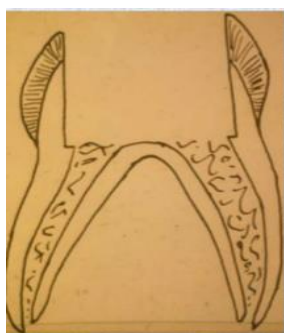


Pulpotomy

Pulpotomy

Definition: The removal of the coronal portion of the pulp which contains microorganisms and shows evidence of inflammation and degenerative changes and allow healing to take place at entrance of the canal which contain healthy pulp tissue.



Procedure:

1. The tooth should first be anesthetized and isolated with the rubber dam.
2. All remaining dental caries should be removed.
3. Pain during caries removal and instrumentation may be an indication of faulty anesthetic technique. More often it indicates pulpal hyperemia and inflammation, making the tooth a poor risk for pulpotomy. If the exposure site bleeds excessively after complete removal of caries, the tooth is also poor risk for pulpotomy.
4. The entire roof of the pulp chamber should be removed with a round bur. No overhanging dentin from

the roof of the pulp chamber should remain to produce a funnel-shaped access to the entrance of the root canals.

5. A sharp discoid spoon excavator large enough to extend across the entrance of the individual root canals may be used to amputate the coronal pulp at its entrance into the canals.

6. The pulp chamber should be irrigated with a light flow of water from the water syringe and evacuated.

7. Cotton pellets moistened with water should be placed in the pulp chamber and allowed to remain over the pulp stumps until a clot forms. The formation of a blood clot is apparently essential for healing.

Types of pulpotomy:

A. Vital pulpotomy (Calcium hydroxide pulpotomy) :

Indication:

1. Treatment of permanent teeth with carious pulp exposures when there is a pathologic change in the pulp at the exposure site, these teeth had immature root development but with healthy pulp tissue in the root canals.

2. Permanent tooth with a pulp exposure resulting from crown fracture when the trauma has also produced a root fracture of the same tooth and the apex not completely formed.

- Vital pulpotomy technique is completed during a single appointment. Only teeth free from

symptoms of painful pulpitis considered for treatment.

The procedure involves:

1. Amputation of the coronal portion of the pulp.
2. Control of hemorrhage
3. Placement of a calcium hydroxide capping material over the pulp tissue remaining in the canals.
4. A protective layer of hard-setting cement is placed over the calcium hydroxide to provide an adequate seal.
5. The tooth is prepared for full coverage.

If the tissue in the pulp canals appears hyperemic after the amputation of the coronal tissue, a pulpotomy should no longer be considered endodontic treatment is indicated if the tooth is to be saved.

B. Non vital pulpotomy (formocresol Pulpotomy) :

Indication:

This is indicated in primary teeth with carious exposures and inflammation in the coronal portion of the pulp. formocresol is used because primary teeth do not respond as favorably to the calcium hydroxide pulpotomy because $\text{Ca}(\text{OH})_2$ induce osteoclastic activity.

The same diagnostic criteria recommended for the selection of permanent teeth for the calcium hydroxide pulpotomy should be used in the selection of primary teeth for the formocresol pulpotomy

technique. The formocresol technique is also can be completed during a single appointment.

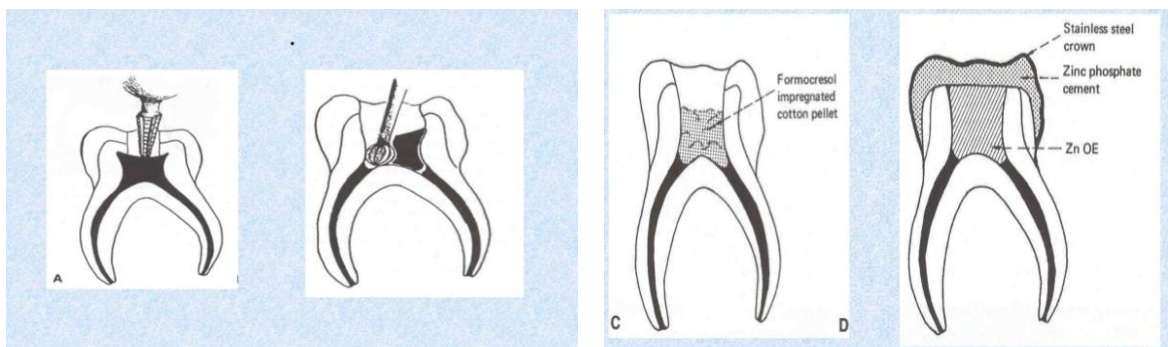
The procedure involves:

1. Local anesthesia injection
2. Use rubber dam.
3. The coronal portion of the pulp should be amputated. The debris should be removed from the chamber and the hemorrhage should be controlled. If bleeding not stop, two visit pulpotomy should done. If there is evidence of hyperemia after the removal of the coronal pulp this means that inflammation is present in the tissue beyond the coronal portion of the pulp. So the technique should be abandoned in favor of partial pulpectomy or the removal of the tooth.
4. If the hemorrhage is controlled readily and the pulp stumps appear normal. It may be assumed that the pulp tissue in the canals is normal and it is possible to proceed with the pulpotomy.
5. The pulp chamber is dried with sterile cotton pellets. A pellet of cotton moistened with a 1:5 concentration of Buckley's formocresol and blotted on sterile gauze to remove the excess is placed in contact with the pulp stumps and is allowed to remain for 5 minutes. Since formocresol is caustic. Care must be taken to avoid contact with the gingival tissue. The

pellet are then removed, and the pulp chamber is dried with new pellet.

6. If the pulp stumps become black instead of red, freshly prepared thick pulpotomy paste prepared by mixing one drop of T.C.F and one drop of eugenol and zinc oxide powder all together and placed the mix over the pulp stumps.

7. Cement base is applied. The tooth is then restored with filling material then restored



with stainless steel crown.

Pulpotec:

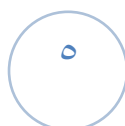
Radio opaque, non resorbable paste for the treatment of pulpitis by pulpotomy in primary teeth.

Pulpotec is a filling paste for simple, rapid and long-term treatment by pulpotomy of vital primary molars.

Direction for use:

- Perform pulpotomy in the usual manner.
- Two methods can be recommended for inserting Pulpotec into the pulp chamber.

1- The traditional method: mix pulpotec liquid with pulpotec powder to obtain required thick, creamy



paste. Insert the paste into the pulp chamber with large sized paste filler.

2- Mix the powder and the liquid on a glass slab and blend until the mix reaches the consistency of a small, supple ball of putty. Shape the ball into a cylinder and insert directly into the pulp chamber; Setting time of Pulpotec is approximately 7 hours.

The second session should take place once the initial Pulpotec insert has set. The treatment can then be completed by setting the final tight obturation with amalgam or any other suitable material after leaving a thin intermediate layer of cement to insulate pulpotec from the final obturation material. Pulpotec is eugenol free so any bonding application on the treated tooth is advisable.