Biomechanical Analysis and Alterations of Cervical Spine in Asymptomatic College Runners

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Introduction: Several researches has been conducted to correlate and analyze cervical, thoracic and lumbar spine in a sagittal plane. Many cervical pain etiologies have been described with incidence increase of 15% over general population, and diverse biomechanical factors over spine curves alterations has been pointed out. **Objective:** Analyze and correlates cervical spine biomechanical alterations in asymptomatic college runners. **Materials and Methods:** A group of 65 asymptomatic college runners with cervical and lumbar spine biomechanical alterations participated. Biomechanical alterations were measured and diagnosed by radiography using a specialized software. **Results:** Correlations with significant changes ($p < 0.05$) and positive slopes were observed for some cervical spine radiographic measurements: Cervical Spine Angle, Deep Measurement, Atlas Angle. Positive and significant relationships were observed among the fallowing radiographic measurements: Hypolordotic Cervical Angle and Atlas Extension Angle 87.8% ($p = 0.00$), Hypolordotic Cervical Angle and Hypolordotic Deep Measurement 83.7% ($p = 0.00$). **Conclusions:** Biomechanical alterations of Hypolordotic Cervical Angle were positively correlated with Atlas Extension Angle and Hypolordotic Deep Measurement. Our study demonstrates biomechanical alterations of C1 directly affects Cervical Lordotic Angle.

Recent Publications

Maria Elizabeth Herrera Lopez, Montiel F E, Carpio B L A, Saldaña M J J, Bandala R C and Gómez L M1. Cervical and lumbar spine: Analysis and relationship of biomechanical alterations/dysfunctions. J Spine 2018, Volume 7.

Maria Elizabeth Herrera López Montiel F E, Campos G G, Carpio B L A, Saldaña M J J, Medina P E amd Saenz M C I. Chiropractic treatment in college runners with lumbo-pelvic biomechanical alteration. J Spine 2017, 6:4(Suppl).

Enrique Montiel Flores, Saldaña M J J, Zavaleta H J, Maldonado N A, Campos G G, Medina P E, Sáenz M C I, Borja F V and Herrera L E. Determination of postural changes pre and post of chiropractic manipulation in a population of distance runner students of the University Estatal del Valle de Ecatepec. J Spine 2017, 6:4(Suppl).

Juan Jose Saldaña Mena, Montiel F E, Herrera L E, Carpio B L A and Rodríguez T C L. Chiropractic manipulative therapy on patients with lumbar facet tropism. J Spine 2018, Volume 7.

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Cesar Ivan Sáenz Martinez, Zavaleta H J, Herrera L M E, Montiel F E, Campos G G, Carpio B L A, Saldaña M J J, Medina P E, Morales R M R and Borja F V. Effect of chiropractic manipulation in blood serum chemistry of six elements in university runners. J Spine 2017, 6:4(Suppl)



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