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## The evaluation of cervical spine posture after functional therapy with twin block appliances: A retrospective cohort study

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**Introduction:** It has been postulated that a change in cervical posture occurs due to forward repositioning of the mandible.

**Objectives:** Therefore, the objective of this study was to compare the cervical spine posture between subjects with and without functional appliance therapy.

**Materials & Methodology:** A retrospective cohort was conducted using pre and post functional therapy cephalograms of orthodontic patients. A total of 60 subjects were equally divided into two groups i.e. those who underwent treatment with a TB functional appliance and a control group selected from the Bolton Brush study. Three established sagittal and seven cervical vertebral parameters were compared between the groups. Wilcoxon signed-rank test was used to compare pre and post functional mean angular measurements. Mann-Whitney U test was used to compare the mean changes in cervical parameters between the groups.

**Results:** A significant difference existed between pre and post functional SNB ( $p < 0.001$ ) and ANB angles ( $p < 0.001$ ) showing a change in maxillomandibular relationship. Comparison of mean changes in angular measurements between the two groups showed a significant difference ( $p = 0.033$ ) in the sella-nasion to odontoid process tangent (SN-OPT) angle. SN-OPT angle predicts the probability of developing an altered cervical posture with the TB appliance is 1.92 times greater than without the TB appliance.

**Conclusions:** SN-OPT angle can predict a change in skeletal relationships following treatment with the TB functional appliance. The TB causes the craniocervical posture to be more upright. Subjects with reduced vertical dimensions have greater change in cervical posture.

### Biography

Adeel Tahir Kamal completed his Bachelor's in Dental Surgery from Altamash Institute of Dental Medicine, Karachi, Pakistan in the year 2012. He is a Dentist by profession. Currently, he is a Postgraduate Trainee at Aga Khan University Hospital, Karachi, Pakistan.

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