ENDO COWBOY®
Lasso the file

ENDODONTIC FILE RETRIEVAL SYSTEM

FOR SAFE AND PREDICTABLE FILE REMOVAL

KÖHRER
MEDICAL ENGINEERING

WWW.ENDOCOWBOY.COM

WHAT IS THE EndoCowboy®?

The EndoCowboy® is an endodontic instrument that allows dentists to grasp, loosen, and remove fractured files deep in the root canal. Due to the immense tensile strength of the lasso wire specially developed for the EndoCowboy®, the EndoCowboy® not only serves as a pure gripping instrument like conventional loop systems, but can also remove stuck files with considerable leverage. As a result, the EndoCowboy® can be used earlier in the treatment process and saves precious time.

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THE EndoCowboy® IS AN INSTRUMENT FOR LIFE MADE IN GERMANY

All of the components are machined with maximum precision from solid surgical stainless steel of the highest quality and are meticulously polished to achieve a perfect surface. Unfortunately, instruments of this quality have become a rarity today.

EndoCowboy® – Videos
videos.endocowboy.com

THE IDEA

Every dentist is familiar with the difficulties and frustration associated with removing fractured files. The existing systems and techniques have not been able to solve the problem in a satisfactory way so far.

FILE REMOVAL IS INCREASINGLY BECOMING AN ISSUE ...

File removal is becoming an increasingly topical issue, especially for endodontists. The number of endodontic retreatments continues to increase – and with it the need for a safe file removal method. This is often due to the fact that an unsuccessful root canal treatment is at least partly the result of a fractured instrument.

FRACTURED INSTRUMENTS PREVENT PROPER DISINFECTION

Whether during initial treatment or revision, a fractured instrument in the root canal blocks it and prevents its complete preparation, making it impossible to thoroughly rinse and clean the root canal system, and also preventing complete obturation.

FROM PRACTICE – FOR PRACTICE

Thanks to our many years of practical experience in endodontics, we know the challenges that file removal poses to technology and practitioners. We repeatedly realized in our daily work that removing fragments from root canals with the techniques available up to that point was a time-consuming and unpredictable process, and as such, became extremely unpopular. This is what motivated us to develop an instrument and a technique that makes file removal a predictable and effective procedure.

ULTRASONIC IS OFTEN INSUFFICIENT

While a fragment can often be removed using special ultrasonic tips, completely removing the instrument using these techniques is, in many cases, time-consuming and difficult, if not impossible. In the case of long fragments that have extensive contact with the canal wall, ultrasound tips are generally insufficient to safely remove the fragments, and if they are used too strongly and for too long, there is even a risk of further fracture.

THE LASSO TECHNIQUE IS THE SOLUTION

When it comes to safe and minimally invasive file removal, the lasso technique has been one of the most promising – but was not very practical for many dentists in terms of handling, the tensile strength of the lasso, and particularly the cost per treatment.

Our goal is to offer a practical instrument that turns the lasso technique into a practical, safe, and economically viable method that can be used in everyday practice, and to provide the dentist with a tool that enables them to safely remove fractured instruments from root canals in order to preserve otherwise irreparable teeth.

TECHNOLOGY FOR LIFE

Due to our background in mechanical engineering, developing a technically mature and precise instrument of the highest quality has always been very important to us. We have spared no effort and have tested numerous different variations over many years of development. With the help of specialists from various technical fields, we have created an instrument that makes file removal safer, faster, more efficient, and predictable.

FOCUS ON THE FILE

We have placed the adjustment wheel used to tighten the lasso at the rear end of the EndoCowboy®. This allows the assistant to take over the job of tightening the lasso. As a result, the dentist can concentrate fully on the placement of the lasso and the removal of the file. This also avoids any shaking when tightening the lasso.

OUTSTANDING AND FAMILIAR HANDLING

The mold design of the EndoCowboy® makes high-precision handling possible. Due to this and its perfect workmanship, the EndoCowboy® lies like a high-quality, handpiece in your hand – so it can be used by the dentist in a familiar way.

QUICKLY CHANGED AND PREPARED

An insertion aid on each attachment (Lasso-Tip) and the simple fastening mechanism allow the lasso tips to be prepared and changed quickly.

PREDICTABLE TREATMENT COSTS

Due to the changeable Lasso-Tips, the costs of treatment are predictable and low.

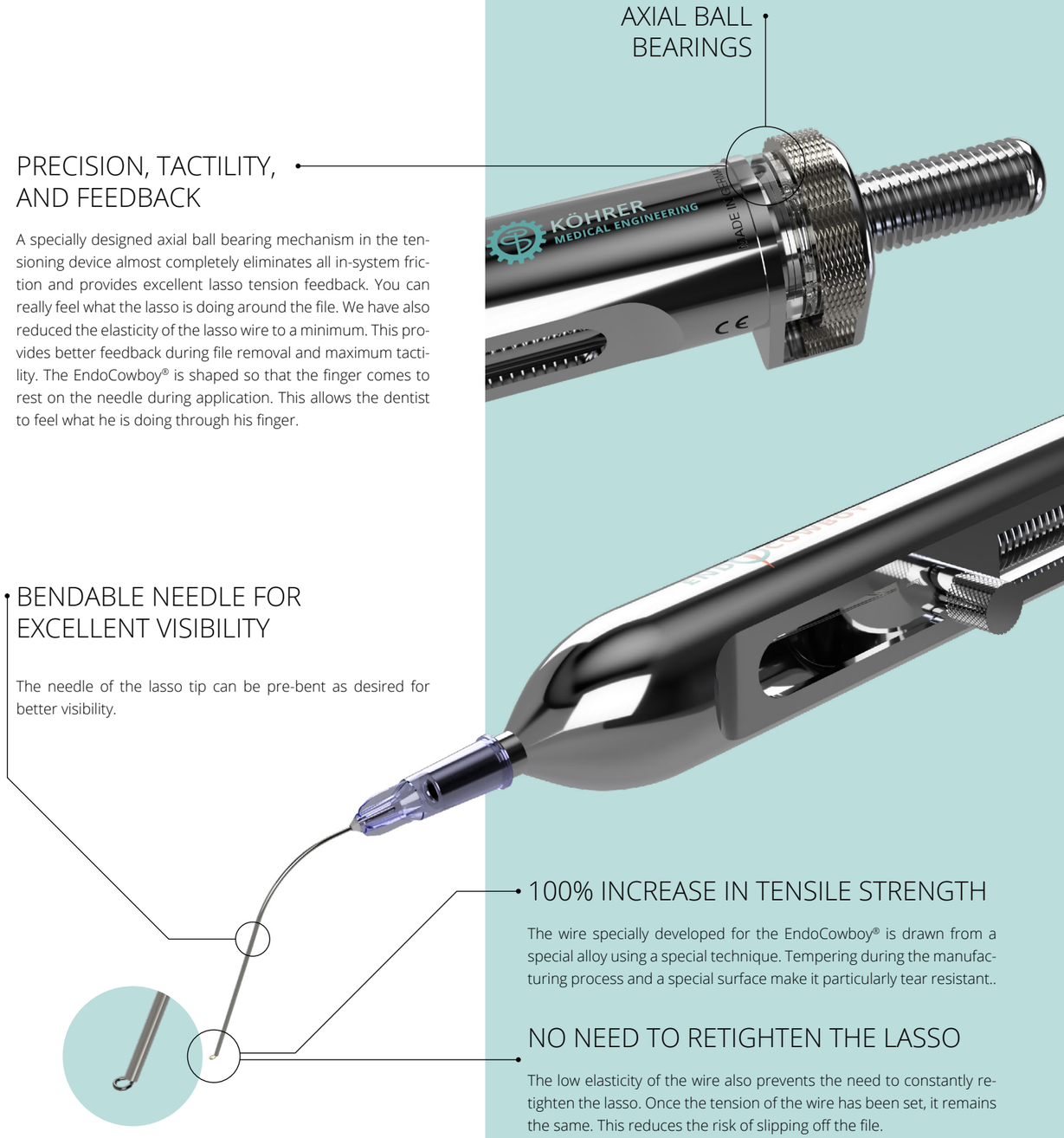
THE RIGHT LASSO FOR EVERY SITUATION

The different Lasso-Tips in different sizes (0.08 mm/0.1 mm/0.12 mm) allow the lasso size to be adapted to the individual situation. This serves to protect the tooth structure as much as possible. A strong lasso can be selected for long, large fragments in a coronal position. A lasso as small as possible is best suited for small, apical fragments.

FOCUS ON THE ESSENTIALS

PRECISION, TACTILITY, AND FEEDBACK

A specially designed axial ball bearing mechanism in the tensioning device almost completely eliminates all in-system friction and provides excellent lasso tension feedback. You can really feel what the lasso is doing around the file. We have also reduced the elasticity of the lasso wire to a minimum. This provides better feedback during file removal and maximum tactility. The EndoCowboy® is shaped so that the finger comes to rest on the needle during application. This allows the dentist to feel what he is doing through his finger.



WHAT'S IN THE CASE

EndoCowboy®
6 x Lasso-Tips

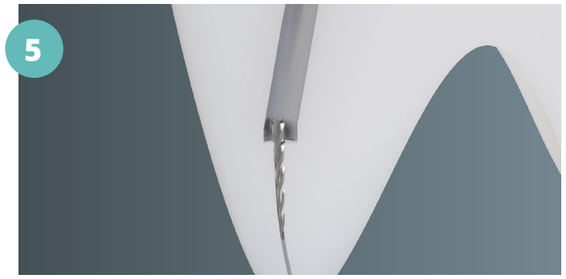
THE TECHNIQUE

Create a glide path to the fractured instrument. Recommended instrument: Ni-Ti 25/10 (e.g. Twisted File).

Create an ISO size 70 access (size depends on the size and location of the fragment), preferably with a file of low taper. Recommended instrument: Lightspeed.

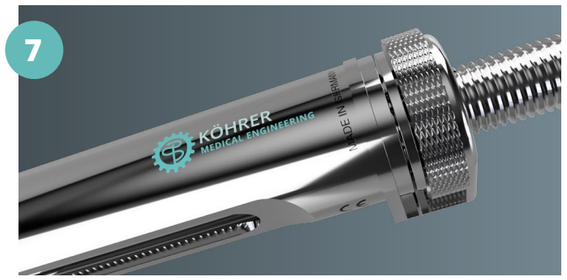
The Endo Rescue center drill (Komet) can be used to expose the upper part of the fragment.

Now the fragment can be further exposed and pre-loosened with the help of a sonic steel tip. Recommended instrument: long and thin sonic tips or ultrasonic tips for endodontics.

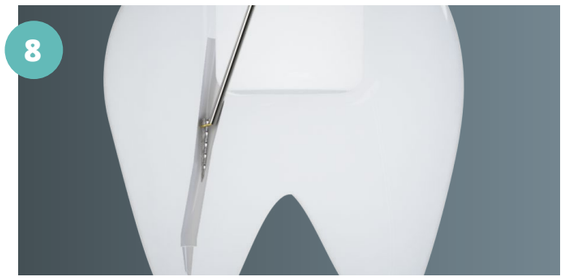


A circular space should be created around the fragment to be removed. Pre-loosening the fragment with sound or ultrasonic simplifies removal with the lasso.

The EndoCowboy® lasso is placed around the file.



Now the assistant closes the lasso using the adjusting knob.



The fragment is loosened and removed through careful movements in all directions, similar to the movement when extracting teeth.

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GENERAL THOUGHTS ABOUT FILE REMOVAL

FILE REMOVAL: YES OR NO? THIS QUESTION IS BECOMING MORE AND MORE RELEVANT ...

The decision on whether to remove a fractured instrument must certainly be made on a case-by-case basis. In the past, dentists frequently preferred to leave the file in the root canal due to the lack of suitable technical solutions. The danger of extremely weakening the tooth and the risk of perforation was simply too great. Due to the lack of reliable removal protocols, the time required, the associated costs, and the chances of success were all difficult to predict and justifiably unsettled many dentists. As a result, file removal became an unpopular subject that received little attention.

Based on today's standards of quality in endodontics, leaving the file in place is an option that can rarely be supported. This is because a fractured instrument blocks the root canal and thus prevents its preparation, irrigation, and obturation. This must be regarded as a major risk factor that threatens long-term success, especially in infected root canal systems. The difficulties associated with inadequately prepared root canal sections, like is the case with MB 2, are well known in endodontics.

As is so often the case in endodontics, technical challenges also present new opportunities for new innovative technologies. For instance, the surgical microscope, nickel-titanium instruments, cone beam, and the introduction of MTA have all helped improve the chances of preserving the tooth.

The EndoCowboy® provides the dentist with a technical solution that finally allows them to safely, efficiently, and predictably remove files. In this system, the tensile strength of the lasso has been improved so that the dentist can exert a considerably greater amount of force on the instrument being removed. The device's excellent handling allows it to be used quickly and precisely.

Greater attention should be paid to file removal, and not just because of the technical challenge. Considering the frequency of complications caused by broken files, we should always be looking for safe treatment methods to solve the problem in order to continue to improve the quality of endodontic treatment. Approximately twenty million root canals are treated each year in the US alone. According to studies, the fracture rate of root canal instruments lies between 2% and 6%. This represents a considerable number of at least several hundred thousand fractured files – which should be enough motivation to try to treat at least some of these cases successfully and in doing so, improve the chances of preserving these teeth.

Köhrer Medical Engineering GmbH
Adolf-Flecken-Str. 10
41460 Neuss - GERMANY

info@endocowboy.com
+49 (0) 2131 151170

WWW.ENDOCOWBOY.COM

FOUNDERS AND DEVELOPERS

Dennis M. Köhrer

Dr. Patrick C. Köhrer