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PAPER - Operative Dentistry.

Q4. Differentiate all types of Pontic thoroughly?

Pontic:-

An artificial tooth on a fixed dental prosthesis that replaces a missing natural tooth, restores its function and usually fills the space previously occupied by the clinical crown.

Ideal requirements:-

Smooth surfaced and convex in all directions.

Easily cleansable

Pinpoint pressure free contact on the ridge.

No irritation to the gingival tissues.

Restore function.

No abutment overloading

Color stable.

Types of Pontics:

Mucosal Contact
Non Mucosal Contact.

Mucosal Contact:
ridge lap
modified ridge lap
ovate
Conical

Non-Mucosal Contact:-
Sanitary (hygienic)
modified sanitary.

Q5. Classify dental bridges and explain its type briefly?

Bridge:-

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.

Classification =

Metal, Metal-ceramic, All ceramic,
, Acrylic.

Different types of Bridges

Fixed Bridge =

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

Fixed Movable Bridge =

It has a rigid connector usually at the distal end of the Pontic and a movable connector that allows some vertical movement of the mesial abutment tooth.

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.

e.g.:- 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.

Q1

A) write possible outcome for 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 chamber 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 reported close to 75% of the time in the upper first molar.

Part B:

A patient came for root canal treatment of maxillary 2nd molar during procedure breakage of the file occur in the canal, Manage the whole procedure.

This is an unfortunate but a known causes of failure of RCT, where the file used to perform RCT is broken in the canals 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, and some cases we should extract a tooth.

Q2 = Clinically explain root canal procedure for maxillary 1st premolar?

Root Canal:

RCT is the process of removing the inflamed or infected pulp tissue from within the tooth.

Why is a root canal necessary:-

- Deep tooth decay (cavity)
- A cracked tooth
- Traumatic dental injury
- Elective (for added retention of a crown).

Isolation with Rubber Dam:

Isolation of the tooth is accomplished with a rubber dam.

- Keeps bacteria in the saliva from entering into the tooth.
- prevents debris, instrument, etc. from going down the

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the patient's throat.

High-tech instruments:-

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

Cleaning the root canal.

- we use many instruments of different sizes and different shapes to properly clean and shape your specific root canal anatomy.

Disinfection of the 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 canal of the tooth, a small

opening is made either on the occlusal surface of the tooth.

- In multi-rooted tooth, gaining access in to 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.

Obturation :-

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.

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- A final restoration (usually a crown) is placed by your dentist.
 - > This will restore functionally to your tooth and protect it from fracturing.

Q3: A patient came to your clinic with incomplete root formation of mandibular 1st molar.
Diagnose the problem and manage it stepwise?

A Patient has Apexification Problem.

- Effective in the management of immature, necrotic permanent teeth.
- Irreversibly diseased pulp and open apices.
- Should precede conventional root canal therapy.
- The procedure has been demonstrated to be successful in repeated clinical trials stimulating the process of root end development which was interrupted by pulpal necrosis, so that it continues to the point of apical closure.
- When the calcific "Plug" is observed in the apical portion, routine endodontic procedures may be completed.

~~Completed~~

Steps of the technique:

1. The affected tooth is carefully isolated with 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.
4. The canal is dried with absorbent paper point and loose cotton.
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 Pledge is Placed over the calcium hydroxide and the seal is completed with a layer of reinforced Zinc oxide - eugenol cement -

- One month after initial treatment.
- Six month after initial treatment
- The R.C is then reopened to determine whether the tooth for a conventional, Gutta Percha Filling.

Five month after the Placement of the Gutta - Percha canal Filling.

- If apical closure has not occurred in 6 months, the 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:

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

- The apical 4 to 5mm of the incisor 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 and a zinc oxide/eugen dressing.

- Check radiograph was obtained to evaluate the apical seal.

- The gutta-percha and cotton wool pledget was removed the following day and a

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a definitive root-filling placed coronal to the MTA using thermoplasticized gutta-percha.

• The incisor 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.