Importance of Instrumentation Conservative Endodontic:

In an endodontic context, taper might be described as a canal shape that is wider at one end and narrows to a point. This point would ideally be the minor constriction of the apical foramen.

The shape should have narrowing cross sectional diameters and maintain the canal in its original position.

Taper, if created correctly, in root canal systems has several functions. Correct prepared taper:

• It makes canal preparation efficient as the preparation is evolving. Working through a narrow coronal opening is unproductive with regard to the restrictive dentin that will be encountered. Alternatively, working through an opening of an adequate taper and diameter can optimize apical tactile control be it with hand or RNT instruments.
• can facilitate optimal irrigation.
• can facilitate optimal obturation hydraulics of the core material and sealer during the down pack phase of endodontic treatment especially with techniques such as vertical compaction and System B.

• Can facilitate cone fit with tug back.
ISO hand files such as hand K files and reamers are .02 taper along their length. This means that at their tips they are a given diameter (.10 mm or .15 mm, i.e. a #10 or #15 tip size) and that 1 mm from the tip they are .02 mm greater in diameter.

For example, a #15 hand file is .15 mm in diameter at its tip. 1 mm back from the tip it is a .17 mm and 2 mm back from its tip it is .19 mm.
Greater taper means that, for example, a .04 tapered instrument is .04 mm greater in diameter 1 mm back from the tip of the instrument. For example, a #25 .04 RNT file is .29 mm in diameter 1 mm back from its tip.

Clinically, a canal prepared with a .06 taper is relatively wider at the top than at the apex than a preparation made with a .04-tapered instrument.

Risks of over-enlarged taper and clinical considerations Over tapered preparations are susceptible to:

1. Vertical fracture due to excessive removal of dentin
2. Strip perforation due to excessive dentin removal in a highly fluted root.
3. Canal transportation of all types caused by using too large of an orifice opener.
4. Blockage of the apical portion of the canal beyond the level of the coronal enlargement.