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## Comparative analysis of the cervical sagittal balance from radiographies with the upper limbs in different postures

**Vania Maria Lima**

Centro Universitário Padre Albino- UNIFIPA, Brazil

**Objective:** To compare the cervical sagittal balance in groups of patients submitted to radiographs of the cervical segment, with the upper limbs in two different positions.

**Methods:** This is a cross-sectional, quantitative, imminent, enlightening review utilizing a radiographic examination of 100 grown-up people, matured between 20 to 70 years. Two side perspectives radiographs were acquired from every understanding, one picture having the upper appendages got over the storage compartment (flexed elbows) and one more picture with the upper appendages raised at the front (broadened elbows). The gathering addressed a poll about age, sex, presence of torment in the cervical spine, just as the level of pain.

**Exclusion criteria were:** inadequate imaging, deformity or previous surgery of the Spine, limited mobility of the shoulder, and individuals under 20 and over 70 years of age. The radiographic parameters evaluated were: COBB, TIA, T1 slope, NECK TILT, and COG-C7 with elbows in flexion and extension. The value of p less than 0.05 for the statistically significant differences was considered.

**Results:** Sixty patients were female (60%) and forty male (40%). The data analysis obtained showed statistical significance in COBB Flet vs COBB Ext ( $p = 0.000$ ), TIA Flet vs TIA Ext ( $p = 0.000$ ), T1 FLET vs T1 ExT ( $p = 0.000$ ), NECK TILT Flex vs NECK TILT Ext ( $p = 0.000$ ), COG-C7 Flex vs COG-C7 Ext ( $p = 0.000$ ). Flex (elbow flexed) and Ext (elbow extended).

**Conclusion:** There was statistical significance regarding the positioning of the upper limbs on the lateral X-rays, evidencing higher values in the angulations with the raised limbs forward (elbows extended). Such difference may alter the cervical sagittal balance, influencing surgical planning. Further studies should be performed to prove these findings

med\_vania@hotmail.com