to men, which is largely illustrated by the success of female athletes in events like long distance and marathon.

At the same time we need to admit that soccer is a tough sports event. That's why it is understandable that a number of soccer-specific injuries are, unfortunately, a part of the player's life. There are players who practice 2-3 times a week and then play 20-30 games a year. And, of course, there are the professionals who practice every day, sometimes twice a day, and then play about 100 games a year. For all of them that process is not injury-free.

The point is that a large number of injuries could be limited if the player is well prepared for the requirements of the game. In soccer, 95% of the injuries are a consequence of not enough high-level preparation for practice and games. All different sports have specific injuries and soccer is no exception to the rule. Due to the nature of the game it is obvious that the major pressure is on the lower extremities.

Erich Douzer has documented thousands of injuries with high-level soccer players in Germany, and came to a conclusion that the distribution on the different parts of the body is as follows:

Feet - 25.5%	Elbow - 0.7%
Ankles - 14.5%	Shoulders - 0.3%
Knees - 14.6%	Neck - 2.7%
Thigh - 27.5%	Back - 4%
Wrists -	Abdomen -

2.5%	1.5%
Hips - 4%	Head - 1.6%
Forearms - 0.6%	

82 percents of the injuries are in the area of the legs, and 18% for all of the other parts of the body. It's interesting to know that for less-qualified players, like juniors and kids, these numbers are 76% and 24% respectively. The difference can be explained with lower skill levels, which makes younger athletes involve more parts of body than they need to, when they play.

It is impossible to figure out just one reason for the soccer injuries, because sports will always be a challenging adventure with risks for temporary or chronic health problems.

At the moment, sports injuries are about 10% of the total number of injuries in developed countries. With the right approach to the issue, this can be decreased with better training methods and preventive activities. It is impossible to avoid injuries completely. Injuries occur due to a number of objective factors as follow:

- Number of the participants in the sport activity
- Frequency and duration of the sports practice
- Volume and intensity of the load
- Conditioning and shape of the athletes
- Fatigue - one of the major reasons for losing concentration and decreasing the reaction time
- Climate and weather
- The quality of the sports attire and equipment
- The quality and the type of the field

Every year about 1.5% of active athletes from all sports suffer injuries on different levels. Usually 75% of them are light, 20% are medium and 5% are heavy injuries. The unfortunate cases depend of the level of the risk in each particular sport, and soccer is one of the top ones, especially for light and medium injuries. The better the condition and shape of the players, the less number of injuries there are.

One of the major reasons for soccer injuries is the duration of the game - 90 minutes with variable intensity. International sports clinics for sports traumatology summarized their experience and figured out the most common reasons for injuries for qualified soccer players being poor warm-up, which sometimes is unavoidable specially during substitutions, local and global fatigue, poor shape and incorrect resistance of the opponents.

In soccer, each player experiences four to six injuries per year. At the same time we have to mention that practice injuries are lighter and they need 9-10 days for treatment, when the game injuries are harder they are taking 12-14 days for treatment.

It's very important to determine when the athlete is completely ready for practice and competition after an injury treatment. Sometimes the doctors say that the player is healthy and the coach sends him on the field to play for the team right after he is declared 100% recovered. From a medical point of view this is true, if we are

talking about a non-athlete, but our experience shows that this doesn't mean an athlete in the same situation is ready to play soccer.

The athlete needs 4 to 6 weeks specific conditioning training to be prepared for the requirements of performance on the highest level. Special attention has to be paid to the injured area. For example, after the treatment of a knee injury the doctor can say the player is ready to go. This is not all about recovery. The conditioning coach and the physiotherapist need to continue working to recover the strength level of the muscles around the knee joint. In this way they help the structure of the joint to endure various pressures. Without the help of the muscles, the joint has to handle too much force and the injury can reoccur.

The common opinion of European doctors is that a player can start working out after the pain has completely gone. The sense of pain is mostly a result of micro-injuries, inflammation, irritation or fatigue. Unfortunately, a lot of soccer players, including professionals, often practice with constant pain and this is a reason why they may suffer a heavier injury immediately after minor one. Complete treatment of a muscle strain takes no more than 8 days. If the treatment is not finished and the player starts practicing, it can lead to muscle tears that would require a much longer period of time; in some cases 6-8 weeks of treatment.

This is where we have to pay attention to pain relievers and painkillers, which are so common in the sports practice. This is not a treatment and makes the players participate in soccer activities when they shouldn't. Such an approach is fatal, especially for the development of young players, because it can lead to chronic injuries, which would limit their potential. Chronic injuries are a regrettable part of the competitive sports. Very often this is a result of inappropriate, or not long enough, treatment of previous injuries. Sometimes chronic injuries are results of accumulated micro-injuries. Unfortunately, sports medicine doesn't rely on enough effective ways of micro-injury treatment.

More effective in such cases is physiotherapy, because of the activation of the defense and regenerative recourses of the organism. After an injury is completely treated begins the most important stage - the period of recovery. First of all it is necessary to completely recover the strength of the muscle and the flexibility of the joints. Only after that, can we expect the soccer player to elevate his practice and game to the level before the injury. Recovery of muscle function and joint flexibility is the most important part of sports medicine. Therefore, the optimal time of treatment has to include medical treatment, physiotherapy and gradual conditioning improvement of the injured area to the level of abilities for soccer activity with 100% intensity.

### **Credits**

Most of the examples are taken from training of the national teams of Germany, Yugoslavia, Poland, Bulgaria, Russia, Hungary, Greece, Argentina, Czechoslovakia, Italy and the clubs of Barcelona, Benfica, Inter, CSKA, Milan, Panionis, River Plate, Dynamo Kiev, Hamburg and Legia - Warsaw and some materials from experts such as Erich Douser, V.Aaken, K. Gourski, D. Garlinski, M. Bachvarov, T. Terziiski, N. Aladjov, Z. Herberger, M. Milianich, F. Valkaredgi, N. Gevrenov, D. Americo and D. Penev, to whom the author is extremely thankful for their pioneers work in the area of conditioning and injury prevention.