

HARAKAT
No.32,Summer 2007

:
/ / :
/ / :

The Effect of Different Warm-up Stretch Protocols on a 20-Meter Sprint in Trained Soccer Players

M.Joorkeš⁵

Azad University (Shabestar)

Abstract : The purpose of this study was to determine the effect of different static and dynamic stretch protocols on a 20-meter sprint. 97 male soccer players were randomly assigned to 4 groups. (i) Passive static stretch (PSS) (n=28), (ii) active dynamic stretch (ADS) (n=22), (iii) active static stretch (ASS) (n=24), (iv) static dynamic stretch (SDS) (n=23). All groups performed a standard 10-min. jog as the warm – up, followed by two 20-m sprints. The 20-m sprints were repeated after subjects performed different stretch protocols. The PSS and ASS groups had a significant increase in sprint period ($P \leq 0.05$), while the ADS group had a significant decrease in sprint period ($p \leq 0.05$). It was concluded that static stretching as part of a warm-up may decrease short sprint performance, while active dynamic stretching seems to increase 20-m sprint performance.

Key word:

Static, Dynamic, Stretch, Sprint performance.

5 - Email : Jourkesh_2006@Yahoo.com

چکیده :

(ADS) (n =) (PSS) (n =)
(ASS) (n =)
(SDS) (n =)

($P \leq 0.05$) PSS ASS
ADS

($P \leq 0.05$) SDS

- 1 - Passive Static Stretch
- 2 - Active Dynamic Stretch
- 3 - Active Static Stretch
- 4 - Static Dynamic Stretch

» .

«

()

.()

.(,)

)

.(

.()

.()

.()

.()

()

.()

.()

(n=)

(n=)

(n=)

(n=)

± /

±

± /

(PSS)

)

(

(ADS)

)

(

)

PSS

(

)

(

)

(

(

)

(ASS)

PSS

ADS

(SDS)

(ANOVA)

Post HOC

($P \leq /$)

SPSS 10

(

%

% /

)

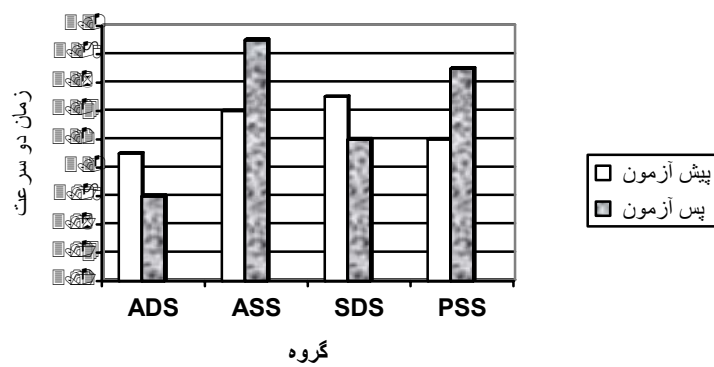
		df		r	
	/		/	/	/
	/		/		
	/				

		df		r	
	/		/	/	/
	/		/		
	/				

(I)	(J)	(I-J)	
PSS	ADS	/	/
	ASS	/	/
	SDS	/	/
ADS	PSS	/	/
	ASS	/	
	SDS	/	/
ASS	PSS	/	/
	ADS	/	
	SDS	/	/
SDS	PSS	/	/
	SDA	/	/
	ASS	/	/

(Post Hoc)

(I)	(J)	(I-J)	
PSS	ADS	/	/
	ASS	/	/
	SDS	/	/
ADS	PSS	/	/
	ASS	/	/
	SDS	/	/
ASS	PSS	/	/
	ADS	/	/
	SDS	/	/
SDS	PSS	/	/
	SDA	/	/
	ASS	/	/



« ».(, , , , ,)

()

()

,)

()

« ».(

()

« »

()

« » ()

« ».

)

(

-
- 1 - Knodson
 - 2 - Kinematic
 - 3 - Kubo
 - 4 - Kokhonen
 - 5 - Rosenboun
 - 6 - Avela

« » « » ,

()

() « »

()

()

()

()

-
- 1 - Yang
 - 2 - Elliot
 - 3 - Cornvell

.()

() « ».

()

() « »

1. Avela, J., kyrolainen, H. andy P.V. Komi (1999). "Altered reflex sensitivity after repeated and prolonged passive muscle stretching". *J. of app. Physiol.* 86: PP: 1283-1291.

2. American college of sports medicine (1998). "The recommended quantity and quality of exercise for developing and maintaining cardio respiratory and muscular fitness and flexibility in health adults", *Med. Sci. sports exercise.* 30: PP:975-991.

3. Behm. D. g., button, doc. And J. C. bvtt. (2001). "Factors affecting force loss with prolonged stretching". *Canadian. J. app. Physiol.* 26: PP:262-272.

4. Deutsch. M. U., Maw, G.J.,Jenkins, D. and P. reaburn. (1998). "Heart rates, blood lactate and kinematics date of elite colts (under 19) rugby union players during competition". *J. of sp. Sci.* 16: PP:561-570.

5. Cornwell. A., Nelson, A. G. Helson, G. D. and B. Sideway. (2001). "Acute effects of passive muscle stretching on vertical jump performance". *J. of Human moves. St.* 40: PP:307-324.

6. Fowels J. R. Sale. D.G. and J.D. macdougall (2000). "Reduced strength after passive stretch of the human plantar flexors". *J. of app. Physiol.* 89: PP:1179-1188.
7. Gleim, G.W., Webrigh. (1997). "Flexibility and its effect on sports injury and performance", *sports med.* 24 (5). PP:289-299.
8. Holland G. H. (1968). "The physiology of flexibility: review of literature". *Kinesiol. Rev.* 1. PP:49-62.
9. Mcardle, W.D., Katch, F.I. and V.I.Katch. *Exercise physiology: "Energy nutrition and human performance"*.
10. Murphy, A. J., and G.J. Wilson.(1997). "The ability of tests of muscle function to reflect training – induced changes in performance". *J. of sp. Sci.* 15: PP: 191-200.
11. Knudsonod, Bennett, K., Corn, R., Leick, D and C. Smith. (2001). "Acute effect of stretching are not evident in the kinematics of the vertical jump". *J. of st. and cond. Res.* 15: PP:18-101.
12. Kokhonen, J, Nelson, A.G. and A. Cornwell.(1998). "Acute muscle stretching inhibits maximal strength performance". *Res. Quar. For ex. And sp.* 4: PP:411-415.
13. Kubo, K., Kanehisa, H., kawakami, Y. and T. Fuknaga. (2001). "In fluence of static stretching on viscoelastic properties of human tendon structures in vivo". *J. of app. Physiol.* 60: PP:520-527.
14. Shellock, F. G. and W. E. Prentice. (1985). "Warming – up and stretching for improved physical performance and prevention of sports – related injuries". *Sports med.* 2: PP:267-278.
15. Shrier., I. (1999). "Stretching before exercises dose not reduce the risk of local muscle injury: a critical review of the clinical and basic science literature". *Clin. J, spares med.* 9: PP:221-227.
16. Weldon S. M., Hill R.H. (2003). "The efficacy of stretching for prevention of exercise related injury: asystematic review of the literature". *Man. Ther.* 8: PP:141-150.
17. Wiktorsson – moller m. ooberg b., ekstral j., gillquist j. (1983). "Effect of warming up, massage and stretching on range of motion on the lower extremity". *Am. J. sports med. Li:* PP:249-252.
18. Wilson, G.J., wood, G.A. and B.C. elliot. (1991). "The relationship between stiffness of the musculature and static flexibility: an alternative explanation for the occurrence of muscular injury". *Int. j. of sp. Med.* 12: PP:403-407.

19. rosenbaum, D. and E. M. Hennig. (1995). "The influence of stretching and warm – up exercise on achilles tendon reflex activity". *J. of sp. Sci.* 13:PP: 418-490.

20. Worrell, T. w., T.L. smith, and J. windegardner. (1994). "Effect of hamstring stretching on hamstring muscle performance". *J. othop. Sports phys. Ther.* 20 (3):PP: 154-159.