

DIRECTIONS FOR USE

Indications for Use

Endodontic files and reamers are single use surgical instruments used for performing root canal treatment to mechanically shape and prepare the root canals during endodontic therapy or to remove the root canal obturating material when performing retreatment. The device is intended for single use only and may be supplied sterile.

COMPOSITION

The instrument is made of a nickel-titanium blade, handle, the stop, and the color-coded band.

Contraindications

- Like all mechanically driven endodontic instruments they should not be used in cases with very severe and sudden curvatures.
- This product contains nickel and should not be used for individuals with known allergic sensitivity to this metal.

Warnings

- A rubber dam system should be used.
- Rotary/Reciprocating files are non-sterilize and must be sterilized before patient use.
- Do not use if package is damaged.
- Rotary/Reciprocating files are for single use only, in order to avoid file separation.
- Rotary/Reciprocating files are sharp, and caution should be used if touching the blade directly.
- If the Rotary/Reciprocating file is intended to be sterile, but the packaging is damaged, please dispose of the damaged product and utilize an undamaged product instead as the former may be contaminated.

Precautions for Use

As with all products, use carefully until you become proficient with use. Always determine working length using radiographs and/or apex locator to properly use reciprocating files. Important points to remember:

1. Use only in an electric motor and hand piece designed for the WaveOne[®] instruments.
2. Straight-line access is imperative for proper reciprocating file use and endodontic treatment.

3. Do not force the files down canals, use minimal apical pressure.
4. Clean the flutes frequently and at least after removing the files from the canal.
5. Irrigate and lubricate the canal frequently throughout the procedure.
6. Take each reciprocating file to length only one time and for no more than one second.
7. In apical areas and curved canals exercise caution.
8. Rotary/Reciprocating files are single patient use devices.
9. Once file is used do not reuse. If file is reused and used on a different patient infection can be introduced. Performance of the file can also be reduced.
10. Used files should be disposed of in a Biohazard Sharps container in accordance with local regulations.
11. When instrumenting the canal, do not over enlarge the coronal portion of the canal.
12. Too large a file taken to length increases the risk of canal transportation and file separation.
13. Rotary/Reciprocating files undergo our proprietary Annealed Heat Treatment (AHT) forming our branded Fire-Wire[™] NiTi which increases cyclic fatigue resistance and torque strength. With this proprietary processing, Rotary/Reciprocating files may be slightly curved. This is not a manufacturing defect. While the file can be easily straightened with your fingers, it is not necessary as once they are inside the canal, Rotary/Reciprocating files will follow and conform to the natural canal anatomy and curvatures.

Adverse Reactions

- Device fracture/breakage
- Infection – Do not use if package is damaged or open, due to risk of infection occurring.
- Complications usually associated with endodontic procedures including:
 - Pain
 - Instrument fracture/breakage
 - Soft tissue damage/bleeding

Safe Unwinding

- As a safety feature the files are designed to unwind. They may be used until the files unwind backwards.

Sterilization

- Files must be sterilized before use. ANSI/ADA Specification 28 recommends
- Scrub the instruments with soap and warm water.
- Rinse thoroughly with distilled or deionized water.
- Allow to air dry
- Place the instruments, unwrapped, in an autoclave tray.
- Use fresh distilled or deionized water.
- Steam Autoclave at 136° C (plus or minus 2° C) for 20 minutes.

Disinfecting:

- After each canal is fully shaped, rinse the canals for 1 minute with 17% Liquid EDTA to remove the canal Smear Layer.
- Rinse the canals for 5 minutes with 5% NaOCI to remove debris and bacteria.
- Rinse the canals for 1 minute with 17% Liquid EDTA to rinse out the 5% NaOCI.
- Rinse the canals for 5 minutes with 2% chlorohexidine or EDTA to kill bacteria.

Obturation of Canal Systems

- When using thermal carrier system use size verifiers to determine the proper sized carrier.
- When using a master gutta percha cone that matches the largest file taken to length, remember sometimes you may need to drop down in cone tip size if the corresponding gutta percha to your final rotary file does not go to length.

Storage

- Store at room temperature of 10°C~37.8°C, away from any sunlight. Recommended File Disposal Place used files in Biohazard Sharps container.

| Symbol | Meaning (Standard, if Applicable) |
|---|--|
|  | Manufacturer/ Legal Manufacturer (ISO 15223-1) |
|  | Catalogue Number (ISO 15223-1) |
|  | Batch Code (ISO 15223-1) |
|  | Used-by Date (ISO 15223-1) |
|  | Do Not Re-use (ISO 15223-1) |
|  | Do not use if package is damaged (ISO 15223-1) |
|  | Consult instructions for use (ISO 15223-1) |
| Rx Only | Caution: Federal law restricts this device to sale by or on the order of a "dentist/Physician" licensed by the law of the State in which he/she practices to use or order the use of the device. (FDA 21 CFR Part 801.109 (b) (1)) |
|  | Sterile using irradiation (ISO 15223-1) |
|  | Caution (ISO 15223-1) |
|  | Temperature limit (ISO 15223-1) |

Products:[EdgeCoil](#)[EdgeEvolve](#)[EdgeFile X1](#)[EdgeFile X3](#)[EdgeFile X5](#)[EdgeFile X7](#)[EdgeFile XR](#)[EdgeFind](#)[EdgeGates](#)[EdgeGlidePath](#)[EdgeOneFire](#)[EdgeOne Platinum](#)[EdgeSequel Sapphire](#)[EdgeTaper / EdgeTaper Platinum](#)[EdgeTaper Encore Platinum](#)[EdgeTaper Retreat](#)[Edge V-Taper](#)

| Product Model | Instructions for Use | Hand Piece/ Hand Piece Operation |
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| EdgeCoil | <p>Shaping files from the canal.</p> <ul style="list-style-type: none"> • Use a reciprocating motion with light apical pressure. • Use a gentle inward-outward motion, with short up and down strokes, to passively advance the EdgeCoil GlidePath™ & EdgeCoil™ Shaping files. • Remove EdgeCoil GlidePath™ & EdgeCoil™ shaping file when it does not easily progress. Clean and inspect the cutting flutes, then irrigate, recapitulate with a size 010 file and re-irrigate. • EdgeCoil GlidePath™ & EdgeCoil™ Shaping files may appear slightly curved. This is not a manufacturing defect. It is not necessary to straighten the file prior to use. Once inside the canal they will follow the natural canal curvatures. • Before using EdgeCoil GlidePath™ file, scout the canal with hand files, to at least a #10 K-file with a lubricant such as EdgeLube(r). <p>EdgeCoil™ shaping files technique:</p> <ol style="list-style-type: none"> 1. Establish straight-line coronal access. 2. In the presence of EdgeLube™, use a #10 hand file to verify a glide path to length. 3. Expand this glide path to at least 0.15 mm using either a hand file or mechanical file, such as EdgeFind™ or EdgeCoil GlidePath™ file. 4. Initiate the shaping procedure with the EdgeCoil™ Shaping file in the presence of EdgeLube™. 5. Use gentle inward pressure and let the EdgeCoil™ file passively progress. After shaping 2-3 mm of any given canal, remove and clean the file, then irrigate, recapitulate with a #10 hand file and re-irrigate. 6. Continue with the EdgeCoil™ Shaping file, in 2-3 passes, to enlarge the coronal two thirds of the canal. 7. Utilize a brushing motion on the outstroke to eliminate coronal interferences or to enhance shaping. 8. In more restrictive canals, use a #10 hand file, in the presence of EdgeLube™, to the terminus of the canal. Gently work this file until it is completely loose at length. 9. Establish working length, confirm patency and verify the glide path. 10. Expand this glide path to at least 0.15 mm using a hand or mechanical glide path file. | 350 RPM |

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| | <ol style="list-style-type: none"> 11. Carry the EdgeCoil™ Shaping file to the full working length in one or more passes. Upon reaching length, remove the file, inspect the apical flutes; if they are loaded with dentinal debris, then the shape is finished*. 12. If the EdgeCoil™ Shaping file doesn't progress then re-use the EdgeCoil GlidePath™ file and take it 1.0 mm past the working length. Then take the EdgeCoil™ Shaping file to the working length. 13. When the shape is confirmed, proceed with disinfection. 14. After sterilizing canal use EdgeBioCeramic™ Sealer to fill the canal. then place the largest EdgeCoil™ gutta percha or EdgeCoil™ thermal carrier that goes to length. | |
| EdgeEvolve | <p>Canal Shaping Canal Shaping entails preparing the Apical ½ and Coronal ½ of the canal but it also extends into the Access Prep. Conserving tooth structure in the Access Prep and Coronal ½ has been shown to prevent fractures and thus prevent premature tooth loss. Therefore, a Moderate Access Prep and Coronal ½ is advised. To show how the EdgeEvolve™ Heat Treated is used for Moderate Shaped Endodontics, let's divide the tooth into three areas: Access Prep, Coronal ½ and Apical ½ and show how the EdgeEvolve™ Heat Treated NiTi rotary files work best in these areas.</p> <p>Access Prep: With all Access Preps, but especially Moderate ones, you need a file that is very flexible high up the shaft. This is the part of the file that may never go into the canal. Like in molars with an average canal/root length of 12mm (Figure X), 12mm to 25mm of a 25mm file never goes into the canal. But that part of the file still needs to be very flexible to go around the Access Prep (Figure Y). This is even more important for a Moderate Access Prep. You need a file like EdgeEvolve™ that is very flexible in the shaft to negotiate the Access Prep without stress on the file when in contact with the walls of the Access Prep. This will prevent file breakage towards the middle or end of the file. EdgeEvolve™ is the most flexible file from 12mm up to the handle (Table flexibility at 18mm) as well as down to the tip.</p> <p>Coronal ½: To conserve tooth structure and prevent strip perforations and root fractures in the Coronal ½ of the canal, the maximum flute diameter should not exceed 1.0 mm. This part of the file 6-12mm from the tip also needs to be extremely flexible to negotiate the Dentinal Triangle (Fig. X) and High Curved canals. High Curved canals are canals that curve in the Coronal ½ of the canal (Fig. X). Other files that cannot flex well in the Coronal ½ are more likely to fracture going around High Curves. This would force you to use smaller finishing files that give an insufficiently small final shape and which may compromise endodontic success. The EdgeEvolve™ is the most flexible file in the Coronal ½ (Show Table of flexibility at 9mm). With EdgeEvolve™ you don't have to compromise and can use the larger finishing files you want.</p> <p>Apical ½:</p> | Recommended motor setting are 300 to 600 RPMS. |

This is where having a deep shape is important to physically remove tissue and infected dentin, allow irrigation to rinse out soft tissue and to disinfect the dentinal walls and to obturate effectively. Removing the bacteria in the Apical ½ is crucial for endodontic success. Whichever technique you use below to create a Deep Apical ½ shape, the EdgeEvolve™ Heat Treated NiTi Rotary files have the best Cyclic Fatigue rates and extreme flexibility to best negotiate sharp curves in the apical 0 to 6mm of the canal. Cyclic Fatigue Tests have shown EdgeEvolve™ is 2-8 times better at handling severe curves than other files on the market. (3mm Flex Test and Cyclic Fatigue)

EdgeEvolve™ Instrumentation

Here are some different techniques the EdgeEvolve™ can be used to create a Deep Apical ½ Shape while negotiating Moderate Access Preps and keeping a Moderate Coronal ½ shape of 1.0 mm in diameter:

1. Small Tip/Large Taper (Tip 20 or 25/Taper 08 or 10) 20/08 20/10 25/08 25/10
2. Large Tip/Small Taper (Tip 30 35 40/Taper 04 or 06) 30/04 30/06 35/04 35/06 40/04 40/06
3. Large Tip/Large Taper (Tip 30 35 40/Taper 08 or 10) 30/08 30/10 35/08 35/10 40/08 40/10

1) Small Tip/Large Taper

This emphasizes a smaller tip size (20 or 25) with a large apical taper (08 or 10) to give a Schilder Apical Shape1 (Figure 1) but with a more Moderate Coronal ½ shape of the canal. Typically, the tip size would be a size 20 or 25 file with an Apical ½ taper of 8% or 10%.1, 2

Glide Path

Fill chamber with 17% EDTA liquid (EdgeLube™)

Coat files with 17% EDTA gel (EdgeGel™)

Take #10 hand file to estimated Working Length.

Establish working length (Apex Locator/X-ray)

Optional Steps:

- Established canal patency: Take #10 hand file 1mm past WL
- Take a #15 hand file to working length.
- Use 17/04 as a Glide Path file.

Shape Canal

Fill chamber with EdgeLube™

Coat file with EdgeGel™

Take each file to Working Length: 20/04 to 20/06 to 20/08 to 20/10 (optional)

(Or Crown-Down: 20/10 to 20/08 to 20/06 to 20/04 repeat)

Rinse with EdgeLube™

Recapitulate with a #10 hand file to the Working Length after each rotary file.

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| | <p><u>Finish Canal</u> If a 20/08 or 20/10 is your Final Shape, you're done. If not, finish with a 25/08 or 25/10. Disinfect and Obturate Canals</p> <p><u>2) Large Tip/Small Taper</u> This classic preparation enlarges the tip size to a size 30, 35 or 40 with an Apical ½ taper of 4% or 6%.³ The EdgeEvolve™ Heat Treated has a constant taper from the tip until the flute diameter reaches 1.0 mm then the taper varies to a zero or straight taper while the flutes extend to 15mm. The EdgeEvolve™ Heat Treated gives a Moderate Coronal ½ shape with a Deep Apical ½ shape while having astonishing Cyclic Fatigue and Flexibility.</p> <p><u>Glide Path</u> Fill chamber with 17% EDTA liquid (EdgeLube™) Coat files with 17% EDTA gel (EdgeGel™) Take #10 hand file to estimated Working Length. Establish working length (Apex Locator/X-ray) Optional Steps:</p> <ul style="list-style-type: none"> • Established canal patency: Take #10 hand file 1mm past WL • Take a #15 hand file to working length. • Use 17/04 as a Glide Path file. <p><u>Shape Canal</u> Fill chamber with EdgeLube™ Coat file with EdgeGel™ Take each file to Working Length: 20/04 to 25/04 to 30/04 (Or Crown-Down: 30/04 to 25/04 to 20/04 repeat) Rinse with EdgeLube™ Recapitulate with a #10 hand file to the Working Length after each rotary file.</p> <p><u>Finish Canal</u> 04 Taper: Either stop at the 30/04 or increase to the tip size you want: 35/04(optional) to 40/04 (optional) 06 Taper: After the 30/04, take the 30/06 then stop at the 06 taper tip size you want: 30/06 to 35/06(optional) to 40/06 (optional) Disinfect and Obturate Canals</p> <p><u>3) Large Tip/Large Taper</u> This preparation was not realistic until the advent of the EdgeEvolve™ Heat Treated. The Large Tip/Large Taper preparation has a large tip size with a large apical taper to provide a Deeper Apical</p> | |
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½ shape than the other two techniques while still maintaining a Moderate Coronal ½ of the canal. Typically, the tip size would be a size 30, 35 or 40 file with an Apical ½ taper of 8% or 10%. The EdgeEvolve™ Heat Treated has a constant taper until the flute diameter reaches 1.0mm then it varies to a zero or straight taper while the flutes continue to 15mm in length (Table X). The final shaping files would be a 30/08, 30/10, 35/08, 35/10, 40/08, or 40/10 NiTi rotary file. The only file on the market that have these sizes and is flexible enough to go around even 90 degree curves is the EdgeEvolve™ Heat Treated. The Cyclic Fatigue and Flexibility of the EdgeEvolve™ 08 and 10 tapers is even better than many 04 taper files.

Glide Path

Fill chamber with 17% EDTA liquid (EdgeLube™)

Coat files with 17% EDTA gel (EdgeGel™)

Take #10 hand file to estimated Working Length.

Establish working length (Apex Locator/X-ray)

Optional Steps:

- Established canal patency: Take #10 hand file 1mm past WL
- Take a #15 hand file to working length.
- Use 17/04 as a Glide Path file.

Shape Canal

Fill chamber with EdgeLube™

Coat file with EdgeGel™

Take each file to Working Length: 20/04 to 20/06 to 20/08 to 20/10 (Or Crown-Down: 20/10 to 20/08 to 20/06 to 20/04 repeat)

Rinse with EdgeLube™

Recapitulate with a #10 hand file to the Working Length after each rotary file.

Finish Canal

08 Taper: Take 25/08 then stop at tip size you want: 25/08 to 30/08 to 35/08(optional) to 40/08(optional)

10 Taper: Take 25/10 then stop at tip size you want: 25/10 to 30/10 to 35/10(optional) to 40/10(optional)

Disinfect and Obturate Canal

4) Crown-Down

Always start with 20/10 to 20/08 to 20/06 to 20/04 and repeat until the taper size you want goes to length. If you use the GT or GTX series by Tulsa Dental you can use the same way.

Glide Path

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| | <p>Fill chamber with 17% EDTA liquid (EdgeLube™) Coat files with 17% EDTA gel (EdgeGel™) Take #10 hand file to estimated Working Length. Establish working length (Apex Locator/X-ray) Optional Steps:</p> <ul style="list-style-type: none"> •Established canal patency: Take #10 hand file 1mm past WL •Take a #15 hand file to working length. •Use 17/04 as a Glide Path file <p><u>Shape Canal</u> Fill chamber with EdgeLube™ Coat file with EdgeGel™ Take each file to apical resistance, 20/10 to 20/08 to 20/06 to 20/04 Repeat until taper size you want goes to length Rinse with EdgeLube™ Recapitulate with a #10 hand file to the Working Length after each rotary file.</p> <p><u>Finish Canal</u> 04 Taper: After 20/04 is to length. Increase in 04 taper tip sizes and stop at the tip size you want: 25/04 to 30/04 to 35/04 to 40/04 06 Taper: After 20/06 is to length. Increase in 06 taper tip sizes and stop at the tip size you want: 25/06 to 30/06 to 35/06 to 40/06 08 Taper: After 20/08 is to length. Increase in 08 taper tip sizes and stop at the tip size you want: 25/08 to 30/08 to 35/08 to 40/08 10 Taper: After 20/10 is to length. Increase in 10 taper tip sizes and stop at the tip size you want: 25/10 to 30/10 to 35/10 to 40/10 Disinfect and Obturate Canal</p> | |
| EdgeFile X1 | <p>EdgeFile®X1 Size Selection</p> <ul style="list-style-type: none"> • If the #10 hand file was tight use the EdgeFile®X1 20/.06 • If the #10 hand file was easy but the #15 hand file was tight use the EdgeFile®X1 25/.06 • If both the #10 and #15 hand files were easy use the EdgeFile®X1 40/.06 <p>EdgeFile® X1 Straight-Line Access</p> <ul style="list-style-type: none"> • Create a glide path and determine the working length prior to EdgeFile®X1 file use by negotiating all root canals to their terminus with stainless steel #10 and #15 hand files and a lubricant. | <p>Electric HandPiece The EdgeFile®X1 file can only be used in an electric handpiece and motor designed for WaveOne® instruments using the WaveOne® setting. See manufacturer specifications.</p> |

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| | <ul style="list-style-type: none"> Establish patency by taking a #10 K-File 1mm past the canal terminus, and at least a #15 K-File to the terminus. <p>Safe Unwinding</p> <ul style="list-style-type: none"> As a safety feature the files are designed to unwind. They may be used until the files unwind backwards. <p>EdgeFile®X1 Canal Shaping and Cleaning</p> <ul style="list-style-type: none"> The EdgeFile®X1 files can only be used in a motor designed for WaveOne® instruments. Place the selected EdgeFile®X1 file into the handpiece. With lubricant in the canal and light apical pressure, use a gentle inward pecking motion advancing the file 2-3 mm then lifting up 1-2 mm. Keep repeating this motion to passively advance the EdgeFile®X1 file until it does not easily progress. Remove the EdgeFile®X1 file from the canal, remove debris and inspect the file, irrigate and recapitulate with a #10 hand file 1 mm past the canal terminus. Repeat steps 3 & 4 until the EdgeFile®X1 file is to the working length. If after repeated attempts the EdgeFile®X1 file does not seem to be advancing any further, drop down in EdgeFile®X1 file size and finish the canal. Apically gauge the size of the foramen with a hand file the same tip size as the EdgeFile®X1 file taken to length. If the gauging hand file is a snug fit, the preparation is finished. If it is loose, use the next larger EdgeFile®X1 file to finish the preparation. Then obturate the canal. | <p>HandPiece</p> <p>Only use the EdgeFile®X1 in same handpiece and motor that is designed for the WaveOne® instrument using the WaveOne® setting</p> | | | | |
| <p>EdgeFile X3</p> | <p>Straight-Line Access and Glide Path Formation</p> <ul style="list-style-type: none"> Prepare straight-line access to all canal orifice. With lubrication in the canal form a glide path with a size #10 and #15 hand files or mechanical glide path files 2/3 down the length of the canal. <p>Beginning Canal Shaping and Cleaning: N1 and N2 Files</p> <ul style="list-style-type: none"> With lubricant in the canal and with light apical pressure take the N1 (17/06) into the canal and follow the glide path using an in-and-out motion while laterally brushing the dentin on the outstroke to enhance the straight-line access of the canal. Continue shaping with the N1 until resistance is met or 2/3 down the canal is reached. Then use the N2 (17/04), in the same way until resistance is met or 2/3 down the canal is reached. Switch between the N1 and N2 following the glide path using the same in-and-out as described for both files until 2/3 down the canal is reached. Now that the coronal 2/3 of the canal is shaped, form a glide path with the size #10 and #15 | <p>Speed and Torque</p> <p>Use the same hand piece with the same speed and torque settings you are currently using with your ProTaper® or ProTaper Next® rotary system. Or if you wish, you can use for all EdgeFile®X3 rotary files the following speed and torque settings for all files.</p> <table border="0"> <tr> <td>Speed</td> <td>Torque</td> </tr> <tr> <td>300-500 rpm</td> <td>300 g-cm</td> </tr> </table> | Speed | Torque | 300-500 rpm | 300 g-cm |
| Speed | Torque | | | | | |
| 300-500 rpm | 300 g-cm | | | | | |

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| | <p>hand files or mechanical glide path files into the apical 1/3.</p> <ul style="list-style-type: none"> • Establish working length with radiographs and/or an apex locator. Then confirm patency by taking the #10 hand file 1 mm past the working length. • Then, using the same motion as before, switch between the N1 (17/06) and N2 (17/04) until N2 reaches the working length. • If a larger coronal shape is desired, use the NX (25/12) at any time after the coronal 2/3 is shaped. Completing Canal Shaping and Cleaning: C1, C2, C3, C4 Files • With lubricant in the canal and with light apical pressure complete canal shaping and cleaning by taking the C1 (20/06) down the canal until the working length is reached. • Apically gauge the foramen at the working length with a #20 hand file. If the #20 hand file is snug at the working length, the canal is shaped and ready to obturate. • If the #20 hand file is loose, take the C2 (25/06) to the working length, then gauge with a #25 hand file. When necessary, the C3 (30/06) or C4 (40/06) may need to be used. | <p>Reciprocating motors The EdgeFile X3 can be used in a clockwise reciprocating motor but not in the WaveOne reciprocating motor, using the WaveOne setting, which moves in the counterclockwise direction. The EdgeFile X1 is designed specifically for use in only the WaveOne reciprocating motor and setting.</p> |
| <p>EdgeFile X5</p> | <p>Straight-Line Access</p> <ul style="list-style-type: none"> • Create a glide path and determine the working length prior to EdgeFile®X5 file use by negotiating all root canals to their terminus with stainless steel #10 and #15 hand files and a lubricant. • Establish patency by taking a #10 K-File 1mm past the canal terminus, and at least a #15 K-File to the terminus. <p>EdgeFile®X5 20 Series Shaping and Cleaning For all canals no matter the canal size, start with a 20/06 Rotary File. Between each rotary file recapitulate with a #10 or #15 tip hand file to maintain glide path and help lubricant to the canal terminus. Take the 20/06 to resistance or working length (whichever occurs first). If resistance is met before reaching the working length then go to a 20/04. Take the 20/04 to resistance or working length (whichever occurs first). If resistance is met before reaching the working length then repeat going from the 20/06 to 20/04 until one of them goes to the working length. If the file that goes to length first contains debris on the last flute, then the canal is a size 20 tip and can be obturated to that corresponding tip and taper with a EdgeFile®X5 thermal carrier or gutta percha, see Obturation of Canal Systems. If the file did not contain debris on the last flute and was the 20(04), then finish shaping the canal with the 20 Series with lubricant by using the 20(06) then 20(04) until the 20(06) reaches the Working Length, then go to the 30 Series.</p> <p>EdgeFile®X5 30 & 40 Series Shaping and Cleaning Take a 30/06 to resistance or working length (whichever occurs first). If resistance is met before reaching the working length, then go to a 30/04. Take the 30/04 to resistance or working length</p> | <p>Speed and Torque for all files Use the same hand piece with the same speed and torque settings you are currently using with your rotary system. Or if you wish, you can use for all EdgeFile®X5 rotary files the following speed and torque settings for all files. Speed: 300-500 rpm Torque : 300 g-cm</p> <p>Reciprocating motors The EdgeFile®X5 can be used in a clockwise reciprocating motor but not in the WaveOne® reciprocating motor, using the WaveOne® setting, which moves in the counter-clockwise direction. The EdgeFile®X1 is designed</p> |

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| | <p>(whichever occurs first). If resistance is met before reaching the working length, then repeat going from the 30/06 to 30/04 until one of them goes to the working length. If that file contains debris on the last flute, then the canal is a size 30 tip and can be obturated to that corresponding tip and taper with a EdgeFile®X5 thermal carrier or gutta percha, see Obturation of Canal Systems. If the file does not contain debris on the last flute, then the canal is larger than a size 30 tip and a EdgeFile®X5 Series 40 tip size is needed. Take the EdgeFile®X5 Series 40 and alternate between the 40/.06 and 40/04 until one of them is to length and then obturate.</p> | <p>specifically for use in only the WaveOne® reciprocating motor and setting.</p> | | | | |
| <p>EdgeFile X7</p> | <p>Straight-Line Access</p> <ul style="list-style-type: none"> •Create a glide path and determine the working length prior to EdgeFile®X7 rotary file use by negotiating all root canals to their terminus with stainless steelfiles and a lubricant. •Establish patency by taking a #10 K-File 1mm past the canal terminus, and at least a #15 K-File to the terminus. <p>EdgeFile®X7 Crown Down Shaping and Cleaning</p> <p>04 Taper Crown Down for All Canals</p> <p>Start with a 25/04 rotary file. Take the 25/04 to resistance or working length (whichever occurs first). If resistance is met before reaching the working length then go to a 20/04. Take the 20/04 to resistance or working length (whichever occurs first). Repeat going from 25/04 to 20/04 until one of the files go to the working length. On occasion a 17/04 may be needed to be used to reach the working length. Then repeat going from 25/04 to 20/04 until one of the files go to the working length. If this is the tip size you desire, then obturate. If not, take the next largest file to length. Keep taking the next largest size to length until you achieve the tip size you desire, then obturate. Between each rotary file recapitulate with a #10 or #15 tip hand file to maintain glide path and help lubricate to the canal terminus.</p> <p>06 Taper Crown Down for Straight to Mildly Curved Canals</p> <p>If a 06 taper is desired use the same 04 Taper Crown Down technique.</p> <p>Start with a 25/06 rotary file. Take the 25/06 to resistance or working length (whichever occurs first). If resistance is met before reaching the working length then go to a 20/06. Take the 20/06 to resistance or working length (whichever occurs first). Repeat going from 25/06 to 20/06 until one of the files go to the working length. On occasion a 17/06 or 17/04 may be needed to be used to reach the working length. Then repeat going from 25/06 to 20/06 until one of the files go to the working length. If this is the tip size you desire, then obturate. If not, take the next largest file to length. Keep taking the next largest size to length until you achieve the tip size you desire, then obturate. Between each rotary file recapitulate with a #10 or #15 tip hand file to maintain</p> | <p>Speed and Torque</p> <p>Use the same hand piece with the same speed and torque settings you are currently using with your rotary system. Or if you wish, you can use for all EdgeFile®X7 rotary files the following speed and torque settings for all files.</p> <table border="0"> <tr> <td>Speed</td> <td>Torque</td> </tr> <tr> <td>300-500 rpm</td> <td>300 g-cm</td> </tr> </table> <p>Reciprocating motors</p> <p>The EdgeFile®X7 can be used in a clockwise reciprocating motor but not in the WaveOne® reciprocating motor, using the WaveOne® setting, which moves in the counterclockwise direction. The EdgeFile®X1</p> | Speed | Torque | 300-500 rpm | 300 g-cm |
| Speed | Torque | | | | | |
| 300-500 rpm | 300 g-cm | | | | | |

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| | glide path and help lubricate to the canal terminus. | is designed specifically for use in only the WaveOne® reciprocating motor and setting. |
| EdgeFile XR | <p>EdgeFile®XR Retreating Endodontic Cases</p> <ol style="list-style-type: none"> 1. Flood the chamber with a root filling solvent. 2. Keeping the chamber flooded, use the following crown-down sequence: R1 (25/12) to R2 (25/08) to R3 (25/06) then to R4 (25/04). Use light to medium pressure moving each instrument down the canal only about 2-4 mm, then go to the next instrument. Repeat the sequence R1 to R2 to R3 to R4 until the R4 (25/04) is to the working length. If you desire a larger file size then the R4 (25/04), use either a 04 or 06 taper file from the X7 Series and take the next tip size up to the working length. Repeat taking the next tip size up to the working length until you have the desired tip size. Safe Unwinding As a safety feature the files are designed to unwind. They may be used until the files unwind backwards. <p>Canal Cleansing</p> <ol style="list-style-type: none"> 1. Use your own technique or rinse with EdgeLube™ Liquid for 1 minute in each canal. 2. Rinse with NaOCl for five minutes 3. Obturate canal with the X7 EdgeCore™, EdgeFill™ OR EdgePoints™, or your current obturation technique. <p>Obturation of Canal Systems</p> <ul style="list-style-type: none"> • When using thermal carriers such as EdgeCore™ X7 or EdgeFill™ X7, use size verifiers to determine the proper sized carrier. • When using a master gutta percha cone that matches the largest file taken to length, remember sometimes you may need to drop down in cone tip size if the corresponding gutta percha to your final rotary file does not go to length. | <p>Speed and Torque Use the same hand piece with the same speed and torque settings you are currently using with your rotary system. Or if you wish, you can use for all EdgeFile®XR rotary files the following speed and torque settings for all files. Speed: 300-500 rpm Torque 300 g-cm</p> <p>Reciprocating motors The XR can be used in a clockwise reciprocating motor but not in the WaveOne reciprocating motor which moves in the counter-clockwise direction. The X1 is designed specifically for use in only the WaveOne reciprocating motor and setting</p> |
| EdgeFind | <p>Create Initial Shape Using EdgeFind™</p> <ul style="list-style-type: none"> • Establish Straight Line Access. • Form Glide Path with stainless steel K-File #8 and #10 using EdgeLube™ 17% EDTA and EdgeGel™ 19% EDTA. • Confirm working length with the #10 K-File using radiograph and/or Apex Locator. • Start with EdgeFind™ P1- #13 take to working length and irrigate. • Next use EdgeFind™ P2- #16 take to working length and irrigate. | <p>Speed: 300 RPM Torque: 1.5 Ncm</p> |

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| | <ul style="list-style-type: none"> • Finish with EdgeFind™ P3- #19 take to working length and irrigate. • Now start canal shaping with EdgeEndo NiTi Rotary Files. | |
| EdgeGates | <p>It can be classified into sizes 1#, 2#, 3#, 4#, 5#, 6# by the biggest diameter of its working part. Different sizes are marked by different marking rings. For example, there will one marking ring on the handle of gates drills size 1#. And there will be 2 marking rings on the handle of gates drills size 2#. The rest sizes can be marked by the same manner.</p> <p>Operation: It is used to enlarge the pulp canal entrance and the open pulp canal crown part, to make the consequent treatment equipment and cleaning liquid entre the pulp canal easily. After insert the drills tip into pulp canal entrance, you should tospin lift the drills along the pulp canal outer margin and sidewalls carefully, or it can be broken easily or form step and lateral breaking. The drill is allowed to enter the straight part of pulp canal instead of the curved part. When you pull out the drill from the canal, please make sure it is spinning to avoid getting stuck.</p> | Choose handpieces which can control torque force, recommended speed is 800-1200rpm |
| EdgeGlidePath | <ul style="list-style-type: none"> • Form straightline access to the canal orifice. • Use a #10 K-file to establish the working length with an apex locator and/or radiograph. • Confirm patency with the #10 K-file. • Irrigate frequently with EdgeLube, 17% Liquid EDTA. • Use EdgeGlidePath™ Files in one or more passes until the working length is reached. • Irrigate with EdgeLube, 17% Liquid EDTA. • Shape the canal with EdgeEndo rotary or reciprocating files | EdgeGlidePath Files should be used with an endodontic motor at a speed of 300-500 rpm, torque setting of 1.5 Ncm, and using light apical pressure. |
| EdgeOne Fire™ | <p>EdgeOne Fire™ Size Selection</p> <ul style="list-style-type: none"> • If the #10 hand file was tight use the EdgeOne Fire™ Small. • If the #10 hand file was easy but the #15 hand file was tight use the EdgeOne Fire™ Medium. <p>If both the #10 and #15 hand files were easy use the EdgeOne Fire™ Large.</p> <p>EdgeOne Fire™ Straight-Line Access Create a glide path and determine the working length prior to EdgeOne Fire™ file use by negotiating all root canals to their terminus with stainless steel #10 and #15 hand files and a lubricant. Establish patency by taking a #10 K-File 1mm past the canal terminus, and at least a #15 K-File to the terminus.</p> <p>EdgeOne Fire™ Canal Shaping and Cleaning</p> <ul style="list-style-type: none"> • The EdgeOne Fire™ files can only be used in a motor designed for WaveOne® instruments. • Place the selected EdgeOne Fire™ file into the hand piece. | <p>Compatible Hand pieces These files are used in endodontics for the removal of dentin and root canal shaping. It is compatible with the WaveOne® reciprocating file system and must be used in the WaveOne® motor and hand piece system using the WaveOne® motor setting.</p> <p>Hand Piece Only use the EdgeOne Fire™ in same hand piece and motor</p> |

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| | <ul style="list-style-type: none"> • With lubricant in the canal and light apical pressure, use a gentle inward pecking motion advancing the file 2-3 mm then lifting up 1-2 mm. Keep repeating this motion to passively advance the EdgeOne Fire™ file until it does not easily progress. • Remove the EdgeOne Fire™ file from the canal, remove debris and inspect the file, irrigate and recapitulate with a #10 hand file 1 mm past the canal terminus. • Repeat steps 3 & 4 until the EdgeOne Fire™ file is to the working length. If after repeated attempts the EdgeOne Fire™ file does not seem to be advancing any further, drop down in EdgeOne Fire™ file size and finish the canal. <p>Apically gauge the size of the foramen with a hand file the same tip size as the EdgeOne Fire™ file taken to length. If the gauging hand file is a snug fit, the preparation is finished. If it is loose, use the next larger EdgeOne Fire™ file to finish the preparation. Then obturate the canal.</p> | <p>that is designed for the WaveOne® instrument using the WaveOne® setting.</p> <p>Electric Hand Piece The EdgeOne Fire™ file can only be used in an electric hand piece and motor designed for WaveOne® instruments using the WaveOne® setting. See manufacturer specifications.</p> |
| EdgeOne Platinum | <p>EdgeOne Platinum™ Instruments</p> <ul style="list-style-type: none"> •VeriFile™ •Small •Primary •Medium •Large <p>Finishing Canal</p> <ul style="list-style-type: none"> •If the VeriFile™ goes down to working length without resistance, finish with either the Medium or Large file. •If the VeriFile™ goes down to working length with moderate resistance, finish with the Primary. •If the VeriFile™ goes down to working length with tight resistance, finish with the Small. <p>If the VeriFile™ goes not go down to working length, alternate between the Small and VeriFile™ until the Small is to working length.</p> <p>GlidePath:</p> <ul style="list-style-type: none"> •Fill the chamber with EdgeLube™ EDTA Liquid. •Take #10 hand file to the estimated working length. •Establish the working length with Apex Locator or X-ray. •Established canal patency by taking the #10 hand file 1mm past the working length. •Expand the GlidePath™ by taking a #15 hand file or EdgeGlidePath™ rotary or EdgeFind™ rotary files to working length. | <p>350 RPM</p> |

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| | <p>Initial Shaping:</p> <ul style="list-style-type: none"> •Fill chamber with EdgeLube™ EDTA liquid. •Always use the EdgeOne Platinum™ VeriFile™ as your first file for initial shaping of the canal by taking it to length with small in-and-out motions advancing the file apically 1-3mm per stroke. After the VeriFile™, rinse with EdgeLube™ EDTA liquid and recapitulate with a #10 hand file. | |
| <p>EdgeSequel Sapphire</p> | <p>Sizing</p> <ol style="list-style-type: none"> 1. Take #10 hand file to length. 2. Take EdgeGlidePath™ to length. <p>If EdgeGlidePath™ feels:</p> <ul style="list-style-type: none"> •Tight resistance – Small Canal •Medium resistance -Medium Canal •Light resistance - Large Canal <ol style="list-style-type: none"> 3. Small Canal: 25/04->20/04 repeat until desired file is to length. Medium Canal: 35/04->30/04 repeat until desired file is to length. Large Canal: 45/04->40/04 repeat until desired file is to length. <p>For users of Brasseler Sequence® & ESX®, Tulsa Dental Vortex® & Vortex Blue®, Kerr TF Adaptive or K3: Use your current file technique along with the same speeds and torques.</p> | <p>Motor Settings:</p> <p>EdgeGlidePath™: Speed: 300-500 RPM Torque: 320g-cm.</p> <p>EdgeSequel™ Speed: 500 RPM Torque: 410g-cm</p> <p>All Files Use EdgeLube™ 17% Liquid EDTA during all hand & rotary file use.</p> |
| <p>EdgeTaper/ EdgeTaper Platinum</p> | <p>Straight/Wider Canals:</p> <p><u>Glide Path</u></p> <ul style="list-style-type: none"> •Fill chamber with EdgeLube™ EDTA Liquid. •Take #10 hand file to estimated Working Length. •Establish working length with Apex Locator using handfile or X-ray. <p>Optional Steps:</p> <ul style="list-style-type: none"> •Established canal patency by taking #10 1mm past WL •Take a #15 hand file to working length. <p>Shape and Finish Canal</p> <ul style="list-style-type: none"> •Fill chamber with EdgeLube™ EDTA liquid •Take S1 to Working Length •Rinse with EdgeLube™ EDTA liquid •Recapitulate #10 hand file to Working Length •Take S2 to Working Length •Rinse with EdgeLube™ EDTA liquid •Recapitulate #10 hand file to Working Length | <p>Motor Settings:</p> <p>Speed: 300 rpm Torque: 1.5-3.0 Ncm</p> |

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| <ul style="list-style-type: none"> •Take F1 to Working Length •Rinse with EdgeLube™ EDTA liquid •Recapitulate #10 hand file to Working Length •If a larger file is needed then use F2 & F3 •Disinfect and Obturate Canals with EdgeTaper™ Gutta Percha Points <p>Curved/Narrow/Long Canals</p> <p><u>Glide Path in Coronal 2/3</u></p> <ul style="list-style-type: none"> •Fill chamber with EdgeLube™ EDTA liquid •Take #10 hand file 2/3 down canal <p>Optional Steps:</p> <ul style="list-style-type: none"> •Take a #15 hand file 2/3 down canal <p><u>Shape Coronal 2/3 of Canal</u></p> <ul style="list-style-type: none"> •Fill chamber with EdgeLube™ EDTA liquid •Take SX to length of hand files Form Glide Path in Apical 1/3 •Fill chamber with EdgeLube™ EDTA liquid •Take #10 hand file to estimated Working Length. •Establish working length with Apex Locator using handfile or X-ray. <p>Optional Steps:</p> <ul style="list-style-type: none"> •Established canal patency by taking #10 1mm past WL •Take a #15 hand file to working length •Shape and Finish Apical 1/3 •Fill chamber with EdgeLube™ EDTA liquid •Take S1 to Working Length •Rinse with EdgeLube™ EDTA liquid •Recapitulate #10 hand file to Working Length •Take S2 to Working Length •Rinse with EdgeLube™ EDTA liquid •Recapitulate #10 hand file to Working Length •Take F1 to Working Length •Rinse with EdgeLube™ EDTA liquid •Recapitulate #10 hand file to Working Length | |
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| | <ul style="list-style-type: none"> •If a larger file is needed then use F2 & F3 •Disinfect and Obturate Canals with EdgeTaper™ Gutta Percha Points | |
| EdgeTaper Encore Platinum | <p>Step By Step instructions</p> <ol style="list-style-type: none"> 1. Create straight line access to all canal orifices. 2. Irrigate and fill the chamber with EdgeLube™ 17% Liquid EDTA and establish the Glide Path using small hand files. Determine the Working Length and verify canal patency. 3. Always irrigate after each file with EdgeLube and if needed, expand the GlidePath using EdgeTaper Encore Platinum GX. 4. With the canal filled with EdgeLube and following the GlidePath, use EdgeTaper Encore Platinum X1. Advance the file 2mm further down the canal each time using multiple inward-strokes with moderate pressure while brushing the sides of the canal on the out-stroke until the working length is reached. 5. Next use the EdgeTaper Encore Platinum X2 as described in Step 4 until the working length is passively reached. 6. If the apical flutes of the X2 is loaded with dentin, the canal may be fully shaped and ready to be Apically Gauged. 7. Apically Gauge the apical foramen of the canal foramen with a #25 size hand file. If the file reaches the working length and has a snug fit, the canal is shaped and ready for disinfection. 8. If the #25 hand is loose at the Working Length, then continue shaping with EdgeTaper Encore Platinum X3 and if needed, the EdgeTaper Encore Platinum X4, gauging after each instrument with a #30 or #40 hand files respectively. | <p>Speed: 300-400 rpm Torque: 4.0 - 5.2 Ncm</p> |
| EdgeTaper Retreat | <p>Product Type: D1, D2, D3 Specification: #20, #25, #30</p> | <p>Speed: 350 RPM Torque: 3.0 Ncm</p> |
| Edge V-Taper | <p>STEP BY STEP INSTRUCTIONS:</p> <ol style="list-style-type: none"> 1. Create straight line access to all canal orifices. 2. Irrigate and fill the chamber with EdgeLube™ 17% Liquid EDTA and establish the Glide Path using small hand files. Determine the Working Length and verify canal patency. 3. Always irrigate after each file with EdgeLube and if needed, expand the GlidePath using Edge V-Taper HT NiTi GlidePath files 13/03 and/or 14/03. 4. With the canal filled with EdgeLube and following the GlidePath, use Edge V-Taper HT NiTi 17/04. Advance the file 2mm further down the canal each time using multiple inward-strokes with moderate pressure while brushing the sides of the canal on the out-stroke until the working length is reached. | <p>Speed: 300-400 rpm Torque: 4.0 - 5.2 Ncm</p> |

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| | <ol style="list-style-type: none">5. Next use the Edge V-Taper HT NiTi 20/06 as described in Step 4 until the working length is passively reached.6. If the apical flutes of the 20/06 is loaded with dentin, the canal may be fully shaped and ready to be Apically Gauged.7. Apically Gauge the apical foramen of the canal foramen with a #20 size hand file. If the file reaches the working length and has a snug fit, the canal is shaped and ready for disinfection.8. If the #20 handfile is loose at the Working Length, then continue shaping with Edge V-Taper HT NiTi 25/06 and if needed, the larger Edge V-Taper HT NiTi files gauging after each instrument with a #30, #35, #40, #45 or #50 hand files respectively. Irrigate and recapitulate with a small-sized hand file after each EdgeV-Taper HT instrument. | |
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