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Diagnosis and Management of Accidental Tooth Trauma in Endodontics - Review Article

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ABSTRACT:
TEETH ARE LIABLE TO BE FRACTURED BY BLOWS, WHICH MAY BE INFLICTED EITHER BY ACCIDENTS: BOYS, IN THEIR VARIOUS AMUSEMENTS, OCCASIONALLY RECEIVE BLOWS IN THE MOUTH, WHICH NOT UNFREQUENTLY OCCASION FRACTURES OF THE FRONT TEETH.
KEYWORDS – TRAUMA, CONCUSSION, LUXATION, ANTERIOR TEETH.

INTRODUCTION-

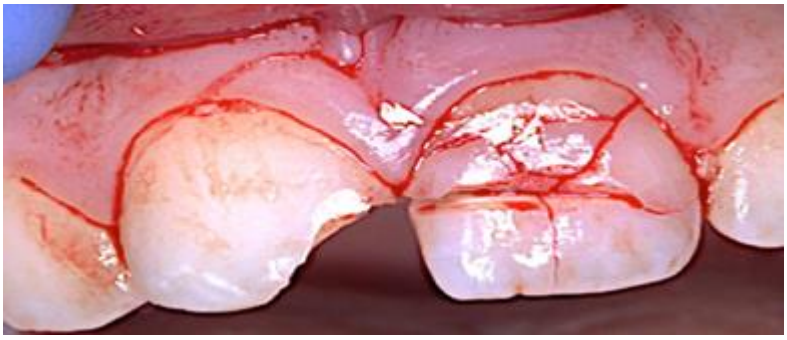
MANAGEMENT OF TRAUMATIC INJURIES IS A CONSTANT SOURCE OF DIFFICULTY FOR THE CLINICIAN IN DIAGNOSING AND TREATING THESE INJURIES. THE FOREMOST STEP IN UNDERSTANDING HOW TO TREAT THESE INJURIES IS TO DETERMINE THE NATURE OF TRAUMA. THE PURPOSE OF THIS REVIEW IS FOR BETTER UNDERSTANDING AND TREATMENT PLANNING IN CASES OF TRAUMA IN ENDODONTICS.

CORONAL INJURIES

CORONAL FRACTURES IN NORMAL DAY TO DAY LIVING IS UNREALISTIC AND IS A MOOT POINT. PREVENTION, HOWEVER DURING HAZARDOUS ACTIVITIES MAY OCCUR IN THE FORM OF MOUTH PROTECTION AND ON THE JOB ACTIVITIES [SPORTS].IN THESE CASES WHERE AN ACUTE TRAUMA ACCIDENT HAS RESULTED IN CROWN FRACTURE.THE TREATMENT OPTIONS ARE

- PULP PRESERVATION IS CRUCIAL WHEN ROOT FORMATION IS INCOMPLETE.
- BONDED RESTORATION
- ROOT CANAL PROCEDURE
- ROOT EXTRUSION
- CROWN LEGTHNING
- POST
- CORE BUILDUP
- ACID ETCHED BONDED CORE
- CROWNS

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LUXATION INJURIES

DISLOCATION OF THE TOOTH FROM ITS NORMAL PHYSIOLOGIC POSITION IN THE SOCKET IS REFFERED AS LUXATION.

CONCUSION-

MINOR BLOW TO THE TOOTH IN WHICH AFFECTED TOOTH IS NOT DAMAGED, BUT THE PERIODONTIUM GETS INFLAMED.SYMPTOMS OBSERVED BY THE PATIENT ARE PAIN ON BRUSHING, SENSITIVITY AND PRESSURE ON THE TOOTH. LINE OF TREATMENT:

- NO SPLINTING IS REQUIRED, ONLY PALLIATIVE TREATMENT.
- REDUCTION OF THE OCCLUSAL HEIGHT.
- PATIENT SHOULD BE KEPT ON RECALL, TO ENSURE THAT NO FURTHER TREATMENT IS REQUIRED.

IN CASE OF NECROSIS ROOT CANAL THERAPY IS INDICATED.



SUBLUXATION

IT IS SEVERE THAN CONCUSSION OF THE TOOTH, BECAUSE THERE IS INCREASED MOBILITY, HEMORRHAGE AND PULPAL NECROSIS OCASSIONALY. . MOBILITY CAN BE GRADE 1 OR 2. THE MANAGEMENT AND PREVENTION OPTIONS ARE:

- THE MOST IMPORTANT CONCEPT OF DIAGNOSING THESE ARE FEEL CONFIDENT ABOUT THE DIAGNOSIS.
- BY KNOWING THE TYPE OF THE DAMAGE, THE CLINICIAN SHOULD TREAT THE AFFECTED TOOTH /TEETH, PERIODONTIUM AND THE SEQUALE OF THESE TYPES OF INJURIES.
- REDUCTION OF OCCLUSAL FORCES ON THE TOOTH.

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EXTRUSIVE LUXATION

TOOTH IS DISLOCATED ALONG THE LONG AXIS AND CAN BE DISPLACED ALMOST ENTIRELY OUT OF THE SOCKET.POINTS TO BE REMEBERED WHILE CLINICAL ASSESSMENT OF THESE PATIENTS ARE

I. ASSESS THE AMOUNT OF SOFT TISSUE DAMAGE.
II. REPOSITION THE TOOTH ACCURATELY.
III. ANESTHESIA STRONGLY RECOMMENDED FOR YOUNG PATIENTS.

THE TREATMENT OPTIONS FOR THESES CASES

- IN ADULTS AND YOUNG PATIENTS WITH CLOSED APICES, THE LIKEHOOD OF REVASCULARIZATION IS EXTREMELY LOW AND SHOULD NOT BECONSIDERED.
- ROOT CANAL PROCEDURE IS NECESSARY WITHIN A COUPLE OF WEEKS OF THE TRAUMA OR AT THE TIME OF SPLINT REMOVAL.
- SPLINTING OF THE TEETH IS MANDATORY AND SHOULD BE PLACED FOR 10-14DAYS.

LATERAL LUXATION

DISLOCATION OF THE TOOTH IN MESIAL, DISTAL, FACIAL OR LINGUAL DIRECTION WITH COMMINUTION OR FRACTURE OF THE BONY ALVELOAR SOCKET.

TREATMENT OPTIONS

- REPOSITIONING OF THE TOOTH.
- SPLINTING FOR 10-14 DAYS, IF BONY FRACTURE IS NOTED THE THE SPLINT SHOULD REMAIN IN PLACE FOR 6-8WEEKS.
- ENDODONTIC THERAPY.

INTRUSIVE LUXATION

TOOTH IS DISCLOCATED APICALLY ITO THE ALVEOLAR SOCKET. THIS TYPE OF LUXATION HAVE THE POOREST PROGNOSIS.

- IMMIDIATED RECOGNITION OF THE NATURE OF THE INTRUSIVE INJURY.
- IMMIDIATE REPOSITIONING
- ORTHODONTIC EXTRUSION
- APPROPRIATE TREATMENT DEPENDS UPON AGE, STATUS OF ROOT DEVELOPMENT AND TIME OF INJURY.

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- ALLOW THE TEETH TO PASSIVELY ERUPT ON THEIR OWN
- ROOT CANAL THERAPY INDICATED IN MOST OF THE CASES IF THE APEX IS CLOSED.

SEQUALAE OF LUXATION INJURIES

I. PULP CANAL OBLITERATION
II. MARGINAL BONE LOSS
III. CORONAL DISLOCATION
IV. TRANSIENT APICAL BREAKDOWN
V. PULPAL NECROSIS.
VI. EXTERNAL RESOPRTION
VII. INTERNAL RESORPTION
VIII. ANKYLOSIS



AVULSION

COMPLETE DISLOCATION OF THE TOOTH FROM ITS ALVELAR SOCKET.THE IDEAL TREATMENT FOR AN AVULSED TOOTH

- REPLACE IT INTO THE SOCKET.
- PLACE THE TOOTH IN MILK.
- CLEAN AND RINSE THE TOOTH AS SOON AS PATIENT ENTERS THE DENTAL CLINIC
- CHECK FOR FOREIGN OBJECTS IN THE SOCKET.
- TAKE A RADIOGRAPH OF THE EMPTY SOCKET BEFORE REIMPLANTATION.
- IF THE EXRAORAL DRYTIME IS MORE THA 60 MINUTES ROOT CANAL IS INDICATED BEFORE REIMPLAMTATION.
- RECALL THE PATIENTFOE EVALUATION AFTER EVERY 2 WEEKS FOR FIRST THREE MONTHS TO CHECK FOR REVASCULARIZATION.
- SPLINT THE TOOTH WITH COMPOSITE AND WIRE.
- IF THERE IS A EVIDENCE OF RESORPTION OR LACK OF DEVELOPMENT OF TRAUMATIZED TOOTH APEXOGENESIS IS INDICATED.

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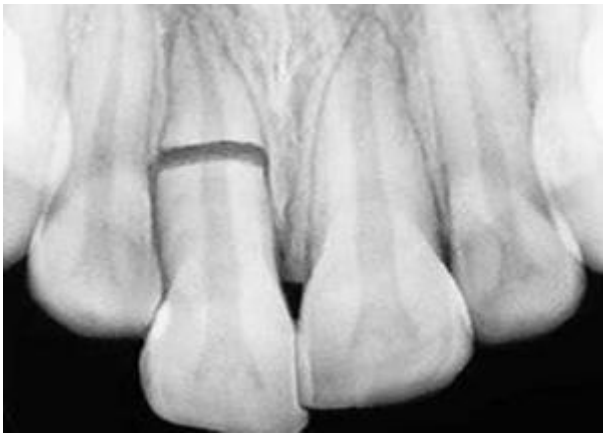
HORIZONTAL ROOT FRACTURES

HRF IS CLASSIFIED INTO THREE CATEGORIES KNOWN AS APICAL, MIDDLE OR CERVICAL THIRD.

APICAL THIRD FRACTURES

THE FRACTURE OCCURS THROUGH CEMENTUM, DENTIN AND PULPAL TISSUE.

- RADIOGRAPH IS A, MUST TO CHECK EXTENT OF FRACTURE.
- APICAL 3RD FRACTURES OF CENTRAL INCISORS DO NOT REQUIRE SPLINTING BECAUSE THE AMOUNT OF BONE SURROUNDINF TOOTH HAS DISPLACED.
- TOOTH REPOSITIONING IF DISPLACED.
- RADIOGRAPH TO CONFIRM THE REPOSITIONING.
- SPLINTING INDICATED IF CORONAL SEGMENT IS MOBILE USUALLY FOR 6-8 WEEKS.
- MIDDLE THIRD FRACTURES
- RADIOGRAPH TO DETERMINE THE EXTENT OF THE DAMAGE TO THE ROOT AND SURROUNDING TISSUES.
- REPOSITIONING OF TOOTH WITH 2X2 GUAZE.
- SPLINTING FOR 6-8WEEKS.
- ROOT CANAL TREATMENT INDICATED FROM PATIENTS' SYMPTOMS,



RADIOGRAPHS AND CLINICAL TESTS.

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CORONAL THIRD FRACTURES

MOST DIFFICULT TO TREAT, BECAUSE OF THEIR LOCATION AND MOBILITY OF THE FRACTURED SEGMENT.

TREATMENT OPTIONS

- IMMIDIATE STABILIZATION IS REQUIRED.
- ROOT CANAL TREATMENT
- IF THE CLINICIAN CAN PERIODONTALLY PROBE THE FRACTURED SEGMENT, REMOVE THE FRAGMENT THEN PROCEED WITH ROOT CANAL.
- ORTHODONTIC EXTRUSION FOLLOWED BY POST, CORE AND CROWN.
- IF THE LENGTH AND SHAPE OF THE ROOT IS NOT ALWAYS ADEQUATE THE EXTRACTION OF THE TOOTH IS ADVICED

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