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-
- 1- Traume
 - 2- Lun & et al (2004)
 - 3- Good Posture

Q

Q

.(, ,)

Q

.() Q

.(, ,)

(Q)

ACL , PCL ,LCL ,MCL

(LM)

SPSS

Q

1- Bayraktar & et al (2004)

A large, faint watermark is printed diagonally across the page. The text "Archive of SID" is written in a cursive, lowercase font. The letters are slightly faded, giving it a watermark-like appearance.

Q

Q

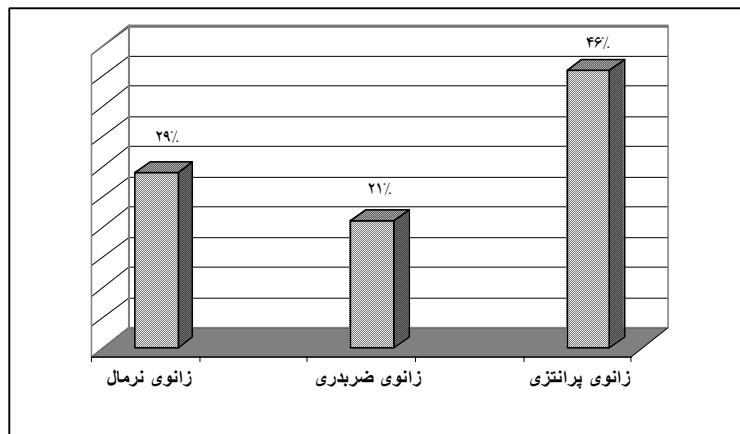
()

()

Q

Q

Archive of SID



LCL

ACL

ACL PCL LCL MCL

Q

()

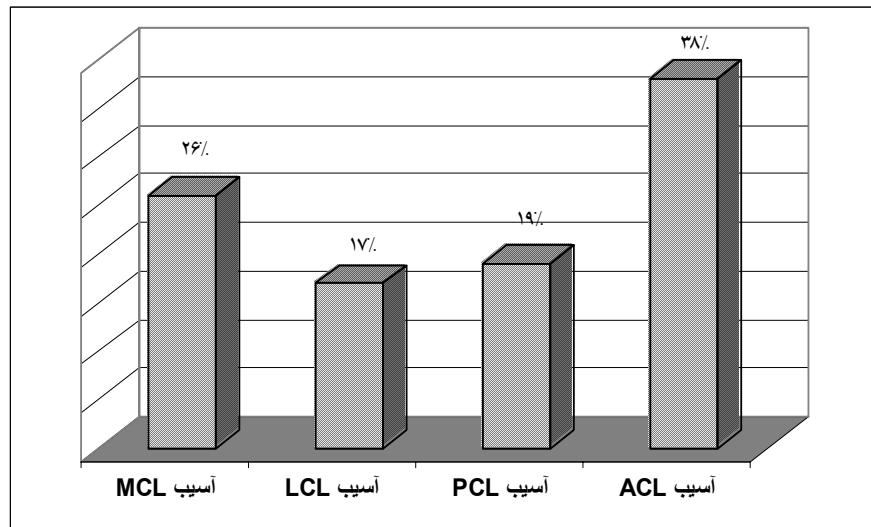
() Q

) Q

(LM)

(MM)

Q



(MM)

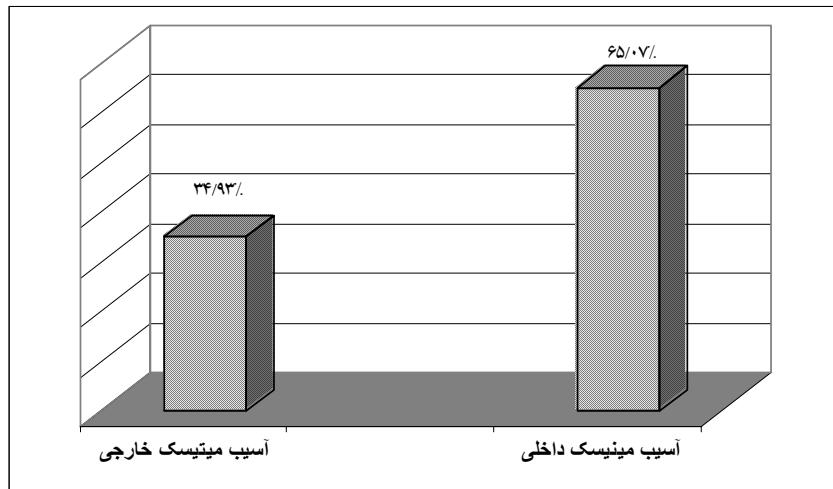
)

(ML)

Q

Q

Archive of SID



$\frac{Q}{Q}$	$\frac{Q}{Q}$	$\frac{Q}{Q}$	$\frac{Q}{Q}$	$(\quad) Q$
/	/	/	/	

Q

Q —

Q ()	Q ()	Q ()	Q ()
/	/	/	/

.()

·(,)

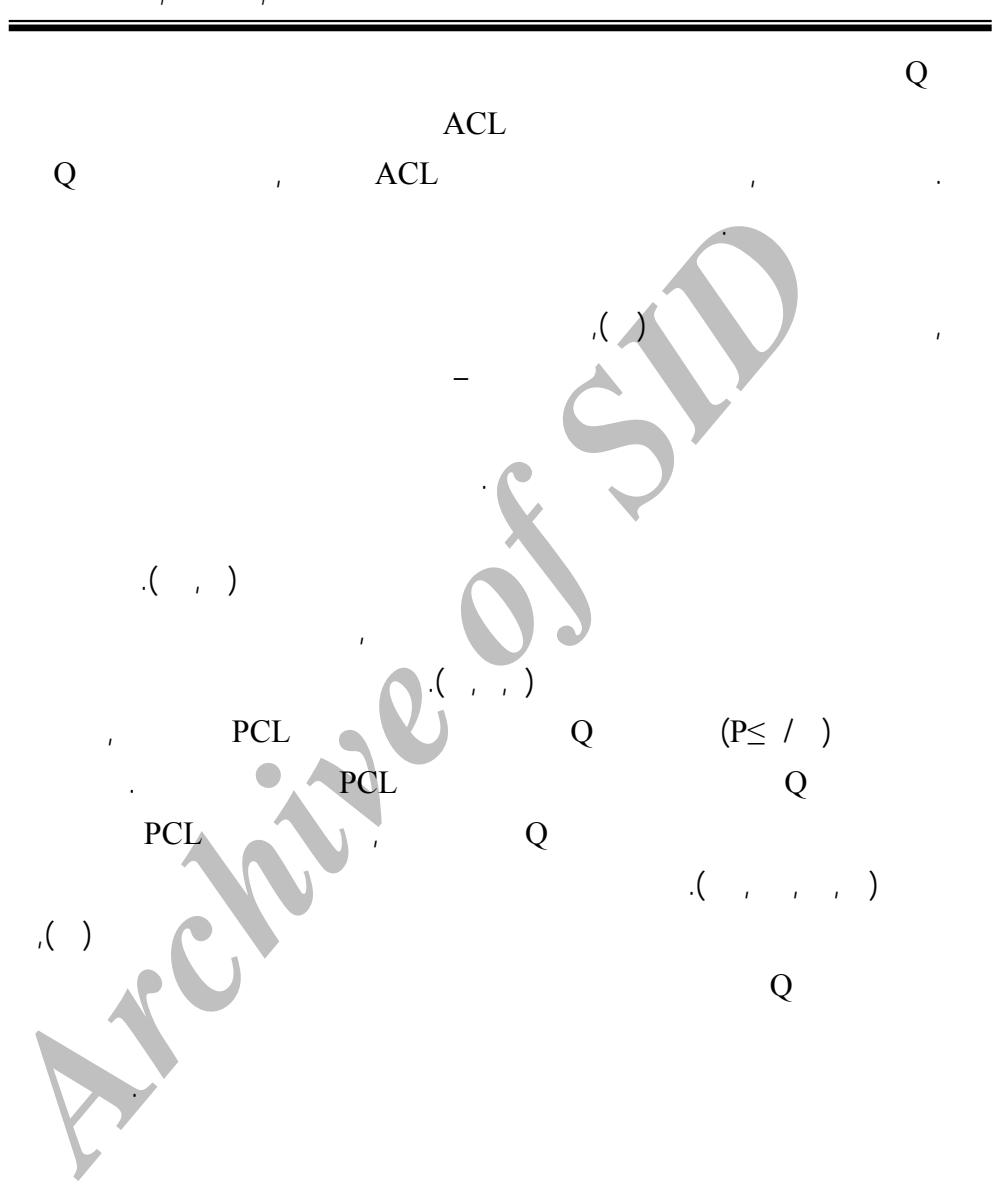
)

Q

.()

(P< /)

ACI



Q

(, , ,)

LCL

(, , ,)

Q

Q

(, , ,)

Q

($P \leq /$)

Q

LCL

-
- 1- Knee Hyperextension**
 - 2- Foot Pronation**

The diagram consists of several nodes connected by arrows. The nodes are labeled with symbols and text:

- Top row: (\dots) , Q , (\dots)
- Middle row: (\dots) , MCL , $(P \leq / \dots)$, Q , MCL
- Bottom row: (LM) , (MM) , C , (\dots) , (\dots) , (\dots) , (\dots) , (\dots) , (\dots) , (\dots)
- Leftmost node: $C) O$

Arrows indicate connections between nodes: (\dots) to Q , Q to $(P \leq / \dots)$, $(P \leq / \dots)$ to Q , (LM) to (MM) , (MM) to C , C to (\dots) , (\dots) to (\dots) , (\dots) to (\dots) , (\dots) to (\dots) , and (\dots) to (\dots) .

Q

Q

(LM)

.(P = /)

(MM)

Q

.(P = /)

.(/)

(/)

(/)

.(/)

Q

Q

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12. Akinbo, R.T. Sasaki, T.Yagi, T. (2004). "Relation between bilateral knee joint osteoarthritis and the quadriceps (Q) Angle", *South Africa Journal of Physiotherapy*, 69(3);PP:26-29.

Q

13. Bayraktar, B, Yucesir, I.Ozturk, A, Cakmak, AK, (2004). "Change of quadriceps angle values with age and activity", *Saudi Med Journal* , 25(6);PP:756-60.
14. Clarkson, PM, Kroll, W, Melchionda, AM, (1981). "Isometric Knee Extension and plantar flexion : muscle fatigue and fiber type composition in female distance runners", *res q exercise sports*, 52(9) ; PP:200-7.
15. Heiderscheit, B.C, Hamill, J, Caldwell, G.E., (2000). "Influence of Q angle on lower extremity running kinematics", *Journal Orthop Sport phys ther*, 30(5); PP:271-8.
16. Hewett, T.E, (2005). "Biomechanical measures of neuromuscular control and valgus loading of the knee predict anterior cruciate ligament Injury Risk in female athletes : A prospective study , *Am J Sport Med*, 33(4) ; PP:492-501.
17. Ilahi, O.A, Kohl, H.W, (1998). "Lower Extremity morphology and alignment and risk of overuse injuries", *Clin Journal Sport Med*, 8(1) ; PP:38-42.
18. Kishali, Necil Fazel & et al. (2004). "Q-angle values of Elite soccer and taekwondo Athletes, *The pain Clinic*, 16(1); PP:27-33.
19. Lun, V.Meeuwisse, WH, Stergiou, P.Stefanyshyn, D, (2004). "Relation between running injury and static lower alignment in recreational runners", *British Journal of sports Medicine*, 38(5) ; PP:576-80.
20. Murphy, D.F, Connolly , D.A.J. Beynnon, B.D, (2003). "Risk factors for lower extremity injury : A review of the Literature, *British Journal of Sports Medicine*, 2 (37) ; PP:13-29.
21. Neely, F.G, (1998). "Biomechanical risk factors for exercise-related lower limb injuries". *Sport Med* , 26(6) ; PP: 395-413.
22. Penha, P.J, Joao, S.M & et al, (2005). "Postural Assessment of Girls between 7 and 10 years of age, *Clinics*, 60(1) ;PP:9-16.
23. Piper, H.G, Schulte A, (1996). "Muscular imbalances in elite swimmers and their relation to typical sports lesions". *Department of orthopedic surgery and sports medicine*, 2(3);PP:96-99.
24. Rider , B.Marshall, J.L, Warren, R.F, (1981). "Clinical characteristics of patellar disorders in young athletes". *Am J Sports Med*, 9(4) ; PP:270-4.

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- 25. *Rovere, G.D, Nichols, A.W, (1985). "Frequency , associated factors, and treatment of breaststrokers knee in competitive swimmers". Am J Sports Med, 13(2) ; PP: 99-104.*
 - 26. *Pretkiweicz, abacjew E, (2003). "Knock Knee and the Gait of Six-Year-Old children, J Sports Med Phys Fitness, 43(2) ; PP:156-64.*
 - 27. *Sami Mahmud, Ibrahim, (2002). "Measurement by using strain Gagues", Tesi doctoral, universitat autonoma de Barcelona.*
 - 28. *S Lippert, Lynn, (2000). "Clinical Kinesiology for physical therapist assistants", third Edition.*
 - 29. *Thompson, Clem W, Floyd, R.T, (2001). "Structural kinesiology", Edition 14.*
 - 30. *Wen, D.Y, Puffer, J.C, Schmalzried, T.P, (1997). "Lower extremity alignment and risk of overuse injuries in runners", Med Sci Sport exere, 29(10) ; PP; 1291-8.*