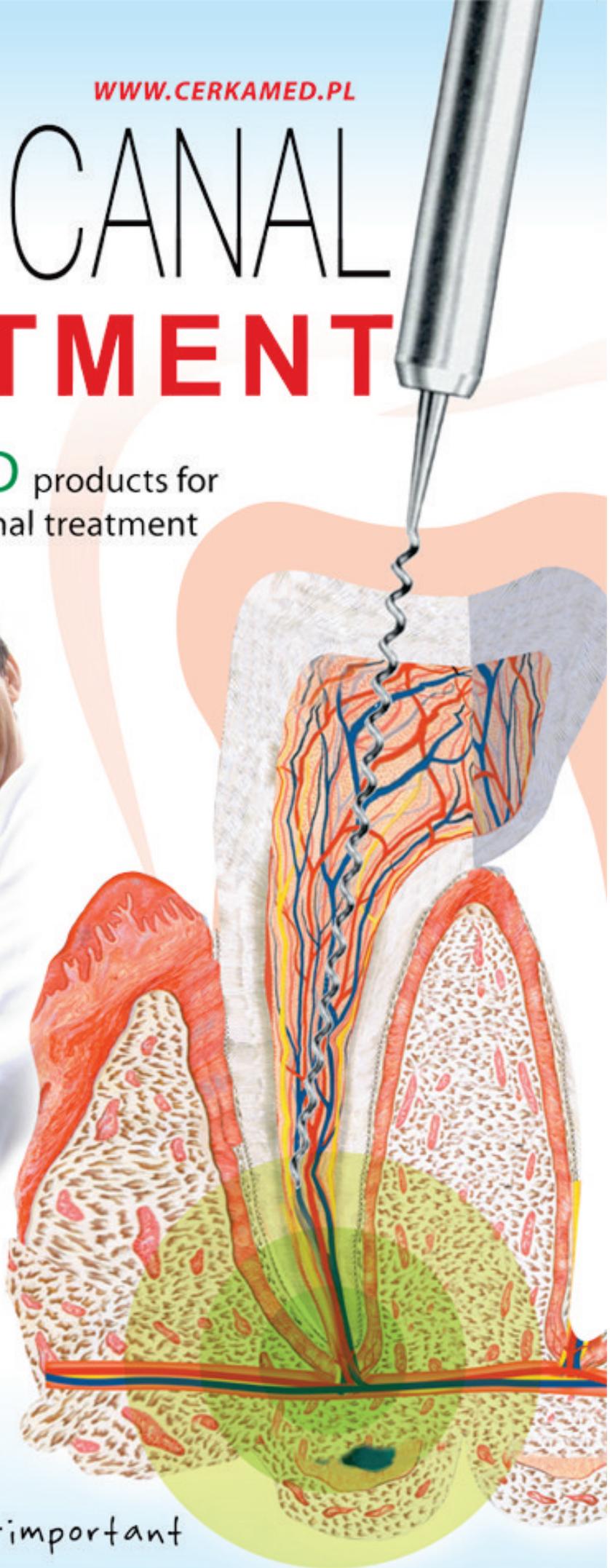


Effective

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ROOT CANAL TREATMENT

Use of **CERKAMED** products for comprehensive root canal treatment

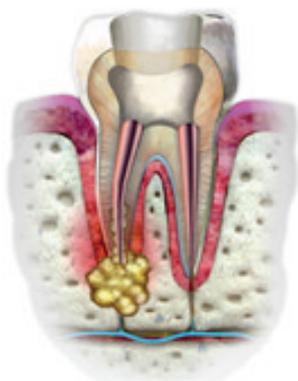
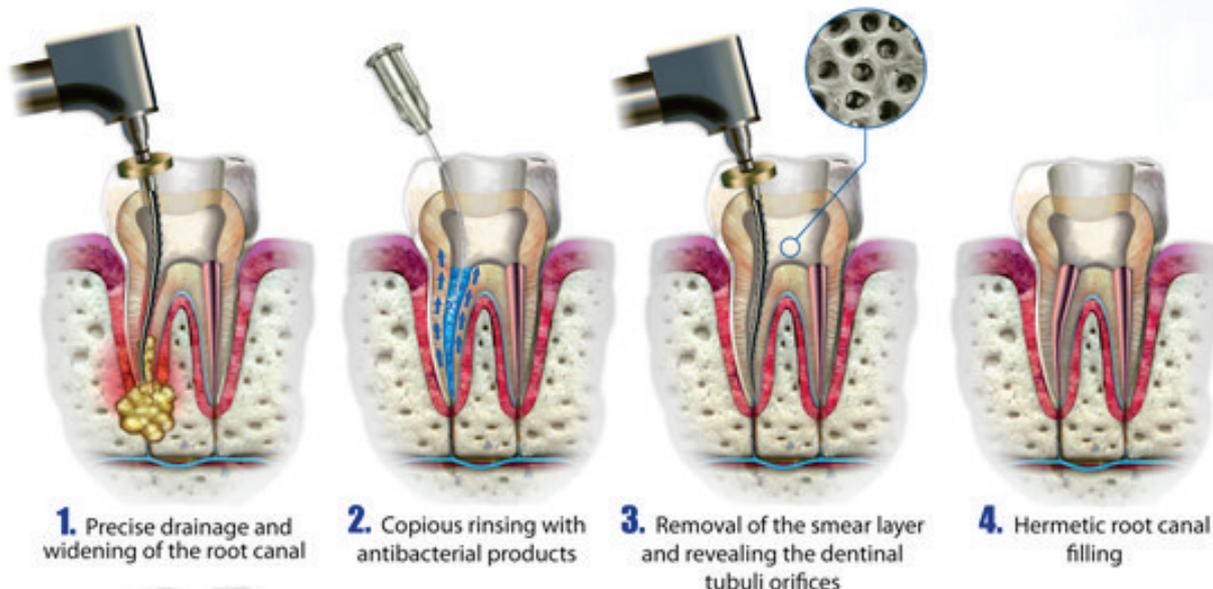


... because details are all-important

Effective root canal treatment

how to use well the best new products for root canal preparation and treatment.

Although there are many verified endodontic methods and techniques, none of these methods is recognized to be the best. Nevertheless the hereunder rules are the existing procedures applied for root canal preparation:



The above procedures are achieved by the use of appropriate dental products which improve the treatment most effectively.

Failures in endodontic treatment are mostly caused by the bacteria left in the root canal, due to inaccurate cleansing and filling.

The latest scientific studies shows that the use of dental tools and physiological saline allows to remove bacteria only in 50% of cases. Usage of the irrigants like NaOCl and CHX increases the result to 80%. Antibacterial properties of the irrigants might increase after application of substances removing the smear layer from the walls of the root canal (EDTA, citric acid). Precise cleansing of root canals and removing the germs enable hermetic root canal filling and also ensure full success in root canal treatment.



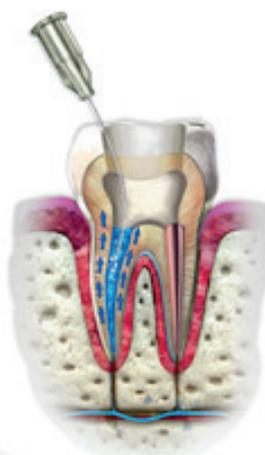
Single visit root canal treatment

Nowadays, many authors recommend single visit root canal treatment. It is a perfect solution provided that the doctor has as much time as required and arisen inflammatory do not cause exudation from the root canal. Main stage of the treatment is accurate preparation and rinsing of the root canal.

1. The treated tooth should be isolated from the oral cavity by rubber dam. The tooth cavity should be opened by means of any dental bur that would allow to gain access to the root canals. Content of the cavity must be removed by means of any sterile bur and dental excavator.



2. After removing dead or inflamed pulp tissues from the tooth cavity, it is required to rinse it with solution of sodium hypochlorites - **CHLORAXID**.



In case of endodontic re-treatment when root canals were filled with gutta-percha, it is necessary to remove it by means of the product called **EUCALYPTOL**. It is natural Eucalyptus oil which improve the efficiency of gutta-percha removal.

It is sufficient to insert a few drops of oil into the root canal and remove gutta-percha that becomes soft and easy for removing.

3. Next the tooth chamber should be filled with the product for root canal drainage like **ENDO-PREP GEL**, **ENDO-PREP CREAM** or **ENDO-SOLUTION**.

Insert carefully preparation into the canal by means of attached applicator (or any dental tool). The first tool shouldn't be introduced deeper than half the canal's length.

CERKAMED products used for drainage of the root canals contain EDTA which main function is softening the tissue through chelating process of calcium ions. These products are available in gel - **ENDO-PREP GEL**, in cream with urea peroxide - **ENDO-PREP CREAM** and in liquid - **ENDO-SOLUTION**. All of them are interchangeable.

ENDO-PREP in gel apart from its active substance (EDTA) contains lubricants enabling easy introduction of the dental tool into the canal and preventing its breakage. Its appropriately selected consistency guarantees that preparation doesn't flow from dental instrument.

ENDO-PREP CREAM contains additionally urea peroxide which together with NaOCl makes the bubbling effect and the self-cleaning of the root canal.

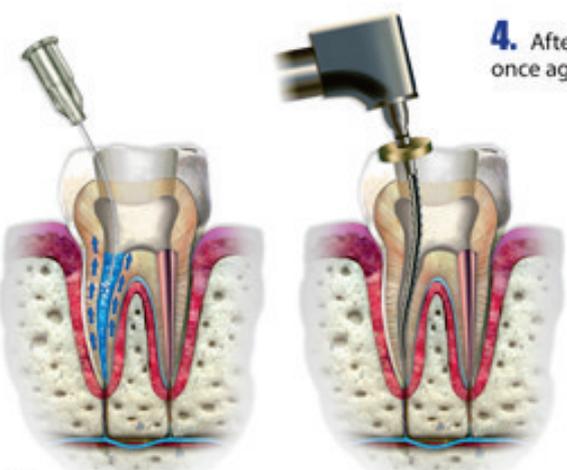
ENDO-SOLUTION in liquid form is characterized by very good penetration and fast reaction time on the tissues. This product enriched by surfactants (**ENDO-SOLUTION PREMIUM**) helps in removing the smear layer with its contaminants from dentinal tubules even of the smallest diameter. Surfactants, content of this product, enables easier penetration of the liquid into the narrow fissures of small tubules.

4. After initial drainage of the root canal it is required to rinse the canal once again with **CHLORAXID** in order to remove debris of tissue outside.

Actions of canal drainage and rinsing should be repeated a few times considering not to reach root apex of the tooth (the possibility of pushing the content of the canal through the tooth apex and infecting the periapical tissues is reduced).

ENDO PREP GEL (or **ENDO-SOLUTION**) is recommended to be used with the first two or three sizes of dental tools, then preparation of the root canal should be carried out without EDTA. These products should not be left in the canal because it could lead to its excessive softening.

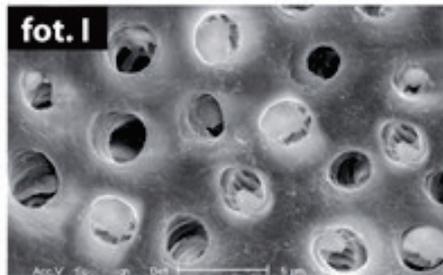
5. At this stage mechanical widening of the canal should be complemented by its copious rinsing. For such purpose, it is recommended to use antibacterial products **CHLORAXID** and **GLUCO-CHEX 2%**. Each root canal should be rinsed copiously and simultaneously with physiological saline. Product **GLUCO-CHEX 2%** contains **chlorhexidine gluconate**, which is highly efficient against bacterial strain immune to NaOCl. That is why these two products should be used as complementary in the process of root canal rinsing.



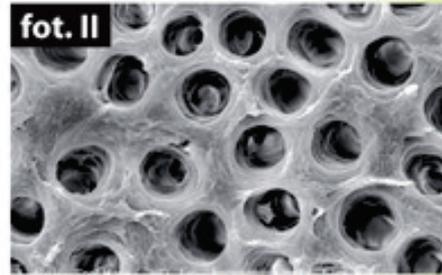
While rinsing root canals, it is compulsory to remember to rinse physiological saline between rinsing with these two solutions to avoid mixing them in root canal because it may cause precipitating a tawny deposit which is difficult for removal.

Product **GLUCO-CHEX 2% GEL** thanks to its creamy consistency is simply for application to the canal and easy for rinsing out. Lubricants contained in the product simplifies introduction of the tool into the canal.

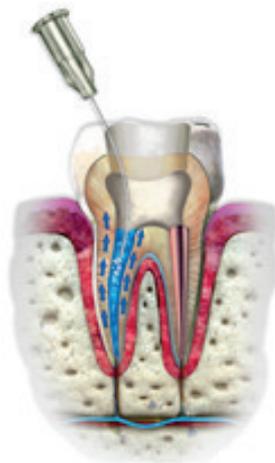
6. For removal of the smear layer and revealing the dentinal tubuli orifices in process of rinsing the root canal, it is recommended to use **Citric Acid 40%**. This product with concentration of 30-40% removes successfully smear layer remains.



Wall of the canal after applying EDTA 15%, some of the dentinal tubuli orifices stay still closed (Pic. I)



Walls of the canal after removing the smear layer when Citric Acid 40% applied (fot. II). All the dentine tubuli orifices are open and smear layer is completely removed.



7. In the last stage of root canal preparation it is recommended to rinse the canal with **sodium hypochlorite (CHLORAXID)** at concentration from 2% to 5,25% and **chlorhexidine (GLUCO-CHEX)** concentration of 2% in alternate use with physiological saline in order to remove bacterial flora from dentine tubules.

Root canal preparation should be finished by its rinsing with the product **CANAL CLEAN**. Its short evaporation time accelerates drying the root canal. However, the canal can also be dried by means of paper points.

The root canal treated this way can be now precisely and hermetically filled. By this, efficiency of the treatment is increased, and the risk of complications is minimized. Successful root canal treatment can be achieved by removing most of bacteria contained in smear layer and fill dentine tubules.



Two-visit root canal treatment

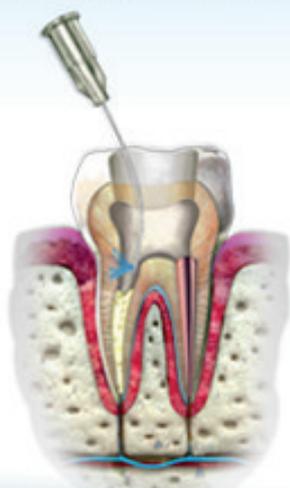
There are situations when it is impossible to finish the treatment during the first visit e.g. lack of time or persistent root canal exudates.

1. The first appointment is focused on precise preparation of the root canals – when single visit root canal treatment procedure applied (points 1-7) - and applying the antibacterial product such as: **CALCIPAST** - ready for use, non-hardening calcium hydroxide paste, or **CALCIPAST+I** - with iodoform which makes the drying and bactericidal effect much stronger in case of exudates in the root canal.

The very new product on the market is **CALCIPAST FORTE**, which, apart from iodoform, contains chlorophenol that is even more effective in drying and disinfection the root canal.



After applying the product to the canal it is recommended to close securely the tooth cavity using temporary filler **Cerkamed TOTAL BLEND** – light-cured material based on calcium hydroxide. This hermetic filler, closing the access to the tooth cavity, protects the canal from any contamination between the visits.



TOTAL BLEND is available in enamel shade - **WHITE** and dentine shade - **DENTINA**, which makes it possible to obtain proper cosmetic results.

2. The second appointment is used for final filling. Removal of calcium hydroxide **CALCIPAST** pastes does not cause any problem due to their non-hardening formula. It is recommended to rinse out the paste **CALCIPAST+I** and **CALCIPAST FORTE** with the product **CANAL CLEAN**, which dissolves iodoform in the root canal.

CANAL CLEAN used as the last stage of rinsing the root canals accelerates drying of the root canal before its final filling.

The novelty is the product **TOTAL BLEND BLUE** blue shadow, containing calcium hydroxide. Thanks to its blue shadow, it is possible to locate precisely orifices of the closed canals during next appointment.

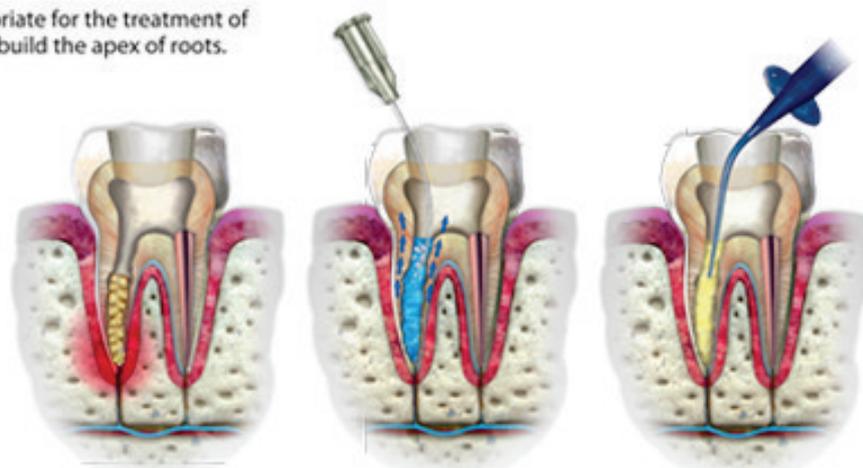


Multi-stage treatment

Multi-stage root canal therapy is appropriate for the treatment of pathologic resorption and in order to rebuild the apex of roots.

In case of resorption it is recommended to rinse infected root canals with **GLUCO-CHEX 2%** in liquid or in gel. Chlorhexidine gluconate contained in this product is highly efficient against bacteria *Enterococcus faecalis* which may cause the abscesses.

Next, it is recommended to fill the system of root canals with temporary fillings (for maximum 1 month), these are **CALCIPAST+I** or **CALCIPAST FORTE** which both have anti-bacterial and drying effect on the root canal.



When the root apex area is damaged it is recommended to fill the canal with calcium hydroxide paste **CALCIPAST** (for maximum 1-2 months, if necessary repeat the treatment) which has strong odontotropic effect in stimulating and rebuilding the damaged periapical tissues.

Besides this bactericidal activity **CALCIPAST** paste gives reinforced contrast in x-rays which makes it possible to observe the evolution of tissues over time.



It is not difficult to remove calcium hydroxide paste **CALCIPAST** from the canal because of its non-hardening formula. It is recommended to rinse it out with the product **CANAL CLEAN**, which is very effective in dissolving and removing preparations which contain iodoform.

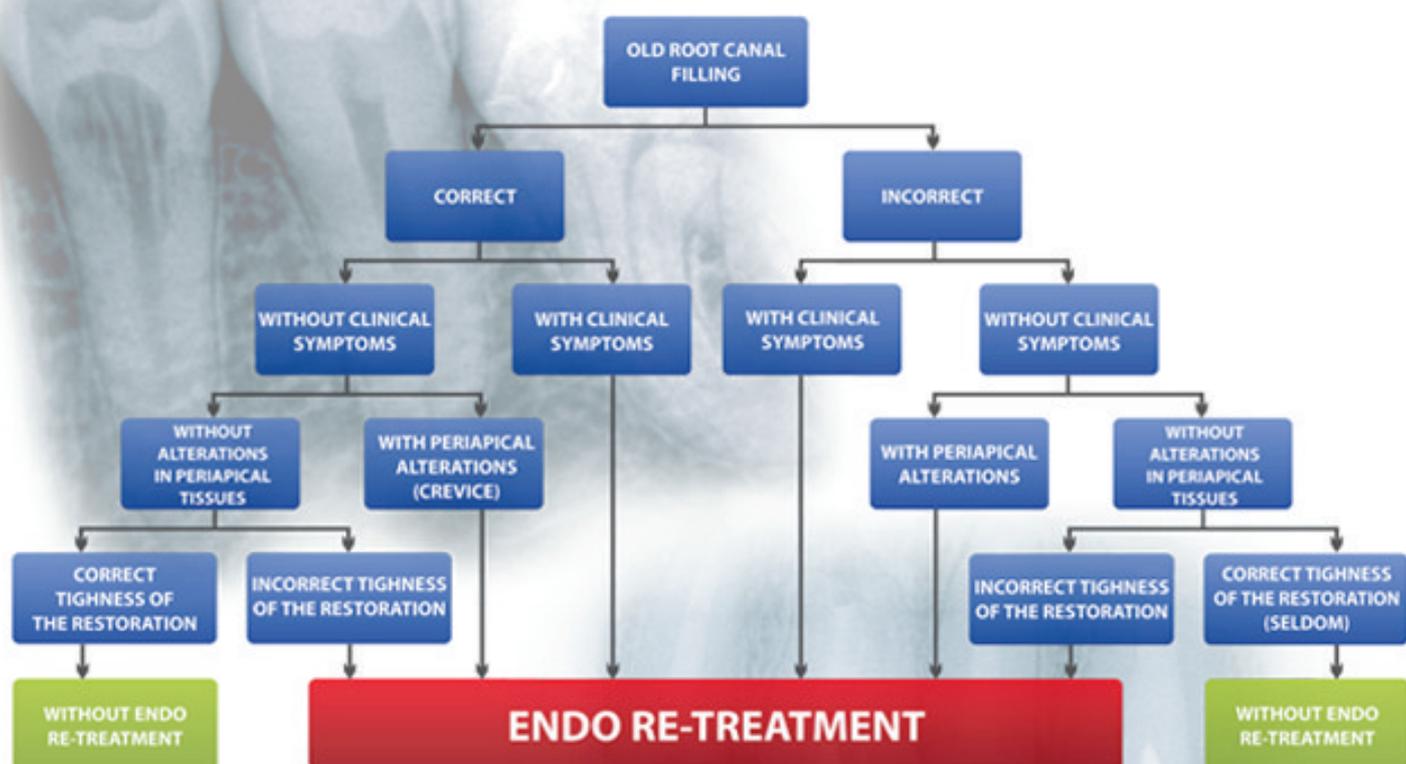


CANAL CLEAN as the last rinsing agent contributes to dry the root canal in the most fastest and effective method before its final filling.

Product **TOTAL BLEND BLUE** in blue shadow, contains calcium hydroxide and its blue shadow makes that it possible to locate precisely orifices of the closed canals during next appointment.



When root canal re-treatment is required?



This diagram is used of courtesy of Dr. Tomasz Falkowski from "Idealny Uśmiech" dental office



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