

22 + 23 NOV 2014 AT ST. GEORGE'S PARK **FOR CHANGE**

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THE FA LICENSED COACHES' CLUB FUTSAL CONFERENCE

Fitness & Conditioning for Futsal

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»FUTSAL CHARACTERISTICS

- Total Game duration: 87 minutes.
- Game duration: 77 min (half time not included).
- Rest times: 37 min + 10 min half time.
- That means: 48% of rest time and 52% of game time.
- RATIO WORK-REST IS 1:1.

PLAYING INTERVALS

- 75% between 1-18 seconds.
- 20% between 19-30 s.
- 4% between 31-60 s.
- 1% between 61-90 s.



RESTING INTERVALS

- 83% between 1-15 seconds.
- 8% between 16-30 s.
- 6% between 31-60 s.
- 3% between 3 s.



»FUTSAL CHARACTERISTICS

- So most of the actions both playing and resting are around 15 seconds.
- There are 160 playing actions and 160 resting actions per game, so there are 4 pauses per minutes.
- SO IF WE WANT TO IMPROVE THE SPECIFIC FUTSAL FITNESS THE INTERMITTENT WORKOUT SHOULD BE 15-15 SECONDS (Ratio 1:1).
- Distance covered during a futsal game: 4.500 metres approx.
- 50% of those 4.500m. are at high intensity.
- Average Heart Rate during a game is: 174 bpm (90% of HRmax.)





»FUTSAL CHARACTERISTICS



»FUTSAL CHARACTERISTICS-SUMMARY

FUTSAL PLAYERS' NEEDS

- Good aerobic endurance.
- Great recovery capacity.
- Strength.
- Power.
 - Speed.
 - Agility-COD.







»FUTSAL CHARACTERISTICS-SUMMARY

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A Systematic Review of Futsal Literature

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Abstract This document systematically reviews literature to provide a summary of evidence based research related to the sport of futsal. The review draws on diverse subjects including coaching, physiological, psychological, technical and tactical elements of the sport as well as reviewing subjects relating to the development of futsal. The methodology included a scoping study and review protocol to systematically review 601 documents relating to futsal; 44 of these documents were reviewed in the study. The review aims to provide a resource for fellow researchers, to study the sport and encourage further English language studies in futsal. To that end, gaps in the literature are highlighted by the researchers, and therefore this document acts as a guide for further study.





TESTS (3 times/season)

- Body Composition
- SJ
- CMJ
- 0-10m (0-5m, 5-10m and 0-10m)
- Agility: 4x10m or 505 Test
- Course Navette (Bleep test) or Yo-Yo IRL2





Body Composition

- Weight
- Height
- Skin folds
- Girths

















Body Composition Assessment (Sum of 8 sites)

Excellent	Under 49.9 mm
Good	50-59.9 mm
Average	60-69.9 mm
Poor	70-79.9 mm
Unable	Over 80 mm







Target is over: 47cm





CMJ-SJ Relation

Relation = ((CMJ-SJ)/CMJ)x100

- If result is more than 10%: To improve strength and explosive strength.
 - If difference is less than 10%: To improve elastic strength with the use of plyometrics.





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0-10 metres Assessment

	Excellent	1.60 sec or less	
	Good	1.70-1.61 sec	
	Average	1.80-1.71 sec	
	Poor	1.90-1.81 sec	
	Unable	1.91 sec or more	
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Agility Assessment (4x10 with and without ball)

Agility (s)	Level			
>10	Deficient			
10-9.50	Normal			
9.50-9	Good			
<9	Excellent			

Agility Ball (s)	Level
>11.50	Deficient
11.50-11	Normal
11-10.50	Good
<10.50	Excellent

Difference (s)	Level
>2	Deficient
2-1.50	Normal
1.50-1	Good
<1	Excellent





Agility Assessment (505 Test)

Target is less than 2.10 sec (each leg).





Course Navette (Bleep Test)

- Indirect VO2max
- Heart Rate Recovery
- Heart Rate Recovery Index

VO2max (ml/kg/min)	Level	Stages		
<50	Deficient	<10		
50-55	Normal	10-11.50		
<u>55-60</u>	Good	11.50-13.25		
>60	Excellent	>13.25		



Yo-Yo IRL2

- Distance-Indirect VO2max
- Heart Rate Recovery
- Heart Rate Recovery Index

Excellent	1240 m or more	
Good	1040-1200m	
Average	840-1000m	
Poor	640-800m	
Unable	600 m or less	
		LICENSED COACHES' CLUB



Heart Rate Recovery Index (Lamiel-Luengo, 1988)

Bleep Test	HRmax	HR1'	HR2'	HR3'	HR4'	HR5'	HRRI1'	HRRI2'	HRRI3'	HRRI4'	HRRI5'
15	199	151	116	101	102	97	49	85	101	100	105

HRRI @ x' = (HRmax-HR @ x')/((220-Age)/HRmax)





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		пеа		Jvery muex	(Lainiei-Lu	iengo, 1966)	
	Subjects	Bleep Test	HRmax	max HR1'		HR3'	HR4'	HR5'
	England	13.40	193	159	133	118	111	108
	Spanish Non-pro	10.42	191	157	131	119	115	110
	Spanish Pro	11.50	190	149	119	112	106	102
	IFA	12.10	196	157	124	111	106	106
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Heart Rate Recovery Index (Lamiel-Luengo, 1988)

Heart Rate Recovery Index (Lamiel-Luengo, 1988)

Bleep Test	HRmax	HR1'	HR2'	HR3'	HR4'	HR5'	HRRI1'	HRRI2	HRRI3'	HRRI4'	HRRI5'
15	199	151	116	101	102	97	49	85	101	100	105

Target is a HRRI of 80 in less than 2min.





PRACTICAL EXAMPLES, DRILLS AND EXERCISES





AEROBIC ENDURANCE





ANAEROBIC ENDURANCE

3x4-5' r=2-3'







ANAEROBIC ENDURANCE & GENERAL CONDITION

3x30''/30'' r=2-3'





ANAEROBIC ENDURANCE

10x30'' @ Max Speed r=1' jogging



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SPEED ENDURANCE

• **Description:** 6-8 sets per player will be performed at the highest speed possible (a repetition lasts about 25-30 seconds). Two players leave the corners (A), at maximum speed in the direction of the arrows. The first player to complete the sprints will be the defender. The attacking player will receive a ball from the goalkeeper to do a 1x1. At the end of the 1x1, the attacking player will touch a corner, and the defending player will touch the halfway line where he will receive a ball for another 1x1 with exchanged roles. Upon completion, the goalkeeper put a ball in play to make a 2x0 attack at the other end. After the attack, the players will perform a defensive balance at top speed to the halfway line.





•Modification: Players do not perform the defensive balance, but they wait for the new attacking players to perform a 2x2.



DISPLACEMENT SPEED

2x6@ Max Speed r=1'30''/3'



REACTION SPEED

2x4 @ Max Speed (6 reps)





ACCELERATION-DEACCELERATION











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FLEXIBILITY

















FLEXIBILITY









CORE STABILITY















Tools to control Recovery & Regeneration

- Recovery & Regeneration Points System (Kentta & Hassmen, 1999)
- RPF & RPE (Borg, 1970)
- Readiness Tests





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RECOVERY STRATEGY	Possible Points	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	SCORING GUIDE ADJUSTMENTS
NUTRITION	8						-		
Breakfast	1								Give ¹ / ₂ a point for a less than full breakfast
Lunch	2								Give 1 point for a less than full lunch
Dinner	2								Give 1 point for a less than full dinner
Pre-workout snack	1								
Post-exercise refueling within 60 minutes	2								Give 1 point for delaying more than 60 min
HYDRATION	2								
Pre-exercise urine: clear or light colour	1								
Post-exercise urine: clear or light colour	1								
SLEEP & REST	4								Cive 2 points for 7 to <8 hours
8 hours of restful sleep	3								Give 1 points for 6.7 hours
Nap during the day	1								Give I point for 0-7 hours
RELAXATION & EMOTIONAL STATUS	3								
Fully relaxed 60 minutes post-workout or 30 minutes of feet-up relaxation post workout	1								
No daily psycho-social stress	2								Give 1 point for mild stress
COOLDOWN/STRETCHING	3								
Adequate cooldown after exercise	2								Give 1 point for partial cooldown
Stretching & foam roller for at least 10 minutes	1								
TOTALS	20								
Recovery	/ & F	Reg	gen	er	atio	on	P	oin	ts System



Recovery & Regeneration Points System (Kentta & Hassmen, 1999)

- 17-20 daily points: OPTIMAL
- 15-16 daily points: GOOD, but room for improvement
- <14 daily points: BAD behaviours</p>





Recovery & Regeneration Points System (Kentta & Hassmen, 1999)





Rating	Descriptor
1	Nothing at all
2	Light
3	Moderate
4	Somewhat tired
5	Tired
6	
7	Very tired
8	
9	Very, very tired Rate
10	Exhausted





2	Rating	Descriptor
	1	Nothing at all
	2	Light
	3	Moderate
	4	Somewhat tired
	5	Tired
	6	
	7	Very tired
	8	
	9	Very, very tired
	10	Exhausted



Readiness Tests

1. Urine osmolality

- 2. Squeeze Test
- 3. Sit & Reach Test









Urine Osmolality



Dr Godfrey (Cardiovascular Physiology Research Group, Brunel University, UK)

- Over 200 times
- British Biathlon Squad at Salt
- Lake City Olympic Winter Games
- Early morning urine sample



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Possible **RECOVERY STRATEGY** Mon Wed Thurs Fri Sat SCORING GUIDE ADJUSTMENTS Tues Sun Points NUTRITION 8 Breakfast 1 Give ¹/₂ a point for a less than full breakfast Lunch 2 Give 1 point for a less than full lunch 2 Give 1 point for a less than full dinner Dinner Pre-workout snack 1 2 Give 1 point for delaying more than 60 min Post-exercise refueling within 60 minutes IIIDRATION Pre-exercise urine: clear or light colour 1 Post-exercise urine: clear or light colour **SLEEP & REST** 4 Give 2 points for 7 to <8 hours 8 hours of restful sleep 3 Give 1 point for 6-7 hours Nap during the day 1 3 **RELAXATION & EMOTIONAL STATUS** Fully relaxed 60 minutes post-workout or 30 1 minutes of feet-up relaxation post workout Give 1 point for mild stress No daily psycho-social stress 2 3 COOLDOWN/STRETCHING Give 1 point for partial cooldown Adequate cooldown after exercise 2 Stretching & foam roller for at least 10 minutes 1 20 TOTALS

Urine Osmolality



Why is urine osmolality controlled?



Urine Osmolality Players' perception of their urine is OK...



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Your target us to make sure that your urine is the same colour as numbers 1,2 or 3. Colours 4 and 5 suggest dehydration and 6,7 and 8 severe dehydration.







Squeeze Test



Over 200 mmHg



Sit & Reach Test





RECOVERY & REGENERATION-SUMMARY

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Recovery & Regeneration Behaviours in Elite English Futsal Players

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»CONCLUSIONS

- **1.** Futsal is a high-intensity, intermittent sport.
- 2. Accelerations and short sprints @ maximal or submaximal intensity.
- 3. Interspersed by brief recovery periods.
- 4. Heart Rate Recovery Index is so important.
- 5. Integrated Training Methods using futsal drills.
- 6. Educate players to recover and regenerate.





TAKE HOME MESSAGE

Train, coach and practice futsal in the same way and style that you would like to play it.





»Q&A













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