

Current Trends in Core Strength and Stability Training

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CORE: new or old?



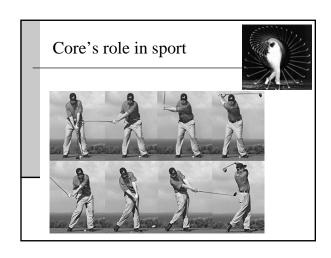


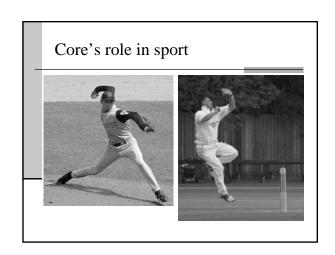
Core muscle classifications | Deep cervical flexors | Property of the Comment of

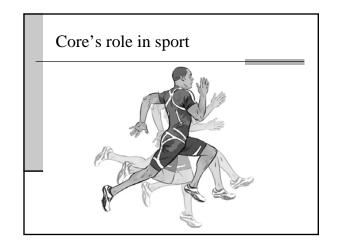
Primary Core muscles (A) thoracic erector spinae, (B) lumbar erector spinae, (C) latissimus dorsi, (D) internal oblique, (E) external oblique, (F) rectus abdominis, (G) transversus abdominis, and (H) rectus femoris.

Ref	Hypothesis / Aim	Subjects	Training program - Type	Results
Sato et al (JSCR, 2009)	Investigate the effect of CS training on GRP, stability, overall running performance	28 rec runners (male and female) - CS group (14) - Control (14)	6 weeks; 4x / week (unsupervised, home training)	No significant difference in GRF or SE scores. Sig. improvement in 5km run ti TG = 29:29 (pre), 28:42 (post) [n=12]; 26:30 (pre), 26:13 (post) [n=8]
Butcher et al (JOSPT, 2007)	Investigate the effect of CS training, leg strength (LS) training, and a combination (CS- LS) on vertical jump	66 athletes (male and female) - CS group - Leg strength (LS) - Combination (CS-LS) - Control group	9 weeks; 3x / week (unsupervised)	After third week CS group only had significant improvement in vertical jum After ninth week all groups had signific improvement compared to control
Mills et al. (Phys Ther Sport, 2005)	Establish effect of training on lumbopelvic stability and running performance	30 athletes (female) - Treatment group - Pseudo-treatment - Control group	10 weeks; 4x /week (1 supervised plus 3 unsupervised) -	Significant improvement in lumbopelvi stability plus significant effects on verti jump, agility, and balance.
Tse et al. (JSCR, 2005)	Validate a CS training program and relate it to performance parameters of power, speed, agility, and aerobic power	45 college age rowers (male) - Treatment group - Control group	8 weeks; 2x / week (supervised)	Significant improvements in core endur of training group, but no effect of CS program on performance aspects
Stanton et al. (JSCR, 2005)	Investigate the effect of Swiss ball training on CS and running economy	22 athletes (male) - Treatment group - Control group	6 weeks; 2x / week (supervised) – Swiss ball only	Significant effect of Swiss ball training CS. No related differences in back and abdominal EMG, nor on running econo
Cosio-Lima et al. (JSCR, 2003)	Examine effect of Swiss ball (CS) training on abdominal and back isokinetic measures and balance	30 students (female) - Treatment group - Control group	5 weeks; 5x /week for 15min (semi- supervised) – Swiss ball only	Significantly higher EMG activity and improvements on balance test. No signi differences between groups for leg and strength tests.

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Core's role in sport

