

Effect of changes in the protocol of fixing a magnetic attachment onto the stage of an ISO measuring device on retentive forces.

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Abstract

Retentive forces are an important and sensitive aspect of dental magnetic attachments. The existing ISO 13017/Amd1 on measurements of retentive forces, outlines the method of fixing magnetic attachments on the table which has been reported as complicated. The aim of this study was to establish if the location, method of temporary stabilization and adjustment of the center of magnetic attachments on the table of an ISO measuring device have an influence on retentive forces.

Two types of magnetic attachments GIGAUSS D600 and HYPER SLIM 3513 were mounted on a measuring device connected to a digital force gauge.

The position a magnetic attachment is fixed on the table has no influence on retentive forces, since there was no significant difference between measured values with set up placed on the left, right, back or front compared with the center (reference) position.

Use or avoidance of double sided adhesive tape to stabilize magnetic assembly did not affect retentive forces since there was no significant difference in measurements for the various styles of temporary fixation.

Gross adjustments using the X-Y stage has a negative effect as some of the retentive forces measured were statistically significantly lower than the reference values for both attachments.