UDHS | UNIVERSITY DENTAL HOSPITAL SHARJAH
مستشفى الأسنان الجامعي بالشارقة

جامعة الشارقة
UNIVERSITY OF SHARJAH

Complications of Exodontia Lecture 2 DHS-4

PREPARED BY:

DR. ALI AL QABBANI

LECTURER

DEPARTMENT OF CRANIOFACIAL HEALTH SCIENCES

DDS. M.SC. MAXILLOFACIAL SURGERY

Objectives

- Definition of exodontia
- Identify intra-operative and post-operative complications
- Causes of complication of exodontia
- Proper treatment planning & prevention
- Treatment modalities of complication of exodontia

Best way to deal with complication?

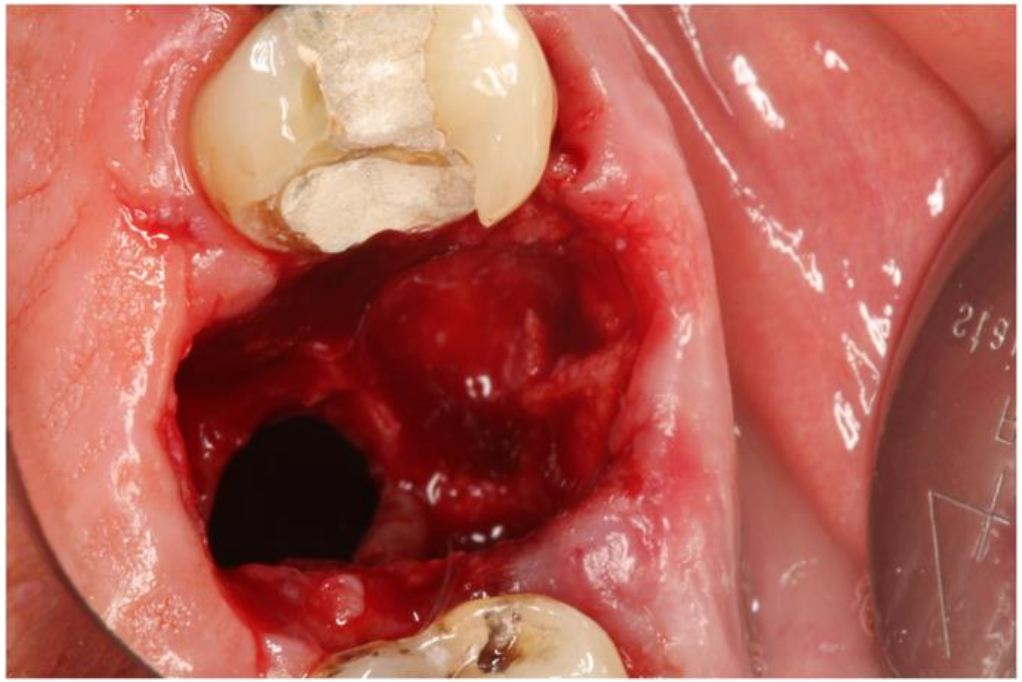
- Prevent it !!

Intra operative complications

- Failure to luxate the tooth
- Complications with a tooth being extracted
- Soft tissue injuries, Injuries to adjacent teeth, to osseous structures, to adjacent structures and to regional nerves
- Extraction of a wrong tooth
- Oroantral communication
- Intraoperative bleeding
- Broken instrument
- Fracture of the mandible
- Emphysema
- TMJ dislocation
- Extraction of the permanent tooth germ along with a deciduous tooth

Oroantral communication

- (perforation of the maxillary sinus membrane) how to prevent it?
- 1. Conduct a thorough preoperative radiograph examination
- 2. Use surgical extraction early and section the root
- 3. Avoid excessive apical pressure on maxillary posterior teeth
- How to assess the Oroantral communication?
- Collagen sponge to plug the socket
- Proper closure by suture, and medication

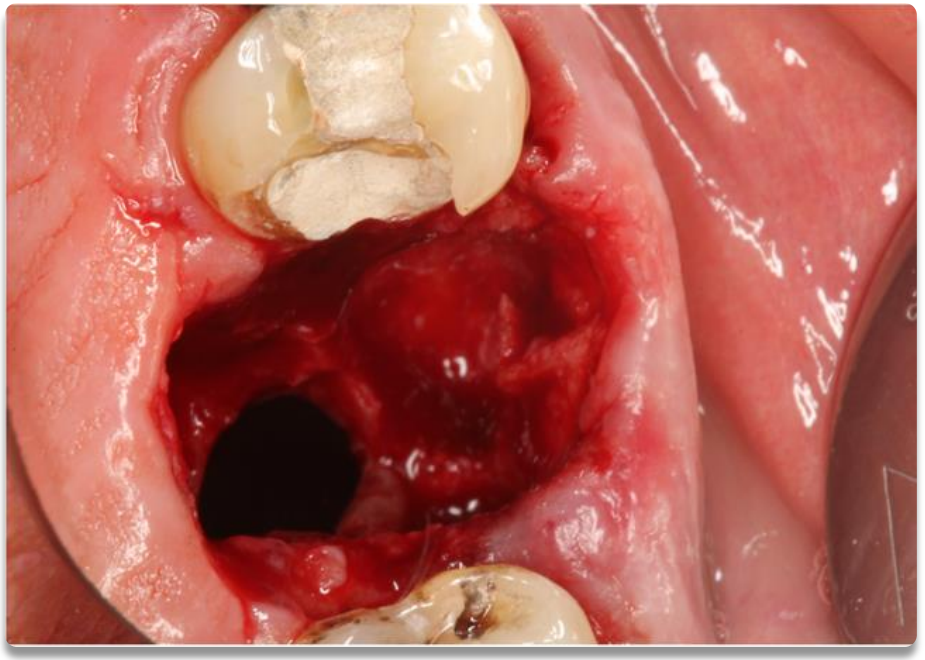


Oroantral communication

- Signs and symptoms:
- Positive nose blowing test
- Fluids coming out from the nose while drinking
- Change in phonation
- Swelling in the cheeks
- Pain bad taste and smell in the oral cavity
- Fluid discharge “ sinus drain”

Treatment of oroantral communication

- Depending on the size of the perforation.
- If less than 2 mm. no treatment required
- If 2-5 mm , then placement of a collagen sponge and suture the extraction socket to stabilize the resorbable sponge with a figure of eight suture.
- Proper instructions to the patient to protect the clot and to avoid its dislodgment
- Antibiotics coverage
- Nasal decongestants
- Antihistamine
- Avoid anything that causes sneezing or coughing
- Avoid smoking
- Analgesics

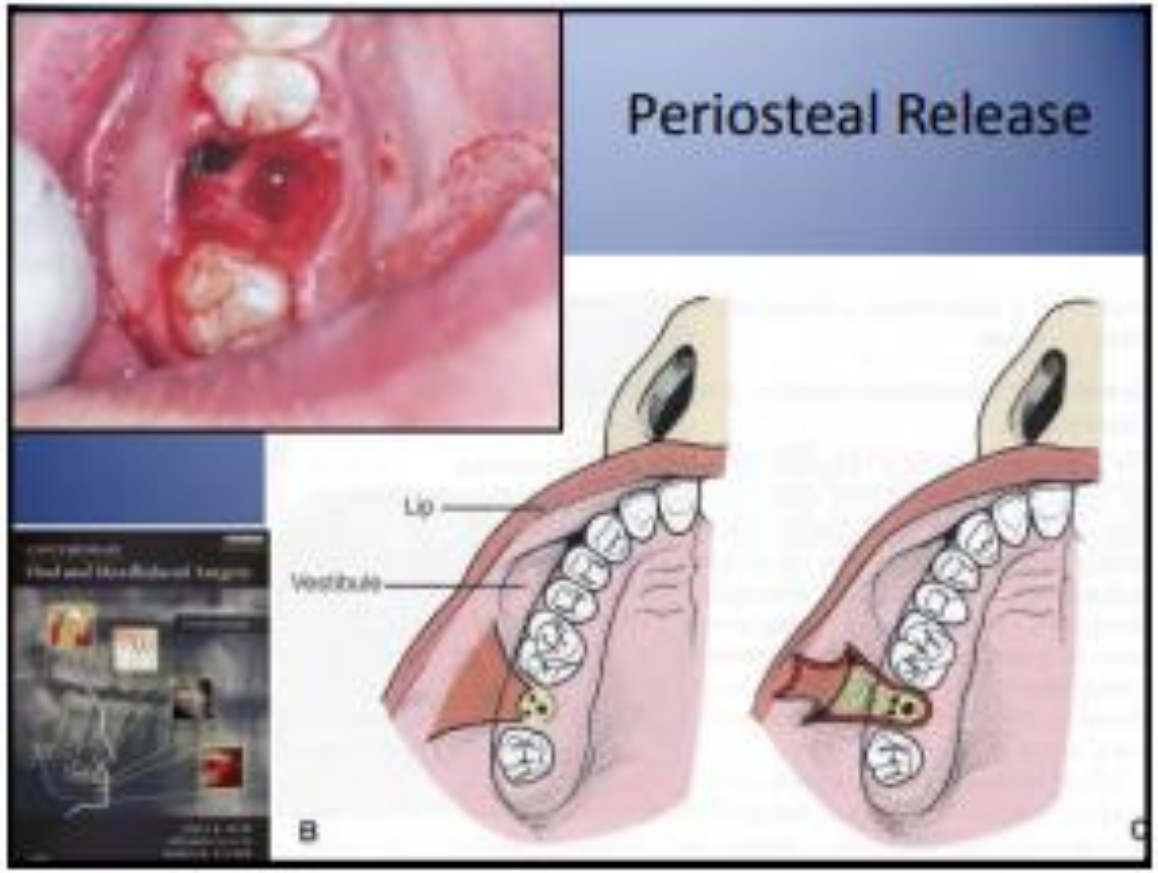


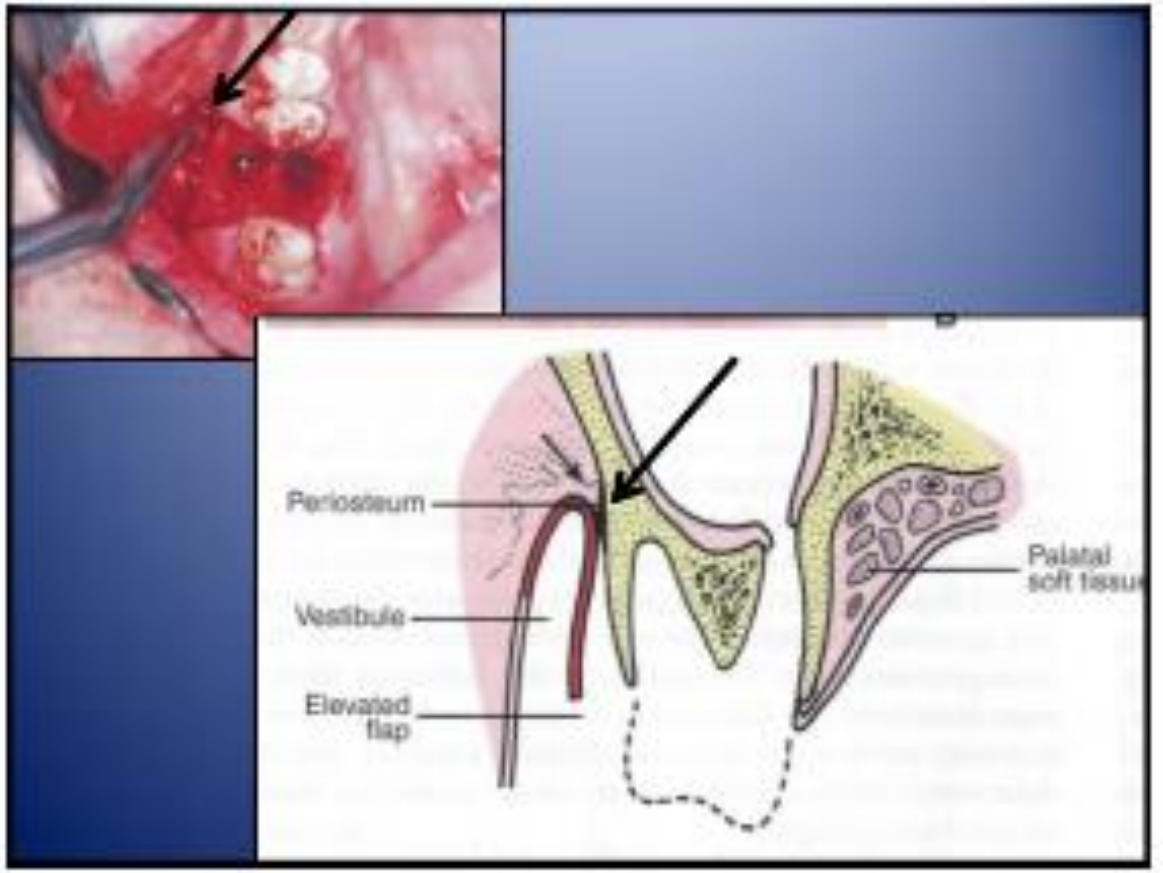
Treatment of Oroantral communication

- If over 5 mm: get primary closure *place gauze over the socket for 1-2 hours. Advancement flap to cover the perforation done by either from the palatal side or buccal side after releasing incisions.
- With a chronic sinus condition, get primary closure regardless of size of opening. Dr. Koerner: Collagen plug could be placed in the socket.

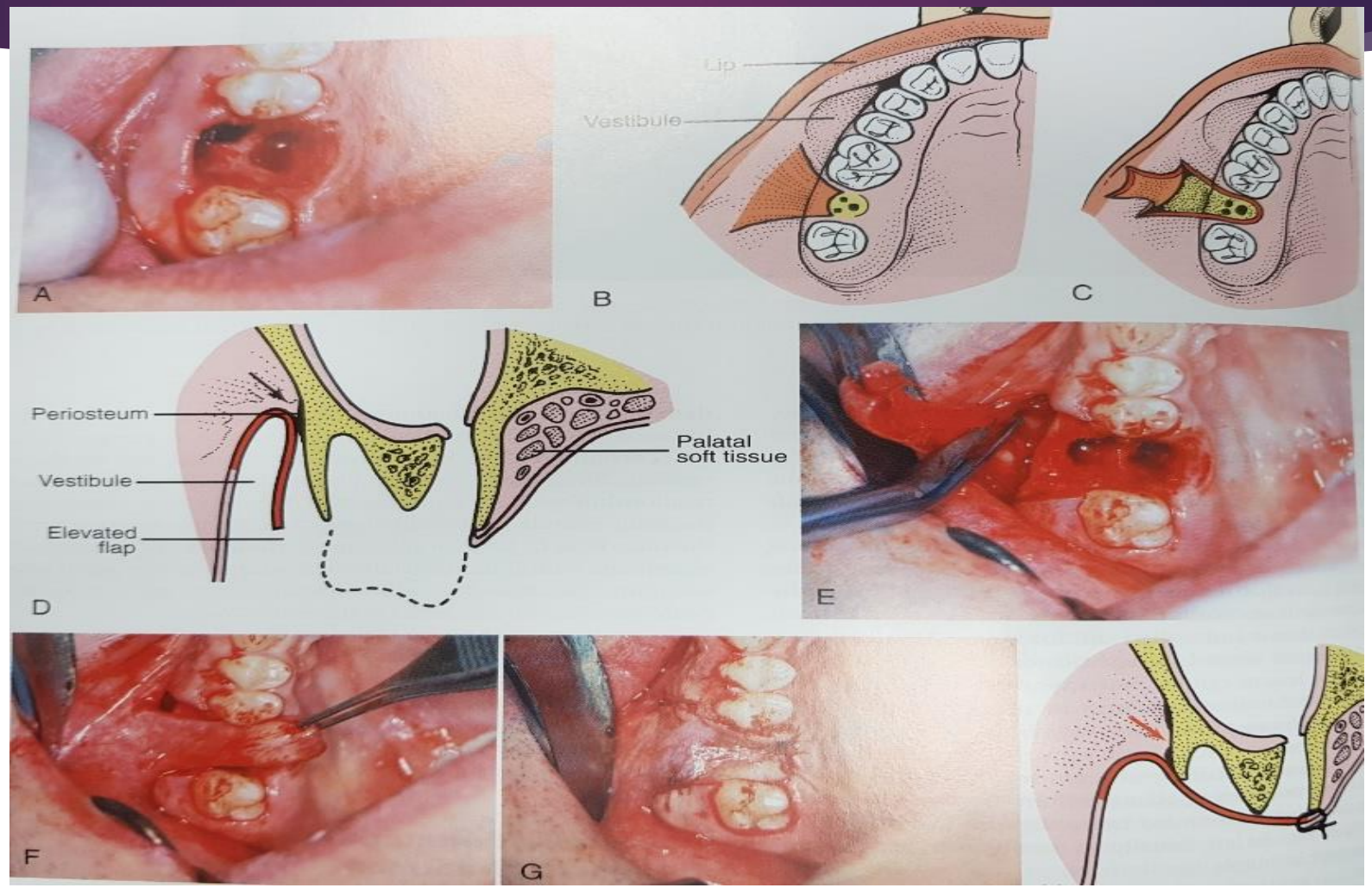
Hupp J, et al. Contemporary oral and maxillofacial surgery., 5th ed. Mosby. St. Louis, MO. 2008.

Treatment of oroantral communication "Buccal advancement flap"





Treatment of oroantral communication "Buccal advancement flap"



Hemorrhage

- Intraoperative and Post operative bleeding & prevention:
- **Proper medical history taking (BLOOD DISEASES LIKE Hemophilia A,B AND vascular disease)**
- 1. Obtain a history of bleeding
- Medications causing bleeding, bleeding time and coagulation time(is it oozing or bleeding)
- 2. Use the atraumatic surgical technique
- 3. Obtain good hemostasis at surgery ex: tranexamic acid, fibrin sealant, topical thrombin etc..
- 4. Provide excellent patient instructions.
- 5. Apply direct pressure with enough amount of gauze

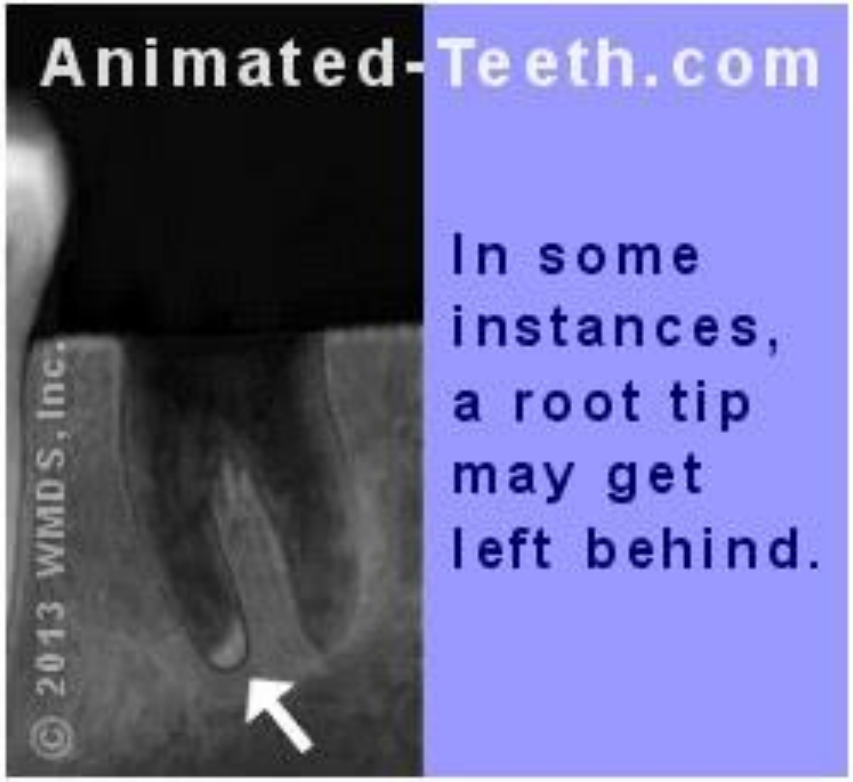
Hemorrhage (intraoperative) control

- **Ligation:**
  It is used to control soft tissue hemorrhage that involves a bleeding vessel, a hemostat is used to clamp and ligate the
  vessel.
  Hemostatic materials:
  Like gelatin sponge, oxidized cellulose. They are suitable for local application, like postextraction bleeding socket. Placement of hemostatic agent inside the socket Figure of eight suturing over hemostatic agent
  Electrocoagulation:
  Through the application of heat, resulting in the retraction of tissues in a necrotic mass.
- **LASER application:**
  It minimizes bleeding because the high-energy light beam aids in the clotting of exposed blood vessels,
  thus inhibiting blood loss.
  Note:
  To protect the material from displacement, figure of eight suture can be placed over it.

Broken instruments

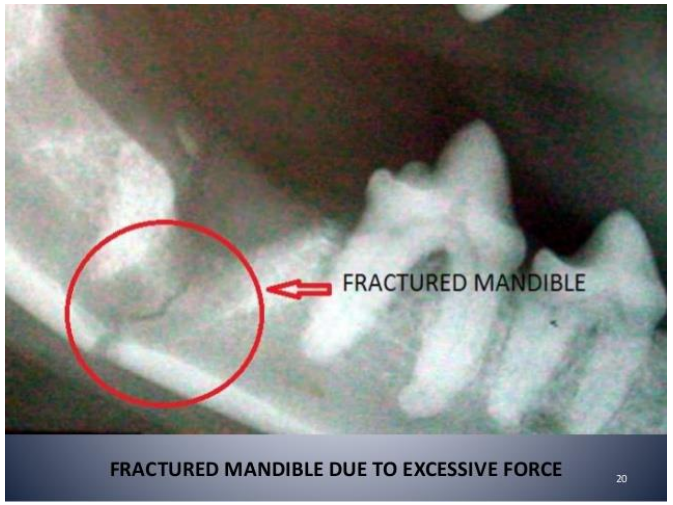
- Broken instruments and missing of small materials like gauze, cotton pellets suture needles etc..
- Broken instruments into the extraction socket must be assessed by the surgeon.
- Assistants must check the instruments properly before the surgeon does the closure.
- If suspected, then radiograph must be taken to ensure clear sockets and free of any broken instruments and materials. Otherwise if seen , then it should be removed.

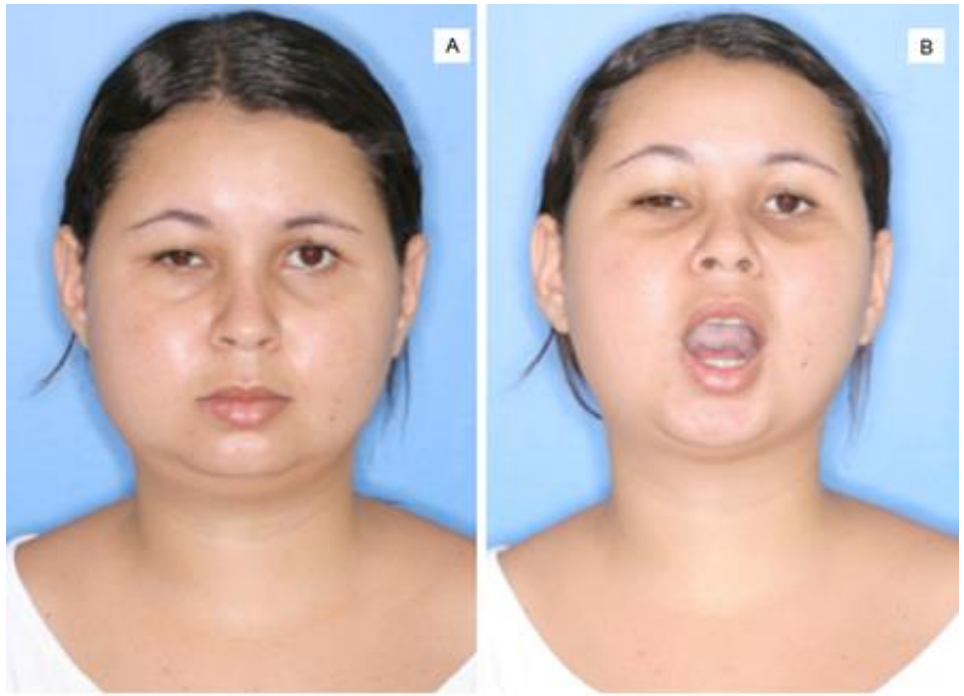
What is the criteria in keeping the tooth fragment inside the socket?



Fracture of the mandible

- Medical condition of the patient
- Rare complication
- It could be due to a pathology or application of exceeding force by the elevator
- Associated almost with 3rd molar surgical extraction
- Site of the impacted tooth and size the mandible (atrophy)
- Treatment admission to oral and maxillo facial department for admission and further treatment (open reduction and fixation if required.)





Tissue Emphysema

By: Andrew DeMarco. Tissue Emphysema: Is defined as the passage and collection of air in tissue spaces or fascial planes. It occurs due to various dental procedures such as: amalgam restorations, periodontal treatment, endodontic treatment, and surgical exodontia.

There is usually only moderate local swelling but, it has been documented in the scientific literature cases in which there has been a spread of larger amounts of air into deeper spaces resulting in possible life-threatening complications such as airway compromise due to the accumulation of air in the retropharyngeal space, pneumomediastinum and pneumopericardium.

Tissue Emphysema

- Causes: using airwater spray in endo or a high speed hand piece in surgical extraction.
- Assure the patient
- Most cases of subcutaneous air emphysema resolve spontaneously within five to ten days.
- As tooth debris, bacteria and various other materials, including non-sterile water may have been introduced into the tissues, a course of prophylactic antibiotic therapy is highly recommended

TMJ dislocation

Is the dislocation of the condyle(articular disc) of the mandible from the mandibular fossa (glenoid) anteriorly to the articular tubercle of the temporal bone.

Proper medical history and examination of the TMJ prior to the procedure.

Minimize the duration of the procedure.

Avoid too much pressure on extracting a tooth without support of the other hand.

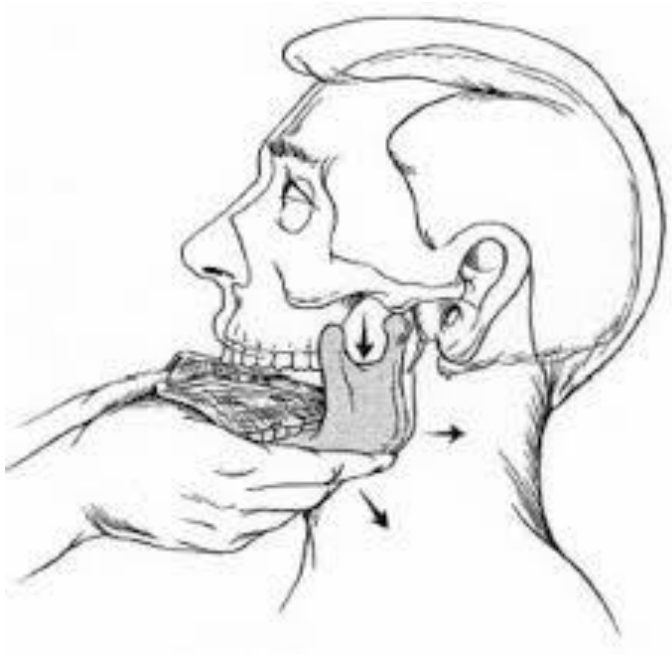
If it occurs:

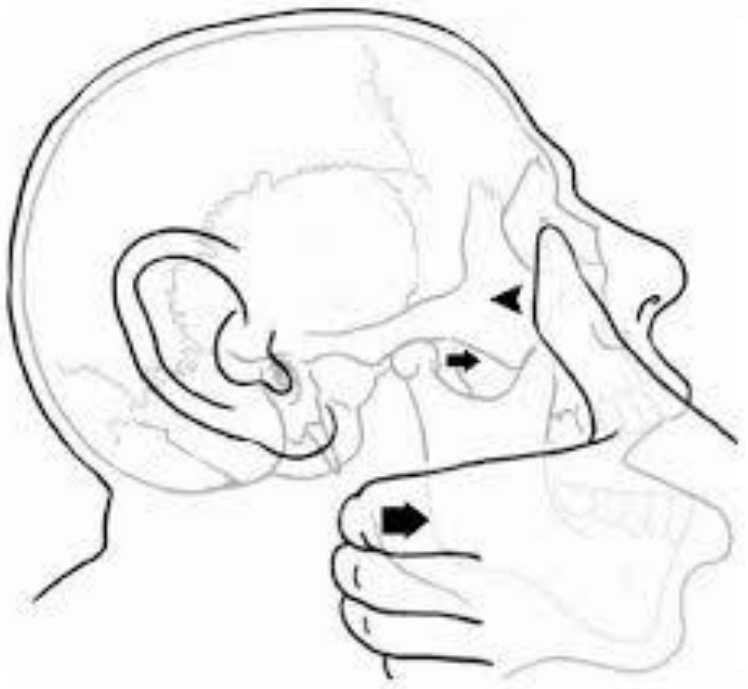
1. Assure the patient
2. Pain control

- Return the condyle to its position by placing your thumbs upon the lower molars or on the ridge of the mandible intraorally, posterior to the molars, with your fingers wrapped externally around the mandibles. Apply firm, slow, and steady pressure in a downward and posterior direction.

Intraoperative complications

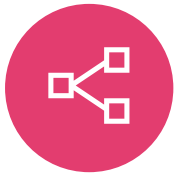
Reduction of Mandibular Dislocation Technique



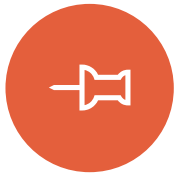


TMJ DISLOCATION

Extraction of the permanent tooth germ along with a deciduous tooth



Prevention:



Proper radiographic assessment

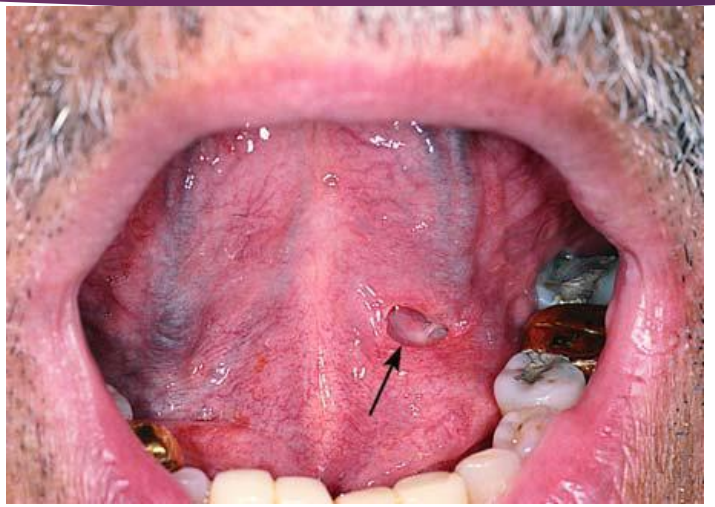
Inform the patient or guardians

Return the tooth germ to its position gently

Consult with a pedodontist

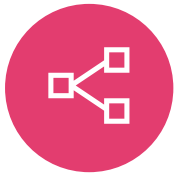
Follow up

What are the complications in the clinical photos?



What is the complication in the clinical photo?

Extraction of the permanent tooth germ along with a deciduous tooth



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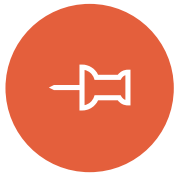

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Extraction of the permanent tooth germ along with a deciduous tooth

Post-operative complications following dental extractions at the School of Dentistry, Univers Otago.

Tong DC, Al-Hassiny HH, Ain AB, Broadbent JM.

Abstract

OBJECTIVES: To determine the frequency and correlates associations of post-extraction complications at a dental school.

DESIGN: Retrospective review of patient records.

SETTING: Exodontia clinic at the School of Dentistry, University of Otago, Dunedin.

MAIN OUTCOME MEASURES: Provider characteristics, patient demographic characteristics, patient medical history, teeth extracted and occurrence of postoperative complications.

RESULTS: Of the 598 extractions (540 routine and 58 surgical) which were undertaken in the audit period, 74 (12.4%) resulted in post-operative complications. Dry socket and post-operative pain were the major complications. A higher complication rate was found among patients treated by fourth-year undergraduate students than among those treated by more senior students or staff. Post-operative complications were not significantly associated with patients' ethnicity or medical history.

CONCLUSION: The rate of postoperative complications at the Univeristy of Otago's Faculty of Dentistry is consistent with reports in existing literature and inversely associated with operators' experience.

Literature review about complications of exodontia

- End of Intraoperative complications of exodontia..