



# Pediatrics

**ACTIVE  
BIOSILICATE  
TECHNOLOGY**

## **Biodentine<sup>®</sup>**

Dentin Substitute



# Biodentine<sup>®</sup>: Therapeutic care for your younger patients' teeth<sup>(5)</sup>

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## Maintain pulp vitality

- Biodentine<sup>®</sup> is bioactive and promotes the pulp's self healing capacity
- In indirect and direct pulp caps, in partial or total pulpotomies: Biodentine helps you save the pulp of vital teeth
- Its bioactivity allows the apical closure of immature teeth
- Its high pH reduces the risk of bacterial proliferation

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## Adapted to younger patients

- Biodentine is "bulk filled" into the cavity prep
- The final restoration in the same session is possible, whether a direct composite or a stainless steel crown
- The enamel restoration can be completed in the same session or within 6 months if the pulp requires monitoring.
- No post-operative pain and no discoloration<sup>(1)</sup>
- No need for extra bonding, no extra steps



For younger patients, treatments historically have not always been pulp friendly and have many drawbacks. With Biodentine, you bring a different level of care to your young patients.

## Technical Insights

### Higher biocompatibility and bioactivity for pediatric indications

- High biocompatibility assessed and evidenced through many scientific publications - Highest amount of calcium and hydroxide ions released upon setting as compared to similar bioactive products<sup>(4)</sup>
- Induces thick dentin bridge formation<sup>(5,6)</sup> due to the large calcium surface concentration compared to similar dental materials<sup>(7)</sup>
- Shows both osteogenic and angiogenic properties to promote pulp and tissue healing<sup>(8)</sup>
- Calcium silicate based materials show better clinical & radiographic results than Formocresol<sup>(2,3)</sup>
- Allows the tooth to grow naturally

### Bulk fill placement for a strong restoration

- Similar mechanical properties as dentin allowing durable bulk fill procedure
- Fast growing mechanical strength with a solid restoration as soon as Biodentine is set
- Resin free formula reduces risk of failure by providing an outstanding seal

### Product properties designed for pediatric dentistry

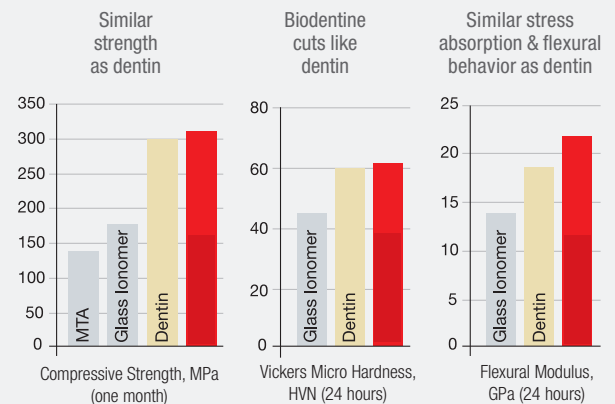
- Setting time of 10-12 min allows placement of a stainless steel crown in the same office visit
- No tooth discoloration<sup>(1)</sup>
- Antimicrobial properties due to alkaline pH (=12)<sup>(9)</sup>
- No post-operative pain was present in clinical trials<sup>(10)</sup>



Immediate post-op X-ray after Biodentine placement. The open apex is clearly visible.

The 9-month follow-up Xray shows the apical closure.

Courtesy Prof. L. Martens & Prof. R. Cauwels, UZ Ghent, Belgium



Source Biodentine™ Scientific File

### Total handling time

12 min.

Mixing & placement time

Setting time in mouth

6 min.

6 min.

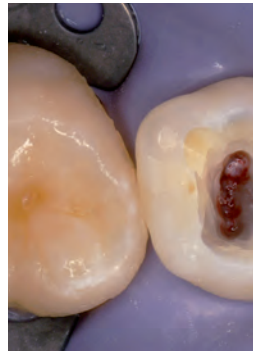
# Clinical cases

## Pulpotomy

This includes pulpotomy in deciduous teeth and partial pulpotomy in permanent teeth. Besides its bioactivity, Biodentine's fast setting time allows immediate crown restoration.



Initial clinical view of tooth #a for an 8-year-old patient.



Pulp exposure during the curettage necessitates cervical pulpotomy (vital pulp therapy). The procedure is non-inflammatory, hemostatic, and allows for immediate crown restoration.

## Traumatized teeth

Incisors are mostly concerned when it comes to crown fractures. Treatment of these complicated fractures in immature teeth is often a real challenge since the goal is to stimulate the pulp so that the apex can pursue its physiological maturity process. Biodentine shows dentin-like mechanical properties, does not discolor teeth<sup>(1)</sup> and has a short setting time (10-12 min).



Complicated crown fracture with reversible pulpitis of tooth #9.



Partial pulpotomy was performed, and bleeding was controlled.

## Deep caries treatment

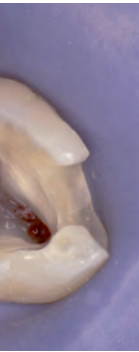
After excavation of caries, the pulp may be visible through a thin layer of hard tissue or the pulp may be exposed. Biodentine is a restorative material that can directly be placed on the pulp and is evaluated as superior to MTA, CaOH and Formocresol in numerous publications.<sup>(2,3)</sup> It offers zero discoloration of teeth,<sup>(1)</sup> provides an outstanding seal, is easy to handle, sets fast and is antibacterial. You can therefore "bulk fill" Biodentine without extra conditioning and bonding.



7 year-old tooth #30 after caries removal, deep cavities in close proximity to the pulp.



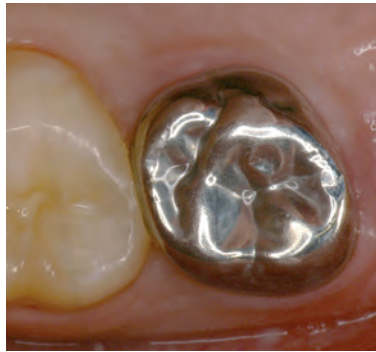
Indirect capping with Biodentine before and after treatment.



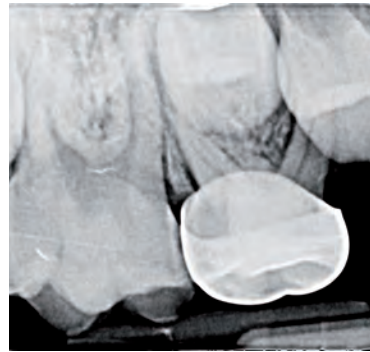
course of caries  
laying out a  
pulp,  
sis possible).



Bulk fill Biodentine from the pulp chamber  
to the occlusal surface.

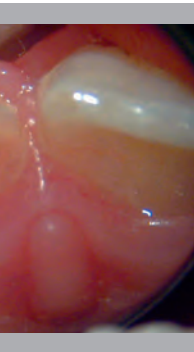


Placement of a stainless steel crown.



X-ray follow-up image at 3 months  
showing the absence of any  
periradicular lesion.

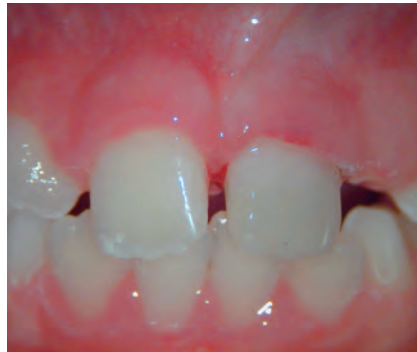
Case courtesy of Dr. Lucile Goupy France



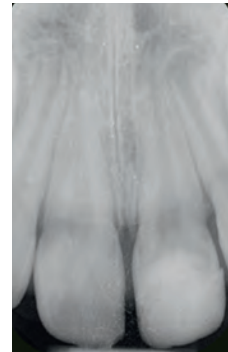
ried out, then the



Bulk fill Biodentine as a pulp capping material  
and a temporary restoration.

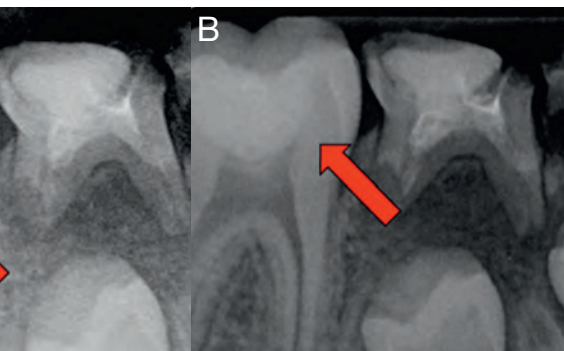


After one week, the patient was asymptomatic  
and final restoration was done with composite  
on top of Biodentine.



X-ray follow-up  
image at 12 months  
showing continued root  
formation.

Case courtesy of Dr. Athina Bakopoulou, Aristotle University of Thessaloniki, Greece



Biodentine, Figure A and B show the radiographic image  
ment.



Radiograph after treatment.



X-ray follow-up image at  
12-months, showing the  
continued formation of radicular  
apices.

Case courtesy of Prof. Luc Martens and Dr. Rita Cauwels

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**Available in:**

- Box of 15 capsules and 15 single-dose pipettes
- Box of 5 capsules and 5 single-dose pipettes



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