



## Review Article

# XP-endo Shaper : One File Shaper System

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### ABSTRACT

XP-endo Shaper is a truly innovative shaping instrument which can be used to radically simplify endodontic sequences. The unique feature of this file is its 3D canal shaping ability and less invasive cleaning and shaping procedures. The XP-endo Shaper is the instrument of choice for the treatment of complex canal configurations. It is the latest addition to the XP-endo range. It is a One File Shaper system.

### Introduction

The need for an excellent 3D canal cleaning and minimal invasive treatments has led to the development of XP-endo Shaper. It is introduced by FKG Swiss endo. It is a single file for complete shaping. The MaxWire and Booster Tip techniques combined together for the excellent features of XP-endo Shaper. The ISO diameter changes from 15 to 30 during cleaning and shaping procedures of root canal. Using only one instrument, it does the canal shaping of minimum 30/.04<sup>(1)</sup>

**Characteristic features of XP-endo Shaper:** It has an ISO No 30 and is intended for single use only. The optimal speed ranges from 800-1000 rpm. It is available in 21 mm, 25 mm and 31 mm. It has a minimum taper of 4 %. It is available in 3 files and 4 files sequences.

### XP-endo Shaper sequences

It consist of 4 and 3 file sequences. The first system known as XP-endo Shaper Plus sequence consist of K File (10 and 15), XP-endo Shaper and XP-endo Finisher. It is used for comprehensive treatment, from glide path to canal cleaning, as well as excellent shaping respectively. The 3 file system consist of K File (10 & 15) and XP-endo Shaper. It is used for glide path, and shaping respectively.

Dentists use varieties of NiTi files. XP-endo Shaper (XP), Protaper Gold (PTG), Self-adjusting file (SAF) are extensively used for cleaning and shaping of root canals. Due to excessive instrumentation during chemomechanical preparation, microcracks occurs on the dentin. Based on the usage of the above-mentioned files, it does not create microcracks. Vertical root fracture

occurs in many root canal treated teeth. It may lead to loss of tooth structure.<sup>(2, 3)</sup> Over instrumentation also results in the formation of craze lines. Due to the continuous masticatory forces, it results in the vertical root fracture<sup>(2, 4)</sup>. Presently announced files known as the XP-endoShaper (XP)(FKGDentaire, LaChaux-de-Fonds, Switzerland) has a rotary NiTi snake shaped instrument. The file has an initial taper of .01 in its M phase when it is cooled. The taper of the file varies to 0.04, when it is exposed to 35°C. If the file is used separately, it has a minimum canal preparation of 30/.04. The pressure that is applied on the dentin is extremely less by XP. This feature helps in the significant reduction of microcracks. It is the best file system which can be used in complex canals due to its high flexibility. Cyclic fatigue is relatively lesser in this file system<sup>(5)</sup>.

XP has a unique feature of 3-dimensional cleaning and shaping. It helps in the complete chemomechanical preparation in the complex canals. It is made up of NiTi MaxWire (Martensite-Austenite). The unique feature of this alloy is that it provides excellent flexibility.<sup>(5)</sup> The defects in dentin triggered by the NiTi file systems which ranges between (4%-80%)<sup>(3, 6-8)</sup>. when the percentage of taper increases, it results in the higher incidence of dentinal defects. It occurs due to the stress on the canal walls. None of the literature has mentioned about the crack formation in dentin due to the usage of XP. The design of XP results in increased flexibility during high rotational speed (i.e., 800 rpm).<sup>(6)</sup>

The excellent flexibility of XP results in prevention of microcracks in dentin due to the heat treated NiTi instruments. This feature differentiates XP from the traditional NiTi file systems.

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