



Komet **BioRepair.**

Seal. Heal. Protect.



Make **Preservation** a **Priority**

BioRepair is Komet's pre-mixed bioceramic putty designed to support the natural healing process by stimulating the formation of dentin and cementum.

Preserves vitality and stimulates regeneration.

When used in pulp capping or vital pulp therapy, BioRepair promotes the formation of a dentin barrier that helps preserve the vitality of the pulp and supports healing by creating a favorable environment for tissue regeneration.

Minimal shrinkage.

BioRepair exhibits a setting expansion equal to $0.092 \pm 0.05\%$, unlike most dental materials undergoing contraction. This ensures a tight seal and reduces the risk of microleakage while preventing bacterial contamination.

Reduces the risk of inflammation.

BioRepair is biocompatible and interacts favorably with pulp, dentin, and bone, reducing the risk of inflammation or adverse reactions.

High alkalinity (pH ~12).

This allows BioRepair to be bactericidal.

No discoloration.

BioRepair contains zirconium oxide to maintain a tooth-like color and translucency while preventing staining.

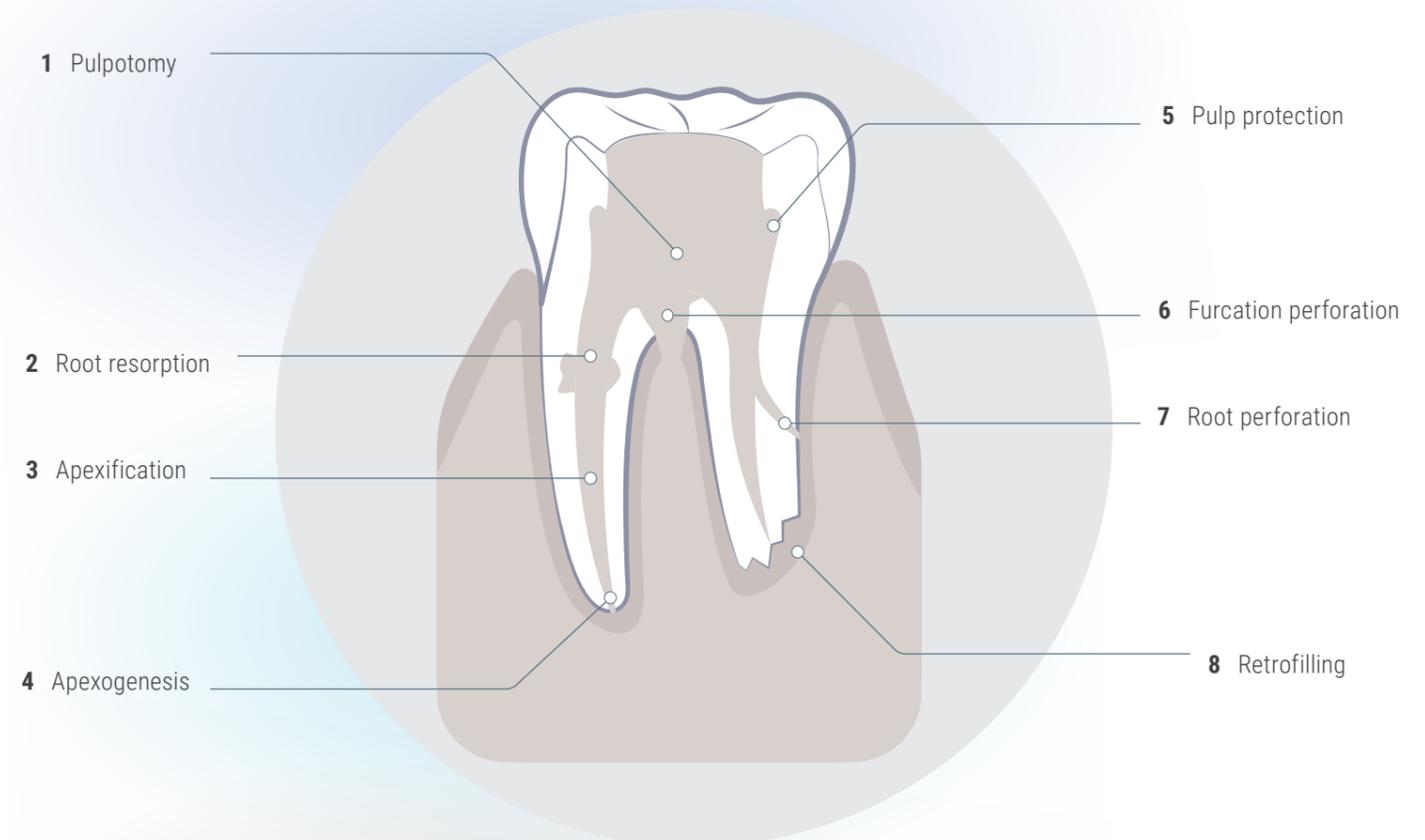
Ease of use.

BioRepair conforms well to the cavity or root canal and minimizes the need for excessive adjustments, offering good flow properties.

Versatility.

BioRepair can be used in a wide range of dental procedures, including pulp capping, root-end filling, apexification, and perforation repair.

1 solution for 8 indications



Case study: Partial pulpotomy

Performed by Dr. Georg Benjamin

In challenging cases like partial pulpotomy, conservative treatments are often crucial to successfully prevent endodontic treatments and tooth loss.

Komet's BioRepair offers general dentists and endodontists an effective and user-friendly solution that supports them in treating these particularly sensitive cases where the preservation of tooth vitality and regeneration properties play a key role.

Treatment procedure

Dr. Georg Benjamin began the partial pulpotomy therapy with a local anesthesia and the application of a rubber dam to prevent unwanted moisture from penetrating the treatment area.

He then removed the old filling material using a diamond bur and the secondary caries with an EndoTracer.

The infected dental nerve was still viable, so Dr. Benjamin created an access cavity to treat it.

He then performed a millimeter accurate excision of the pulp horn. It is important that this is done evenly to create a level surface area for the BioRepair putty filling material that is applied later.

Afterwards, Dr. Benjamin constantly rinsed the pulp horn with sodium hypochlorite to remove infected debris from the treatment area.

To prepare the sealing process, Dr. Benjamin precisely etched the tooth enamel with an etching gel to ensure that the filling material will hold better.

He used BioRepair to cover the treatment area and seal the cavity. To create an optimal bonding effect, he applied a self-adhesive flow to BioRepair and sandblasted the treatment area.

After selective etching, composite shaping took place with hand instruments and a small brush.

For the final step, he polished the area and performed a bite test to confirm the treatment's success.



"There are not that many putty products on the market. And among those few products, Komet's BioRepair shares lots of great benefits: Starting with the intuitively usable dispenser over the pre-mixed condition to tremendous features such as great adhesive and resistant properties during application. All in all, with BioRepair endodontists and dentists don't have to bother about anything."



Dr. Georg Benjamin, Endodontist



Radiograph of the patient's tooth before the treatment.



Radiograph of the patient's tooth after the treatment.

Step-By-Step. Pulpotomy.



1. Removal of secondary caries and creating the access cavity.



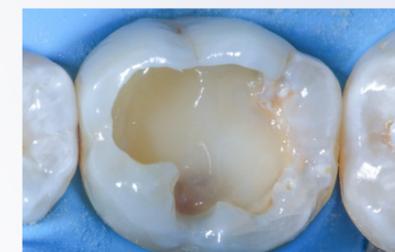
2. Opening of the mesial pulp horn and performing the millimeter accurate excision of the pulp horn.



3. Disinfection with NaOCl 2%.



4. Application of BioRepair.



5. Application of transparent, fiberglass-reinforced flow.



6. Finishing of the filling using tooth colors.

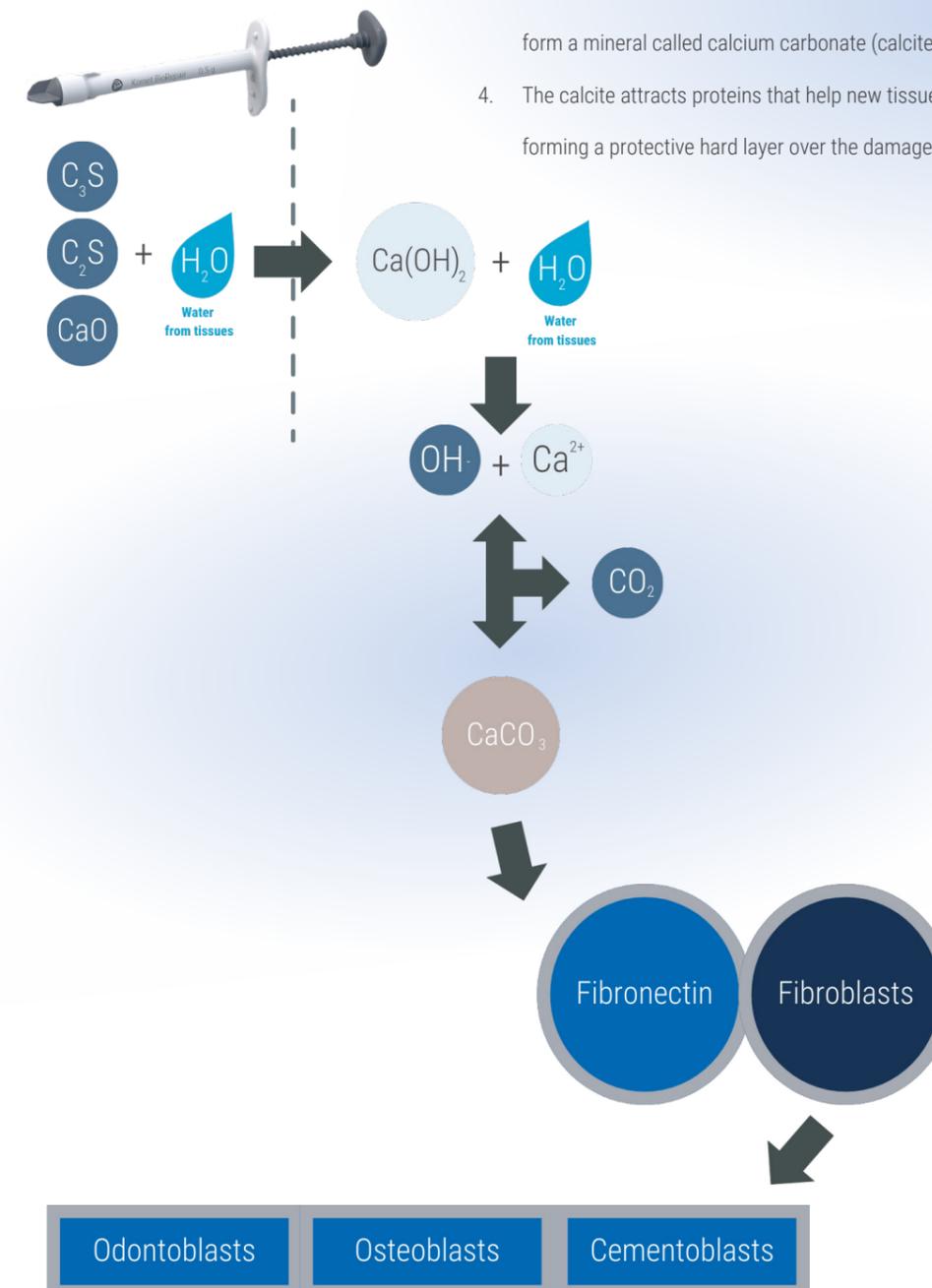
Technical Data

Komet BioRepair		Product specifications	
Base	Calcium Silicate	ID	10022114
Delivery system	Syringe ready to use	REF	BCR1
Presentation	1 X 0,5 g Springe	Presentation / Content	Packing with 1 syringe of 0.5 g
Setting time	≤ 120 min	Applications*	~ 10 per syringe
Radiopacity	> 7,0 mm Al	Description	Ready-to-use bioceramic reparative material (putty)
pH	~12	Shelf life	2 years from production date
Expansion at setting time	0,092 ± 0,05 %	Storage	<ul style="list-style-type: none"> Keep the product in a dry and well ventilated location between 59 and 86° F (15 and 30° C) with relative humidity below 60 % Do not store in a refrigerator Do not store the product near ammonia, ammonium nitrate and products containing chlorine. Avoid the use of disinfecting solutions containing any of these ingredients
Solubility	< 3 %	Component	Function
Strength	7,933 ± 3,284 MPa	Tricalcium Silicate (C3S)	Mechanical resistance over time Calcium ions release
Particles size	< 2 µm	Dicalcium Silicate (C2S)	Mechanical resistance over time Calcium ions release
		Tricalcium Aluminate	Initial setting
		Calcium Oxide	Calcium ions release
		Zirconium Oxide	Radiopacity
		Silicon Oxide	Rheology agent
		Polyethylene Glycol	Dispersing agent
		Iron Oxide	Pigmentation

Mechanism of Action

When BioRepair is in contact with the moisture of the tooth, it triggers a chemical reaction:

1. Reacts with water in the tooth to create calcium hydroxide.
2. The hydroxyl ions increase the pH, which kills bacteria.
3. Releases calcium ions that combine with carbon dioxide in the body to form a mineral called calcium carbonate (calcite).
4. The calcite attracts proteins that help new tissue grow and stick together, forming a protective hard layer over the damaged area.



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