

Date: / /

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Subject =

Operative Dentistry

Submitted to =

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Department =

BS (DT)

Semester =

6th

Q no 1 (A)

Root ~~✗~~ outcome of missed
canal ~~✗~~

=> Adverse effect on
endodontic outcomes.

=> Associated with periapical
lesion.

~~⇒~~
⇒ Severe Pain

=> Disruption of lamina
densa.

=> failed RCT

=> Post-operative Periapical
lesion.

Q =) LASER IR RADIATION:-

1 => The Nd: YAG laser has been tested recently in laboratory studies for removal of separated instruments.

2 => However, there are several concerns with this concept. The probability of root perforation in curved root canals or thin roots and the temperature rise on the external root surface (up to 270°C), with the potential tissue damages.

→ Also meet heat generated within the root canal can or carbonize or even burn dentin, which in turn ~~can~~ may disturb the close contact or bond between the filling materials and root canal walls.

~~Q =) BAIDING OF ENDOODOTICE FILE~~

Q =) CHEMICAL SOLVENT:-

1 => The use of EDTA has been suggested as a method of softening root canal wall dentin around separated instruments, facilitating the

⇒ WIRE LOOPS:-

A wire loop can be formed by passing the 2 free ends of a 0.24-mm wire through a 25-gauge injection needle from the open end until they slide out of the hub end. By using a small mosquito hemostat, the wire loop can be tightened around the upper free part of the fragment, and then the whole assembly can be withdrawn from the root canal.

⇒ BROACH AND COTTON:-

⇒ If the separated fragment is a barbed broach and not tightly wedged in the root canal, another small barbed broach with a ~~small~~ small piece of cotton roll twisted around it can be inserted inside the root canal to engage the fragment; then the whole assembly is withdrawn.

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⇒ BRAIDING OF ENDONTIC FILES:

1) A Headstream or K-types files (s) can be inserted in to the root canal to engage with the fragment and thin with drawn. This matter can be effective when the fragment is positioned deeply in the canal and not possible visible and the clinician is relying on tactile sense. or the fragment is loose but cannot be ~~retrieved~~ retrieved by using other means.

⇒ The largest possible size of file should be used with caution because of the possibility of separation of the braided files.

⊕ SOFTENED GUTTAPERCHA:

→ Rahimi and Percehos reported a novel, but simple, technique to remove loose fragment located in the apical third of the root canal by using softened guttapercha (GP) points.

⇒ SS Hedstrom files #8, #15 are initially used to partially pass the fragment is dipped in chloroform the fragment to check that is loose. Then, the apical 2-3 mm of a size 40.04 the fragment is dropped in chloroform for approximately 30 seconds.

⇒ The softened GP is then inserted to the maximum extent into the canal and is allowed to harden for approximately 3 minutes. The GP point and the H₂O fragment can be then removed by using a dedicated clockwise and counterclockwise pulling action. This conservative technique may assist in removal of loose fragments that are not easily accessible which using other removal techniques.

the placement of files for the removal of the fragment.

⇒ Other chemical such as iodine trichloride, nitric acid, hydrochloric acid, sulfuric acid, crystals of iodine, iron chloride solution, nitrohydrochloric acid, and potassium iodide solution have historically been used to achieve ~~intend~~ intentional corrosion of metal objects.

⇒ However, for obvious reasons, such as irritation the periapical tissue, they are no longer in use.

⇒ MINI POT FORCEPS:-

⇒ In the presence of sufficient space within the root canal system, an instrument separated in a more coronal portion of the root canal can be grasped and removed by using forceps such as steel sterglitz forceps, peet silver point forceps or Endo Forceps.

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upon completion of the root canal treatment, a temporary filling is placed over the sealed the sealed canals that has two parts.

⇒ cotton pellet soaked in an antibacterial solution.

⇒ A solid temporary filling on top.

⇒ A final restoration (usually a crown) is placed by your dentist.

⇒ This will restore functionally to your tooth and protect it from fracturing.

ULTRASONIC:-

⇒ Ultrasonic instruments have a contra-angled with alloy tips of different lengths and sizes to enable use in different parts of the root canal. Most ultrasonic instruments have an SS core coated entirely with diamond zirconium nitride, therefore the instrument abrad along its sides in addition to its tip.

⇒ By contrast the titanium-based tips have a smooth surface and can only cut at their tip. Although companies claim that these tips are flexible and can penetrate into curved root canals, blind trephining of dentin may lead to undesirable consequences.

⇒ A platform is kept centered to allow better visualization of the fragment and the surrounding dentine root canal walls. therefore, equal amounts of dentin around the fragment are preserved minimizing the risk of root perforation.

Q No 2 Isolation with Rubber Dam.

ANS

1. Isolation of the tooth is accomplished with a rubber dam

2) Keeps bacteria in the saliva from entering into the tooth.

3) prevents debris, instrument, etc. from going down the patient's throat.

4) HIGH TREAT INSTRUMENT:

1) Rotary nickel-titanium (Ni-Ti) files.

2) Efficient way to clean the canal system, significantly reducing operation time.

3) Able to navigate curved canals due to their flexure.

5) ERA CLEANING THE ROOT CANAL:-

1) We use many instruments of different sizes and different shapes to properly clean and shape your specific root canal anatomy.

2) Disinfection of the root canal:-

1) Sodium hypochlorides is one of the disinfectants used to reduce the bacteria load within the tooth.

2) Specialized blunt-ended needles are used to deliver these disinfectants deep to the end of the root in a safe and effective way.

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Accessing the root canals:-

To gain access to the root canals of the tooth, a small opening is made either on occlusal surface of the tooth, or on the lingual side of

- 1) In a multi-rooted tooth, gaining access into the root canals is more challenging.
- 2) with the aid of a microscope we are able to locate any hidden or calcified canals.

Final preparation:-

After thoroughly cleaning and shaping the canals, the canals are dried with absorbing paper point.

Obturation (Filling).

Finally, the canals are sealed with two components.

1) Ziegler - a cement that sets over time.

2) Gutta percha - a filler made of a natural form of latex

Q No 3

Ans

The Condition known as Apexification.

* Definition *

It is a method of including a calcified barrier at the apex of a non-vital tooth with incomplete root formation.

* Steps of the technique *

Using MTA:

⇒ 1 The canal has been opened, rinsed with 5% sodium hypochlorite dried and calcium hydroxide was then placed in the canal for 1 week.

⇒ 7 days after initial treatment with calcium hydroxide, the seisor was

Instrumented to removal
Calcium hydroxide the Ancisor
was and all the
remaining tissue before further
treatment.

⇒ The Ancisor has completed
initial treatment with MTA.
A temporary restoration has been
placed to seal the canal
opening.

⇒ At the 6 month and
1-year follow-ups,
the clinical and radiographic
appearance of the teeth showed
resolution of the periapical lesions.

⇒ The apical 4 to 5
mm of the Ancisor root
has been filled with
mineral trioxide aggregate.
(MTA).

⇒ A moist cotton wool
pledget was then placed
in the canal overnight
and the system temporarily
sealed using thermoplasticized
gutta-percha using obturation.

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And a zinc oxide/eugenol dressing.

⇒ Check radiograph was obtained to evaluate the apical seal.

⇒ The gutta percha and cotton ~~watt~~ wool pledget was removed the following day and a definitive root-filling placed coronal to the MTA using thermoplasticized gutta percha.

Q no 4

Ans:

~~Over~~ Ovate Pontic *

The Ovate pontic is the most esthetically appealing pontic design. Its convex tissue surface rests in a soft tissue depression or hollow in the residual in a soft tissue depression or hollow in the residual ridge which makes it appear that a tooth is literally emerging from the gingival. Careful treatment planning is necessary for successful results.

* Conical Pontic *

Often called egg shape. bullet-shaped or heart shape the conical pontic is easy for the patient to keep clean & should be made as convex as possible with only one point of contact & the center of the residual ridge. This design is

recommended for the replacement of mandibular posterior teeth where esthetics lesser concern.

* Sanitary or Hygienic pontic *

=> Zero tissue contact.

=> Occlusal gingival thickness should be at least 3mm.

=> Convex mesiodistally and faciolingually.

=> space beneath the pontic - 2mm
(Rosenstiel)

3mm (Thyman)

=> Adequate space for cleaning.

* Modified Sanitary pontic *

gingival portion is shaped like a concave archway mesiodistally between the retainers and convex faciolingually.

* Modified Ridge Lap Pontic *

The modified ridge lap pontic combines the best features of the hygienic and saddle pontic designs. Combining esthetics with easy clean.

The modified ridge lap design overlaps the residual ridge to achieve the appearance of the tooth emerging from the gingival) but remain clear of the buccal and lingual ridge on the lingual.

* SADDLE OR RIDGE LAP PONTIC *

The saddle pontic has a concave fitting surface that overlaps the residual ridge buccolingually. It simulating the contours and emergence profile of the missing tooth on both sides of the residual ridge.

Q No 5

Ans:-

* Bridge *

Any dental prosthesis that is cemented, screwed or mechanically attached to natural teeth, tooth roots and / or implant abutments that furnish primary support for dental prosthesis.

=> A bridge is fixed dental restoration used to replace one or more missing teeth by joining an artificial tooth definitively to adjacent teeth or dental implants.

* TYPES of Bridges *

★ fixed Bridge

★ fixed movable

★ Cantilever

★ Spring cantilever

Fixed Bridge →

Has rigid connectors at both ends of pontic which forms a rigid prosthesis.

Advantages: ∴

⇒ Provides cross arch splinting.

⇒ Ease of handling.

Disadvantages: ∴

∴ Possible bending of bridge.

∴ Mobility of abutments may result in open margins.

∴ All units have to be cemented simultaneously.

* Fixed movable Bridge *

At has a ~~Rigid~~ Rigid connector usually at the distal end of the pontic & a movable connector that allows some vertical movement of the mesial abutment tooth.

Q¹ ⇒ Advantages :-

- 1 ⇒ Allows flexure of mandible.
- 2 :- Allows unit to be cemented as individual section.

Q² Disadvantages :-

- 1 ⇒ More space required.
- ⇒ Metal ~~space~~ required may show occlusally food
- ⇒ food impaction

◦◦ Cantilever Bridge ◦◦

⇒ It's kind of minimal perforation bridge. It provide support for the pontic at one end only. The pontic may be attached to a single retainers splinted together.

e.g:- may land ~~bridge~~ bridge. Rochette.

Q Advantages :-

- 1:- preserve tooth structure.
- 2:- Minimal pulp trauma.
- 3:- rebound possible.

Q ⇒ Disadvantages :-

- 1 Length of span is limited to one ~~pubic~~ public only.

2:- Occlusal forces on the pontic encourage tilting of abutment tooth.

3:- Not successful for posterior prothesis.

⇒ Spring CANTILEVER BRIDGES:-

1:- They are restricted to the replacement of upper incisor teeth. Only one pontic could be supported by a spring cantilever bridge.

⇒ Advantage:-
2:- Restoration of spaced dentition.

⇒ Disadvantages
1:- Food impaction under metal connector.

2:- Fracture of metal connector.

3:- Dislodgment of retainer.