

The unique

Pulp
therapeutic
&
Restorative
material



BiodentineTM XP

in the Bio-Bulk Fill procedure²⁰



Biodentine™ XP

Pulp therapeutic & Restorative material

**Superior
Bioactivity**^{1-4 *}

**Strong Mechanical
Properties**^{7,8}

**Excellent
Biocompatibility**^{5-7 **}

**Tight Marginal
Seal**^{4, 9, 11}

**Antimicrobial
Properties**¹⁰

* Highest mean value of Calcium release and its superior concentration that encourages positive interaction with pulp cells.

** Biodentine™ showed the highest % of cell biocompatibility.
Properties verified by preclinical studies.

CE for Biodentine™ XP was obtained on the basis of equivalence with Biodentine™.

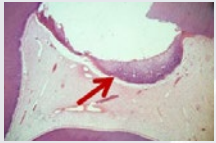


Pulp therapeutic & Restorative material

Superior Bioactivity¹⁻⁴

Favorable interaction with pulp cells

Dense dentinal bridge formation to protect pulp.



Remineralization of damaged dentin.

Excellent Biocompatibility⁵⁻⁷

Extra-pure
C3S

0
resin

0
cell death

Antimicrobial Properties^{10, 21}

pH 11+

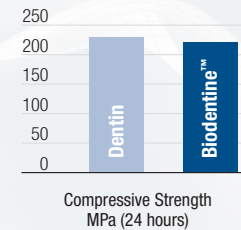
pH 10.99 at release and
pH >11 maintained for 28 days.

Unfavorable environment for
bacteria responsible for pain
and secondary caries.

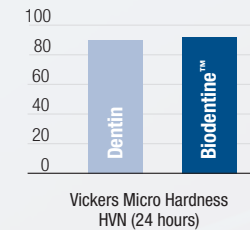
Strong Mechanical Properties^{7, 8}

Similar to sound dentin

Resistance to external impact of mastication forces



Stress absorption



Tight Marginal Seal^{4, 9, 11}

0
shrinkage

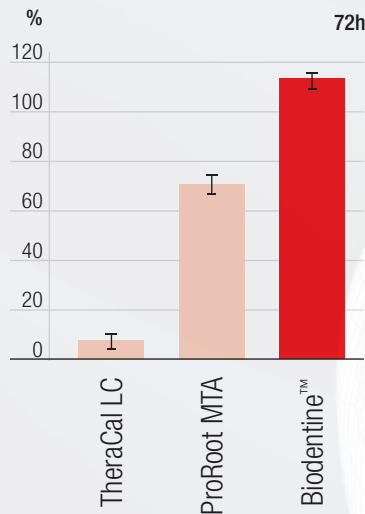
Thanks to its resin-free
formulation, long-lasting
dimensional stability is
ensured.



Deep penetration
within dentin tubules.

Pulp therapeutic & Restorative material

Better cell viability⁵

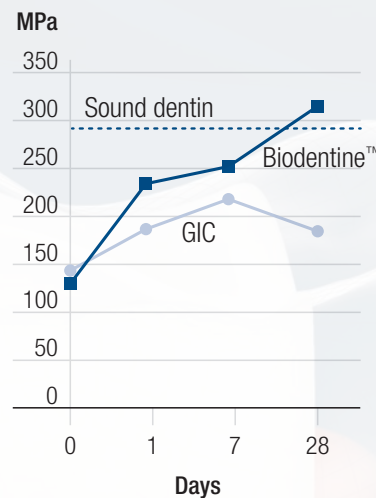


“Results reflect a percentage of cell viability compared to cells cultured without pulp capping materials, which were considered 100%.”

Biodentine™ exhibited > 100%, the highest percentage of cell biocompatibility among the tested pulp capping materials.”

Poggio C et al. 2015

Better compressive strength⁸

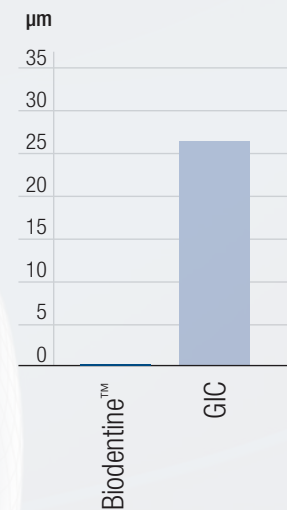


“A specific feature of Biodentine™ is its capacity to continue improving with time over several days until reaching 300 MPa after one month.”

This value becomes quite stable and is in the range of the compressive strength of natural dentine (297 MPa).”

Internal data: Biodentine scientific file
O'Brian 2008

Less microleakage^{11,12}



“Biodentine™ exhibits superior marginal sealing ability as well as marginal adaptation under composite resin as compared to GIC.”

“Resistance to microleakage is important for preventing challenges such as the development of secondary caries, tooth sensitivity, aesthetic concerns, and the potential for restoration failure.”

Niranjan et al. 2016 - Aljehani et al. 2023



Biodentine™ XP

Biodentine™ XP is THE unique material suited for Bio-Bulk Fill procedure^{17, 20}

Fill **the entire cavity** with only Biodentine™ XP **from the pulp to the tooth surface**.



Final enamel restoration to be performed:

- in the same session
or
- in the second session, which can be performed
between 2 weeks and 6 months later¹⁸.

**The full Bio-Bulk Fill
procedure protocol²⁰**

Biodentine™ XP

Pulp therapeutic & Restorative material

Success in your
deep cavity restoration procedures **daily**

Clinical success rate

Direct pulp capping

96.4 %¹⁵

Pulpotomy

93.9 %¹⁶

Indirect pulp capping

95.8 %¹³

When dentin thickness is:

- **Less than 0.5 mm**
- **Difficult to determine** in a clinical setting¹⁴

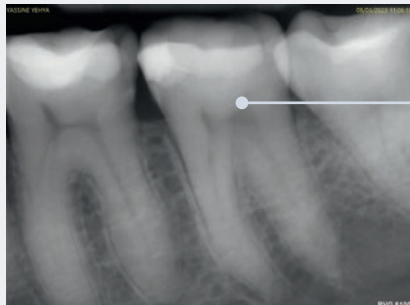
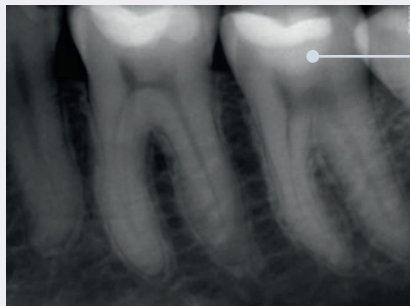
Biodentine™ XP

**Using just one product,
Biodentine™ XP lets you:**

- Heal the pulp
- Preserve pulp vitality
- Save tooth structure²¹

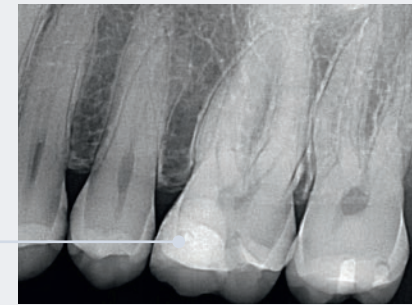
12 of success of Biodentine™
years in the Bio-Bulk Fill procedure

Patient 1
1- and 12-year recall



**Healthy teeth with
pulp vitality and
tooth structure
preserved.**

Patient 2
8-year recall



Cases by Prof. J. Sabbagh
DDS, MSc, PhD, FICD, HDR

Biodentine™ XP

6.5 million teeth saved with Biodentine™¹⁹

Biodentine™ XP in the Bio-Bulk Fill procedure



Time-saving

One-step
cavity filling



Easy to use

Direct placement
in the tooth



Daily convenience

Fewer steps in
the procedure



Adapted to your practice

1- or 2-session
procedure



Cost- effective

1 product
for entire cavity*



Proven clinical success

multiple
clinical trials

1300+
publications**

* under final enamel restoration.

** Publications available at <https://pubmed.ncbi.nlm.nih.gov/>.
CE for Biodentine™ XP was obtained on the basis of equivalence with Biodentine™.

Biodentine™ XP

Examples of Bio-Bulk Fill procedure in daily deep cavity restorations

Indirect pulp capping in one session

By Prof. J. Sabbagh



Cavity preparation.



Biodentine™ XP placement, Bio-Bulk Fill procedure.



Final restoration using self-etch adhesive system and composite in the same session.

Indirect pulp capping in two sessions (final enamel restoration in two weeks)

By Dr. M. Ganowicz



Tooth after preparation.



Restoration of the proximal walls with composite material.



Filling of the rest of the cavity with Biodentine™.



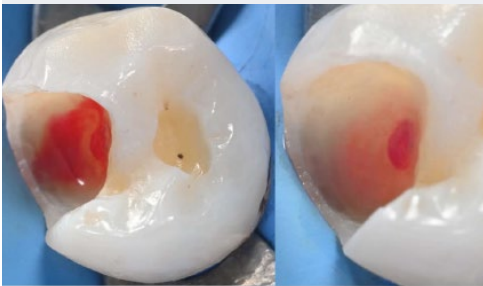
Final enamel restoration after two weeks.

Biodentine™ XP

Examples of Bio-Bulk Fill procedure in daily deep cavity restorations

Direct pulp capping in one session

By Dr. V. Tosco



Clean cavity with pulp exposure.



Injection of Biodentine™ XP.



Hardening of bioceramic material before restoration.



Final restoration using selective enamel etching and composite.

Pulpotomy in two sessions (final enamel restoration in two weeks)

By Dr. S. Herbst



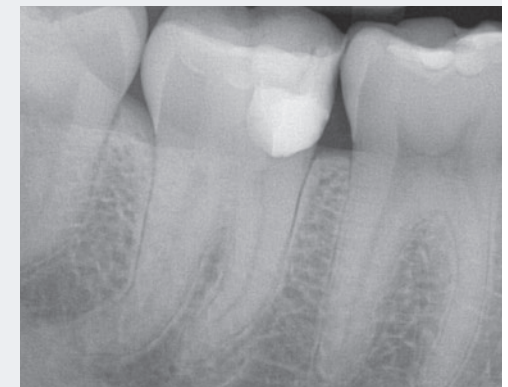
Complete pulpotomy with achieved hemostasis.



Bio-Bulk Fill procedure with Biodentine™.



Final restoration using self-etch adhesive system and composite in a second session.



Radiology check.

Biodentine™ XP

The unique Pulp therapeutic & Restorative material



Biodentine XP 200
Box of 10 cartridges



Biodentine XP 500
Box of 10 cartridges



Biodentine Mixer
Box 1 mixer



Biodentine Gun
Box 1 dispenser gun

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