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**HARVARD**

# ENDODONTICS

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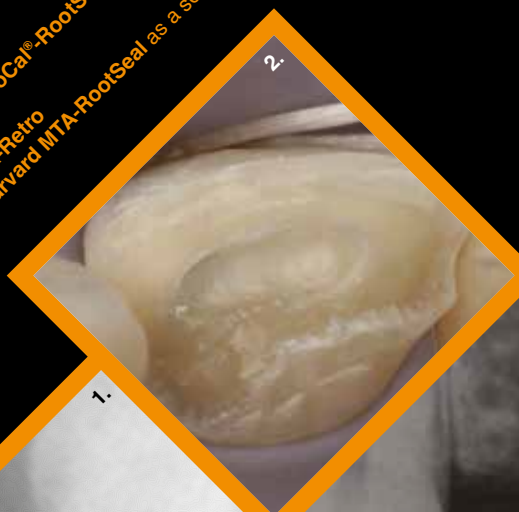


You want perfectly coordinated products for your Endo Treatment? Our reliable and easy-to-use materials will help you to provide a patient-oriented and successful treatment and thus ensure long-lasting success. Harvard has the perfectly matched product for every indication.

Then take a look here:

- >> Root Canal MTA Universal
- >> Root Canal MTA Specialities
- >> Root Canal-Preparation & -Dressing
- >> Root Canal Sealer

- Pictures from practice**
- 1.: X-ray of the final obturation with **Harvard BioCal®-RootSeal**
  - 2.: Application of **Harvard MTA-PT**
  - 3.: X-ray after placement of **Harvard MTA-Retro**
  - 4.: Root filling with gutta-percha and **Harvard MTA-RootSeal** as a sealer



3.

2.

1.

4.



## Discover ...

... all Harvard products for the endodontic treatment.

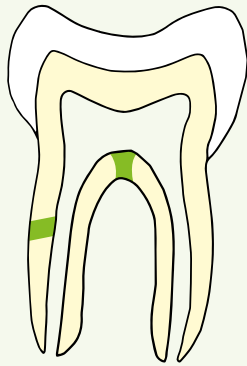
- >> **Repair** – an MTA cement in the capsule; designed for the closure of root perforations. (**Harvard MTA-Repair**)
- >> **Ortho** – for direct and simple closure of the apex with a particularly thin-bodied and long-setting MTA cement in the capsule. The enclosed EndoDirect syringe has a very flexible application cannula, so that even in the case of strongly curved root canals can be applied at full working length. (**Harvard MTA-Ortho**)
- >> **Retro** – MTA materials for retrograde root canal filling in capsule. (**Harvard MTA-Retro**)
- >> **Root Seal** – for definitive root canal sealing in combination with a master point in the automix syringe, direct application syringe – ready to use or in the capsule. (**Harvard MTA-DirectSeal; Harvard MTA-RootSeal; Harvard BioCal®-RootSeal**)

The Harvard **MTA Universal** cements for mixing or in the capsule are suitable for most endodontic indications.  
**Harvard MTA cements and BioCal® materials are also very well suited for the treatment of children.**



### REPAIR

For filling of root perforations

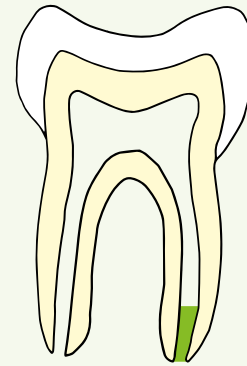


Harvard  
MTA-Repair



### ORTHO

Orthograde root canal filling

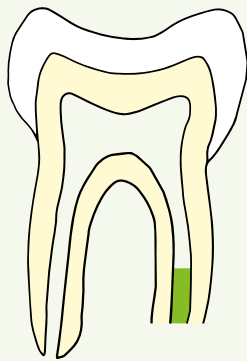


Harvard  
MTA-Ortho



### RETRO

Retrograde root canal filling

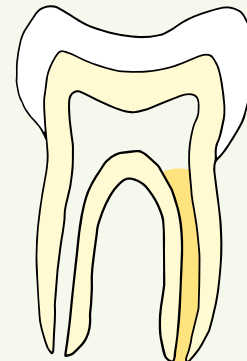


Harvard  
MTA-Retro

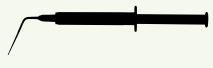


### ROOT TEMP

Temporary root canal filling

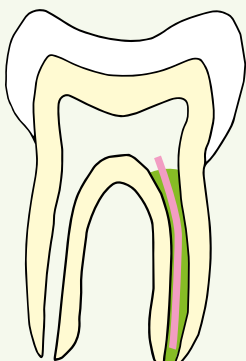


Harvard  
RootTemp



### ROOT SEAL

Root canal sealer



Harvard  
MTA-DirectSeal



or

Harvard  
MTA-RootSeal



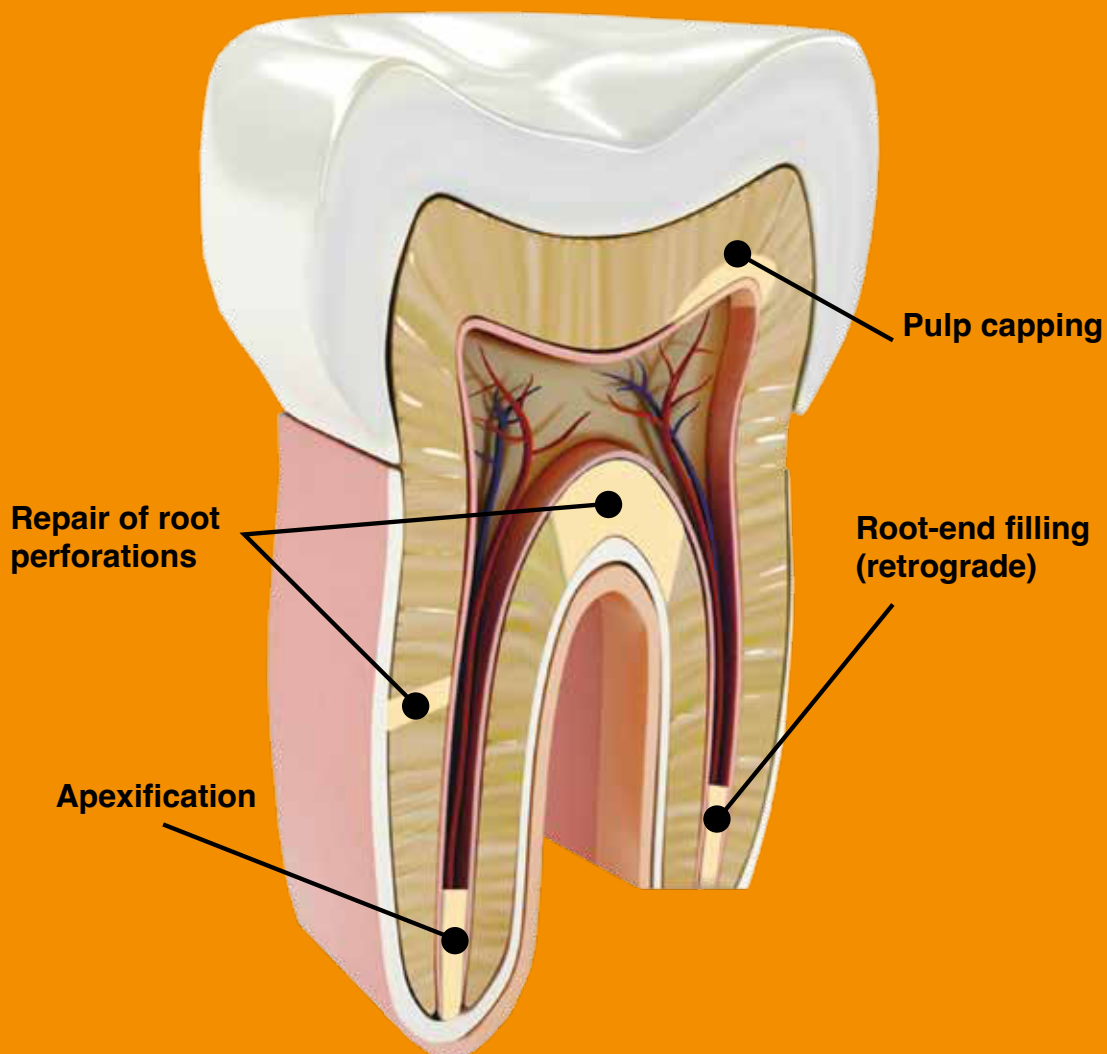
or

Harvard  
BioCal®-RootSeal





# (Mineral-Trioxide-Aggregat)



**Resin-Free**



## Harvard MTA Universal OptiCaps®

Endodontic repair cement in capsules based on MTA

- >> Highly biocompatible material
- >> Excellent bond to dentine
- >> Radiopaque
- >> Firm and homogenous consistency directly from the capsule
- >> Promotes tertiary dentine formation
- >> Setting not affected by humidity
- >> Suitable for pulp capping, sealing root perforations, root end fillings (retrograde)
- >> Mixing time: 30 sec
- >> Working time: 2:00 min (from start of mixing at 23 °C (73 °F))
- >> Next clinical step: 5:00 min

Set also in humid conditions

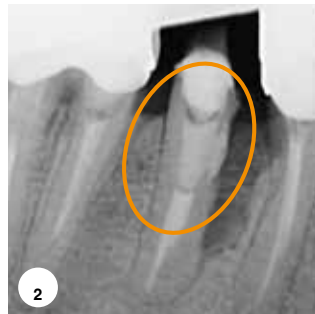
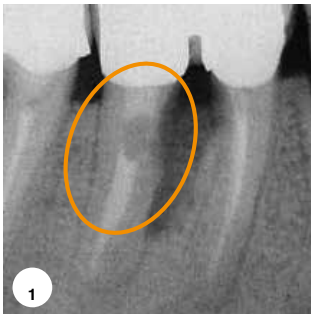
### Order Details

2 OptiCaps® ea. 0.25 g, ea. packed in aluminum pouch	7081502
Harvard Applier OptiCaps®	7092000



2 x 0.3 g

Dentist Dr. Oxana Hilfer



„Due to MTA,  
good long term  
prognosis.“

**1: Initial situation:** Damaged root canal wall and demineralized bone **2: After treatment:** Root canal perforation sealed with Harvard MTA Universal **3: After one year:** Perfect seal of the application areas, new remineralized bone and better retention of the tooth

## Harvard MTA Universal HandMix

Endodontic repair cement based on MTA, as HandMix

- >> Biocompatible material
- >> Excellent bond to dentine
- >> Radiopaque
- >> Promotes tertiary dentine formation
- >> Setting not affected by humidity
- >> Suitable for pulp capping, sealing root perforations, root end fillings (orthograde or retrograde)
- >> Very easy to mix

### Order Details

1 g powder, 3 ml liquid, dosage spoon, mixing pad, spatula	7081507
2 g powder, 4 ml liquid, dosage spoon, mixing pad, spatula	7081508

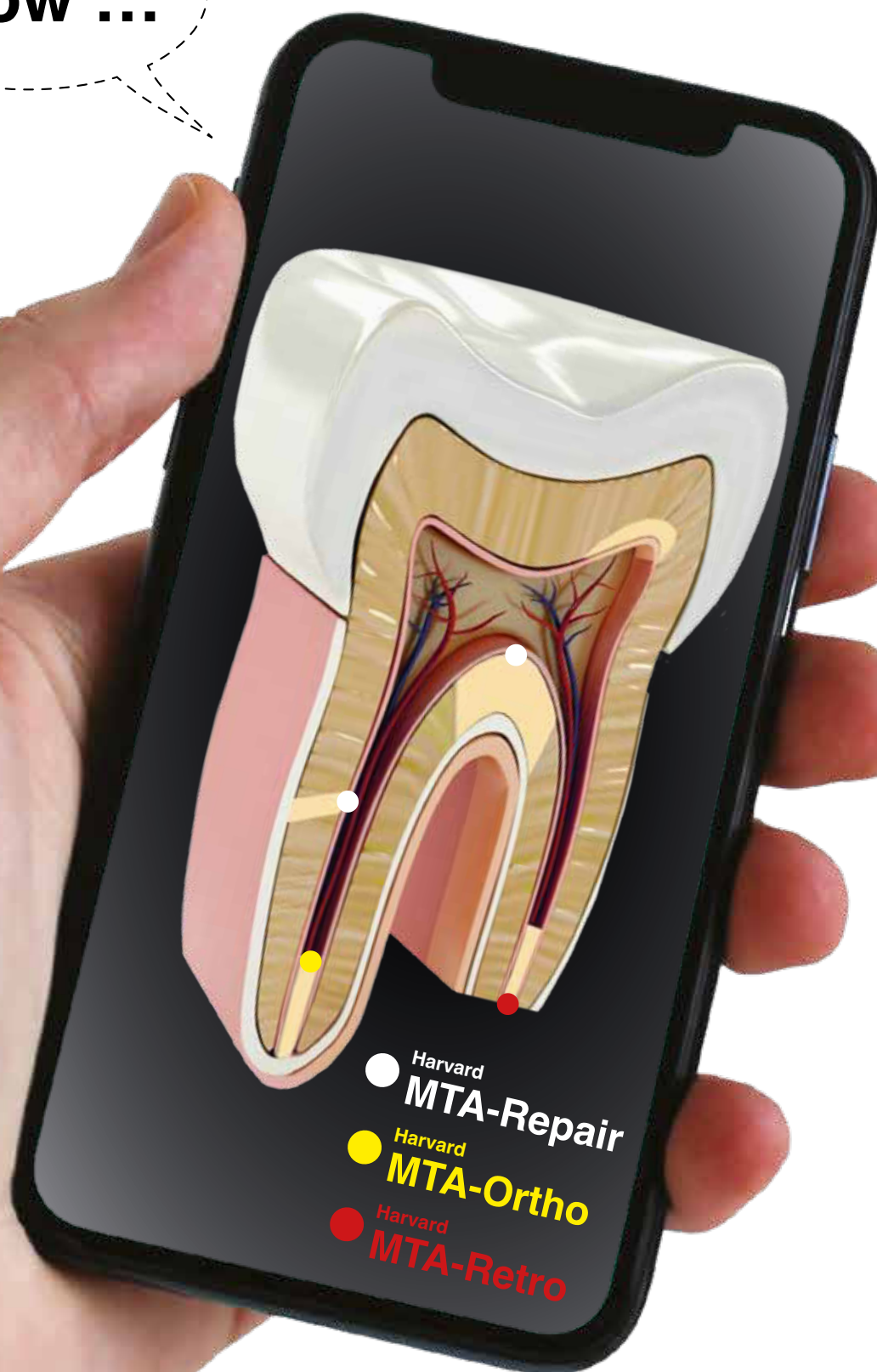


1 g / 3 ml  
2 g / 4 ml

# Root Canal MTA Specialities

## Endodontics

Good to  
**know ...**





## Harvard MTA-Repair

Extra radiopaque MTA cement in capsules

- >> Specially recommended for filling of root perforations
- >> Firm consistency
- >> Extra radiopaque
- >> Mixing time: 30 sec
- >> Working time: 2:00 min (from start of mixing at 23 °C (73 °F))
- >> Next clinical step: 5:00 min

Set also in humid conditions

### Order Details

2 OptiCaps® ea. 0.25 g, ea. packed in aluminum pouch	7081505
Harvard Applier OptiCaps®	7092000



## Harvard MTA-Ortho plus EndoDirect

Flowable MTA cement in capsules with extended working time

- >> Particularly suitable for direct and easy closure of the apex
- >> Flowable consistency
- >> Extra long working time (4:00 min)
- >> Mixing time: 30 sec
- >> Working time: 4:00 min (from start of mixing at 23 °C (73 °F))
- >> Next treatment step: after only 10:00 min

Set also in humid conditions

### Easy to use:

1. Mix the MTA capsule
2. Fill the endo syringe with the material directly from the capsule
3. Thanks to the flexible endo tip and the endo-stop, controlled MTA application up to the apex of the root canal

### Order Details

2 OptiCaps® ea. 0.25 g, ea. packed in aluminum pouch, 2 MTA EndoDirect syringes with flexible endo tip	7081510
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For the perfect application of **MTA-Ortho** into the root canal a special EndoDirect syringe is available.



Bended needle tip with individual working length



Filling of the Harvard EndoDirect syringe



Bring piston into the Harvard EndoDirect syringe



Application of Harvard MTA-Ortho into the root canal



# Root Canal MTA Specialities

## Endodontics

### Harvard MTA-Retro

Fast setting, extra radiopaque MTA cement in capsules

- >> Specially recommended for root end filling (retrograde)
- >> Firm consistency
- >> Extra radiopaque
- >> Fast setting
- >> Mixing time: 30 sec
- >> Working time: 2:00 min (from start of mixing at 23 °C (73 °F))
- >> Next clinical step: 3:00 min

Set also in humid conditions

#### Order Details

2 OptiCaps® ea. 0.25 g, ea. packed in aluminum pouch	7081506
Harvard Applier OptiCaps®	7092000

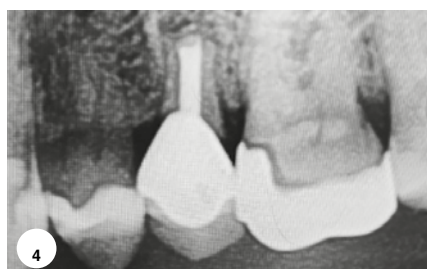


## Perfect root end filling.

Harvard MTA-Retro Fast setting,  
extra radiopaque MTA cement in  
capsules



Dentist Dr. med. Klaus Herrligkoffer



„Harvard has the  
perfect material for  
this treatment.“

#### Infected tooth 25

„Pain swollen on the upper left second premolar 25. From the diagnostic X-ray, a radiolucency around the tip of the root, clinical examination reveals movement of the tooth and an old root canal with post and core plus crown.“

- 1: First clinical image
- 2: First X-ray before treatment
- 3: X-ray after placement of  
**Harvard MTA-Retro**
- 4: X-ray after 12 months





Harvard

## Glide & Clean

Harvard Glide & Clean is a carbamide peroxide and EDTA containing gel in syringes for the effective and facilitated cleaning of the root canal

- >> Facilitated removal of pulp tissue, dentine chips and debris
- >> Removal of the smear layer
- >> Chemical preparation
- >> Lubricant for rotary instruments for root canal preparation, reduction of the risk of fracture

### Order Details

2 ml syringe, 6 flexible tips

7081560



Harvard

## RootTemp

Harvard RootTemp is calcium hydroxide for temporary root canal dressing

- >> Bacteria hostile environment (pH 12)
- >> Mineralizing
- >> Good radiopacity
- >> Easy application directly into the root canal
- >> Flexible, curved EndoTip

### Order Details

2 ml syringe, 6 endo tips

7071264

Harvard Endo Tips

7083618

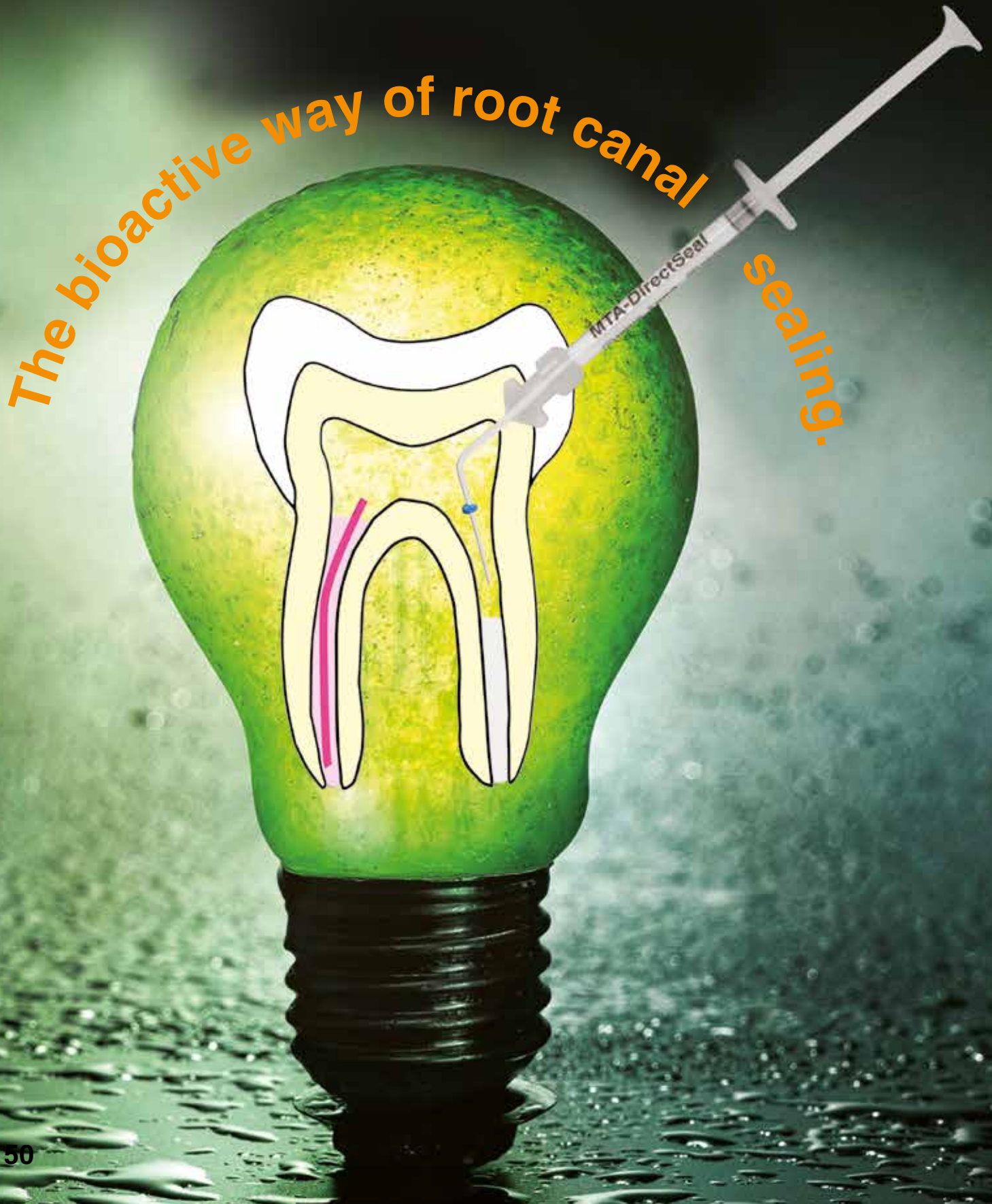
Refill bag with 25 endo tips





# Root Canal Sealers

## Endodontics





# The 3 **Bioactive** Root Canal Sealers.

## >> **Harvard MTA-DirectSeal**

Ready-to-use, bioactive, MTA root canal sealer

## >> **Harvard MTA-RootSeal**

Bioactive MTA root canal sealer in capsules

## >> **Harvard BioCal<sup>®</sup>-RootSeal**

Bioactive, resin-modified MTA root canal sealer



# Root Canal Sealers

## Endodontics





## Harvard MTA-DirectSeal

Ready-to-use, bioactive MTA root canal sealer

Harvard MTA-DirectSeal is a bioactive MTA root canal sealer that can be applied directly from the syringe into the root canal in combination with gutta-percha points. The root canals are sealed without any marginal gap. MTA-DirectSeal is particularly favourable in use with a Mastercone. The high pH value of 12 shows hostile effect against bacteria. The material hardens by absorbing moisture from the tooth.

### The performance features of Harvard MTA-DirectSeal at a glance:

- >> No mixing necessary – ready to use
- >> Easy application from the syringe with flexible EndoTip and silicone stopper
- >> High pH value of 12 – has an anti-bacterial effect
- >> Working time approx. 1 hour
- >> Material is mineralising
- >> Gap-free sealing between root canal and gutta-percha
- >> Highly radiopaque
- >> Resin-free
- >> Strong calcium release

### Indication:

- >> Root canal sealing

### Technical data:

- >> Working time: approx. 60 minutes
- >> Setting time: approx. 4 - 5 hours
- >> X-ray visibility: 350% Al
- >> Strong calcium release

### Order Details

1 g syringe, 8 endo tips

7081514

**Resin-  
Free**

**READY  
to use !**

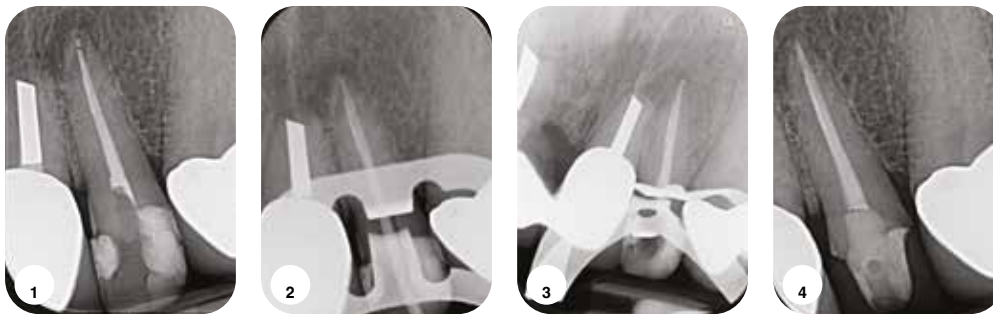


# Root Canal Sealers

## Endodontics



Dr. med. dent. Maximilian Donges



„The patient presented at the practice with an insufficient root canal filling with apical radiolucency at tooth 22. The tooth was asymptomatic and was found to be insufficiently preserved during a routine check-up. In addition to the carious lesions at the margins of the fillings, an osteolysis was visible in the apical area.

- 1: The image shows insufficient fillings and an apical radiolucency with a diameter of 6 mm
- 2: A revision of the root canal filling with nickel-titanium files was performed, visible in the image as a master point image with gutta-percha
- 3: The root filling was performed with gutta-percha and **Harvard MTA-RootSeal** as a sealer
- 4: A significant improvement in the apical situation is visible just six months after the repeat root filling with gutta-percha and MTA

**Conclusion:** The handling and user-friendly application of the MTA-Sealer make the workflow much easier. In addition, the tissue-friendly material can be expected to produce predictably good results.“



PD Dr. Johannes Ebert

## „Investigation of microleakage of bioactive root canal sealers.“

„University Erlangen, Germany. Kopecka M, Opperskalski L, Zorzin J, Petschelt A, Lohbauer U, Ebert J

Uniklinikum  
Erlangen



The aim of this study was to measure microleakage of this new sealer at two different time points (one week and 6 months) and to compare them with two well-established sealer materials.

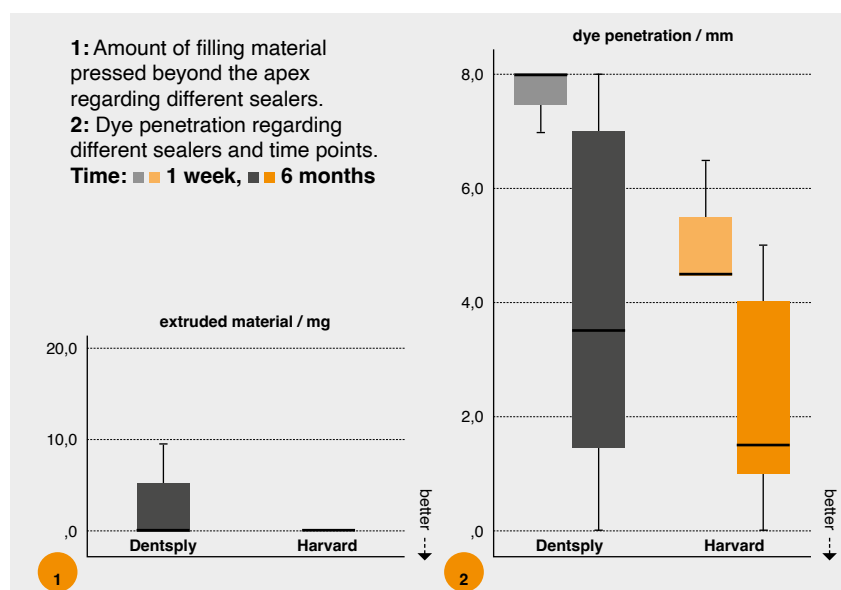
Additionally, the amount of material pressed beyond the apex (overfilling) was measured.

Excerpt from the study Erlangen, Germany 2022

### Conclusion

The new materials under investigation showed less leakage and slightly less material overfilling than the well-established material AH Plus that was used for comparison.

Thus, regarding the parameters tested, the new material Harvard MTA-RootSeal can be recommended for clinical use.“





## Harvard MTA-RootSeal

Bioactive MTA root canal sealer in capsules

- >> Excellent seal
- >> Apatite formation through reaction of released calcium and hydroxide with endogenous phosphate
- >> Mineralizing
- >> Bacteria-hostile environment (pH 12)
- >> Self cure
- >> Easily removable with Mastercone/Guttapercha
- >> Radiopaque
- >> OptiCaps® capsule for consistent consistency and convenient mixing
- >> Optional with EndoDirect syringe: direct application into the root canal
- >> Mixing time: 30 sec
- >> Working time: > 10:00 min (from start of mixing at 23 °C (73 °F))
- >> Next clinical step: after 60:00 min

Set also in humid conditions

### Order Details

2 OptiCaps® ea. 0.25 g,  
ea. packed in aluminum pouch,  
2 MTA EndoDirect syringes with  
flexible endo tip

7081511



**Resin-  
Free**



Dr. Amir Ibrik D.D.S, N.D.B, E.R.B, MSc

**„Harvard MTA-RootSeal for me the first choice.“**

Harvard MTA-RootSeal is a pure MTA, easy to use, hydrophilic, has a very good consistency and offers a very good adaptation and sealing of the root canal wall. Further advantages are: a high pH value (antibacterial effect) biocompatibility, fast setting time, no postoperative pain and easy revisability.



**Optional: The EndoDirect Syringe for perfect application.**



Flexible endo-tip with individual working length



Filling the EndoDirect syringe

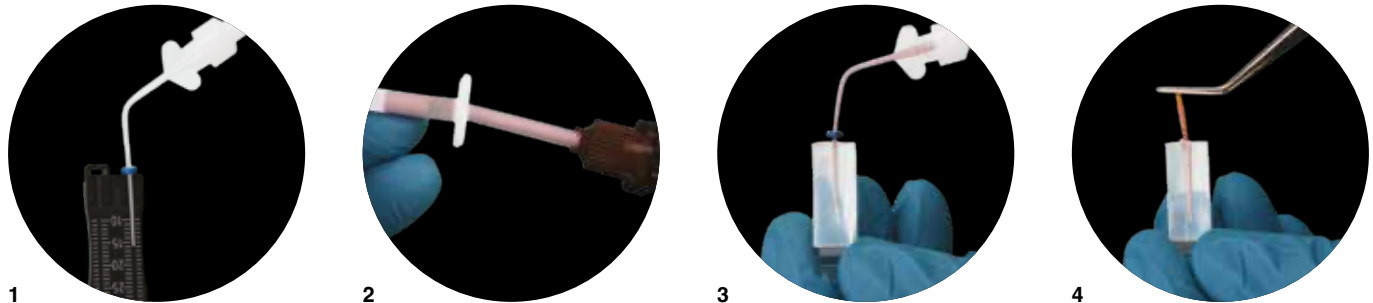


Insertion of the plunger into the EndoDirect syringe



Application of the material into the root canal

### Application with the EndoDirect syringe:



- 1: Set of the working length with the endo stop    2: Transfer the required amount of Harvard BioCal®-RootSeal into the EndoDirect syringe  
3: Injection of Harvard BioCal®-RootSeal into the root canal    4: Insertion of gutta-percha up to the working length into the root canal

**Resin-  
Reinforced**

PD Dr. Johannes Ebert

### „Investigation of microleakage of bioactive root canal sealers.“

Uniklinikum  
Erlangen

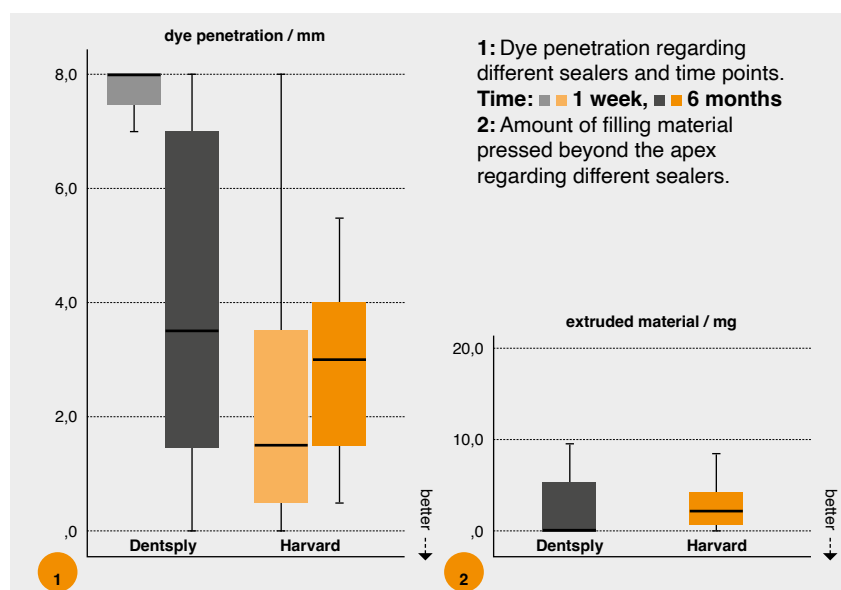


„University Erlangen, Germany. Kopecka M, Opperskalski L, Zorzin J, Petschelt A, Lohbauer U, Ebert J

The aim of this study was to measure microleakage of this new sealer at two different time points (one week and 6 months) and to compare them with two well-established sealer materials. Additionally, the amount of material pressed beyond the apex (overfilling) was measured.

#### Conclusion

The new materials under investigation showed less leakage and slightly less material overfilling than the well-established material AH Plus that was used for comparison. **Thus, regarding the parameters tested, the new material Harvard BioCal®-RootSeal can be recommended for clinical use.**





Harvard

## BioCal®-RootSeal

**Bioactive**, resin-modified MTA root canal sealer

- >> Excellent seal
- >> Apatite formation through reaction of released calcium and hydroxide with endogenous phosphate
- >> Mineralizing
- >> Environment hostile to bacteria (pH 11)
- >> Self cure and additional light cure for faster setting of the surface
- >> Easy to remove and revise, e.g. for subsequent post placement with fiber posts
- >> Convenient application from the minimix syringe
- >> Radiopaque
- >> Optional: for optimal, bubble-free, direct application into the root canal also available with **EndoDirect syringes** (Harvard BioCal®-RootSeal plus EndoDirect)

### Order Details

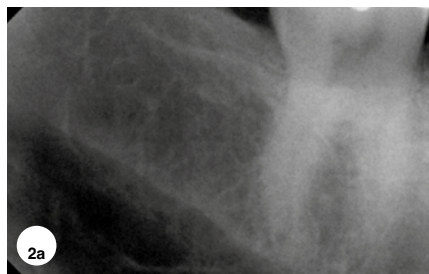
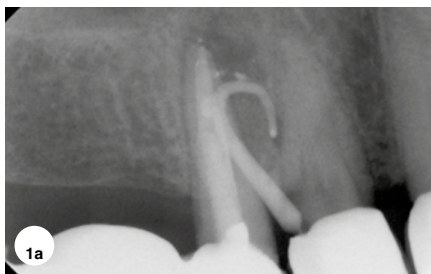
4 g minimix syringe, 10 EndoDirect syringes with flexible endo-tip 10 mixing tips (S-Brown)	7081552
4 g minimix syringe, 10 mixing tips (5 x S-Brown, 5 x O-Brown) 5 intra tips long, mixing pad	7081553
Harvard Mini 4:1 / 10:1 S-Brown Refill bag with 50 mixing tips	7093050
Harvard Mini 4:1 / 10:1 O-Brown Refill bag with 50 mixing tips	7091100
Harvard IntraTips long Refill bag with 50 intra tips	7083620



Dentist Dr. Nihad Hababat

### „Best results with Harvard BioCal®-RootSeal.“

„I recommend **Harvard BioCal®-RootSeal** to every dental professional because it is easy to use, safe and cost-effective, no matter what technique is used. Since we started working with **Harvard BioCal®-RootSeal**, we no longer have to fear possible negative consequences of exceeding the material through the apex (foramen apicale).“



#### 1: Chronic periapical abscess tooth 14

**a:** Before: The patient came in with an abscess with fistula formation in the upper right premolar region (tooth 14). X-ray with inserted gutta-percha point in the fistula tract

**b:** After: X-ray of the final obturation with Thermafil® and Harvard BioCal®-RootSeal

#### 2: Deep filling near the pulp, tooth 47

**a:** Before: The patient came in with severe and constant pain in the right lower molar (tooth 47 / diagnostic pulpitis).

X-ray: Tooth 47 – deep filling near the pulp

**b:** After: X-ray of the final obturation with Thermafil® and Harvard BioCal®-RootSeal

