



SOCCER FIT-FACTS

VOLUME 5, ISSUE 1: MARCH 4, 2013

SUMMER INTERNSHIP WITH GNK DINAMO ZAGREB-BY MATIJA VUGRINICEK





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MEET CONTRIBUTING AUTHOR MATIJA VUGRINICEK This past summer, I spent one month in Zagreb, Croatia, where I obtained professional educational experience with GNK Dinamo Zagreb Youth Academy. Dinamo Zagreb is the most successful Croatian team, producing world-class players such as Luka Modric and Eduardo Da Silva. The Youth Academy has a lot of success in international tournaments against teams such as Manchester United, Barcelona and AC Milan.

The staff consists of former Croatian national team players, and Dinamo Zagreb legends. Growing up in Croatia, I used to look up to these local heroes, and there I was at Dinamo Zagreb, given a chance to learn from the people I grew up idolizing - amazing experience!

Other staff at Dinamo Zagreb includes, fitness trainers and athletic therapists who work alongside the coaches to offer comprehensive training for the players. One thing all of them mentioned to me is that communication between coaches. fitness trainers and therapists was the key to the success of player development. The following is the outline of things that stuck with me from countless conversations with coaches and fitness trainers, and observation of their sessions:

World -wide player selection

High volume of training sessions and games

 Parents are not allowed to observe training sessions

High volume of technical training

 Focus on coordination training for younger age groups (12 and under)

 Weekly video analysis of games for older age groups (16 and older)

 Discipline, professionalism and respect is demanded from players

- Involvement with the senior team is encouraged (ie. ball-boys, match attendance)
- Appearance on international tournaments is encouraged
- Individual training for players recovering from injury
- Periodized strength and conditioning sessions
- Three meals per day provided for all players

The focus on youth development, both as athletes and human beings, is obvious at Dinamo Zagreb. Athletes are taught at a very young age what it means to play for the biggest club in the country and that only hard work and dedication can take you to the world

stage. Athletes train 4-5 times per week and play one game. The older age groups sometimes train twice a day. Younger age groups (11 and younger) play a lot of tournaments, and they treat each tournament like a world cup. I have seen eight year-olds cry because they lost a semi-final game of a minor tournament. All athletes in the academy have only one thing on their mind- to make it pro. The passion, drive to learn and "professionalism" is evident at a very early age. The significant component resulting in this early "professionalism" is the soccer culture evident in every part of Zagreb. Every day, the first thing children do once the school bells rings is run outside and play soccer. often for hours at a time. All players at Dinamo Zagreb live

My time spent with Dinamo Zagreb Youth Academy provided me with better understanding of things that are necessary for young players to make it to the pro level. Professional coaches, quality player selection, high volumes of training are all the key aspects of youth development, but most importantly players need to have the natural passion for the beautiful game.

and breathe soccer.

LEARN ABOUT IN THIS ISSUE:

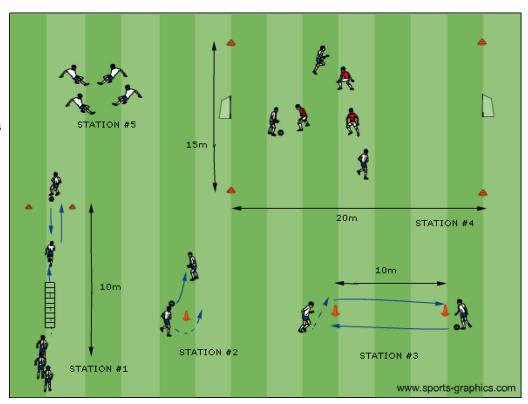
- Professional
 European Youth
 Academy Training
- Sample Training sessions
- Soccer Fitness Head Strength and Conditioning Coach Matija Vugrinicek
- The Everest Academy



GNK DINAMO ZAGREB- SAMPLE TRAINING SESSION

Below are the details of a sample training session performed by the Dinamo Zagreb Youth Academy

- Age group: 11-12
- 10 minute coordination warm up using music and having players perform exercises to the beat
- 5 minute soccer specific warm up including dynamic stretches
- 45 minute circuit training session:5 groups of 5 players, each group visits a station 3 times, 3 minutes per station
- 5 stations:
 - Agility/speed (ladder drills with sprints)
 - 2. Heading technique
 - Passing (two touch, one touch)- focus on technique and accuracy
 - 4. 3 v 3 game
 - Core strengthening (front plank, side plank, crunches)
- 15 minute cool down including light jogging and static stretches



EXERCISE SPOTLIGHT-STABILITY BALL KNEES-TO-CHEST

In this feature of Soccer Fit-Facts, Exercise Spotlight, we highlight an important exercise that can—and should—be incorporated into the training program of young soccer players. In this issue, we feature the stability ball knees-to-chest, an exercise which can help build core strength, balance, and also improve trunk stability and recue risk of injury to the lower back and pelvis. To perform this exercise, start

by placing hands on the floor in push-up position, as wide as the shoulders. Place the feet (or toes) on a stability ball, and slowly raise the torso so that body weight is supported completely by the hands and feet. Keep the abdominal muscles contracted throughout the exercise, which will maintain the pelvis in a neutral position. Slowly bring the knees towards the chest, stopping when they have reached the

maximum amount of hip flexion (Figure 1). Hold this position for 1 second, then slowly extend the hips and knees until the starting position is reached.

Perform 2-3 sets of 10 repetitions, with about 1 minute of rest between sets, for optimal improvements in core strength. This exercise should be performed prior to players stepping onto the field.



Figure 1

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PRE-SEASON FITNESS ASSESSMENTS—BY RICHARD BUCCIARELLI

At Manchester United, coming into training camp 5lbs overweight can cost you \$5000. In fact, in most professional first and even second division teams, players are fined between \$100 - \$1000 per pound of extra weight gained in the off-season. Elite players also stand to lose something even more valuable than money playing time - if they show decreased performance on endurance testing measures when training camp begins. When taken together, these facts serve to highlight the importance of physical and physiological testing for elite level soccer players. At Soccer Fitness, I have been in charge of physical development of thousands of individual players, as well as hundreds of teams, ranging from professionals, college/university, and amateur club players. Overall, there is less importance placed on body weight/body composition with these players (especially the youngest ones) however, testing and establishing standards for physical ability is a prime area of importance for me.

Tests of physical ability in soccer need to be selected because they are – and have proven to be – valid to the sport. For a particular test of a particular physical ability to be seen as "valid" two main questions or criteria need to be met:

- 1. <u>Do the tests differentiate between</u>
 <u>higher and lower levels of play in the sport?</u>
 (Do players at higher levels of play Provincial, junior National, senior National, and Professional score higher on these types of tests than players at lower levels of play?)
- 2. <u>Is the test a predictor of performance in the sport?</u> (Do players who score higher on these tests perform more physical work during competition?)

At Soccer Fitness, we reviewed decade's worth of literature on performance analysis in soccer,

including time-motion-analysis of soccer games at various different levels of play, when selecting and developing our testing protocols. The two main physical abilities that we found to be both differentiators of performance levels, and predictors of physical performance in games, are speed, and high intensity running ability. Below is a brief summary of these two physical abilities, how they relate to soccer, and the rationale for the tests chosen to measure these physical abilities.

1. Speed:

What is Speed?

Speed is defined as the ability to move the body – or parts of the body – quickly. Speed is used in soccer to dribble around opponents, make runs into space, and close down attacking players.

How can we measure Speed?

At Soccer Fitness, we use photo-cell timing gates (Brower Timing Systems) to measure speed at 3 different distances:

- 10 metres: the shortest distance, and a good measure of starting speed or explosive speed
- 20 metres: the average distance of a sprint in soccer
- 35 metres: the maximum distance of a sprint in soccer

2. High Intensity Running Ability:

What is High Intensity Running Ability?

High intensity running ability is the ability to perform high intensity running (that is, running which is done at a speed between 80-100% of an individual's maximal running speed).

How can we measure High Intensity Running Ability?

In soccer, high intensity running ability is the number-one factor that differentiates different levels of performance. At Soccer Fitness, we have selected the test which has the highest correlation to the amount of high intensity running players do in games: the Yo-Yo Intermittent Recovery Test. Comprising a 2 x 20 metre shuttle (signaled by audio signals on a prerecorded tape), followed by 10 seconds of rest, the test gradually decreases the time interval of the 20 metre shuttle run audio signals but keep the 10-second rest period the same. Eventually, the test becomes 2 fast runs, followed by 10 seconds of rest, and then 2 fast runs, over and over again until the athlete is not able to keep up with the pace of the audio signals.

Figure 1 below explains some of the standards and norms for male soccer players at different levels of play. As you can see, the higher the level of play, the better the scores (faster speed, and higher yo-yo scores) seen on the tests. Thus, the tests do differentiate between different levels of play in soccer.

Figure 2 below comprises a score-sheet for the Yo-Yo Intermittent Recovery Test Level 1. Each stage in the test is shown directly above a number – representing the distance (in metres) covered during the test. Match analysis studies have shown that players who cover a certain distance in the Yo-Yo test, will tend to cover similar distances at high intensity (running speeds at or above 80% of maximal running speed) during games. Thus, the Yo-Yo tests are not only able to differentiate levels of play in soccer; they are also reliable and valid predictors of performance in the sport.

TEST	REGIONAL TEAMS (U16)	JUNIOR INTERNATIONAL TEAMS (U18)	SENIOR INTERNA- TIONAL TEAMS	
10 METRE SPRINT	2.09 s	1.85 s	1.79 s	
20 METRE SPRINT	3.20 s	3.12 s	2.96 s	
35 METRE SPRINT	5.06 s	4.89 s	4.69 s	
YO-YO INTERMITTENT RECOVERY TEST, LEVEL 1	19.1	19.1	20.1	
YO-YO INTERMITTENT RECOVERY TEST, LEVEL 2	21.4	21.8	22.4	

Figure 1 (Left):
Standards and
Norms for Pro-
vincial, National
and Profes-
sional Male
Soccer Players.

Figure 2 (Right):

Score Card (with distances covered) for Yo-Yo Intermittent Recovery Test Level 1

<u> </u>										
Level	5.1					Name:				
Distance	40									
Level	9.1					Date:				
Distance	80									
Level	11.1	11.2								
Distance	120	160								
Level	12.1	12.2	12.3							
Distance	200	240	280							
Level	13.1	13.2	13.3	13.4						
Distance	320	360	400	440						
Level	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8		
Distance	480	520	560	600	640	680	720	760		
Level	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8		
Distance	800	840	880	920	960	1000	1040	1080		
Level	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8		
Distance	1120	1160	1200	1240	1280	1320	1360	1400		
Level	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8		
Distance	1440	1480	1520	1560	1600	1640	1680	1720		
Level	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8		
Distance	1760	1800	1840	1880	1920	1960	2000	2040		
Level	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8		
Distance	2080	2120	2160	2200	2240	2280	2320	2360		
Level	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8		
Distance	2400	2440	2480	2520	2560	2600	2640	2680		
Level	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8		
Distance	2720	2760	2800	2840	2880	2920	2960	3000		
Level	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8		
Distance	3040	3080	3120	3160	3200	3240	3280	3320		
Level	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8		
Distance	3360	3400	3440	3480	3520	3560	3600	3640		



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We are on the Web! www.soccerfitness.ca

SOCER FITNESS INC.

SOCCER FITNESS TRAINING CENTRE

2ND FLOOR, TRIO SPORTSPLEX

601 CITYVIEW BOULEVARD

VAUGHAN, ONTARIO, L4H 0T1

Phone: 647-829-4360

E-mail: richard@soccerfitness.ca

Soccer Fitness was created to help coaches at all levels of the game improve their knowledge and practical skills in training their athletes. With huge and growing numbers of players registered in Canada at the youth level, it often seems that there are just too many players and not enough qualified fitness trainers. Today, most clubs in Ontario have Club Head Coaches and Technical Staffs, whose primary responsibility is to help train, educate their club's "rep" or competitive coaches, and ensure that they are able to plan and deliver appropriate technical and tactical training to their respective teams. Physical training of soccer players, however, seems to be the missing link in most clubs' overall training programs. Soccer Fitness is a company that aims to help coaches in understanding and implementing appropriate physical training programs for their athletes.

BREAKING NEWS—SOCCER FITNESS AND THE EVEREST ACADEMY

Soccer Fitness Inc. is excited to announce that we have reached an agreement with Everest Academy, a private school in Richmond Hill, Ontario. President Richard Bucciarelli and his staff will be providing High Performance Soccer Training to Everest Academy students, two days per week. Through his business, Soccer Fitness Inc., Richard has assembled a team of High Performance Soccer Trainers and Coaches. Coach Matija Vugrinicek, who works with Richard at Soccer Fitness, will also be providing High Performance Soccer Training under Richard's direction at Everest Academy.

The training will focus on the development of individual techniques, including dribbling, passing, receiving, and shooting. The technical skills developed will be applied into functional, small-sided games where players will be required to apply their skills in realistic game situations. Technical development will also be supplemented by soccer-specific on-field fitness training, including speed/agility training, aerobic endurance training, and strength training. If you are interested or would like more information, please view on the attached flyer, or visit:

http://www.everestacademies.com/

MEET CONTRIBUTING AUTHOR MATIJA VUGRINICEK

Matija Vugrinicek is a soccer-specific Strength and Conditioning Coach, and Senior Trainer at Soccer Fitness Inc. Originally born in Croatia, Matija played provincial level soccer for four years for CSC Mississauga and Mississauga Falcons Soccer Club. He has over three years experience in training soccer players and other athletes of all age groups and levels of ability. Matija's academic credentials include an Honors Bachelor of Science degree in Kinesiology and Health Science from York University (2011), NSCA Certified Strength and Conditioning Specialist (2011) and a Post-Graduate Diploma in Exercise and Lifestyle Management from Humber College in 2012. In May of 2012, Matija completed a one month internship with a professional soccer club from Europe- GNK Dinamo Zagreb. He also recently obtained the Canadian Society of Exercise Physiology's CEP – Certified Exercise Physiologist – certification.

