Deep cavity restoration procedure[1] with Biodentine™ XP

Direct Pulp capping (vital tooth) First session

1. Assess the pulp status
2. Isolate the tooth with a rubber dam
3. Remove remaining caries
4. Adapt a matrix around the tooth if a wall is missing [2]
5. Achieve haemostasis by compression (1-6% NaOCl)
6. Activate the Biodentine™ XP cartridge, use Biodentine™ Mixer
7. Using Biodentine™ Gun, place the tip at the cavity base and slowly inject Biodentine™ XP while retracting the tip (Bio-Bulk Fill) [3]
8. Ensure marginal adaptation, minimal occlusal shaping/pressure on the setting Biodentine™ XP
9. Keep Biodentine™ XP out of occlusion

In case of indirect pulp capping, proceed to a minimally invasive selective caries removal by retaining caries-affected dentine over the pulp

If haemostasis cannot be achieved within 5 minutes, further pulp tissue should be removed (partial or full pulpotomy)

Direct Pulp capping (vital tooth) Second session
minimum 2 weeks to 6 months after 1rst session

1. Assess the pulp vitality status
2. Cut Biodentine™ XP back sufficiently (average 2 mm)
3. Apply the adhesive system: total etch (etch&rinse) or self-etch over Biodentine™ XP and tooth structure
4. Place a resin composite
5. Patient recall according to current recommendations

If the patient's follow up is not possible, finalize the procedure in 1 session

1. Leave 2 mm space, wait for initial setting at least 12 min
2. Apply self etch adhesive system (selective etch or self-etch mode) over Biodentine™ XP and tooth structure
3. Place a resin composite
4. Patient recall according to current recommendations

(1) Procedure extracted from international dental practitionners experts board (Position statement. September 2023).

(2) Extensive Class II will require proximal wall build up (Mount GJ, Hume WR. A new cavity classification. Australian Dental Journal. 1998;43(3):153-9).

(3) Possible technique in the context of a coronal restoration.

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