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## A new generation of single file reciprocating systems and irrigation protocol: How these techniques can help the clinicians?

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Root canal instrumentation is one of the most important steps in root canal therapy, but the outcome of endodontically treated teeth depends on a lot of factors besides root canal shaping. Rotary instrumentation has been associated with predictable shaping, centralized preparation, and little risk of root canal aberration. On the other hand, the number of instruments used and the possibility of instrument separation is still an issue. Single file reciprocating systems might decrease the number of instruments, maintaining the root canal anatomy with a slight risk of instrument separation. Two new different Single File Reciprocating systems are available worldwide: WaveOne Gold (Dentsply) and Reciproc Blue (VDW). Both manufacturers use two different thermomechanical treatments of NiTi alloy, and that has proven to be more flexible and resistant to cyclic fatigue than the first generation of the reciprocating systems. Some studies have demonstrated that the single file reciprocating preparations are faster than those performed by full sequences of rotary files. Besides that, learning these systems is relatively easy, and even novice operators are able to perform satisfactory root canal shaping. However, some points in the literature deserve attention. The formation of microcracks and the extrusion of debris have been cited by some authors, while there are others that do not have the same results concerning these questions. The aim of the lecture will be to allow the attendees to understand the technique required to perform the reciprocating instrumentation and the irrigation process with new methods to optimize the protocol with the support of the current literature.

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