



DAIMOTECH
ENGINEERING COMPANY

BTEX PEN

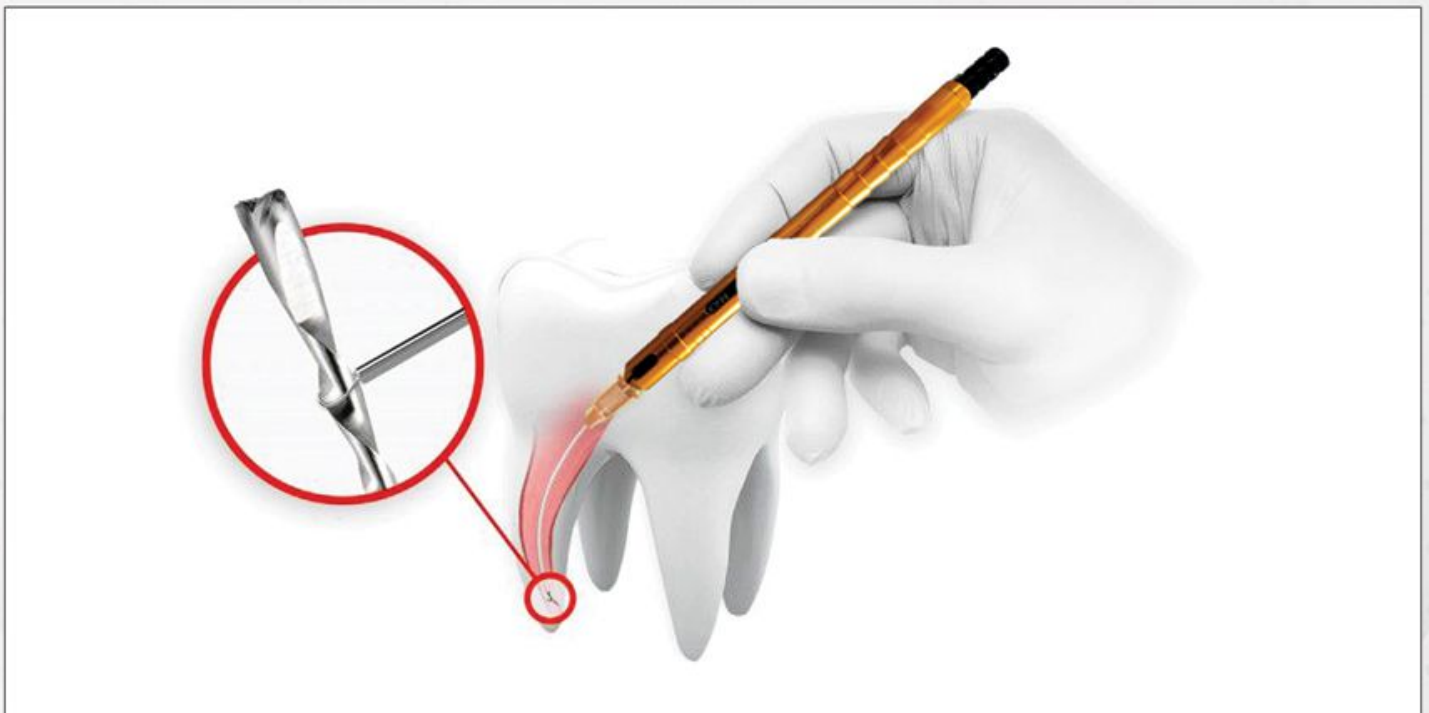
USER MANUAL



INTRODUCTION OF BTEX KITS

The BTEX Pen has been developed as a definitive solution to the challenge of broken files in the dental canal. Using modern material science technology, this product has turned the retrieval of the broken endo file in the tooth canal into a predictable process.

The BTEX product Kits manufactured by Daimotech have been developed in different versions. The differentiation of these kits is in accessories, after-sales service and warranty period of consumable parts. The BTEX Pen has been qualitatively modified compared to other competitors, and due to its very low weight, it is the lightest endodontic instrument in the field with high handling for performing micro-movements in microscopic views.



Properties of BTEX Pen

- single-tool system for every type of root canal
- precise grip of the broken instrument
- new golden tip Ø 0,3 mm, also available Ø 0,4 mm, Ø 0,5 mm
- the body made of alloy steel
- life-long warranty
- strength pull force support up to 730N
- minimal size with better handling

The package contains

Golden & Basic edition

- BTEX PEN Limited (Golden/Basic) Edition – 1 pcs tool
- BTEX CALIBRATOR – 1 pcs

GOLDEN BTEX TIP

- BTR TIP – G 25 - $\Phi 0,5$ mm – 5 pcs
- BTR TIP – G 27 - $\Phi 0,4$ mm – 5 pcs
- BTR TIP – G30 - $\Phi 0,3$ mm – 3 pcs
- 1 year free tips support warranty

BASIC BTEX TIP

- BTR TIP – G 25 - $\Phi 0,5$ mm – 3 pcs
- BTR TIP – G 27 - $\Phi 0,4$ mm – 3 pcs
- BTR TIP – G30 - $\Phi 0,3$ mm – 1 pcs



LIFTING CAPACITY



0.5mm 0.1mm



0.4mm 0.08mm



0.3mm 0.05mm



The package contains

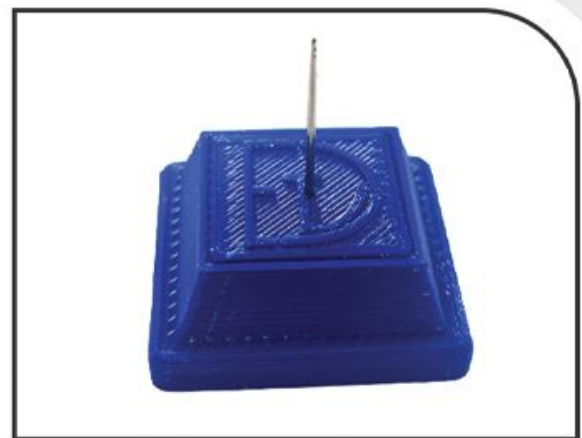
BTEX Pen:

- ergonomic and comfortable with medical cover for better sterilization
- made from high quality material and down sized for micro movements
- universal size
- designed for multiple use
- safe for autoclave



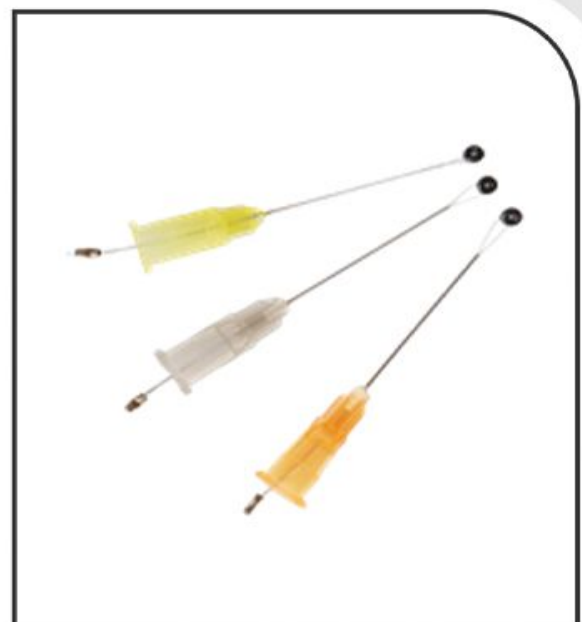
Calibrator:

- quick and easy formation of the loop into desired size
- made from stainless steel
- designed for multiple use



Changeable tip with stainless steel loop:

- the combination of a thin and highly elastic needle of \varnothing 0,3. 0.4 and 0,5 mm with S.Steel loop
- easiness in insertion into narrow and bent canals
- maximum endurance to stretching
- biocompatibility, corrosion resistance
- multiple use ability



Lasso the file

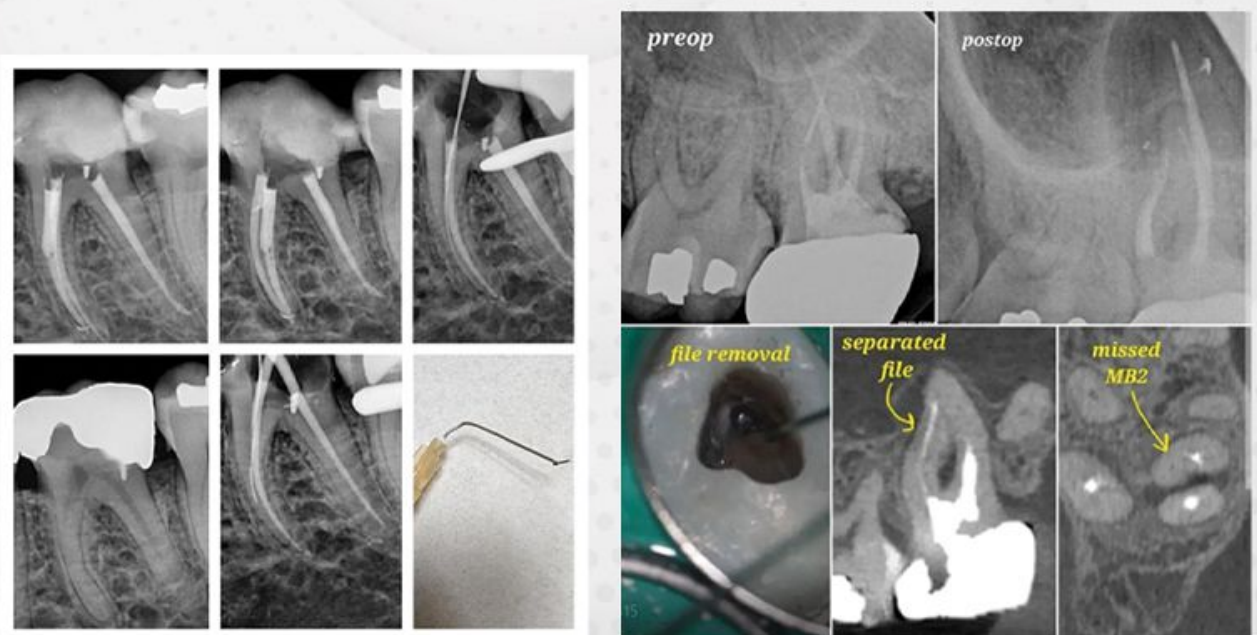
Concepts of loop technique

Before using the loop needle technique to guarantee the retrieval of the broken file in the tooth canal, there are some things to consider in the form of technical techniques of the broken file management process.

The BTEX Loop technique strategy is very conservative compared to other methods. In other methods, it is necessary to enter an extractor or a tube with a large diameter into the canal, but in the BTEX Loop technique, it is possible to manage the broken instrument by using needles with a small diameter such as Φ 0.3, Φ 0.4, and Φ 0.5.

BTEX Pen has the ability to extract broken files of different lengths and diameters.

- Before using the BTEX loop technique to get a good result in the treatment process, the file involved in the tooth canal can be loosened using different methods.
- The necessary condition for engagement of the loop ring with the coronal part of the file is 1 mm of freedom from the head of the file inside the canal, which can be achieved in different ways according to the explanation of the next section, according to the morphology of the root and the geometry of the file's fracture.



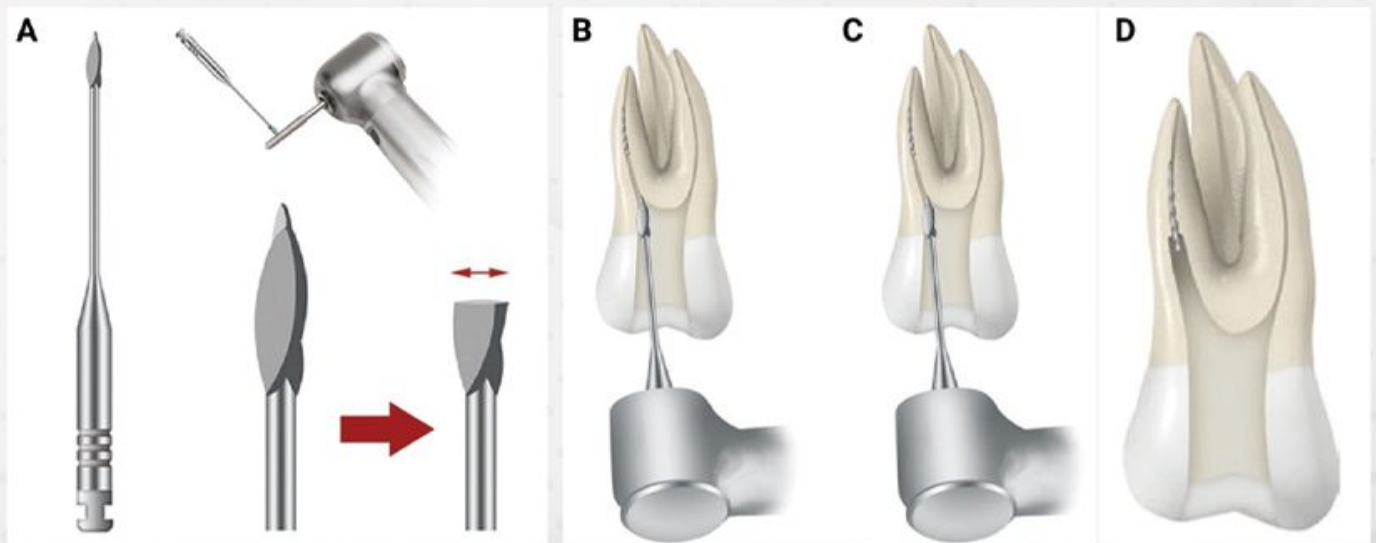
- Releasing the file with ultrasonic technique cannot be used for long broken files with a length of more than 4 mm that have a high metal mass. In such a situation, grasping techniques should be used for retrieval.
- Retrieval of broken files in the last third of the root or the middle areas of the canal can be achieved strictly by grasping method.

GRASPING BTEX LOOP

LOOP TECHNIQUE

- Evaluation of the length, diameter, curvature of the canal and fracture location of the instrument based on radiographic images.
- Creating access along the broken fragment at the root of the canal to reach the head of file using Gates Glidden (G.G)
- The strategy of using Gates is in order from small to large size. According to scientific references, Gates with its modified geometry provides good performance in order to create access in line with the broken file. How to implement this change is shown in the image.

Note: according to the advice of some experts, the use of Gates in a standard form without modification has resulted in the maximum preservation of dental dentin, which is recommended for cases with weak walls to prevent perforation.



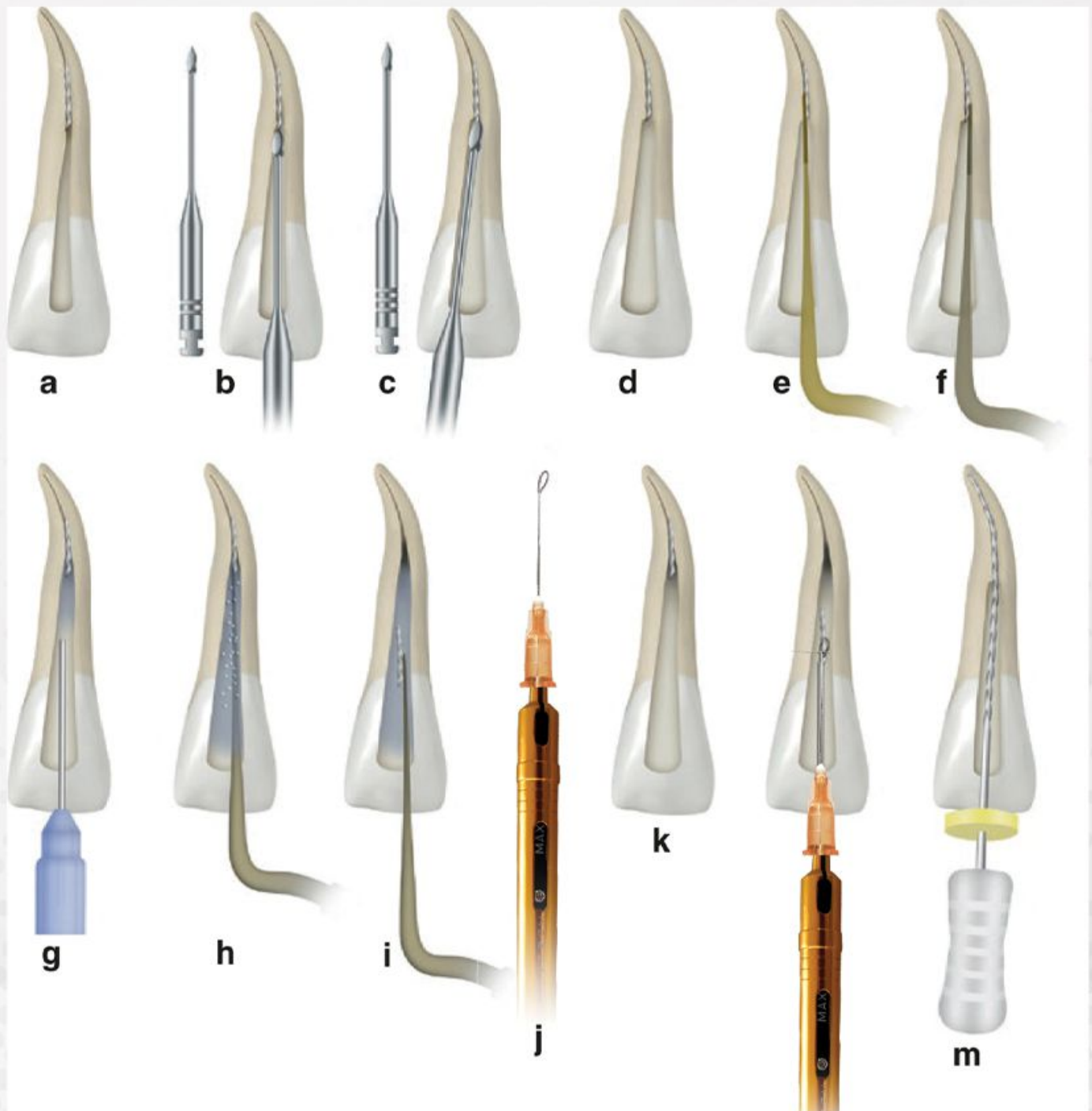
- If the file sinks into the dental tissue, thin ultrasonic tips can be used to create 1-2 mm access in the coronal area of the broken fragment.

Note: this access can be created by using a trephine bur, but it should be noted that a large volume of dental dentin is destroyed and the risk of perforation increases in cases that have decay.

- Keeping the above points in mind, you can start the process of Grasping the broken fragment. The BTEX LOOP is involved in the coronal area of the file and it is possible to apply vibration movements and traction force.

GRASPING BTEX LOOP

After confirming the presence of the broken instrument in the root canal, a direct access is created using Glidden Gates 2 & 3 for straight line access to the file. Then using the ultrasonic tip to loosen the file, we continue with pull and push movement for 5 minutes, and keeping in mind the amount of destruction of the dentine by ultrasonic tip, if the attempt to retrieve the broken endo file is unsuccessful, we follow the BTEX loop technique.



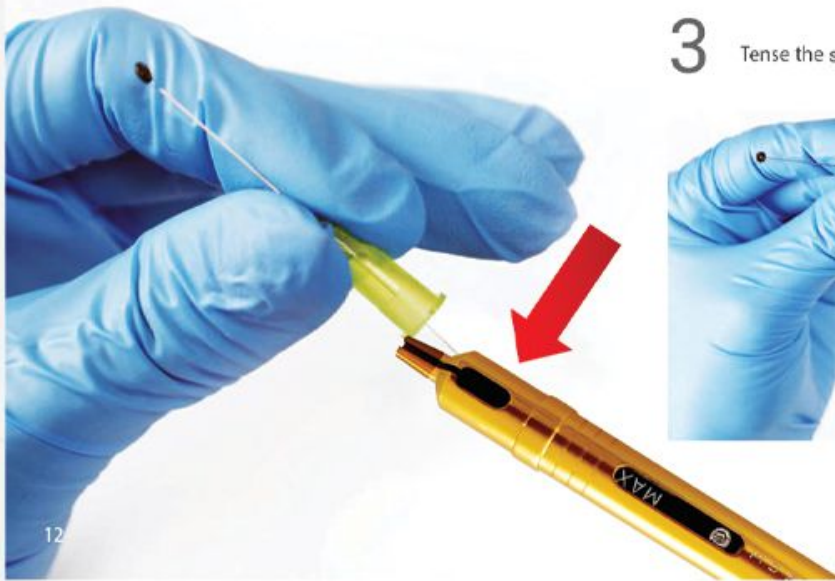
Learning tutorial

Learning the set up of the tip with s.steel loop on the BTEXPen

- 1 Sterilize the tip with s.steel loop, without the plastic cover, using the standard autoclave sterilization sleeve. Keep to the autoclave's manufacturer instruction for use.



- 2 Place the sticking part of the s.steel wire into the hole in handle – front (1).



- 3 Tense the s.steel wire using the loop's grip handle



- 4 Push the plastic cover of the tip to the handle – front (1).

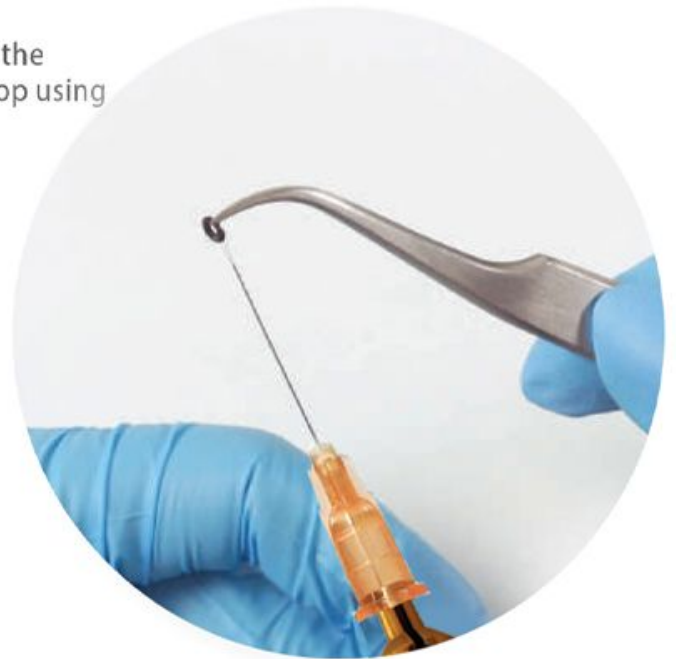


Learning tutorial

Learning the calibration of the loop's diameter and the adjustment of the bending angle of the s.steel loop.

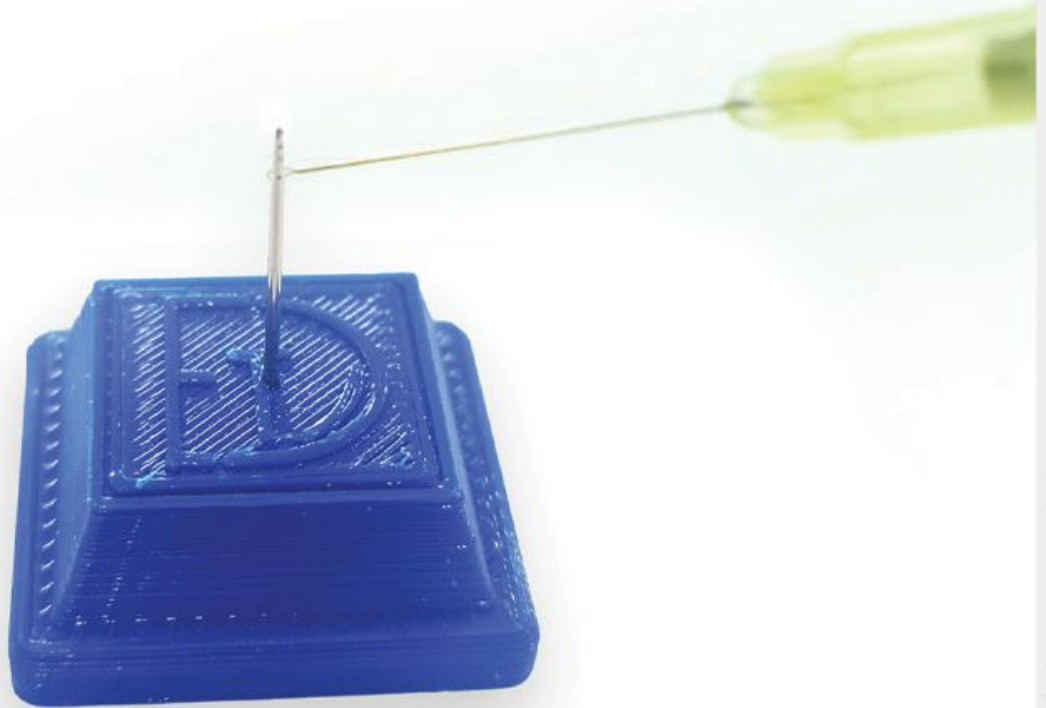
1 Sterilize the calibrator using the isopropyl alcohol.

2 Remove the silicon o-ring from the s.steel loop – cut the o-ring with scissors and remove it from the s.steel loop using BTEX pen



Learning tutorial

- 3 Put the s.steel loop on the calibrator and place it right on the diameter of the broken file.



- 4 Squeeze the loop on the calibrator using the loop's grip handle

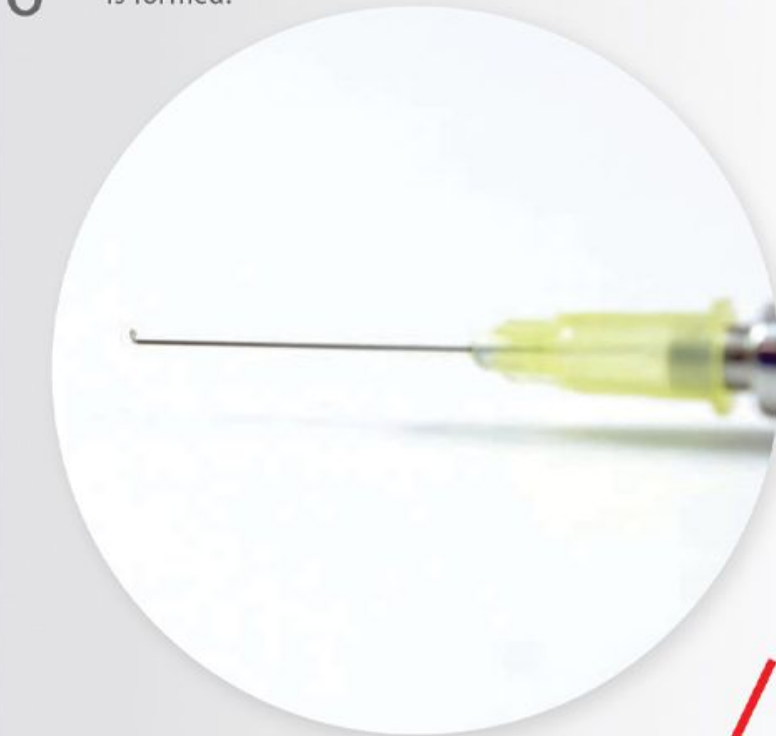


Learning tutorial

5 Slip the loop off the calibrator – if the loop is squeezed too hard to slip it off loosen the loop's grip handle



6 In order to adjust the bending angle of the s.steelloop, to the position of the broken file, bend the tool up or to the sides of calibrator until the desired bending angle is formed.



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