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**Comparative Analysis of Sagittal Condylar Guidance Determined By
Protrusive Interocclusal Records with Those Determined By Panoramic
Radiographs in both Dentulous and Edentulous Subjects: A
Clinicoradiographic Study**

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Running Heads

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Abstract

Introduction: The accurate registration of sagittal condylar guidance (SCG) and its transfer to an articulator is important for fabrication of removable or fixed prosthesis that is in harmony with patient's stomatognathic system.

Objectives: To compare and correlate the SCG angles obtained from protrusive interocclusal records using polyvinyl siloxane bite registration material with those obtained from panoramic radiographs in both dentulous and edentulous subjects.


Methods: This study was conducted on 20 dentulous and 20 edentulous subjects. Protrusive interocclusal records in dentulous subjects were made at edge to edge relationship of maxillary and mandibular incisors while in edentulous subjects it was obtained at jaw relation stage after Gothic arch tracing and at 6mm protrusion of mandible. The records were then transferred to an arconsemiadjustable articulator (ARTEX CR) to obtain the sagittal condylar guidance angles of right

and left sides. The panoramic radiograph of each subject was traced along articular eminence and glenoid fossa. Two lines were drawn, a line joining highest point on articular eminence and deepest point in glenoid fossa and another line joining orbitale to porion representing Frankfort horizontal plane. These lines were intersected to obtain condylar guidance angles of right and left sides in both dentulous and edentulous subjects. The values recorded by both the methods were subjected to statistical analysis using paired 't' test and Pearson's correlation test.

Results: There was statistically highly significant difference ($p < 0.001$) with a positive correlation between the SCG values obtained using protrusive interocclusal records and panoramic radiographs in both dentulous and edentulous subjects. The radiographic values were approximately 3° higher than those obtained by protrusive interocclusal record on articulator.

Conclusion: Within the limitation of this study, it can be concluded that the SCG values obtained by both the methods (clinical and radiographic) were comparable and correlated in both dentulous and edentulous subjects.

Keywords: Sagittal condylar guidance; articular eminence; panoramic radiographs; protrusive interocclusal records; polyvinyl siloxane material.

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