

# Comparison of two different methods of average working length determination in second molars and premolars [Comparación de Dos Métodos para Determinar la Longitud de Trabajo Promedio en Segundos Molares y Premolares]

Rodríguez-Niklitschek C.

Cantín M.

Oporto V.G.

Within the procedures involved in a successful endodontic treatment is the working length (WL) determination. The root canal end must be detected accurately, and a precise control of the WL must be maintained. There are several methods to determine WL. Researchers have published the average teeth length (ATL) to the human permanent dentition. These measurements are used as an anatomical reference. If the WL is evaluated using a radiographic image, it is accepted as clinical success if the limit of the canal sealing is 1 mm coronal to the root apex. One method to determine WL is based in subtract 1 mm to ATL. Another method widely used, assert to achieve a more precise WL determination, through the use of an electronic apex locator (AL). Nevertheless, published measures of ATL are still used as anatomical reference, and are used to determine WL in the absence of an AL. The aim of this study was to determine the average WL of second molars and premolars with endodontic treatment indication using a PropexII® AL, and compare these measurements to WL determination using ATL method. A descriptive cross-sectional study with a non-random sample of consecutive cases was executed. Results showed that there were no statistically significant differences between the WL obtained with AL and ATL method in studied teeth, except mesio-buccal canal of second maxillary molars (19.94 mm average using AL, 1.54 mm greater than ATL method 18.40 mm;  $p= 0.002$ ). The ATL method to determine WL could be used to determine the WL of second molars and premolars in studied population. Further research should be performed to determine if ATL method is safe and reliable to be used in absence of an AL or in patients where this instrument cannot be used. © 2015, International Journal of Morphology. All rights reserved.

Electronic apex locator

Endodontics

Root canal system anatomy

Working length