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[\[PDF \(1833K\)\]](#) [\[References\]](#)**Influence of lateral-oblique cyclic loading on abutment screw loosening of internal and external hexagon implants**[Takuma TSUGE](#)¹⁾ and [Yoshiyuki HAGIWARA](#)²⁾³⁾

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Abstract:

To date, there is no evidence that internal anti-rotation configurations are better than external ones. The purpose of this study was to evaluate the effect of eccentric cyclic loading on abutment screw loosening in internal and external hexagon implants with either of these two screw materials, titanium (Ti) alloy *versus* gold alloy. The reverse torque value of the abutment screw was measured before (initial preload) and after loading (post-loading). The prepared assemblies were divided into four groups (A to D). Groups A and B used internal hex implants with gold alloy and Ti alloy abutment screws respectively. Groups C and D used external hex implants with gold alloy and Ti alloy abutment screws respectively. In all the groups, post-loading preload was significantly ($p < 0.05$) higher than initial preload. Further, two-way ANOVA indicated that the implant-abutment connection did not have an effect, but the abutment screw material did. In particular, Ti abutment screws were less likely to come loose.

Key words:[Screw loosening](#), [Preload](#), [Abutment screw](#)[\[PDF \(1833K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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