



Why the taper is not important in the canals that are correctly prepared without deviation from the long axis with the respect of the original anatomy.

A single cone obturation with a conical master cone that fits the instrumented root canal was developed to simplify the root canal filling following preparation with tapered NiTi instruments.

During the instrumentation a conical shape of the NiTi instrument is transferred to the root canal. But due to the limitation of NiTi files the large areas of the canal remain un-prepared ,while excessive forces are exerted on the canal walls, resulting in root cracks.

(see in the follow slides- test case result)

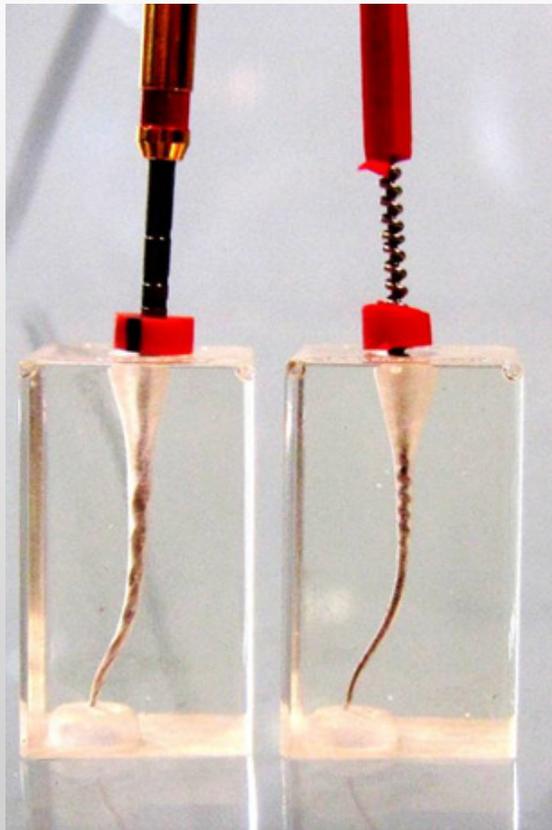


While using a Gentlefile, its flexibility allows for the adaptation of the file to the canal and preparation of the ideal canal shape which include the irregular areas without excessive dentin removal.

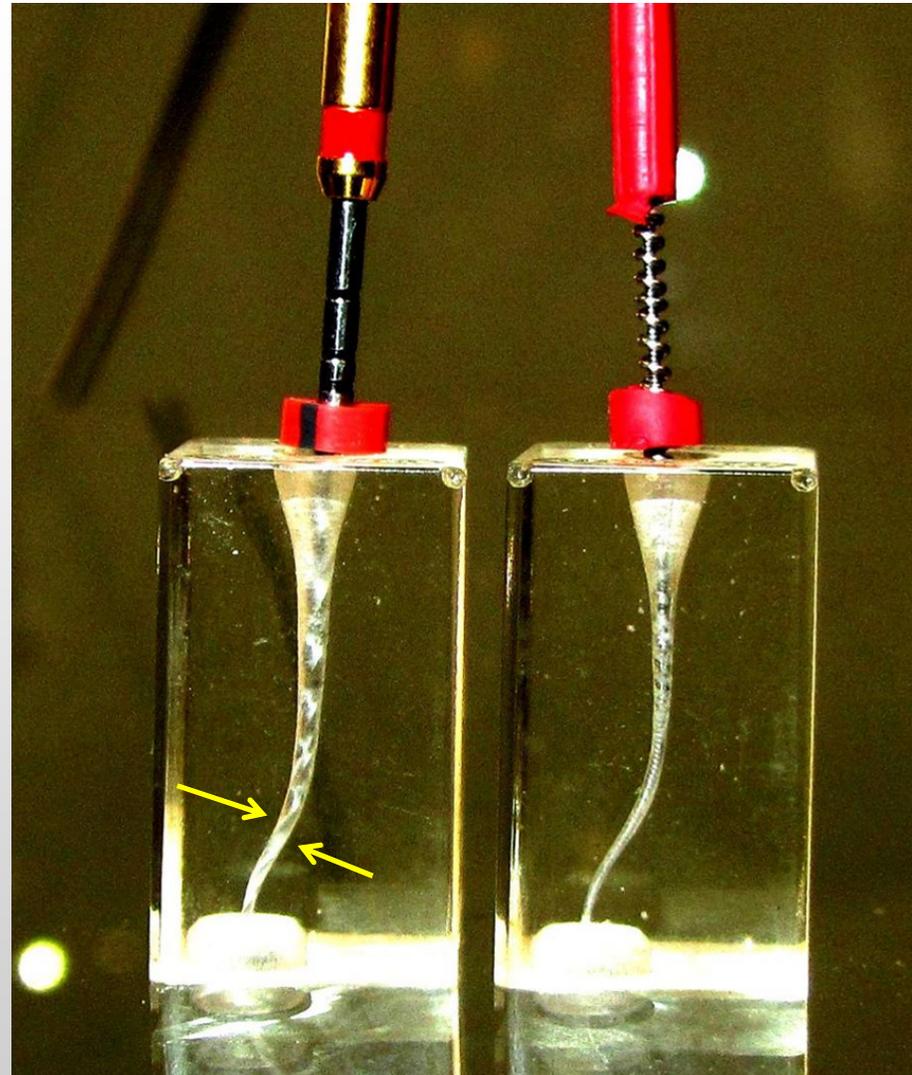
The file apical diameter will dictate the size at the apical constriction only. The goal is to enlarge the canal as much as necessary without compromising the remaining dentin structure.

For narrow canals the apical preparation will correspond to the master point 25. The corresponding master cone should be fitted to the working length to achieve a tug-back and satisfactory apical seal. Recommended taper 0.2 .

With 0.2 taper you left sufficient space for the Guta pins , than obturation can be finished using lateral condensation technique or warm vertical compaction to seal better the irregular areas .



Comparison between the NiTi and the Gentlefile. Both block prepared for 0.25



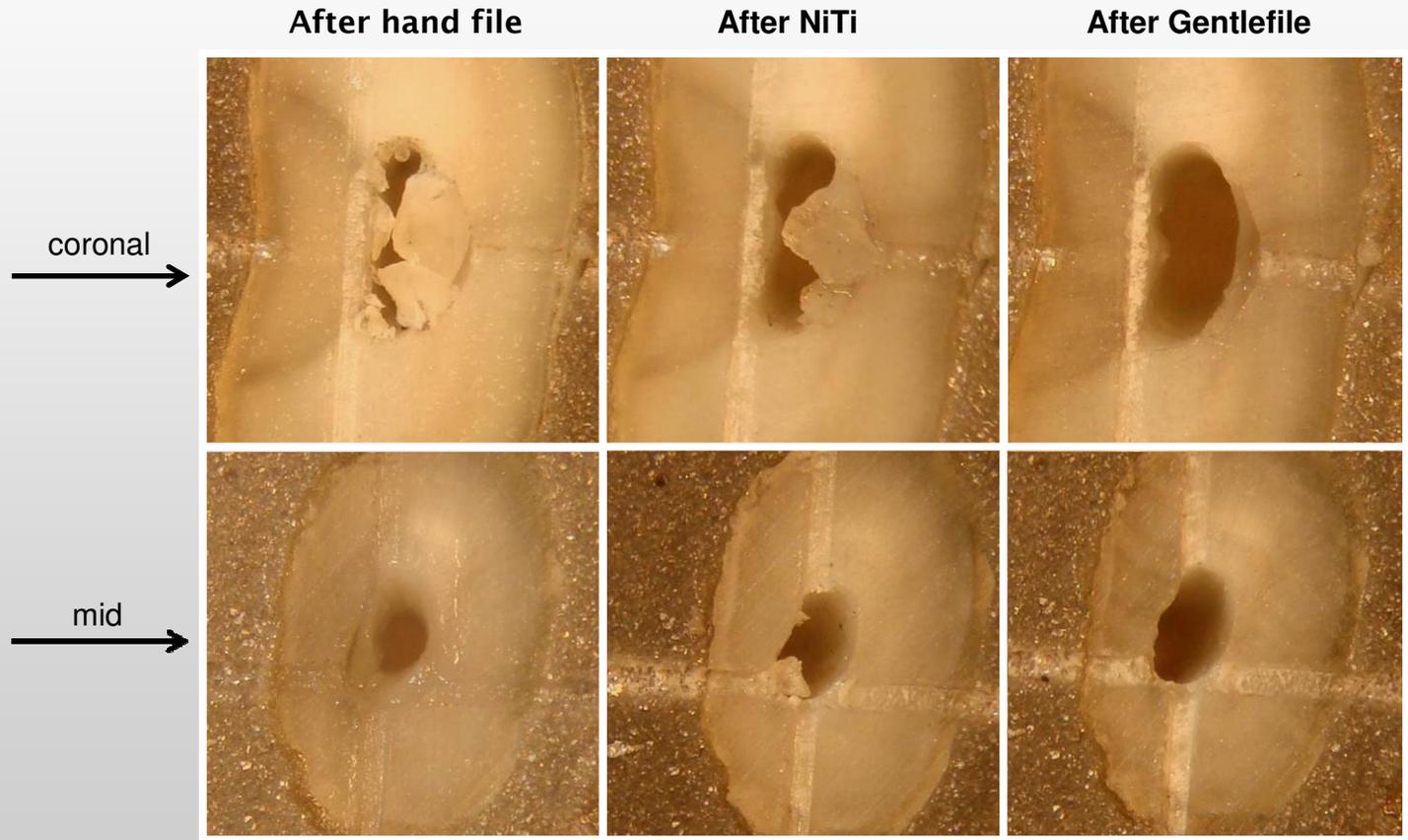
The canal wall doesn't keep the central vertical line and over **widen** and **straighten** by the NiTi files

Gentlefile follows the canals, path and preserves its structure



Why clean irregular section which preformed by Gentlefile cannot be sealed only by master cone Guta that followed the NiTi files taper only

Irregular Canal Cross Sections



Combination of:
File flexibility and
Centrifugal motion
Enabling access and
preparation of
irregular canal
sections which NiTi
files cannot access.