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Biomechanical analysis and alterations of cervical spine in asymptomatic college runners

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Introduction & Objective: Several researches have 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. The objective of the study is to analyze and correlates cervical spine biomechanical alterations in asymptomatic college runners.

Method: A group of 65 asymptomatic college runners with cervical and lumbar spine biomechanical alterations participated. Biomechanical alterations were measured and diagnosed by radiography using 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 following radiographic measurements: Hypolordotic cervical angle and atlas extension angle 87.8% ($p = 0.00$), hypolordotic cervical angle and hypolordotic deep measurement 83.7% ($p = 0.00$).

Conclusion: 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.

Biography

Maria Elizabeth Herrera Lopez has completed her Chiropractic degree from University of the Valley of Ecatepec (UNEVE); Masters in Science Sport Medicine from University of Puebla and University of Pablo Olavide and also PhD in High Performance Sports from National Institute Polytechnic. She is currently the Director for Chiropractic Program in UNEVE.

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