



BUKU PETUNJUK

FIVE

Futsal Injury Prevenson and Enhance Performance

Pemanasan Neuromuskular untuk Mencegah Cidera dan Meningkatkan Performa pada Olahraga Futsal

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MANUAL

FIVE

Futsal Injury Prevention and Enhance Performance

Neuromuscular warming up to prevent injuries
and improve Futsal Sport Performance

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PREFACE

“The FIVE Futsal Injury Prevention and Enhancing Performance Manual” is a Neuromuscular Warming-Up to prevent Injuries and Improving Performance in Futsal Sports. This is a guide for applying FIVE neuromuscular warming-up to young and amateur futsal players.

FIVE (Futsal Injury Prevention and Enhance Performance Program) is a neuromuscular warm-up created through a series of studies from UNY FIK lecturers funded by the Republic of Indonesia Ministry of Research, Technology and Higher Education (*Ristekdikti*). It is called neuromuscular warming because it is applied at the beginning of the session before practicing futsal (warming up), and combines several exercises that focus on strength, agility and balance to improve the ability of the neuromuscular system.

FIVE has been compiled scientifically and methodologically, involving sports practitioners in various related fields, namely sports doctors, physical trainers, academics and futsal coaches. Therefore, FIVE is expected to be spread out and practiced by young and amateur players to reduce the incidence of injuries.

We are aware that FIVE still needs improvements and further research. We are expecting any constructive suggestions and criticisms to improve FIVE and this manual.

Finally, we hope that FIVE and this manual can contribute to the advancement of futsal sports specifically in reducing the incidence of injuries and improving the performance of young and amateur athletes

Yogyakarta, October 2018

INTRODUCTION

Futsal is a sport that is popular in Indonesia. Google's trend data shows that Indonesia ranks on the second place in the search for futsal topics. This sport is not only played as a hobby but also a lifestyle (Bancin, 2009). This is in line with government's programs, especially Ministry of Health's, to reduce the burden of health costs through active lifestyles as well as the programme of Ministry of Youth and Sports through the "Let's Work Out" movement.

Futsal is potential both in the aspects of sports achievements and recreational / health. In terms of sports achievements, the number of young people playing this sport will potentially increase the number of futsal players competing professionally. The progress of futsal achievements in Indonesia is also quite good. The latest data shows that our national futsal team is ranked number 50 worldwide, ranked number 10 in Asia and ranked 3rd in Southeast Asia.

In the aspects of recreational / sports, it can increase physical activity in leisure time (leisure time physical activity) and support an active lifestyle to improve public fitness and prevent various types of non-communicable diseases such as stroke, diabetes, obesity, coronary heart disease etc.

The popularity of futsal in the society gives a dilemmatic choice. Research shows that futsal is a sport that has a high incidence of injuries, especially in young players. And futsal is also one of 10 sports that are at high risk of injuries (Shmikli, 2009). Rodrigo (2006) stated that the cause of high rates of injury in young futsal players was thought to be due to muscle imbalance and low musculoskeletal fitness. By providing training focusing on physical condition and muscle fitness has shown to reduce the risk of injury to young players. Mandelbaum et al (2007) research conducted to 1,041 female football players aged 14-18 years in two seasons showed that the group receiving intervention in form of strength, plyometric and agility training programs had lower knee injury rates compared to the control group, 2 compared to 32 knee injuries in the first year and 4 to 35 knee injuries in the second season. These results are similar to the research conducted by Olsen et al (2005) on handball players and Brushojet et al (2008) on military population.

Neuromuscular warm up is one of the ways to lower the risk of injuries. This program is combining warming up and stretching using several components of exercise that can improve muscle strength and balance. This exercise is very practical, does not require any additional equipment and can be implemented in every training session. The development of a neuromuscular warm up program in football sports through FMARC (FIFA-Medical Assessment and Research Center) has shown lower incidence of injuries among the athletes (Soligard, 2009).

Looking at the positive results of FIFA 11+ neuromuscular warming up in reducing the incidence of injuries, a research team and futsal practitioners tried to create neuromuscular warming up that is specific to futsal. This warm up method is named FIVE, which stands for Futsal Injury Prevention and Enhancing Performance. In accordance with its full name, researchers hope that FIVE can contribute to futsal as a neuromuscular warming up to reduce the incidence of injuries and improve the performance of young and amateur athletes.

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ABOUT FIVE

FIVE (Futsal Injury Prevention and Enhancing Performance) is a neuromuscular warming up created specifically for futsal sport as an attempt to prevent injuries and improve the performance of young and amateur futsal athletes. FIVE is performed during the warm-up session before practicing futsal.

FIVE was compiled and validated by several experts such as: Indonesian Futsal National Team Coach, AFC Coach Instructor (Asian Football Federation), Sports Medicine Specialist, Sports Science Lecturer, and Strength and Conditioning Coach. FIVE has also been recognised by futsal sports federations namely AFI (Indonesian Futral Association) under PSSI (Indonesian Football Association)

FIVE refers to number 5, which resembles the total number of players in 1 team of futsal. As the name implies, FIVE consists of 5 neuromuscular heating sections consisting of:

1. Part 1: Cardiovascular warm-up
Aim to increase heart rate and body temperature so that our body is ready for exercising.
2. Part 2: Dynamic stretching
Aim to stretch the muscles and prepare muscles system.

3. Part 3: Strengthening

Aims to increase muscle strength, especially the lower extremity and torso muscles.

4. Part 4: Balance, Plyometric & Agility

Train body balance, power and agility. These aspects are very important in futsal sports.

5. Part 5: Prepare to play (with the Ball)

Prepare sportsmen to be ready to play futsal with basic movements playing futsal using a ball.

FIVE Exercise Instructions

- FIVE can be completed for 20 minutes and is performed as a WARM UP session every time prior to exercises.
- FIVE is recommended to be done 2-3 times a week during regular exercise, for 12 weeks to get the optimal results.
- FIVE can be done as a warm-up when about to compete, however it is done by **skipping part 3 (Strengthening)**, since the component can cause fatigue that could affect athlete's performance during the match.
- FIVE consists of 5 parts, each of which has several exercises. Following are the details of the FIVE movements.

Part 1: Cardiovascular warm up

Jogging 4 x 16 m

Part 2: Dynamic stretching

a) Hip in - Hip Out: 4 x 16m

b) High Heel - But Flicks: 4 x 16m

- c) *Carioca Smooth Swing: 4 x16m*
- d) *Groin - Hamstring Swing :: 4 x16m*

Part 3: Strengthening

- a) *Single toe raises: 3-5x each right and left*
- b) *Nordic hamstring:*
Beginner: 3-5 times
Final target: 12-15 times
- c) *Copenhagen exercise:*
Beginner: 3-5 times each side
Final target: 10-13 times each side
- d) *Bounding side: 2 x 16m*
- e) *Plank*
Beginners: 2 x 20'-30 '
Advanced: 2 x 40'-60 '
- f) *Side-plank*
Beginners: 2 x 20'-30 '
Advanced: 2 x 40'-60 '

Part 4: Balance, Agility & Coordination

- a. *Dynamic body contact: 2 x 16 m (alternating side)*
- b. *4-types agility training: each type is done 1 time*
 - 1. *Type A:*
5x vertical jump-forward zig-zag - sprint
 - 2. *Type B:*
(Position to lateral) 5x forward backward hop forward backward zig-zag to the 4th cones - sprint to the 6th cones

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3. Type C:

(Position to the back) 5x hop lateral - backward zigzag to the 4th cones - sprint to 5th cones; back to 4th cones; sprint to 6th cones.

4. Type D:

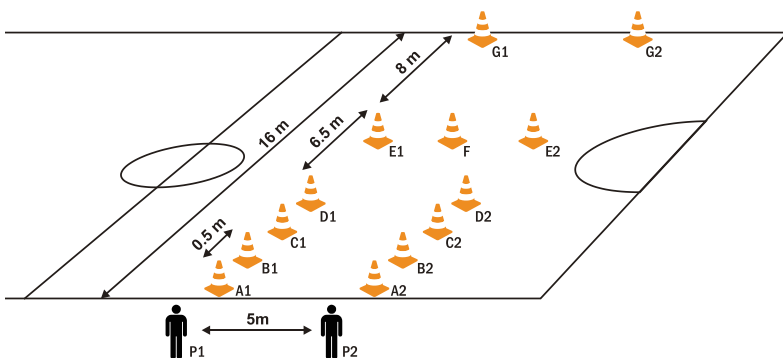
5x fwd backward hop - zigzag to 4th cones - sprint to the middle 5th cones; sprint to the 6th cones

Part 5: Prepare to play (PTP) With the Ball.

To be performed one set / time each.

- PTP 1: Passing - sprint – forward dribbling
- PTP 2: Passing - Plant and cut – backward dribbling
- PTP 3: Man to man (offensive and defensive)

FIVE Field Setting:



- It is assumed that the futsal field size is using a standard size. Otherwise trainer can modify the field settings to achieve the required track sizes.

- Prepare 13 cones with the following conditions
 - Cone A is the starting point for each FIVE exercise
 - Cone G is the end point of each FIVE exercise
 - Cone F is located between cones E1 and E2
- Each pairs are positioned according to the track in cones A1 and A2
- Perform every movement according to the manual by emphasising:
 - Quality and suitability of movement
 - Technical aspects and objectives of the movement
 - The aptness to physical ability, when you feel the set or repetition is too heavy, you can adjust them accordingly.

PART 1

CARDIOVASCULAR WARM UP

Aim

Prepare the heart-lung system to exercise and increase body temperature.

Instructions

Run straight from the starting point until the end point then returns to the starting point. Maintain constant running speed with 70-80% maximum speed.

Do as many as two sets (4 x 16 m).

Attention

1. Make sure the upper body position remains perpendicular
2. The pelvis, knees and feet must remain parallel when running
3. Do not bend your knees inside

CORRECT MOVEMENT



INCORRECT MOVEMENT

