viaSoccer

Magazine

Bring on the Experts!

Techniques Tactics Athletics Goalkeeping Nutrition

Methodologies

by Seasoned European Coaches

March 2015

viaSoccer

Introduction

The situation is rapidly changing in soccer. Soccer is gaining ground in America with an increasing number of players and higher demand for coaches. The problem is that good coaches develop over time and the market does not wait for their preparation process.

An important thing we can do as coaches is to constantly improve our knowledge and skills.
A big challenge is that soccer knowledge covers many areas such as tactical, technical, athletic, soccer-specific psychology, sports nutrition, performance analysis, and prevention etc., while each topic also varies according to the age of the team. How could the coaches keep abreast of new training methods?

Thanks to technologies, communication has become easy, and you can find many articles on the same topic online these days. The problem is that many were published without author's name and background, so it is often difficult to filter good quality and practical information that actually helps us to improve our coaching skills.

This is what the viaSoccer Magazine is created for, to periodically provide quality articles written by seasoned coaches around the world with proven experience who are passionate to share their knowledge. Each edition we will share with you a few easy reading articles with practical information on different topics so you will get the most out of your time. We appreciate your feedback. Enjoy!

- *Coach Dario Marcolini, viaSoccer*

Inside This Edition

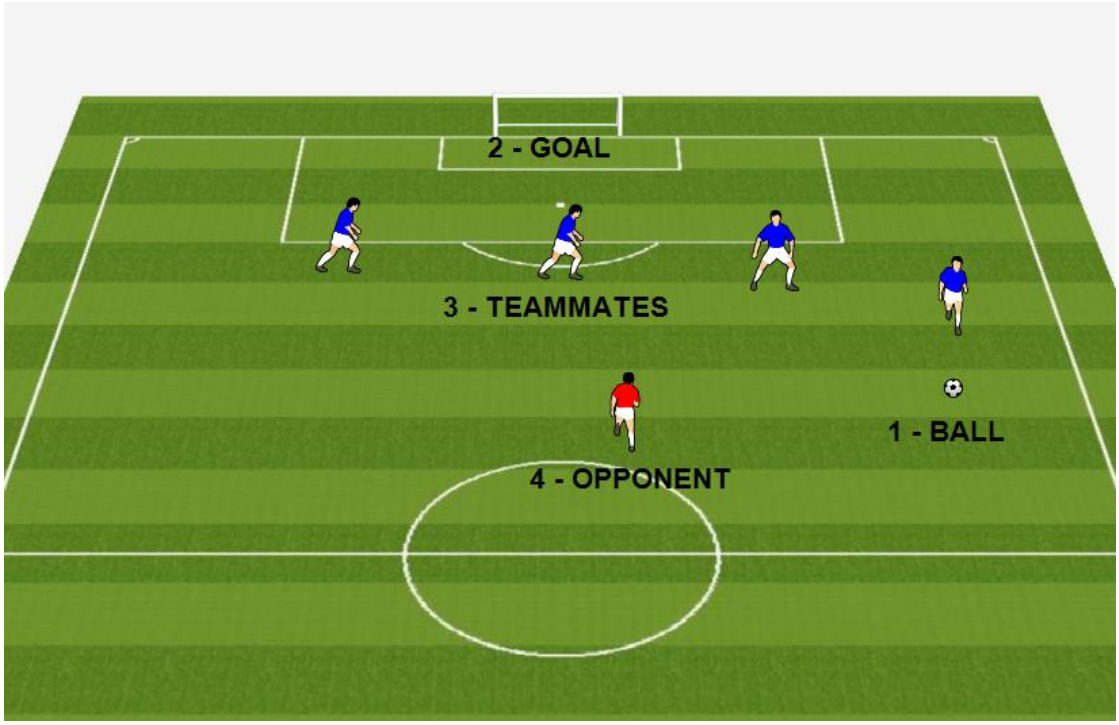
TACTICS - ZONE DEFENSE WITH 4 DEFENDERS

Position of the 4 Defenders

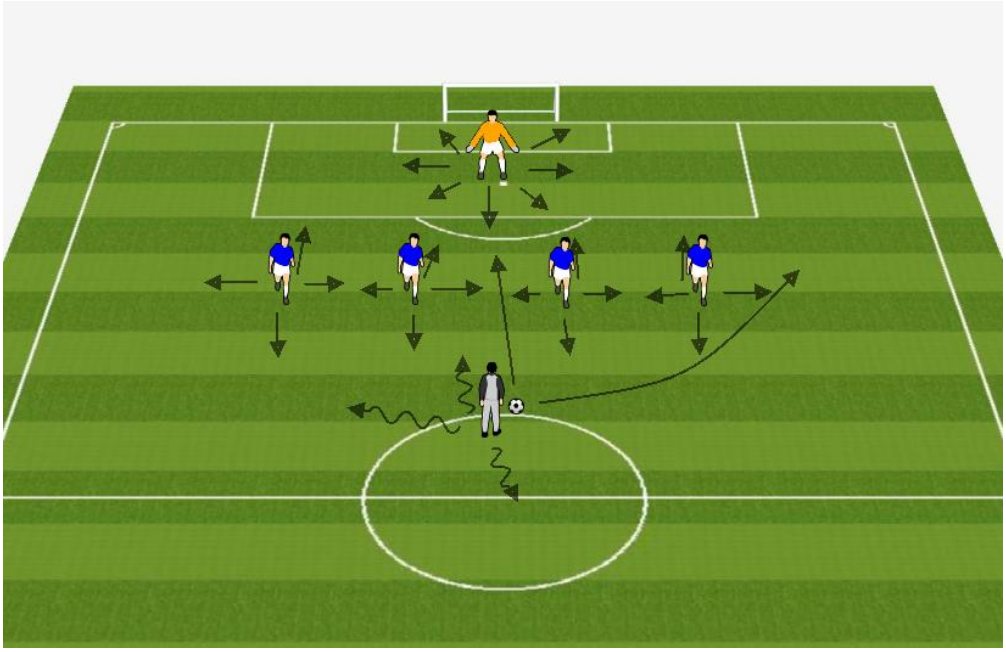
Alessandro Porro, UEFA A Coach, specialized in tactics and techniques. He is currently an instructor of the Italian Federation(FIGC) Soccer Coach School in Coverciano, Italy. He was a professional soccer player in multiple serie A teams.

In this article we will focus on some very important steps to learn and teach zone defense, the factors coaches need to be careful with when training our players.

Reference points

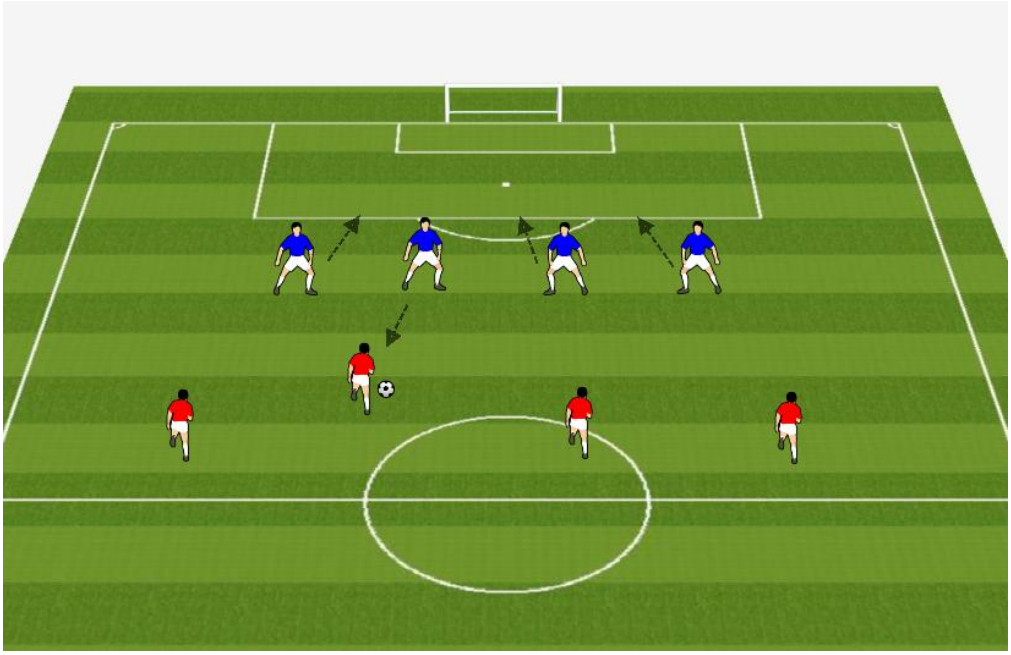


Variables of the ball

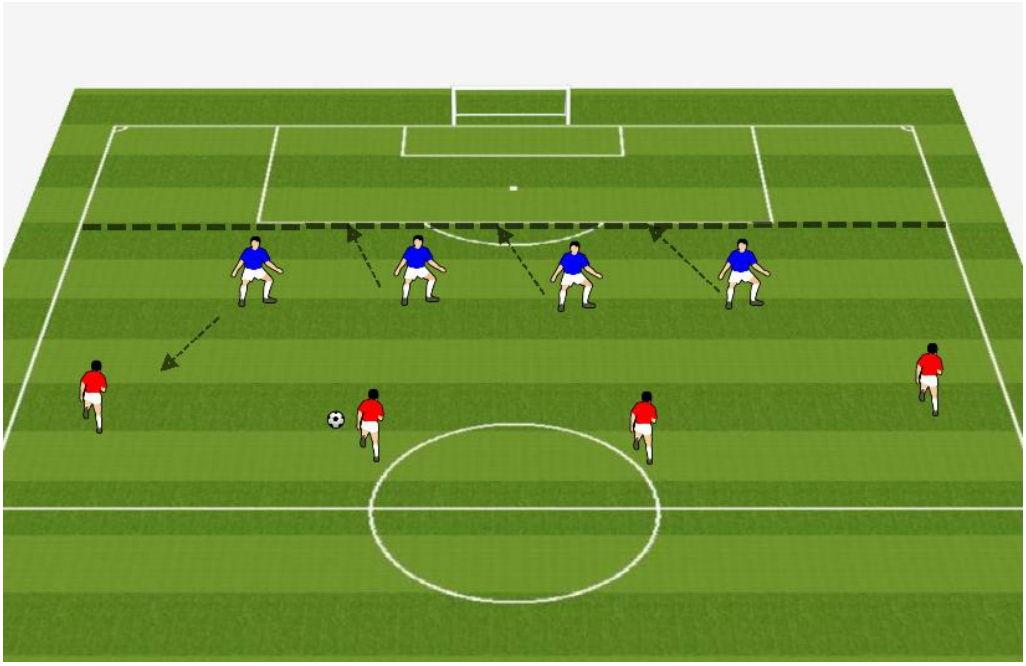


The coach moves or leads the ball and consequently the defensive line also moves as a function of the ball. The goalkeeper moves with the defensive line.

Basic movements



The teaching progression provides a tutorial in which four attackers (red) move the ball with two-touch shot. The task of the defenders is to move as a function of the ball. On central ball, with output of the central defender, the other three defenders form a single line of coverage (central pyramid).



Even on the ball side, with output back of competence, the three defenders will form a single line of coverage, highlighted by the dashed black. It is very important to analyze compliance with the distances between the various members of the defense department and the postures and the support of the defenders.

Technology Applied to Soccer

The Metabolic Power: A New Evaluation of the Workout

Author: Vincenzo Gissi. An expert in performance analysis with K-Sport, Italy. Former tactic coach of AC Fiorentina, and fitness coach of UC Sampdoria.

1. Introduction

The Metabolic Power is a parameter that is used to describe the physical demands of soccer player using external load data (Gps, Video Match Analysisetc.). To introduce this new method in the measurement of athlete's performance quality was Prof. Prampero, with the first theoretical study published in 2005[1], and a second more practical study in 2010[2]. In the latest article, he explains how high intensity is often the decisive moment in a game. It is currently estimated by evaluating the phases in which the speed is high, however, without taking into account the constant acceleration and deceleration of the player, which means not only the high-speed running requires a high metabolic commitment, but also each instant in which the value of acceleration is high, even at low speeds. The following formula: Metabolic Power = Energy Cost * Speed allows us to have a value on each instant of the physical work of the player, taking into account the speed and acceleration.

2. How is the Energy Cost Calculated?

In literatures there are many articles about the energetics and biomechanics of running at a constant speed with direct and indirect estimates of energy expenditure. The problem was how to estimate the energy loss of acceleration and deceleration. In 2005, the Intuition of Professor Di Prampero assimilated the race by accelerating hill climbing at a constant speed. In the figure, we can see the forces acting on a subject that is accelerating , and as these forces are equal, if tilting the ground to bring the body up vertically, the subject runs uphill at a constant speed (where the slope of the hypothetical slope is greater the height of acceleration). Since the energy cost of running uphill at a constant speed has been studied by several authors, you can derive the energy expenditure of the race in acceleration knowing the corresponding slope of the land.

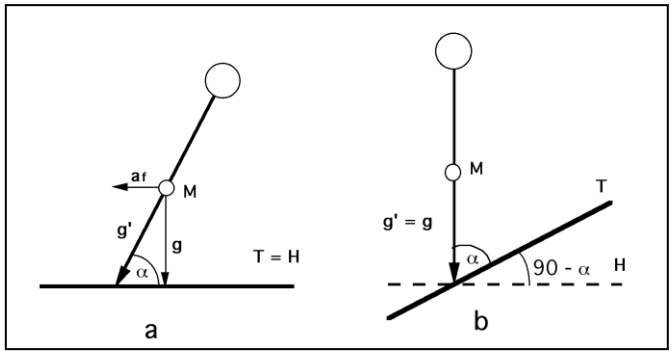


Fig.1 Outline of the theoretical model proposed by Di Prampero et al(2005)

3. Traditional Model vs. Metabolic Power

To understand the importance of the Metabolic Power, we analyzed the following example of two athletes (A and B) through the same distance of 40 meters (shown in Fig.2). Athlete A makes a lunge while the athlete B performs three accelerations followed by three decelerations. If we analyze the data of the two external loads following the traditional model, the conclusion would be that the athlete A has traveled 20 meters high intensity (taking the reference threshold at 16 Km / h), while the athlete B has passed 0 meters beyond the threshold. Not knowing the activities of the two, but considering only the data from the analysis using traditional method, it would appear that the athlete A has indeed spent more energy than athlete B who seems to have done nothing. In fact, at the end, athlete B is definitely more tired.

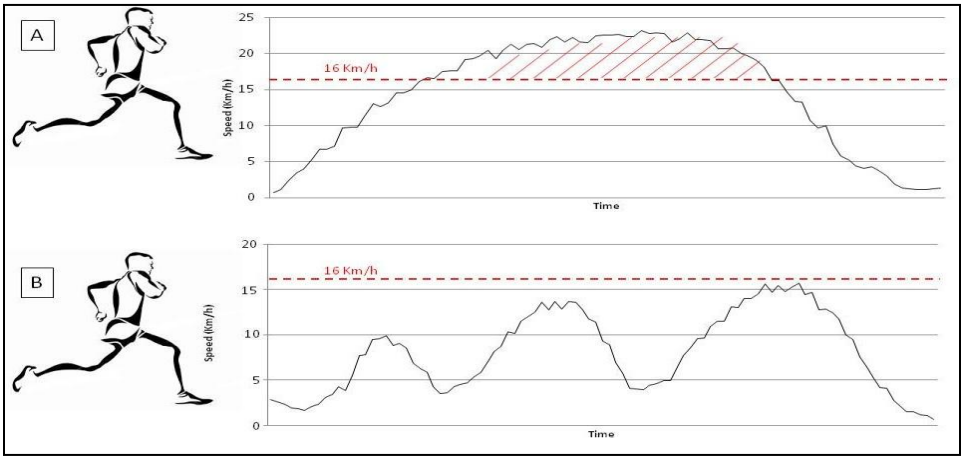


Fig.2 Trending two-speed exercise over 40 meters.

Instead, if we analyze the exercises with the model of Power Metabolic , in that we do not just look at the values of speed, we will see how the exercise of athlete B has produced a greater energy expenditure. In this way, actions of high intensity do not mean only at high speed, but also whenever we have high acceleration values. We take yet another example to understand better. Figure 3 shows the states of speed, acceleration and power metabolic function of distance traveled in a shuttle 20 + 20 meters. The first peak of power we find is at the fourth meter where the athlete is continuing to accelerate to 3m/s^2 at a moderate to high speed. When it comes to a high speed which he does not need to increase in order to accelerate, the power falls despite the highest speed.

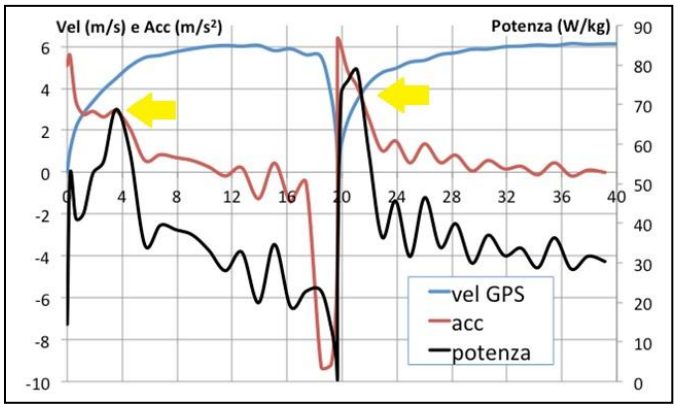


Fig.3 Speed, acceleration and power M as a function of the distance to a 20 + 20 m shuttle

4. Power Metabolic in the Match

As we said previously, the Metabolic Power is calculated from the data of external load, hence we can use GPS or Video Match Analysis. In the game where any equipment on the athletes is forbidden, Video Match Analysis can be used, while in training, GPS is used for its lower cost.

A study at the University of Rome analyzed many Italian Serie A championship matches and obtained the following results:

- if we assess erroneously, speeds higher than the MPA or VAM (> 16 km / h) occupy "only" 4.3% of the total time;
- 14.3% of the time, the player develops a power greater than the metabolic MPA (maximum aerobic power set to 20 W / kg approximately 57 mL-kg^{1}min^{1} O2).
- energy expenditure (EE = Energy expenditure) depends on 42.4% of the actions with higher than MPA power, compared to a time above the MPA 14.3%;

1. *di Prampero PE*, *Fusi S*, *Sepulcri L*, *Morin JB*, *Belli A*, *Antonutto G*. Sprint running: a new energetic approach. J Exp Biol 2005; 208: 2809–2816
2.Osgnach C, *Poser S*, *Bernardini R*, *Rinaldo R*, *di Prampero PE*. Energy cost and metabolic power in elite soccer: a new match analysis approach. Med Sci Sports Exerc 2010; 42: 170–178

FIFA 11+: Prevention Program to Reduce Injuries in Soccer

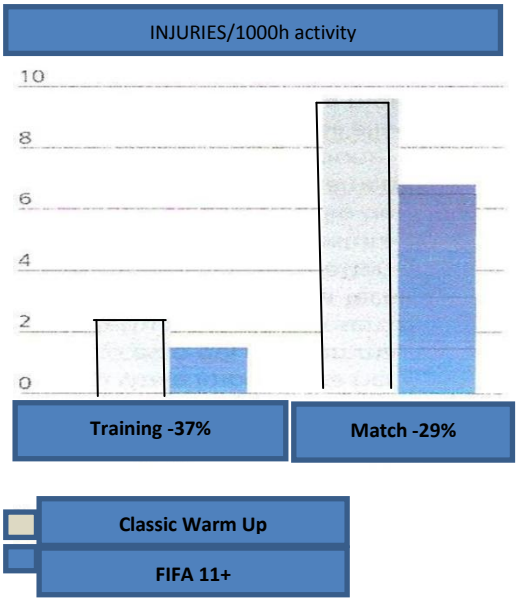
Author: Marco Giovannelli, Professional Fitness Coach FIGC FC Parma U18 & U19 and Training Load Analyst, with Coach Hernan Crespo. President of AIPAC Marche Region Italy (Italian Association Soccer Physical Trainer Marche), PhD candidate of "Science Exercise and Health", Collaborator FIGC Laboratory Methodology and Biomechanics applied soccer Coverciano (Florence). Worked with FC INTER (Coach Walter Mazzarri), AC Milan (Fitness Coach Simone Folletti), AC Fiorentina (Fitness Coach Emanuele Marra), FC Juventus.

1. Introduction

In this article I'll explain the importance and relevance of injury prevention program FIFA11+ for soccer and its practical application. The 11+ was created by Dr. Jiri Dvorak and FIFA-F MARC (FIFA MEDICAL ASSESSTEMENT RESEARCH CENTER) in Switzerland. The aim of this project is to reduce injuries in soccer players of every level in the competition. In Switzerland, the national accident insurance company registered a total of 42,262 soccer injuries, resulting in costs of approximately 145 million Swiss francs (US$130 million) in 2003. Research on injury prevention has shown that exercise-based programs can reduce the incidence of soccer injuries.

A study was conducted to assess the implementation and effects of a nation-wide campaign to reduce the incidence of soccer injuries among Swiss amateur players. All coaches of the Schweizerischer Fussballverband (SFV) received information and materials, and were instructed to implement the injury prevention program ''The 11'' in their training of amateur players. After the instruction, the coaches were asked to rate the quality and the feasibility of ''The 11.'' Before the intervention and 4 years after the intervention, a sample of about 1000 Swiss soccer coaches were interviewed on the frequency and characteristics of injuries in their teams. Teams that did or did not practice ''The 11'' were compared with respect to the incidence of soccer injuries. A total of 5549 coaches for amateur players were instructed to perform ''The 11'' in the training with their teams. The rating of the teaching session and the prevention program were overall very positive. In 2008, 80% of all SFV coaches knew the prevention campaign ''The 11,'' and 57% performed the program or most part of it. Teams performing ''The 11'' had an 11.5% lower incidence of match injuries and a 25.3% lower incidence of training injuries than other teams; noncontact injuries in particular were prevented by the program.

''The 11'' was successfully implemented in a nation-wide campaign and proved effective in reducing soccer injuries of amateur players. The effect of the prevention program was also observed in the population-based insurance data and healthcare costs. It's been scientifically proven that constant use of FIFA 11+ reduced injuries by 30-50% among soccer players. In fact, teams who used this program regularly for 1-2 times per week had respectively a reduction of 37% injuries during training and 29% during match. Serious injuries decreased by 50% in total (British Medical Journal, 2008, 337 **Fig.1 below)**
http://bmj.com/cgi/content/full/337/dec09_2/a2469).



2. Three Parts of FIFA 11+

There are three parts in FIFA 11+ program : 20' Minutes (part 1+2+3); 10' Minutes (part 1+3 without part 2)

Part 1: **Running Exercises** (low intensity running, with dynamic stretching and controlled contacts with team mate)

Part 2**: Strength, Core Stability, Plyometrics, Balance and Agility lowers limb** (3 levels of difficulty: easy (green), medium (yellow) and red (high), player passes to the next level when he is able to perform the exercises at the lower level.

Part 3: **Running Exercises** (moderate and high intensity) combined with Changes of Directions (COD)

Note: It's possible to perform part 1 and 3 (without part 2) when a fast warm-up is needed (e.g. before the championship match or before friendly match etc.). **(Fig. 1-2 FIFA 11+)**

Web URL www.FIFA.com/medical; Download Manual, DVD with exercises and field organization

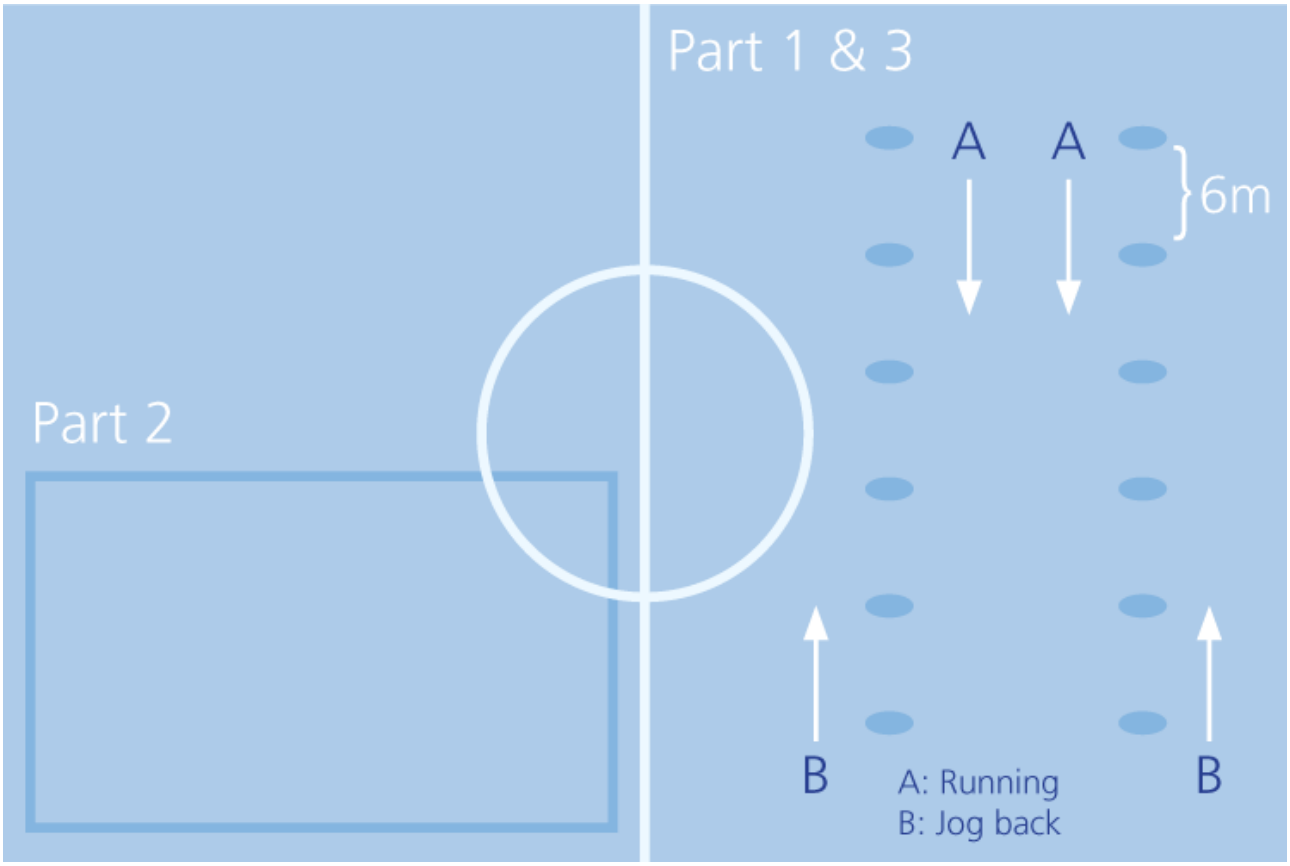


Fig. 1 The 11+ Field Organization

Figure 2 is the exercises of FIFA 11+. Videos of each exercise can be found on FIFA website.

The 11+

PART 1 RUNNING EXERCISES · 8 MINUTES

1 RUNNING STRAIGHT AHEAD

The course is made up of 6 to 10 pairs of parallel cones, approx. 5-6 m apart. Two players start at the same time from the first pair of cones. Jog together all the way to the last pair of cones. On the way back, you can increase your speed progressively as you warm up. 2 sets

2 RUNNING HIP OUT

Walk or jog easily, stepping at each pair of cones to lift your knee and rotate your hip outwards. Alternate between left and right legs at successive cones. 2 sets

3 RUNNING HIP IN

Walk or jog easily, stepping at each pair of cones to lift your knee and rotate your hip inwards. Alternate between left and right legs at successive cones. 2 sets

4 RUNNING CIRCLING PARTNER

Run forwards as a pair to the first set of cones. Shuffle sideways by 90 degrees to meet in the middle. Shuffle an entire circle around one other and then return back to the cones. Repeat for each pair of cones. Remember to stay on your toes and keep your centre-of-gravity low by bending your hips and knees. 2 sets

5 RUNNING SHOULDER CONTACT

Run forwards in pairs to the first pair of cones. Shuffle sideways by 90 degrees to meet in the middle then jump sideways towards each other to make shoulder-to-shoulder contact.
Note: Make sure you land on both feet with your hips and knees bent. Do not let your knees buckle inwards. Make it a full jump and synchronize your timing with your team-mate as you jump and land. 2 sets

6 RUNNING QUICK FORWARDS & BACKWARDS

As a pair, run quickly to the second set of cones then run backwards quickly to the first pair of cones keeping your hips and knees slightly bent. Keep repeating the drill, running into cones forwards and one tonk backwards. Remember to take small, quick steps. 2 sets

PART 2 STRENGTH · PLYOMETRICS · BALANCE · 10 MINUTES

LEVEL 1

7 THE BENCH STATIC

Starting position: Lie on your front, supporting yourself on your forearms and feet. Your elbows should be directly under your shoulders.
Exercise: Lift your body up, supported on your forearms, pull your stomach in, and hold the position for 20-30 sec. Your body should be in a straight line. Try not to sway or arch your back. 3 sets

8 SIDEWAYS BENCH STATIC

Starting position: Lie on your side with the knee of your lowermost leg bent to 90 degrees. Support your upper body by resting on your forearm and knee. The elbow of your supporting arm should be directly under your shoulder. Exercise: Lift your uppermost leg and hip until your shoulder, hip and knee are in a straight line. Hold the position for 20-30 sec. Take a short break, change sides and repeat. 3 sets on each side.

9 HAMSTRINGS BEGINNER

Starting position: Kneel on a soft surface. Ask your partner to hold your ankles down firmly. Exercise: Your body should be completely straight from the shoulder to the knee throughout the exercise. Lean forward as far as you can, controlling the movement with your hamstrings and your gluteal muscles. When you can no longer hold the position, gently take your weight on your hands, falling into a push-up position. Complete a minimum of 3 - 5 repetitions and/or 60 sec. 1 set

10 SINGLE-LEG STANCE HOLD THE BALL

Starting position: Stand on one leg.
Exercise: Balance on one leg whilst holding the ball with both hands. Keep your body weight on the ball of your foot. Remember: try not to let your knees buckle inwards. Hold for 30 sec. Change legs and repeat. The exercise can be made more difficult by passing the ball around your waist and/or under your other knee. 2 sets

11 SQUATS WITH TOE RAISE

Starting position: Stand with your feet hip-width apart. Place your hands on your hips if you like. Exercise: Imagine that you are about to sit down on a chair. Perform squats by bending your hips and knees to 90 degrees. Do not let your knees buckle inwards. Descend slowly then straighten up more quickly. When your legs are completely straight, stand up on your toes then slowly lower down again. Repeat the exercise for 30 sec. 2 sets

12 JUMPING VERTICAL JUMPS

Starting position: Stand with your feet hip-width apart. Place your hands on your hips if you like.
Exercise: Imagine that you are about to sit down on a chair. Bend your legs slowly until your knees are flexed to approx. 90 degrees, and hold for 2 sec. Do not let your knees buckle inwards. From the squat position, jump up as high as you can. Land softly on the balls of your feet with your hips and knees slightly bent. Repeat the exercise for 30 sec. 2 sets

LEVEL 2

7 THE BENCH ALTERNATE LEGS

Starting position: Lie on your front, supporting yourself on your forearms and feet. Your elbows should be directly under your shoulders.
Exercise: Lift your body up, supported on your forearms, and pull your stomach in. Lift each leg in turn, holding for a count of 2 sec. Continue for 40-60 sec. Your body should be in a straight line. Try not to sway or arch your back. 3 sets

8 SIDEWAYS BENCH RAISE & LOWER HIP

Starting position: Lie on your side with both legs straight. Lean on your forearm and the side of your foot so that your body is in a straight line from shoulder to foot. The elbow of your supporting arm should be directly beneath your shoulder.
Exercise: Lower your hip to the ground and raise it back up again. Repeat for 20-30 sec. Take a short break, change sides and repeat. 3 sets on each side.

9 HAMSTRINGS INTERMEDIATE

Starting position: Kneel on a soft surface. Ask your partner to hold your ankles down firmly. Exercise: Your body should be completely straight from the shoulder to the knee throughout the exercise. Lean forward as far as you can, controlling the movement with your hamstrings and your gluteal muscles. When you can no longer hold the position, gently take your weight on your hands, falling into a push-up position. Complete a minimum of 7 - 10 repetitions and/or 60 sec. 1 set

10 SINGLE-LEG STANCE THROWING BALL WITH PARTNER

Starting position: Stand 2-3 m apart from your partner, with each of you standing on one leg.
Exercise: Keeping your balance, and with your stomach held in, throw the ball to one another. Keep your weight on the ball of your foot. Remember: keep your knee just slightly flexed and try not to let it buckle inwards. Keep going for 30 sec. Change legs and repeat. 2 sets

11 SQUATS WALKING LUNGES

Starting position: Stand with your feet at hip-width apart. Place your hands on your hips if you like. Exercise: Lunge forward slowly at an even pace. As you lunge, bend your leading leg until your hip and knee are flexed to 90 degrees. Do not let your knee buckle inwards. Try to keep your upper body and hips steady. Lunge your way across the pitch (approx. 10 times on each leg) and then jog back. 2 sets

12 JUMPING LATERAL JUMPS

Starting position: Stand on one leg with your upper body bent slightly forwards from the waist, with knees and hips slightly bent.
Exercise: Jump approx. 1 m sideways from the supporting leg on to the free leg. Land gently on the ball of your foot. Bend your hips and knees slightly as you land and do not let your knee buckle inward. Maintain your balance with each jump. Repeat the exercise for 30 sec. 2 sets

LEVEL 3

7 THE BENCH ONE LEG LIFT AND HOLD

Starting position: Lie on your front, supporting yourself on your forearms and feet. Your elbows should be directly under your shoulders. Exercise: Lift your body up, supported on your forearms, and pull your stomach in. Lift one leg about 10-15 cm off the ground, and hold the position for 20-30 sec. Your body should be straight. Do not let your opposite hip dip down and do not sway or arch your lower back. Take a short break, change legs and repeat. 3 sets

8 SIDEWAYS BENCH WITH LEG LIFT

Starting position: Lie on your side with both legs straight. Lean on your forearm and the side of your foot so that your body is in a straight line from shoulder to foot. The elbow of your supporting arm should be directly beneath your shoulder.
Exercise: Lift your uppermost leg up and slowly lower it down again. Repeat for 20-30 sec. Take a short break, change sides and repeat. 3 sets on each side.

9 HAMSTRINGS ADVANCED

Starting position: Kneel on a soft surface. Ask your partner to hold your ankles down firmly. Exercise: Your body should be completely straight from the shoulder to the knee throughout the exercise. Lean forward as far as you can, controlling the movement with your hamstrings and your gluteal muscles. When you can no longer hold the position, gently take your weight on your hands, falling into a push-up position. Complete a minimum of 12 - 15 repetitions and/or 60 sec. 1 set

10 SINGLE-LEG STANCE TEST YOUR PARTNER

Starting position: Stand on one leg opposite your partner and at arm's length apart.
Exercise: Whilst you both try to keep your balance, each of you in turn tries to push the other off balance in different directions. Try to keep your weight on the ball of your foot and prevent your knee from buckling inwards. Continue for 30 sec. Change legs and repeat. 2 sets

11 SQUATS ONE-LEG SQUATS

Starting position: Stand on one leg, loosely holding onto your partner.
Exercise: Slowly bend your knee as far as you can manage. Concentrate on preventing the knee from buckling inwards. Bend your knee slowly then straighten it slightly more quickly, keeping your hips and upper body in line. Repeat the exercise 10 times on each leg. 2 sets

12 JUMPING BOX JUMPS

Starting position: Stand with your feet hip-width apart. Imagine that there is a cross marked on the ground and you are standing in the middle of it.
Exercise: Alternate between jumping forwards and backwards, from side to side, and diagonally across the cross. Jump as quickly and explosively as possible. Your knees and hips should be slightly bent. Land softly on the balls of your feet. Do not let your knees buckle inwards. Repeat the exercise for 30 sec. 2 sets

PART 3 RUNNING EXERCISES · 2 MINUTES

13 RUNNING ACROSS THE PITCH

Run across the pitch, from one side to the other, at 75-80% maximum pace. 2 sets

14 RUNNING BOUNDING

Run with high bounding steps with a high knee lift, landing gently on the ball of your foot. Use an exaggerated arm swing for each step (opposite arm and leg). Try not to let your leading leg cross the midline of your body or let your knees buckle inwards. Repeat the exercise until you reach the other side of the pitch, then jog back to recover. 2 sets

15 RUNNING PLANT & CUT

Jog 4-5 steps, then plant on the outside leg and cut to change direction. Accelerate and sprint 5-7 steps at high speed (80-90% maximum pace) before you decelerate and do a new plant & cut. Do not let your knee buckle inwards. Repeat the exercise until you reach the other side, then jog back. 2 sets

KNEE POSITION **CORRECT**

KNEE POSITION **INCORRECT**

MY GAME IS FAIR PLAY FIFA

F-MARC FOOTBALL FOR HEALTH FIFA

3. Body Positions

Correct body positions are very important for achieving the prevention objectives, for examples, alignment of spinal column with pelvis; alignment of hip, knee and foot, i.e., knee up without going over the toes, are essential for correct exercises. **(Fig.3)**

Fig. 3 Body Positions

4. Conclusions: Comparisons 11+ Group vs Control Group (Classic Warm Up) on Injuries Incidents

In conclusion, scientific research and practical applications have demonstrated that correct development process and constant practice of FIFA 11+(1-2 times per week) reduced total injuries by 34,3% and overload injuries (muscles injuries strains, contractures, tears etc..) by 54,4%. Ankle injuries decreased by 27.1% and knee injuries by 44,6% , e.g. LCA rupture, sprain etc. **(Fig. 4).** It is important for soccer trainers and fitness coaches to implement this prevention program and build awareness among players to perform FIFA 11+.

INJURED PLAYERS	Group program "11+"	Group control (classic Warm Up)	Reduction
All injuries	13.0%	19.8%	34.3%
Acute Injuries	10.6%	15.5%	31.6%
Overload Injuries	2.6%	5.7%	54.4%
Knee Injuries	3.1%	5.6%	44.6%
Ankle Injuries	4.3%	5.9%	27.1%
Serious Injuries	4.3%	8.6%	47.7%

A YOUNG GOALKEEPER

THE Modern Goalkeeper: Takes the Ball with Hands but Plays with Legs and Brain

Author: Franco Crescentini, UEFA B Coach, specialization in goalkeeper soccer training. Former Gambia National Team, Uta Arad (2 division Romania), Fano (4 Italian division).

In this article, I would like to focus on the work with young "future" goalkeepers. I want to remind you that this topic is related to kids from age 8 to 10 years old. In my opinion, it is not the right age to make a specific position for each player, neither with a kid that shows a natural talent to play as a goalkeeper. Watch the kids coming to the field on t-shirts with the image of their favorite goalkeeper (in Italy the current favorite goalie is Buffon) can be nice but also somewhat indulgent.

We cannot forget that the kids must have fun and this has to be the objective for each coach. We can indulge and let them play as their favorite championship, but we cannot lose our focus on helping them with the growth path of a soccer player, a goalkeeper to an athlete, and then to an adult.

We know that the goalkeeper position requires more acrobatic and coordination skills than others. While the normal position requires coordination of feet, legs, body and head, the goalkeeper also requires coordination with the hands and arms. We can't assume that if the goalie has to use the hands and arms as the principal limb, it is not necessary to focus on coordination of the legs.

The modern goalkeeper must know how to use all body coordination as the other players, because through the accurate passing, he can be the first striker. A great example is Manuel Neur, German goalkeeper of the Bayern Munich and 2014 world champion in Brazil. Today the number one goalkeeper not only has to know how to defend his goal, but understand the game and his tactical situations in defense and attack. These skills allow the goalkeeper to be the owner of his area and sometimes to become an additional defender.

In modern soccer, the goalie is the first striker so he has a specific tactic assignment. This takes an evolution of the training methodology which not only focus on training the goalkeeper to defend his own goal, but also learning how to manage the entire defense area and to kick with his feet.

So it is important to not teach the kids to be just "only" a goalkeeper. He must try different positions and understand their differences because in the future he will "command" the defenders both mid-fielders and strikers.

It is also good for to make scrimmages without goalkeepers or with little doors so that the goalie can understand the challenges to control the ball with his own feet, to react to the pressing and to play with the teammates more directly. This way, he will be good at giving directions and signals to his teammates.

We coaches should stimulate and facilitate the involvement of our young goalkeepers in the scrimmages (perhaps implementing a rotation). We can arrange exercises or themed games, to develop the techniques. I focus on this topic because today the goalkeeper is required to be very nimble in the phase of “transition,” that is the moment when his team conquest or loses the ball. This situation, by the statistics, is the moment of goal opportunities. The slower the goalkeeper is in the transitional phase, the more goal situation will be created. So this is the opportunity to create a situation where his team players outnumber the opponents. The goalkeeper is often the starter of this kind of action, which transforms himself from the last defender into the first striker.

Exercises

1. Bowling with Slalom

This exercise improves the ability to launch with the hands or pass with foot, depending on the variant applied. It also trains to control the ball and shoot.

The game is carried out in pairs. At the start they have to try to hit a target through a roll with their hands. Whoever closer to the target is entitled to a shot on goal, and run after a slalom.

Variants:

- One teammate as referee
- You can pull on the rebound of the goalkeeper
- Other teammates are defenders, take the place of the slalom

2. Goals below or above the tape

The exercise requires the analysis of the trajectory of the ball that the goalkeeper can move with the body behind it, and the ability to throw or kick the ball in a defined space.

The game is to go in turns to defend a door (4x2 meters) that has a colored ribbon from pole to pole, at a height that can vary from the indications of the coach. The other gatekeepers serve as strikers throw the ball over or under the tape, as the coach will determine, from a distance of about 10 meters. When the attackers throw the ball with his hands the goalkeeper ca not use your hands to parry, but will reject the ball with any part of the body, thus increasing their awareness towards it.

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SPORTS NUTRITION

The Importance of the Nutrition in Sports

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Sports nutrition is becoming increasingly important over the years. Since the early ages of Olympic Game in ancient Greece, it was well known that proper nutrition and sport performance were related. During the 1900's, with the birth of modern sport, experts started to evaluate the physiological effect between nutrition and sport. They were still far from real scientific study and demonstration. At that time it was more of an instinct just by understanding the body. Sometimes people believed in wrong ideas, for example, to give different meat to the sprinters and the marathoner, in order to transfer the sprint or endurance skills from the animal to the athletes.

Later, people understood a very important concept that right nutrition doesn't guarantees a good performance, but surely a bad diet could compromise an athlete's performance. Mistakes with nutrition close to the match directly impact for the final result. Fatigue, sickness, and low focus are only some of the effects of the wrong nutrition. Nowadays, nutrition is considered to be a very important part of sport recovery process.

In addition to energy intake and the quality of the food, another concept was discovered recently, that is NUTRITIONAL TIMING. It is a diet strategy of distribution of the meals and snacks related with type, timing and intensity of training.

The sport nutrition objectives are different from classic diet. In that it focuses on the following:

- maximizing energy
- decreasing recovery time
- modulating inflammatory response

It is important to optimize the energy reserves allocated to the effort. Every meal of the day from breakfast to dinner is designed to supply the muscles with the right amount of glycogen that will provides immediate energy during exercise and also to restore the reserves depleted in sports activities.

It is also very important to be careful with hydration which is often neglected at every sport level. A 2% body water can increase heart rate and decrease speed. There i s also an increase of the fatigue level and decrease in motivation of the athlete.

The creation of a nutrition plan is fundamental for the athletes, especially if the athletes are in the development age. A typical plan tarts with careful analysis of the eating habits, then continue with chemistry and hormone exams, anthropometric evaluation of lean mass and fat mass, hydration status and in the end the cell mass of metabolically active muscle.

It is important to maintain the right quantity of the lean mass for all the seasons, sometimes by increasing or decreasing the fat mass quantity. Excess body fat is related with a decrease of the performance in each sport that requires body motion with speed, strength, endurance, dexterity and jump skills.

In the end of the workout, human body produces a pro-oxidant substance which can cause an inflammation. With proper nutrition, it is possible to modulate these process so as to decrease possibility of injuries and shorten the recovery time.

Last but not least, is the theme of onset of eating disorders among the younger athletes. Wrong advises, impression from the coaches or family, and low self-esteem are only some of the causes of reduction in energy intake. Therefore, it is important that every coach, in contact directly with the athletes, be educated to identify the disturbing behaviors, and work with the sports nutrition specialists, doctors ad physiologists. This team work is very helpful for prevention and early identification of issues, and timing implementation with the right nutrition plan for treatment.

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