

# 机用 MTWO 镍钛器械折断的临床观察及影响因素分析

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**【摘要】 目的** 观察 MTWO 机用镍钛根管治疗器械临床使用的折断情况, 分析影响其折断的因素。**方法** 随机选取 2013 年 9 月至 2014 年 9 月间来我院口腔综合科就诊的需进行根管治疗的患者 350 名, 使用 MTWO 机用镍钛器械进行根管预备, 记录发生折断的器械个数、型号、牙位以及预备的根管数目。利用故障树分析法及 SPSS19.0 统计分析研究影响其折断的因素。**结果** 器械折断与多种因素相关, 主要因素为器械型号、牙位及使用次数。10#、20# 号器械与其他型号相比更易发生折断。折断绝大多数发生在后牙根管预备时。预备根管数大于 20 个的器械, 折断率明显增加。**结论** 使用 MTWO 镍钛机用器械预备磨牙根管时更易发生折断; 特定型号的器械 (10#、20#) 折断率较高, 临床使用时应加以注意。器械使用次数最好不要超过 20 个根管。

**【关键词】** 镍钛合金 器械折断 根管治疗

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## Analysis of affecting factors on fracture of MTWO nickel-titanium rotary instrument

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**【Abstract】 Objective** The purpose of this study was to analyze the affecting factors on fracture of MTWO nickel-titanium rotary instrument in root canal preparation in clinic. **Methods** A total of 350 patients who underwent root canal therapy were selected from our general dentistry clinic between September 2013 and September 2014. MTWO rotary instrument was used to achieve root canal preparation, and the number and size of fracture instruments, the position of treated tooth and the number of roots prepared were recorded. The data was analyzed by SPSS 19.0 and Fault Tree Analysis. **Results** The main affecting factors for fractures were equipment type, tooth position and frequency of use. Statistical analysis indicated that 10# and 20# were more likely to fracture than other sizes. Vast majority of instrument fracture occurred in molar root canals. The fracture rate was significantly increased after the number of prepared canal exceeded 20 times. **Conclusion** From this study, we concluded that MTWO rotary instrument was more likely to fracture when preparing molar canals, and instruments of particular size (10#, 20#) with higher fracture rate should be used with great care in clinic. The using times of each MTWO file should be less than 20 in consideration of safety.

**【Key words】** Nickel-titanium alloy Instrument fracture Root canal preparation

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