

**Name zahid ullah**

**ID 6993**

**Paper Operative Dentistry**

**Submitted too SIR**

**USMAN.**

**Q. 1 Ans:**

**Part A**

If the dentist is not able to get to the end of the root or a canal is missed the tooth can be symptomatic after treatment. This can include a dull ache, tenderness to biting, or even a persistent infection at the end of the root. In some teeth the canals can be hidden and more difficult to locate

Missed canals were identified in 64 of the 133 previously treated teeth (48%). Of the total missed canals, 11% involved a maxillary second molar and 44% involved a maxillary first molar. For the maxillary first molars, 93% of all missed canal were identified in the mesiobuccal root. In the mandibular second molars, 29% of missed canals were identified in the distal and 71% were identified in the mesial root. In the mandibular first molars, 86% of missed canals were identified in the distal and 14% were identified in the mesial root.

**Part B**

Most commonly used devices to remove the fractured instruments are: ultrasonic devices, extraction tubes (Masserann kit), Canal Finder system and manual instruments. The main determinant for removal of the fractured fragment is the location of the fragment in relation to the curvature of the root canal.

in cases without apical disease removal of the file may not be necessary and retention or bypass should be considered. If apical disease is present, file fracture significantly reduces prognosis indicating a greater need to attempt file removal or bypass.

**Q. 2**

**Ans:**

The endodontic treatment depends on an appreciation of the internal and external tooth morphology. Teeth with unusual root canal anatomy present a unique challenge even to experienced clinicians. This case series describes the endodontic treatment of maxillary premolars with three root canals. The identification and management of this uncommon anatomical variation of the root canal systems is discussed

### **Step 1**

Local anesthesia is administered via injections to numb the tooth to be treated and the surrounding tissues. If the pulp in a tooth is acutely inflamed, and therefore very painful.

### **Step 2**

A dental dam a thin sheet of rubber or vinyl will be placed over the affected and adjacent teeth. The tooth undergoing treatment protrudes through a hole punched in the dam, isolating it from the rest of the mouth. This allows the root canal treatment to be carried out in a sterile environment free from contamination by bacteria found in saliva or the rest of the mouth.

### **Step 3**

A small access hole is drilled through the biting surface of an affected back tooth or from behind a front tooth, allowing access to the pulp chamber and root canals for treatment.

### **Step 4**

The diseased and dead pulp tissue is removed from the tooth with specially designed instruments used to clean out the root canals and pulp chamber. This is not painful; the area is numb and the tissue being removed is either dead or dying. Once the pulp, along with the nerves contained in it, is removed, the tooth itself can no longer feel pain.

### **Step 5**

The canals are disinfected with antiseptic and antibacterial solutions.

### **Step 6**

The canals are then shaped with tiny flexible instruments to allow them to receive root canal fillings and sealers. The canals are washed and cleaned again to remove root canal debris prior to sealing them.

### **Step 7**

Root canal fillings are selected that will exactly fit into the freshly prepared canals. Usually a rubber-like material called gutta-percha is used to fill the canal space. It is a thermoplastic material (“thermo” – heat; “plastic” – to shape), which literally is heated and then compressed into and against the walls of the root canals to seal them. Together with adhesive cement called a sealer, the gutta-percha fills the prepared canal space. Sealing the canals is critically important to prevent them from becoming reinfected with bacteria.

### **Step 8**

A temporary or permanent filling material will then be placed to seal the access hole that was made to treat the canals, and the dental dam is removed. If the tooth lacks sufficient structure to hold a

restoration (filling) in place, the dentist or endodontist may place a post (either metal or a very strong plastic) in one of the canals inside the tooth to help retain it.

### **Step 9**

After the procedure, an antibiotic may be prescribed to treat or prevent infection. Be sure to follow the instructions of your dentist or endodontist carefully. After-effects of treatment are minimal, generally lasting from a couple of days to about a week. It is normal to have some minor discomfort after treatment including slight soreness that can usually be managed with over-the-counter (aspirin, ibuprofen) medications or prescription (codeine-type) drugs, or a combination of the two.

### **Step 10**

Your tooth will need a permanent restoration — a filling or a crown — to replace lost tooth structure, and provide a complete seal to the top of the tooth. Your endodontist will send you back to your general dentist to determine which type of restoration is best for you. This step is of particular importance since many studies show that if the filled root canals are recontaminated with bacteria from the mouth, there could be a recurrence of infection around the tooth.

## **Q. 3**

**Ans:**

**To diagnose this case which are Apexification:**

Apexification is the endodontic procedure performed in order to induce the formation of a physical barrier of mineralized tissue in teeth with Incomplete root formation. It is mainly performed when, for any reason, pulpal necrosis occurs in teeth with incomplete root formation and Also in those cases where the foramen is open, due to root resorption. In these situations, conventional endodontic treatment becomes difficult Or virtually impossible, because of the large foramen. The Apexification procedure, in these cases, is generally performed by means of successive Changes of calcium hydroxide dressings, aiming to induce the formation of a physical barrier of mineralized tissue, thus permitting the Obturation of root canals. The protocol introduced in this article, as well as the clinical cases reported, illustrate an option for faster treatment, Conducted within three sessions, by using a MTA cap or plug, material that offers good biological and physical properties.

**Management:**

Apexification is a procedure still performed with some frequency in endodontics. Although good results are achieved by using calcium hydroxide, with successive dressing changes, this technique requires a certain time. With the advent of MTA, we have an alternative procedure, which shows good results within a short period of time.

## Q. 4

**Ans:**

**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

**Function of pontic:**

- Mastication.
- Speech.
- Esthetics.

**Mucosal Contact**

- Ridge lap
- Modified ridge lap
- Ovate
- Conical

**No Mucosal Contact**

- Sanitary(hygenic)
- Modified sanitary

## Q. 5

**Ans:**

**Bridge:**

- Any dental prosthesis that 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.

## **MATERIALS FOR CONSTRUCTION OF BRIDGEWORK:**

The following materials are used for dental bridges

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

### **Different types of Bridges:**

- Fixed Bridge.
- Fixed movable.
- Cantilever.
- Spring cantilever.

#### **Fixed bridge:**

Has rigid connectors at both ends of pontics 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:**

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.

#### **Advantages**

- Allows flexure of mandible.
- Allow units to be cemented as individual sections.

#### **Disadvantages**

- More space required.
- Metal may show occlusally.
- Food impaction.

#### **Cantilever:**

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.

**Advantages:**

- Preserve tooth structure.
- Minimal pulp trauma.
- Rebond possible.

**Disadvantages:**

- Length of span is limited to one pontic only.
- Occlusal forces on the pontic encourage tilting of abutment tooth.
- Not successful for posterior prosthesis.

**Spring cantilever:**

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

**Advantages:**

- Restoration of spaced dentition.

**Disadvantage:**

- Food impaction under metal connector.
- Fracture of metal connector.
- Dislodgment of retainer.