Introduction and objective: The aim of the present study was to compare root canal preparation with rotary ProTaper files and hand ProTaper files to find a better instrumentation technique for maintaining root canal geometry with the aid of computed tomography.

Material and methods: Twenty curved root canals with at least 10 degree of curvature were divided into 2 groups of 10 teeth each. In group I the canals were prepared with hand ProTaper files and in group II the canals were prepared with rotary ProTaper files. Image analysis was performed at four levels 4mm, 6mm, 9mm, and 12mm from the root apex to assess changes in canal transportation and centering ratio using computed tomography (CT).

Results: Data suggest that rotary ProTaper files presented the best outcomes for both variables evaluated. Rotary ProTaper files caused lesser transportation and remained better centered in the canal than hand ProTaper files.

Conclusion: The canal preparation in natural teeth with rotary Protaper files showed lesser transportation and better centering ration than hand ProTaper files.

Keywords
- Canal shaping
- Centering ratio
- Computed tomography
- Transportation