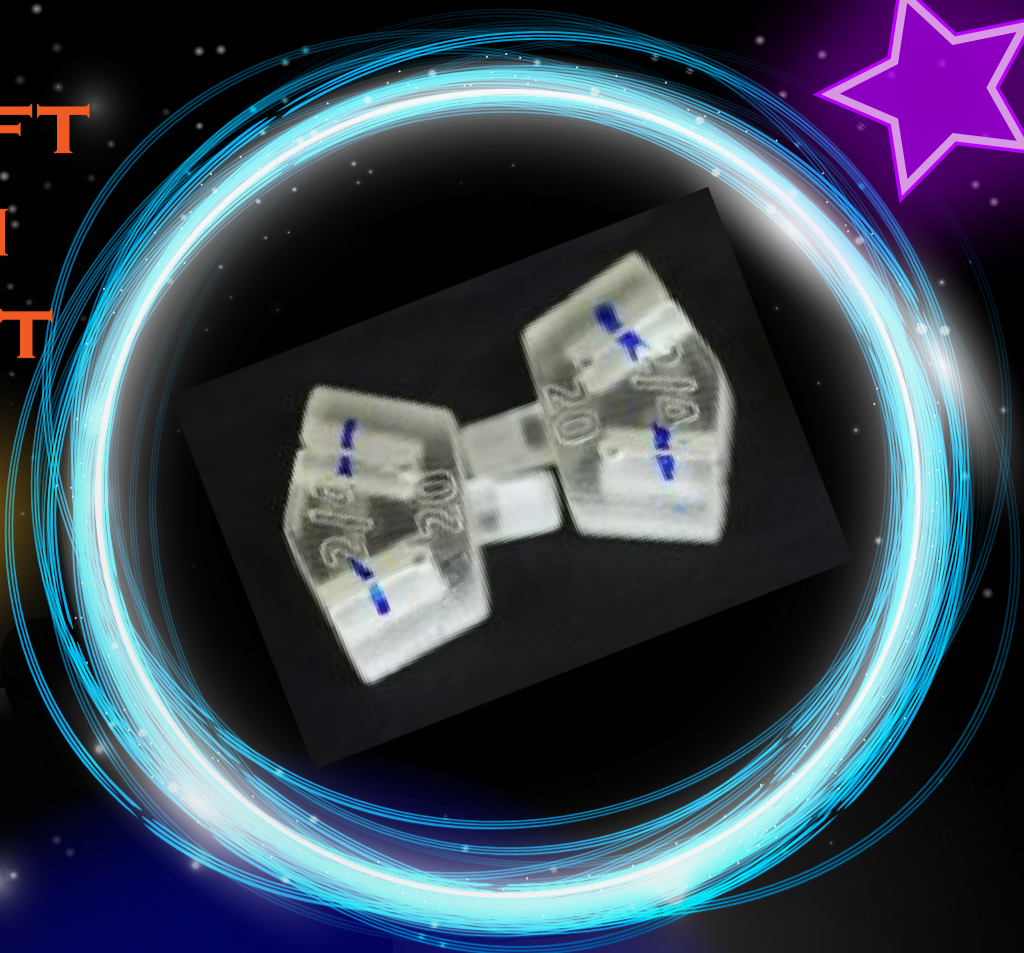


# EVALUATION OF 20° SHIFT RADIOGRAPHIC IMAGE IN ENDODONTIC TREATMENT

## BACKGROUND

Radiographic image is one of the significant tools in root canal treatment. The superimposed canals could not normally be identified from 0° radiographic image. Therefore mesial or distal shift radiograph has to be conducted in multi-rooted tooth.



## AIM

To evaluate the frequency of root canals separation on radiographs taken for determination in the working length of mandibular molars using 20° D shift jig or with 20° M shift jig compared with 0°.

Advisor

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## METHODOLOGY

Clinical radiographs of 42 human mandibular molars were taken at horizontal angle of 0°, 20° from mesial and 20° from distal direction of the tooth by using EndoRayII in corporation with 20° shift jig. Then the radiographic images of those angle x-ray beam were evaluated by two examiners.

## RESULTS

71% and 73% percent of 20° mesial shift radiographic images were accepted by the 1st and 2nd examiner respectively. While 54% and 64% of 20° distal shift radiographic images were accepted by both examiners respectively. The strength of agreement values of both examiners were in the high level of 0.804-0.904. The acceptable radiographic images in mesial shift and distal shift of each examiner are not different ( $P>0.05$ ) and better than 0° x-ray beam's angle ( $P<0.05$ ).



## DISCUSSION

The angulation of 20 is used because there are many studies that support in separating the root canals distinctly. The 20° jig is fixed with EndoRayII such that the x-ray beam is accurately shifted 20° distally or mesially, decreasing the error from the conventional estimating method.

## CONCLUSION

Our results indicated that either a 20° M or D shift of the x-ray tube from the perpendicular resulted in the higher percentage of radiograph with distinctly separated root canals compared with a 0° shift.



**Keywords :** Mandibular molar, Radiographic, Shift tube , Working length

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