

The usefulness of the test procedure for measuring retentive force of dental magnetic attachment as stipulated in ISO 13017 standard

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Detailed procedure for measuring retentive force of dental magnetic attachments was published as ISO 13017:2012/Amd.1:2015. However, effectiveness of the standard procedure has not been established. The aim of the study was to investigate usefulness of the test procedure instructions. Five participants of whom English is not their native language, conducted the experiment for the first time. Samples of magnetic attachments used were: two kinds of flat type and one of post type. Each participant conducted the experiment in three stages. Each set of measurements was taken after fulfilling the following conditions:

First: Each participant read the ISO standard test procedure manual alone.

Second: Discussion of the procedure instructions only, with an expert.

Third: Practical demonstration of the experiment by an expert.

Two out of five participants generated significantly low values after the first stage only. All the other values (of three participants at first stage and all participants at second and third stage) corresponded with more than 85% of the figure quoted in the manufacturer's literature accompanying the package. Moreover, participants got more accurate figures after second stage discussion.

These results indicate that the test procedure standard in ISO 13017 is a useful guide for measuring retentive force.