

## THE STRETCHING PROGRAMME - KEY FACTOR FOR PREVENT INJURIES OF "U"16 SOCCER PLAYERS

Article DOI: <https://doi.org/10.35219/efms.2018.1.05>

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### **Abstract**

Soccer coaches, fitness professionals soccer and athletic trainers have long believed and taught that would have kept them out of the doctor's office. Are they right? Researchers recently began to examine how muscles respond to stretching and how this relates to exercise performance and injury risk. Many studies that found reaction time, movement time and balance were all reduced after 20 minutes of standard stretching before exercise. At the elite levels, even the smallest reductions in these important variables could have a significant effect on soccer players stretching before training is vital; hence, many players are filled with guilt and regret, believing that more frequent stretching, especially given the differences in muscle growth at the age of 16 years. Their findings suggest it may be time to update the old rules about stretching. And then this article just want to emphasize that if a suitable heating program resolves the problem when an appropriate muscle stretching workout day and again will help strengthen muscle flexibility.

**Key words:** plan-program, stretching, training, soccer.

### **1. Introduction**

The most fundamental principle of stretching seems to hold true, that is, consistent stretching improves flexibility. However, and the important question to ask is: does the improvement in muscle flexibility actually protect athletes from injury?

The qualities of strength / power and speed expressed by the players during a game must be well trained using muscle stretching and joint mobility exercises, these exercises we can always add them before and after the daily training sessions.

Specific muscle-building programmes for the most-used muscle groups are used in the pre-season and inter-season periods, and then as refresher programmes depending on the individual needs of the players (strengthening, stretching, proprioception). Nevertheless, within the context of muscle-strengthening and injury prevention, strength tests aimed at evaluating and monitoring players are regularly scheduled in order to flag up any muscle weaknesses and/or imbalances resulting from joint instabilities.

The level of development in puberty of the player 14-15 years must be taken into account when planning physical preparation and the development of physical qualities. Although it is difficult to plan physical preparation specific to the stages of maturity and the bone age of players, it is possible to plan the development, optimization, frequency of training and injury prevention according to stage tournament category.

Optimizing a player's strengths becomes a priority alongside working on weak points through small specific stimulation exercises. For players with a long career behind them, recovery between matches is fundamental and specific training is essentially aimed at preventing injury, taking into account previous injuries suffered. As the development of physical qualities is affected by the level of maturity, it is important to recognize when the best time to work on them is. The level of training load combined with puberty accelerates the development of certain physical qualities such as strength and speed. Similarly, the training load may negatively affect performance through the prevalence of injuries around the time of puberty (13-14-15 years) or in older players. Muscle building must be done progressively and taken into account when calculating the training load. Muscle strength or explosiveness training (which combines strength and speed) can take place in the weights room or on the field or even in mixed situations.

This activity may vary depending on the objectives of the tournament (who doesn't want to win all the matches) and the individual characteristics or positions of players.

The reasons for these pains are due to the physical demands specific to footballers, such as flexion of the trunk on the leg when shooting, tackling and use of the adductors when stretching out the leg or changing direction. The characteristic stiffness of players after the peak in growth of the hamstrings, the psoas and the

quadrates lumborum combined with a lack of strength of the oblique muscles, can cause shearing at the pubis, creating localized pain of the symphysis pubis. My exercises for this muscle in the central part of the plan-programme stretching.

Additional stretching and core conditioning exercises can help to prevent the occurrence of pain. My preoccupation was to find different means for different trainings and of course related to the intense games that succeeded from two days to two days. This program we adapted to the young player's musculature for the effort intense of the second day, but also preparing him for the following effort through means from the end of the training – stretch – relaxation – stretching. That's why our program of stretching applied in Tournament is one which prevents injuries of young players. But let's see what the advantages shows us?

## **2. Purpose**

Developing the stretching programme and muscle power joint in order to reduce injuries in the football.

Tasks: Application of the stretching exercises program before the trainings session and the recovery program with the muscular exercises and relaxation muscular exercises.

Hypotheses of the research: At warming / heating-Stretching program and muscular contraction and then at the end of the training session we start again 10-12 minutes relaxation exercises through muscular stretching, we consider that the muscle injuries can occur very rarely, which means that the players can be used as much as they can a play in the team.

## **3. Method and procedures**

During the study i used the following research methods: the bibliographic method, active stretching method, repeat method and statistical-mathematical methods of graphic representation of the results.

The research stages were: - the study of the bibliographic material;-selecting the most efficient stretching exercises on muscular groups for the lower members on their posterior part (muscle biceps femoral);-repeating the stretching exercises at every training and the feedback received after every training by each young player;-organizing and conducting the study; - processing and interpretation of data derived from the research; - establishing practical and methodological conclusions and recommendations.

The study and subjects: The study was conducted a Romanian "U" 16 soccer players on U.E.F.A. Tournament of Development in Bulgaria,15-20 march 2016, a team which includes 18 players aged between 14 and 15 years. Duration: 3 weeks.

## **4. Working Strategies**

In the framework of the conceived experiment, the team trained each day for 60-90 minutes, 5 trainings every week, plus a test at the end of the working week. Workout 1-after 7 minute to warm-up the team move to the next program:

1. Walking top of the legs with the arms up -rise up onto your toes for each hug to activate your calf muscles and work your balance.
2. Walking with dynamic lunge -hip stretch-spine mobility-especially the hip flexors, are often tight in football players .
3. Hamstring Stretches -glute activation and stretching the calf muscles.
4. Hip Rotations -active leg and hip stability of the standing leg.
5. Jump with lunge before-it prepares you for all-important movement, landings and strengthens the joint of the ankle and knee.
6. Jumping on one leg with loading -This is important exercises because glute activation increases sprinting power and reduces the risk of hamstring strains.
7. Sitting on a knee and lunge with the other-the background and the musculation of the stretched leg helps the ankle to be very tonified. The support leg stretched under the player helps at the mobility of the ankle and the knee.
8. Running with carrying the leg through the side-important exercises for muscles inguinal mobility.
9. Running with lifting of the thigh to the chest -stretches the quads, hip flexors and psoas muscle.
10. Walking on the hands and on the toes of the feet, the body stretches and tightens helping the stretch of the muscles of the back and tonifies the muscles of the arms and shoulders.
11. Running with the bounce on each leg-strengthens the osteo-articular of the lower limbs.
12. Carioca-this is like the run and pass the ball with arms, but is more specific for lateral movements.

This programme is during 12 minutes. After 20 minutes the body is prepared for any type of effort and move specify football, with and without the ball. Workout 2-the team move 10 stretches exercises for cool down:

1. Hip flexor and Psoas stretch-the hip flexors are a group of muscles that bring the legs up toward the trunk and help generate a powerful soccer kick.
2. Standing quad stretch-The quadriceps (quads) make up a group of muscles along the front of the thigh.

3. Standing calf stretch-The calf, or gastrocnemius, muscle runs along the back of your lower leg and is in constant use while running up and down the soccer field.

4. Lying piriformis stretch-There are many different ways to stretch the piriformis muscle that lies deep beneath the gluteus (butt) muscles. (This exercise is easy to do and is a quick way to relax and open the hips and target the piriformis muscle-to stretch both sides).

5. Seated groin and inner thigh stretch-This simple stretch, sometimes called the butterfly stretch- it works to stretch several muscles in the thigh and groin area.

6. Hip and lower back stretch-This simple stretch opens the hips as it stretches the muscles of the hips, groin and lower back. Hold the stretch for 20 seconds and switch sides and repeat.

7. Iliotibialstretch- is a tough group of fibers that run along the outside of the thigh that stabilizes the joints.

8. Seated hamstring stretch-The hamstrings need to be strong but not tight in order to endure the demands of running and kicking and multiple quick starts and stops during a soccer game. This simple hamstring stretch can help maintain length in the hamstrings.

9. Achile tendon -heel stretch-use this stretch to keep it loose-the key to doing this stretch correctly is to bend the knee of the forward foot while keeping the heel on the ground. The stretch should be felt in the Achilles, just above the heel.

10. Simple shoulder stretch-This basic shoulder stretch can help open the chest and loosen tight shoulders before playing soccer.

### 5. Results of the research

The study revealed the effectiveness of the stretching exercises program at 14-15 years old even a series of exercises were identified or adapted in the trainings session. Muscular and joints preparation capable to do an intense effort by contracts and intensive intensities which were found in the five days of competition.

The determination of the content of the means, the methods and forms of stretching training are oriented towards the intense muscle training.

The research results provide a presentation of the main indicators of the assessment system for the level of the prevent the injury what have influenced stretching training specific to 14-15 year-old players soccer.

**Tabel 1** The number of injuries in this Tournament

The injuries identified	Team "U"16 ROMANIA (Injuries number)		Team "U"16 CROATIA (Injuries number)		Team "U"16 BULGARIA (Injuries number)		Team "U"16 GEOARGIA (Injuries number)	
	First half	Second half	First half	Second half	First half	Second half	First half	Second half
<b>Sprain</b>	1	0	0	0		3	1	4
<b>Muscle pulls</b>	0	0	1	3	1	1	1	1
<b>Thigh injuries</b>	0	0	0	2	1	2	1	3

During the 6 matches, in 5 days, the 26 incidents were recorded and 9 acute injuries. The games or played like this –play-one day, recovery-play-2 days recovery-play.these 13 injuries, team Romania 7,6% were identified and all head injuries, 38,5 % ofCroatia team , 23,5 % of Bulgaria team and 30,4 % of Georgia team.

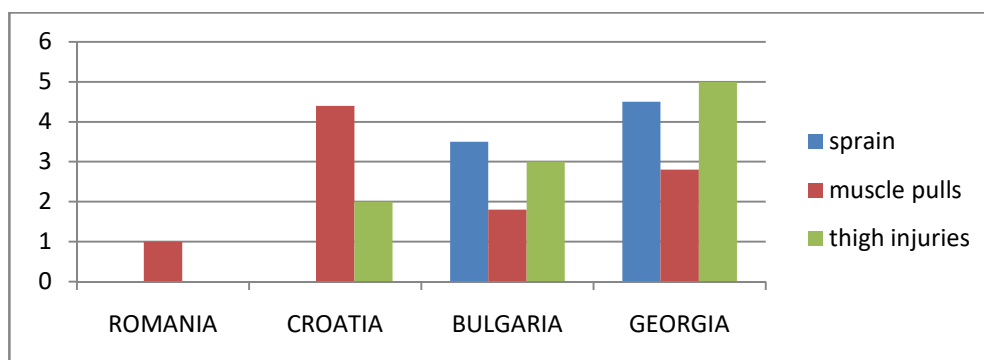
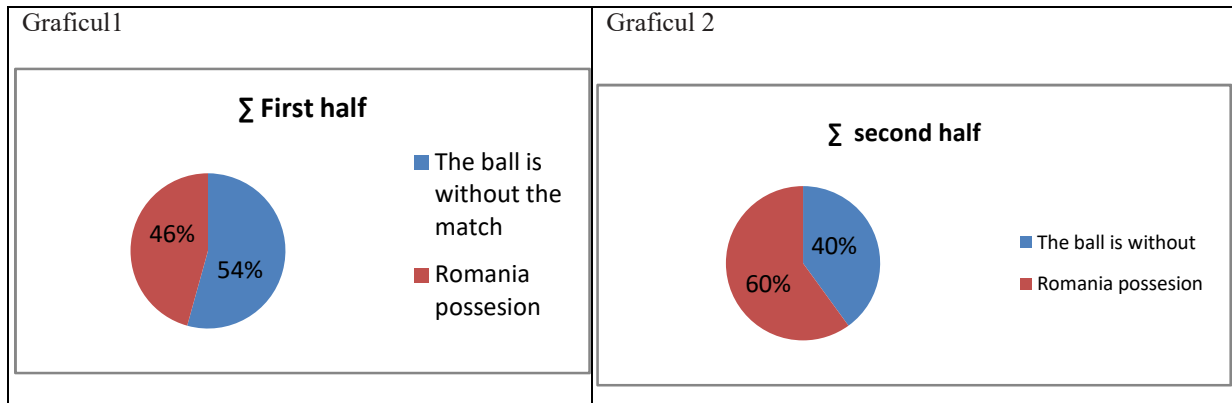


Fig.1 Comparative graphic of injuries

None of the serious incidents not happened to the Romania team. However, in most cases the exposed player seemed to be unaware of the opponent challenging him for ball possession.(Fig. 1+2)



So, we can say that the team is better prepared physically-programme stretching and cool down stage-pre-tournament and before every match and training into to tournament, repeat in every day-can develop a higher power of the muscles, tendons and mental, they can more ball possession and mark to goal.

Imposed new program not only gave us physical freshness especially at the end of games (min65'-80') but also stability in lot of players (we had no serious injuries) and we could align the same "11" and the title here and results-Romania-Croatia 1-0, Romania-Bulgaria 3-2, Romania-Georgia 1-0.

**Conclusion:** There is a need for a good prelimination before the primary stretching training which analytically promotes by contracting and improving the important groups of the lower members. There are that the exercises composite are included in muscular waxes, scapulo-humeral musculation, abdominal and the background which have the rolling role in return, breaking, shooting and tackling.

It takes some learning exercises dynamic stretching collaboration with cool down programme-as it has been shown that the mobility, strength/power means used have improved the process of tapping the ball. In this experiment we have noticed the motivation of the players in adaptating to the stretching methods day after day for yours stability in the team.

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