C·M·A®

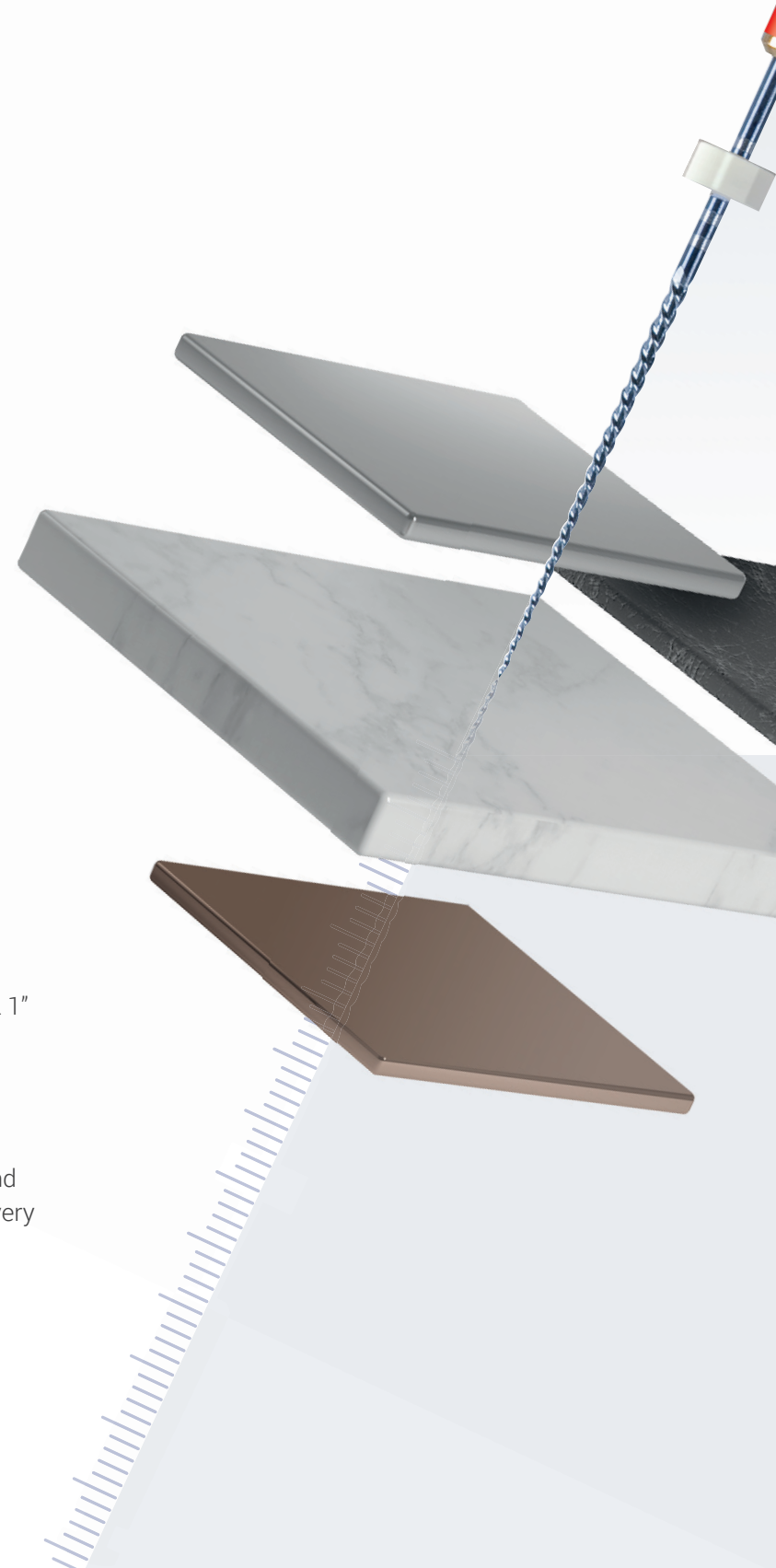
CORONAL • MEDIAN • APICAL

Safety and Simplicity!

A safe and precise system
for your daily practice

CMA
CORONAL · MEDIAN · APICAL

A **safe and precise** system for your daily practice



CMA system consists of 4 nickel-titanium rotary endodontic instruments for root canal **shaping** and **retreatment**, called: “CORONAL”, “MEDIAN”, “APICAL 1” and “APICAL 2”.

The mechanical properties of these instruments in terms of **flexibility,** as well as torsion and fatigue **fracture resistance**, allow for quality, **predictable** and **reproducible** clinical performances accessible to every practitioner.

A smaller number of instruments:

4 NiTi rotary endodontic instruments for a simplified sequence.

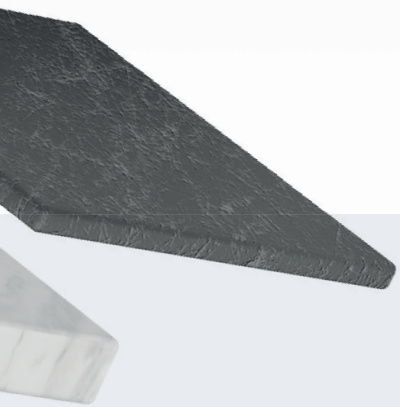
Simplicity:

Only one sequence for treatment and retreatment.

Safety:

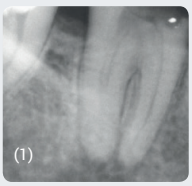
Increased fracture resistance.
Deformation due to instrument fatigue visible to the naked eye.

Complete range of additional instruments and accessories

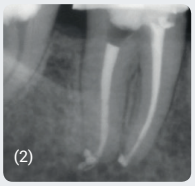


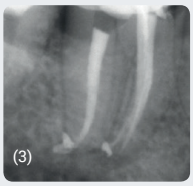
CMA system offers only one sequence for simple, curved and narrow canals.

Clinical case
Dr Stéphane Simon



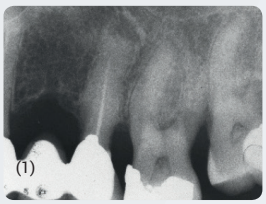
(1) Pre-op X-ray.



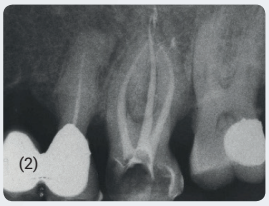


(2) (3) Post-op X-rays.

Clinical case
Prof. Roger Rebeiz



(1) Maxillary first molar: narrow canals and heavily mineralised dentine.



(2) Regular conicity obtained using CMA instruments.

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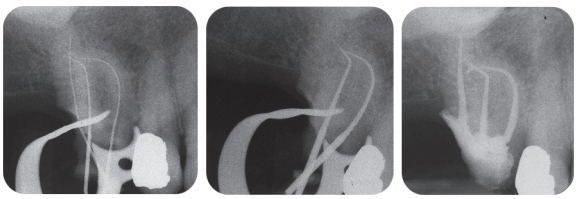
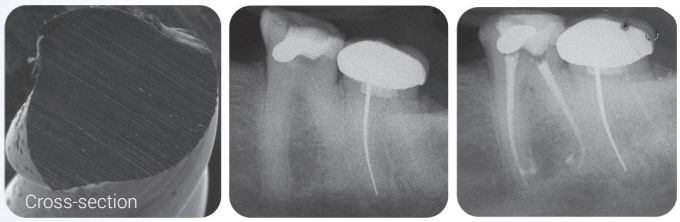
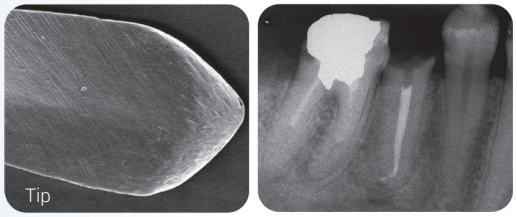
More flexible, reliable and resistant rotary instruments



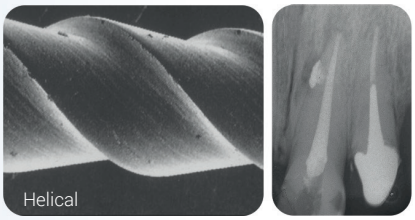
- **Cross-section of 3 cutting edges:** ensures greater cutting efficiency.



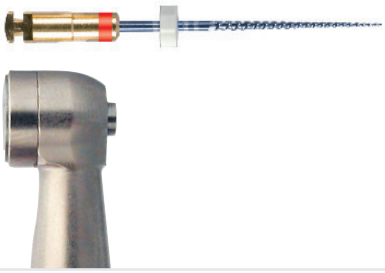
- **Non-cutting tip:** ensures the trajectory of the root canal is respected.



- **Adapted shape:** favours the removal of debris from the canal.

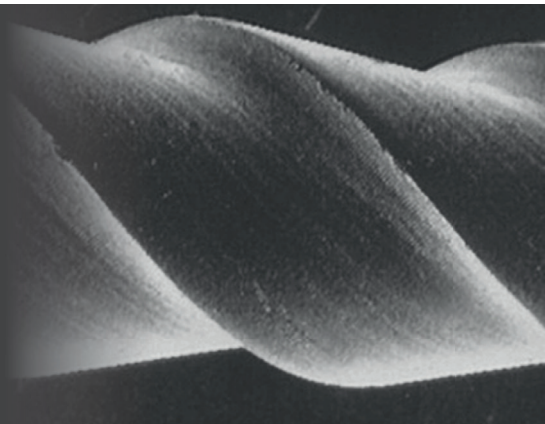


- **Short handle:** improves access to molars.



Ultra flexible:

Ultra-flexible Nickel-Titanium Alloy
Extremely sharp helical cutting edge.



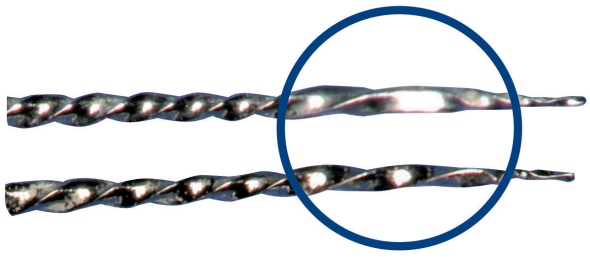
Only one sequence for shaping and removing root canals

		Taper	ø Tip	Ring	Total length
C	 Coronal	10%	25	White	17 mm
M	 Median	6%	25	Yellow	21 mm 25 mm
A	 Apical 1	4%	20	Red	21 mm 25 mm 29 mm
	 Apical 2	6%	20	Blue	21 mm 25 mm 29 mm

Guaranteed Safety

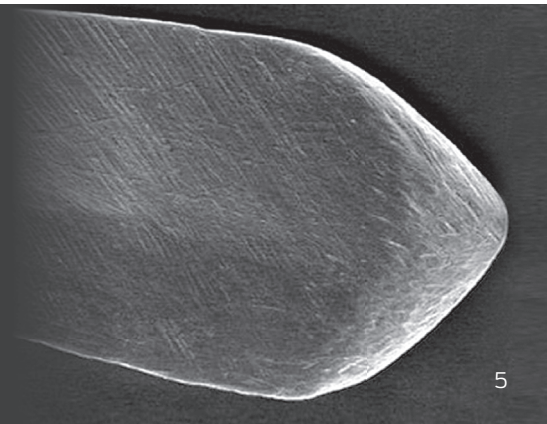
Stronger hard-wearing NiTi alloy, preventing instrument fatigue.

Deformation visible to the naked eye.



Resistant:

Fracture resistant due to an increase in torque with the diameter of the instrument.



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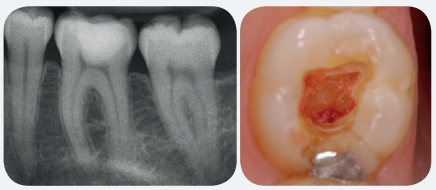
Operative protocol
for root canal shaping



Pre-op X-ray
Opening of the pulp chamber.

Step 1

Exploring the coronal 2/3 of the canal and making it permeable:

Instruments used:
K-files No. 10 and 15 and/or **Presequence** used until they move freely in the canal.

Objective:
Securing and preparing the access for CMA instruments into the coronal 2/3 of the canal.

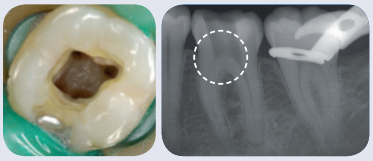
Step 2

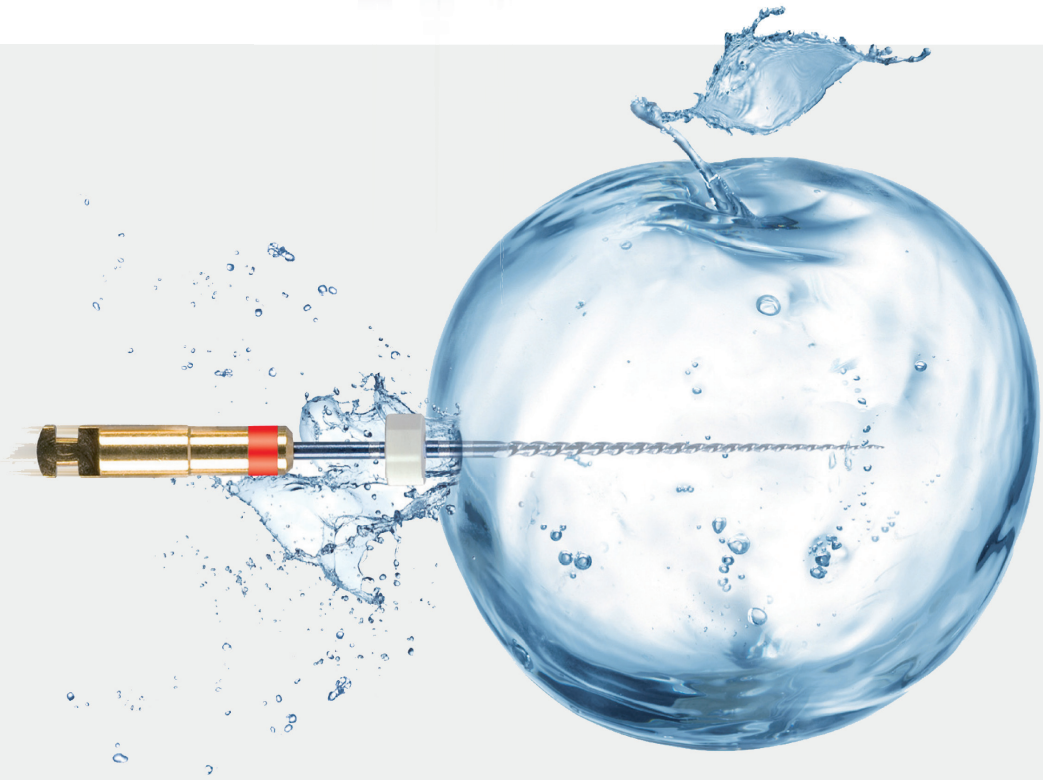
Flaring the coronal and middle part of the canal:

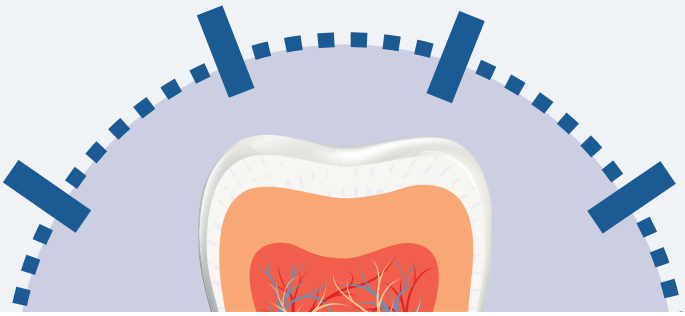
Instruments used:
CORONAL
Flares out the coronal part of the canal.

MEDIAN
Enlarges the middle part of the canal.

Objectives:
• Straightening the root canal entry.
• Enlarging the root canal entry and coronal 2/3 of the canal to provide continuity between the pulp chamber and the canals, so as to allow the tools a free access to the apical one-third.







4 steps maximum

Step 3

Determining the working length:

Instruments used:
K-files No. 10 and 15 and/or **Presequence** used until they move freely in the canal.

Objectives:
- Determining the working length.
- Preparing for the NiTi rotary instruments to pass safely all the way to the apical one-third.

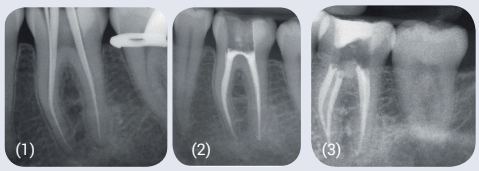
After the use of instruments **C** and **M**, interference in the cervical area and coronal curves is eliminated, which further frees the way to the apical one-third.

Step 4

Preparing the apical portion of the canal:

Instruments used:
APICAL 1 is used on the whole length of the root canal, to be followed by **APICAL 2** to increase the taper of the apical one-third by 6%.

Objectives:
- Preparing the apical portion.
- Making a space where the irrigation solutions can collect.
- Providing the apical taper which will give the best obturation.
- Keeping apical diameter small.



Prof. Roger Rebeiz
(1) Gutta points in place.
(2) (3) Root canal obturation seen from two different angles.

TREATMENT PROTOCOL OUTLINE

Exploring › **Coronal flaring** › **Enlarging the middle part** › **Working length** › **Apical preparation** › **Finishing before obturation**

Speed: 300 to 400 rpm - **Torque:** 2 N/cm

Operative protocol for retreatment

Coronal Step

Removal of filling material and flaring of the coronal portion of the canal:

•**Manual penetration** using a thin and stiff manual file (e.g. a No. 10 K steel file shortened by a few mm) to pierce the filling material and create a 2-3 mm channel.

•**CORONAL** is used to widen the canal entries and remove filling from 2-3 mm with a withdrawing movement, leaning on the walls.

•**Irrigation** and solvent renewal.

•**Manual penetration** using a No. 15 K steel file going a few millimetres deeper.

•**MEDIAN** is used for working deeper than the CORONAL. This tool works by traction.

•**Irrigation** and solvent renewal.

Apical Step

Preparation and filling removal of the apical portion of the canal:

•**Manual No. 15 K file,** precurved, to explore this portion of the canal. Measuring the length of the canal, if feasible at this stage.

•**Copious irrigation.**

•**APICAL 1** is used on the whole length of the root canal that has been made accessible using the No. 15 file.

•**Copious irrigation.**

•**APICAL 2** is used to remove the filling material and clear the canal.

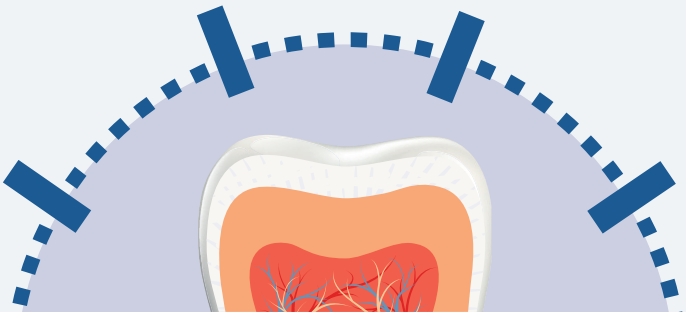
•**Check apical patency** using a No. 10 K file just beyond the extent of the work.

General recommendations

- The use of **CMA instruments with an ENDO motor with the "auto reverse" function** is advised.
- NiTi rotary instruments must be used in a portion of the canal which has been explored and prepared previously using a No. 15 manual and/or Presequence file.
- **Examine the instruments** before and after each use. Discard the tool if there is the slightest deformation.
- **Time:** 5 or 10 seconds per rotary instrument.
- **Movement:** progression towards the apex by continuous short and rapid up-and-down strokes, finishing off with a "brushing" movement on the root canal walls.
- The NiTi rotary instrument must **never be forced.**
- **Clean** the blades of the instrument after each removal.
- The canal must be **copiously irrigated** with sodium hypochlorite each time the instrument has been introduced.
- The use of a chelating gel is advised in order to facilitate work with the tools.
- If progression with the **A1** instrument is hindered, use the K 15 file again.
  If progression with the **A2** instrument is hindered, use the **A1** instrument again.

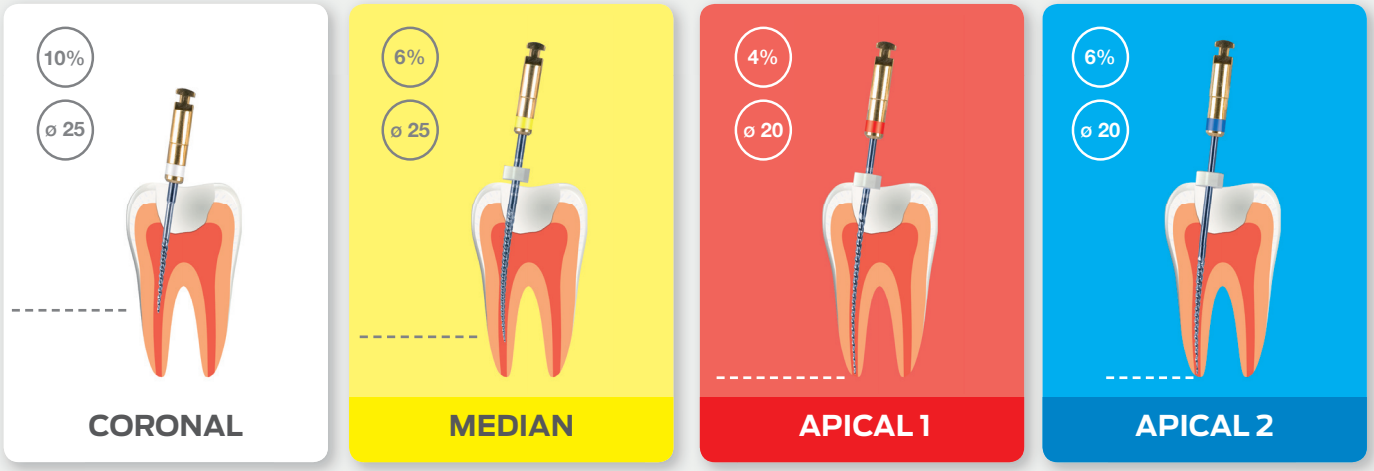
Additional recommendations for retreatment

- NiTi rotary instruments remove materials which can be **softened with solvents. They cannot be used to remove insoluble resin paste.**
- As the tool moves further towards the apex, use less solvent and irrigate more liberally.



RETREATMENT PROTOCOL OUTLINE

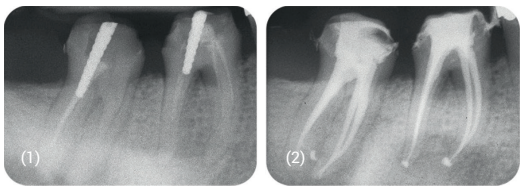
Flaring and removal of filling material › **Enlarging the middle part** › **Removal of filling material and apical preparation** › **Flaring and finishing** ›



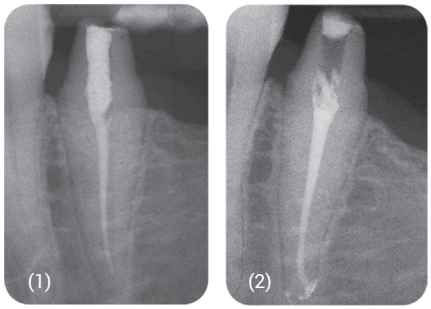
Speed: 400 to 600 rpm
Torque: 2 N/cm

Same instruments used for the removal of a root canal filling and for shaping

Clinical Cases by Prof. Roger Rebeiz



(1) Pre-op X-ray
(2) Post-op X-ray



(1) Pre-op X-ray

The access cavity must provide a clear view of the root canal entries and adequate access.

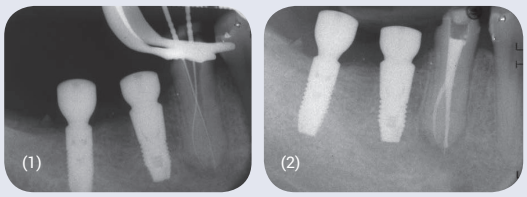
- Cleaning out all traces of filling material.
- Ultrasonic scaler is the technique of choice here.
- Application of an appropriate solvent in the pulp chamber.

(2) Post-op X-ray

Additional instruments

Presequence

• **PRESEQUENCE** is used instead of or to aid the 15 K file in order to improve root canal vacuity in the narrow canals.

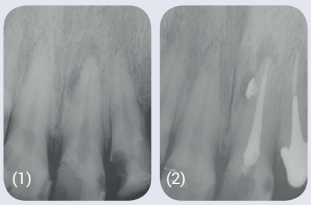


(1) Trajectories of the root canal prepared by PRESEQUENCE.
(2) Root canal obturation.
Prof. Roger Rebeiz

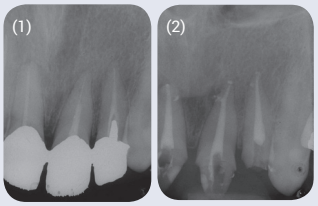
Apical 3 and Apical 4

APICAL 3 is used after **APICAL 2** in moderately large root canals.

APICAL 4 is used after **APICAL 3** in large canals.



(1) Pre-op X-ray
(2) Post-op X-ray:
Use of A3 and A4.



(1) Pre-op X-ray
(2) Root canal obturation.
Prof. Roger Rebeiz

Refill of 6 NiTi rotary instruments	Taper	ø Tip	Ring	Total length
 Apical 3	6%	30	Green	25 mm
 Apical 4	7%	40	Black	25 mm
 Presequence	2%	17	Mauve	21 mm 25 mm

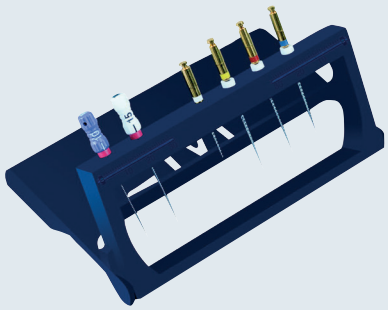
Accessories

Paper Points

✓ For drying root canals prepared using CMA instruments.

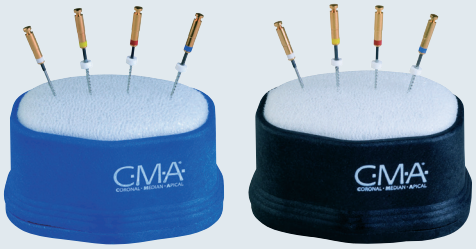
Gutta Percha Points

✓ The taper of the points is perfectly adapted to the Median, Apical 1 and Apical 2 instruments.



Sequencer

✓ For the storage and sterilisation of instruments. With 8 holes and 2 graduated rulers.



Endo-Clean Holder

✓ For the cleaning and storage of instruments.

› Discover our complete range of CMA endodontic accessories!

Endo-Clean Discs

✓ To be used with the Endo-Clean Holder. The sponges eliminate instrument irregularities and risks of cutting.

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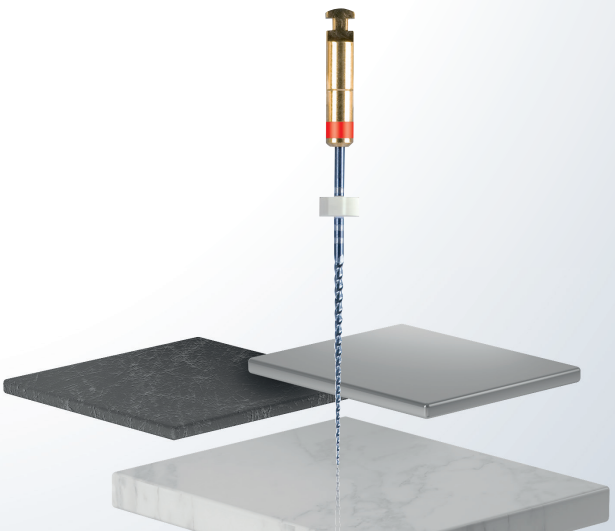
4 instruments, **only one sequence!**

Assorted pack		Contents
	**CMA NiTi START KIT A** Length 25 mm	·4 NiTi instruments: 1 **CORONAL** 17 mm, 1 **MEDIAN** 25 mm, 1 **APICAL 1** 25 mm, 1 **APICAL 2** 25 mm. · **2 manual** steel files 25 mm No. 10 & No. 15.
	**CMA NiTi START KIT B** Length 21 mm	·4 NiTi instruments: 1 **CORONAL** 17 mm, 1 **MEDIAN** 21 mm, 1 **APICAL 1** 21 mm, 1 **APICAL 2** 21 mm. · **2 manual** steel files 21 mm No. 10 & No. 15.
	**CMA NiTi START KIT C** Length 29 mm	·4 NiTi instruments: 1 **CORONAL** 17 mm, 1 **MEDIAN** 29 mm, 1 **APICAL 1** 29 mm, 1 **APICAL 2** 29 mm. · **2 manual** steel files 29 mm No. 10 & No. 15.

Refill of 6 NiTi rotary instruments	Taper	ø Tip	Ring	Total length
C  Coronal	10%	25	White	17 mm
M  Median	6%	25	Yellow	21 mm 25 mm
A  Apical 1	4%	20	Red	21 mm 25 mm 29 mm
 Apical 2	6%	20	Blue	21 mm 25 mm 29 mm



CMA SYSTEM is manufactured in accordance with European 93/42/EEC and 2007/47/EC standards.
Class IIa medical devices / CE 0120 marking / Certifying body: SGS UK LIMITED.
Follow the manufacturer recommendations for use. Images are for illustrative purposes only.

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www.endo-cma.com

Ref.: DR-CMA SYSTEM 2017-2-0 Date: 15/01/2017