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Q2

Ans: Root canal treatment for Maxillary 1st premolar: =>

↳ The root canal procedure of maxillary 1st premolar occur in the following steps:-

⇒ Rubber Dam Isolation :⇒

- Isolation of the tooth is accomplished with a rubber dam to
- ⇒ keeps bacteria in the saliva from entering into the tooth.
- ⇒ Prevents debris, instruments etc from going down to the patient throat.

High-tech Instrument :⇒

- Rotary nickel-titanium files.
- ⇒ Efficient way to clean the canal system, significantly reducing operating time.
- ⇒ Able to navigate curved canal due to their flexure.

## Cleaning the root canal :->

=> we use many instruments of different size and different shapes to properly clean and shape your specific root canal anatomy.

## \* Disinfection of root canal :->

- Sodium hypochlorite is one of the disinfectants used to reduce the bacteria load within the tooth.

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

## Accessing the root canals :->

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

-> In a multi-rooted tooth, gaining access into the root canal is more challenging.

=> 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.

## \* Obturating (Filling) :->

=> Finally, the canals are sealed with two components:

- Sealer - a cement that sets over time.

- Gutta percha - a filler made of a natural form of latex.

Upon completion of the root canal treatment a temporary filling is placed over the sealed canals that has two parts:

→ Cotton pellet soaked in an antibacterial solution.

→ A solid temporary filling on top.

→ Final restoration (usually a crown) is placed by your dentist.

→ This will restore functionality to your tooth and protect it from fracturing.

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Q3

Ans:

Diagnosis :  $\Rightarrow$

$\hookrightarrow$  The diagnosed case is apexification.

Management of Apexification :  $\Rightarrow$

Steps :  $\Rightarrow$

- ①  $\hookrightarrow$  The affected tooth is carefully isolated with a rubber dam, and an access opening is made into the pulp chamber.
- ② A file is placed in the root canal and a radiograph is made to establish the root length accurately. It is important to avoid placing the instrument through the apex which might injure the epithelial diaphragm.
- ③ After the remnants of the pulp have been removed using barbed broaches and files, the canal is flooded with hydrogen peroxide to aid in the removal of debris. The canal is then irrigated with sodium hypochlorite.

and saline.

④ The canal is dried with absorbent paper points and loose cotton.

⑤

### Using of Calcium Hydroxide :->

⑤ -> A thick paste of calcium hydroxide is transferred to the canal. An endodontic plugger may be used to push the material to the apical end, but excess material should not be forced beyond the apex.

⑥ A cotton pledget is placed over the calcium hydroxide and the seal is completed with a layer of reinforced zinc oxid-eugenol cement.

• Six months after initial treatment: The root canal is then reopened to determine whether the tooth is ready for a conventional gutta-percha filling.

-> if apical closure has not occurred in 6 months the -

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root canal is retreated with the calcium hydroxide paste. if weeping in the canal was not controlled before the canal was filled, retreatment is recommended 2 or 3 months after the first treatment.

\* Using MTA: ⇒

⇒ 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 incisor was instrumented to remove calcium hydroxide and all the remaining tissue before further treatment.

⇒ ~~The apical 4 to 5 mm of the~~

⇒ A moist cotton wool pledget was then placed in the canal overnight and the system temporarily sealed using thermoplasticized gutta-percha using obturation, and a zinc oxide/eugenol dressing.

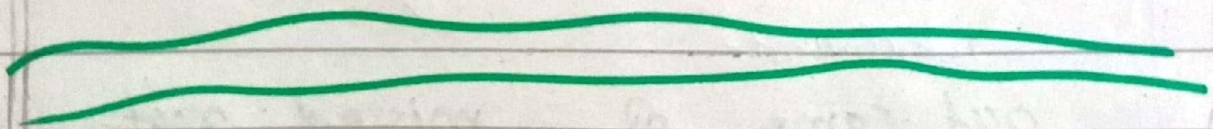
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⇒ The gutta percha and cotton wool pledget was removed the following day and a definitive root-filling placed coronal to the MMA using thermoplasticized gutta-percha.

⇒ A temporary restoration has been placed to seal the canal opening

⇒ ~~At the 6-month and 1 year follow-ups, the clinical and~~



Q1

Ans.

**Out come of missed root canal: ⇒**

⇒ This is one of the most common reason for a failed root canal procedure in molars as there are multiple roots and pulp chambers and these are the teeth which are most common to have an extra canal or additional canal.

According to a study the presence of an additional canal is -



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reported close to 75% of the time in the upper first molar.

⇒ There's a high prevalence of periapical lesions when we have missed and untreated canals that cause endodontic failure. This influence the prognosis of an endodontically treated teeth. For this reason is so important to have knowledge about teeth anatomy root canal configuration and possible variations, before starting an endodontic treatment.

### out come of missed root canal: ⇒

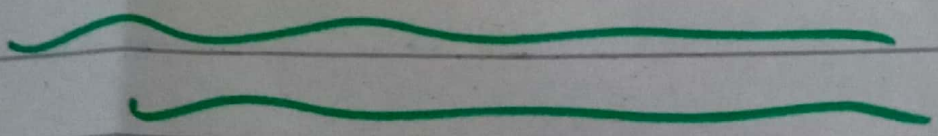
- ↳ Sensitivity in the tooth.
- The mobility will increase.
- Apical periodontitis.
- Formation of abscess will occur.
- Swelling of gum will go down to root.
- \* Tenderness and apical periodontitis.
- \* presence of pus in sinus.

Q1

### ③ Breakage of file in the root canal :⇒

• This is an unfortunate but a known cause of failure of RCT where the file used to perform RCT is broken in the canal which lead to breakage of the instrument due to excessive torsion force being applied.

⇒ In most cases if the instrument is removed and re-RCT performed or the file is bypassed which can be done by an endodontist with a microscope the tooth can be saved from future infection.



Q4:

Ans:

Types of pontic: ⇒

①. Mucosal contact: ⇒

- ridge lap
- modified ridge lap
- ovate
- conical

② Non mucosal contact: ⇒

- Sanitary (hygienic)
- modified sanitary.

\* ridge lap: ⇒

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

\* modified ridge lap pontic: ⇒

⇒ The modified ridge lap pontic combines the best features of the hygienic and saddle pontic design, combining esthetics with easy cleaning.

• The modified ridge lap design overlaps the residual ridge on the facial (to achieve the appearance of a tooth emerging from the gingiva) but remain clear of the ridge on the lingual.

### \* Ovate pontic :->

⇒ The ovate pontic is the most esthetically appealing pontic design. Its convex tissue surface resides in a soft tissue depression or hollow in the residual ridge, which makes it appear that a tooth is literally emerging from the gingiva. Careful treatment planning is necessary for successful result.

### \* Conical pontic :->

⇒ Often called egg-shaped, bullet-shaped, or heart shaped. The conical pontic is easy for the patient to keep clean. It should be made as convex as possible with only one point of contact at the center of the residual ridge.

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This design is recommended for the replacement of mandibular posterior teeth for where esthetics is a lesser concern.

### \* Non mucosal contact: ⇒

#### ① Sanitary or hygienic pontic: ⇒

- ⇒ Zero tissue contact
- ⇒ Occlusal gingival thickness should be at least 3mm.
- ⇒ Convex mesiodistally and faciolingually.
- ⇒ Space beneath the pontic - 2mm R - 2mm (Rosenstiel)  
- 3mm (Fylman)
- ⇒ Adequate space for cleaning.

#### Modified Sanitary pontic: ⇒

- ↳ gingival portion is shaped like a concave archway mesiodistally b/w the retainers and convex faciolingually.
- ⇒ Allows increased connector size while decreased the stress concentrated in the pontic and connectors
- ⇒ Recommended for mandibular posteriors.

Q5  
Ans

### Bridges :->

Def :-> Any dental prosthesis that is used is luted, screwed or mechanically attached to natural teeth, tooth roots and/or implant - abutments that furnish primary support for dental prosthesis.

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

-> The dental bridge are made from the following materials.

- metal
- Metal - ceramic
- All - ceramic
- Acrylic

### \* Types of Bridges :-

#### ① Fixed bridge :->

-> A fixed bridge refers to a pontic which is attached to a retainer at both sides of the space -

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with only one path of insertion.  
• This type of design has a rigid connector at each end which connects the abutment to the pontic. As the abutment are connected together rigidly it is critical that during tooth preparation the proximal surface of the abutment teeth must be prepared so they are parallel to each other.

### + Fixed Movable Bridge :->

↳ it has a rigid connector usually at the distal end of the pontic & a movable connector that allows some vertical movement of the mesial abutment tooth. This enables a more conservative approach as the abutment do not need to be prepared so that are parallel to one and other.

⇒ Ideally the rigid connector should attach the pontic to the

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more distal abutment. The movable connector attaches the pontic to the mesial abutment, enabling this abutment tooth limited movement in a vertical direction.

### \* Cantilever Bridge: ⇒

↳ it's a kind of minimal preparation bridge. It provides support for the pontic at one end only. The pontic may be attached to a single retainer or two or more retainers splinted together.

eg. Maryland bridge, rochette bridge

### \* Spring Cantilever Bridges: ⇒

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

