

272. Which of the following describes a Le Fort II midface fracture?

- A. Separation of the inferior portion of the maxilla in a horizontal fashion
- B. Separation of maxilla and nasal complex from cranial base, zygomatic orbital rim area and pterygoid maxillary suture area
- C. Separation of midface at level of nasoorbital ethmoid complex and zygomaticofrontal suture area
- D. Fracture extends through the orbits bilaterally

Answer: B. Separation of maxilla and nasal complex from cranial base, zygomatic orbital rim area and pterygoid maxillary suture area

Le Fort I: Separation of the inferior portion of the maxilla in a horizontal fashion

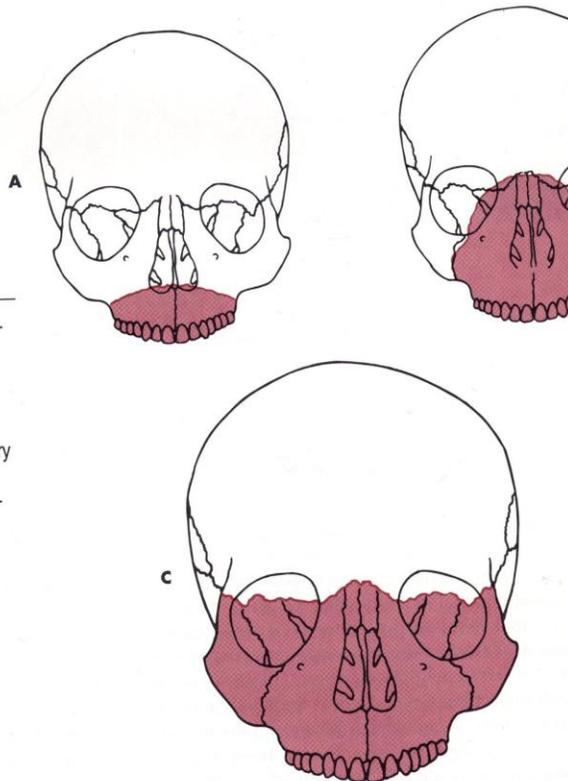
Le Fort II: Separation of maxilla and nasal complex from cranial base, zygomatic orbital rim area and pterygoid maxillary suture area

Le Fort III: (craniofacial separation) Complete separation of midface at level of nasoorbital ethmoid complex and zygomaticofrontal suture area. Fracture extends through the orbits bilaterally

Peterson, Ellis, Hupp, Tucker. Contemporary Oral and Maxillofacial Surgery. 3rd edition, 1998.

◆ Figure 25-13

Le Fort midfacial fractures. **A**, Le Fort I fracture separating inferior portion of maxilla in horizontal fashion, extending from piriform aperture of nose to pterygoid maxillary suture area. **B**, Le Fort II fracture involving separation of maxilla and nasal complex from cranial base, zygomatic orbital rim area, and pterygoid maxillary suture area. **C**, Le Fort III fracture (craniofacial separation) is complete separation of midface at level of nasoorbital ethmoid complex and zygomaticofrontal suture area. Fracture also extends through orbits bilaterally.



273. The following are forms of management for moderate to severe local anesthetic toxicity except for:

- A. Place patient in prone position
- B. Monitor vital signs and administer oxygen
- C. Observe in office for at least one hour
- D. Stop administration of all local anesthetics

Answer: A. Place patient in prone position

Manifestations:

Mild Toxicity: talkativeness, anxiety, slurred speech, confusion

Moderate Toxicity: stuttering speech, nystagmus, tremors, headache, dizziness, blurred vision, drowsiness

Severe Toxicity: seizure, cardiac dysrhythmia or arrest

Management:

Mild Toxicity: stop administration of LA, monitor all vitals, observe in office for 1 hour

Moderate Toxicity: stop administration of LA, place in **supine position**, administer oxygen, monitor all vitals, observe in office for 1 hour

Severe Toxicity: place in **supine position**, if seizure occurs, protect patient from nearby objects, suction oral cavity if patient vomits, get medical assistance, administer oxygen, monitor all vitals, start IV, administer diazepam 5-10mg slowly or midazolam 2-6mg slowly, BLS if necessary, transport to emergency facility

***Maximum dose of epinephrine is 0.2mg per appointment

Peterson, Ellis, Hupp, Tucker. Contemporary Oral and Maxillofacial Surgery, 4th edition, 2003.

274. What is a key clinical feature seen in a displaced zygomatic arch fracture?

- a. Mandibular deviation
- b. An infraorbital rim discrepancy
- c. Reduced opening
- d. Occlusal discrepancies

ANSWER: c. Reduced opening

In Zygoma fractures, isolated zygomatic arch fractures, and naso-orbital ethmoid fractures, treatment is primarily aimed at the restoration of normal ocular, nasal, and masticatory function and adequate facial esthetics. In an isolated zygoma fracture (the most common midfacial injury), an open reduction is generally performed through some combination of intraoral, eyebrow, and infraorbital approaches. An instrument is used to elevate and place the zygoma into proper position. If adequate stabilization is not possible by simple manual reduction, bone plating of the zygomaticomaxillary buttress, zygomaticofrontal area, and the orbital rim area may be necessary.

In a zygomatic arch fracture, either an extraoral or an intraoral approach can be used to elevate the zygomatic arch and return it to its proper configuration. In addition to restoring adequate facial contour, this eliminates the impingement on the coronoid process of the mandible and the subsequent reduction in mandibular opening.

Peterson et al, Contemporary Oral and Maxillofacial Surgery, 3rd edition.

275. The roots of the 2nd maxillary molar are most often displaced into the _____.

- A. infratemporal space
- B. canine space
- C. maxillary sinus
- D. retropharyngeal space

Answer: C. maxillary sinus

- The roots most often displaced into maxillary sinus are those of maxillary molars
- Roots of mandibular 2nd and 3rd molars can be displaced into Submandibular space
- The primary cause of tooth displacement into tissue spaces and sinus is excess apical pressure

3 conditions when a root can be left in alveolar process:

1. Small fragment, no more than 4-5 mm
2. No pathology or radiolucency associated with the fragment
3. It must be deeply embedded in bone to prevent subsequent bone resorption from exposing root

Retrieval techniques:

1. Closed technique
2. Open technique

Peterson, Ellis, Hupp, Tucker, "Contemporary Maxillofacial Surgery", third edition, Mosby, 1998

276. The most likely place to displace a mandibular 3rd molar root tip is _____.

- a. The Submandibular fascial space
- b. The oropharynx
- c. The sublingual fascial space
- d. The submental space

Answer. A

Fractured mandibular molar roots that are being removed with apical pressures may be displaced **through the linguocortical plate and into the submandibular fascial space**. The linguocortical bone over the roots of the molars becomes thinner as it progresses posteriorly. Mandibular third molars, for example, frequently have dehiscence in the overlying lingual bone and may be actually sitting in the Submandibular space preoperatively. Even small amounts of apical pressure result in displacement of the root into that space. Prevention of displacement into the Submandibular space is primarily achieved by avoiding all apical pressures when removing the mandibular roots.

Occasionally, the crown of a tooth or an entire tooth might be lost down the oropharynx. If this occurs, the patient should be turned toward the dentist, into a mouth-down position, as much as possible. The suction device can then be used to help remove the tooth. The patient should be encouraged to cough and spit the tooth out onto the floor.

If aspiration is suspected, the patient should be transported to an emergency room and a chest radiograph taken to determine the specific location of the tooth. The urgent management of aspiration is to maintain the patient's airway and breathing. Supplemental oxygen may be appropriate if respiratory distress appears to be occurring.

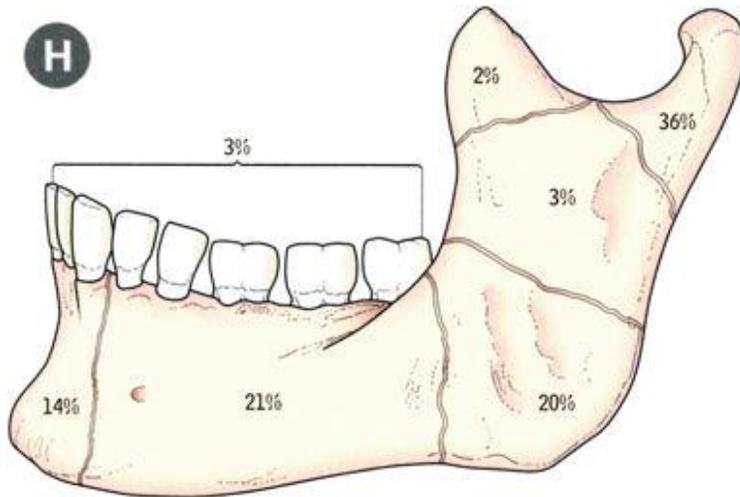
If the tooth has been swallowed, there is high probability that it will pass through the GI tract within 2 to 4 days.

Peterson, Ellis, Hupp, Tucker, "Contemporary Maxillofacial Surgery", third edition, Mosby, 1998

277. What is the most common site for mandibular fracture?

- A. symphysis
- B. angle
- C. coronoid process
- D. condyle

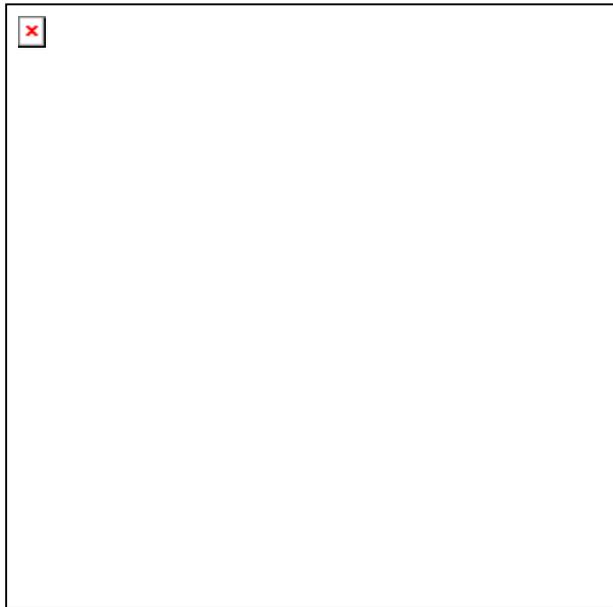
ANSWER: D. condyle



Mandible

H The most commonly presenting fracture of the mandible is that of the condyle, followed by those of the body. However, there are often combinations of fractures such as the guardsman fracture of the symphysis and bilateral condyles

Logan, Bari. McMinn's Color Atlas of Head and Neck Anatomy, 3rd Edition. Mosby Ltd., 2004.



Miloro, M. Peterson's Principles of Oral and Maxillofacial Surgery 2004, 1.4.22.413.

278. The most common space that is involved when erosion of the lingual plate adjacent to tooth #19 occurs is the:

- a. Sublingual space
- b. Submandibular space
- c. Buccal space
- d. Pterygomandibular space

ANSWER a. Sublingual space

The spaces that are involved directly are known as the fascial spaces of primary involvement. The principal maxillary spaces are the canine, buccal and infraorbital spaces. The principle mandibular primary spaces are the submental, buccal, submandibular and the sublingual spaces. Infections can extend beyond these primary spaces into additional fascial spaces, or secondary spaces.

<u>Spread From:</u>	<u>Spread To:</u>
<u>Maxillary</u>	<u>Primary spaces</u>
Canine	Canine space
Max molars and premolars (most commonly Max molars)	Buccal space
Max 3 rd molar	Infratemporal space
<u>Maxillary</u>	<u>Secondary Spaces</u>
Maxillary odontogenic infections	Secondary periorbital or orbital cellulitis Or cavernous sinus thrombosis
<u>Mandibular</u>	<u>Primary spaces</u>
All mandibular teeth	Vestibular space (most common)
Mandibular incisors	Submental space
Mandibular molar and premolars	Buccal space (most commonly Max molars)
Man premolars and molars (premolars and 1 st molar most common)	Sublingual spaces (perforation above mylohyoid muscle)
Man premolars and molars (3 rd molar most common)	Submandibular spaces (perforation below mylohyoid muscle)
Man 2 nd molars	Can involve both sublingual and submandibular primarily
	Bilateral submandibular, sublingual, and Submental space infection = Ludwig's angina
<u>Mandibular</u>	<u>Secondary Spaces</u>
Buccal space or pericoronitis of a 3 rd molar	Masseteric space
Sublingual or submandibular	Pterygomandibular space
Masseteric space or Pterygomandibular space	Temporal Space
	<u>Tertiary Spaces</u>
Pterygomandibular space	Lateral Pharyngeal space
Lateral Pharyngeal space	Retropharyngeal Space
Retropharyngeal Space	Posterosuperior Mediastinum Space
Retropharyngeal Space	Prevertebral Space

279. Which group of skull films is used in diagnosing fractures of the mandibular body?

- A. TMJ, Periapical, Lateral Ceph, Towne's
- B. Lateral Oblique, Submentovertex, Panorex, TMJ
- C. Lateral Oblique, Lateral Ceph, Submentovertex, TMJ
- D. Panorex, Towne's, Lateral Oblique, Posterior-anterior view

Answer: D. Panorex, Towne's, Lateral Oblique, Posterior-anterior view

Lateral Ceph (Lateral Skull) – used in ortho, midface fracture, Le Forte III fx,

Submentovertex (Base) – zygomatic arch fracture, midface fracture

Posterior-anterior view – **mandibular fracture body**, midface fracture

Lateral Oblique – **mandibular fracture body**

Towne's – **mandibular fracture body**

Panoramic - **mandibular fracture body**, condylar fracture

Waters – maxillary sinus, midface fracture, orbital rim fractures

CT - midface fracture

TMJ – transcranial radiographs, pano, tomograms, TMJ arthrography, CT, MRI

White, Pharoah. Oral Radiology Principles and Interpretation, 6th ed., 2009.

Peterson, Ellis, Hupp and Tucker. Contemporary Oral and Maxillofacial Surgery. 3rd ed., 1998.

280. Which route of veins is involved in a cavernous sinus thrombosis?

- a. emissary, inferior or superior ophthalmic veins
- b. angular vein, ophthalmic veins
- c. inferior or superior ophthalmic veins
- d. emissary, inferior or superior ophthalmic and angular veins

ANSWER d. emissary, inferior or superior ophthalmic and angular veins

Maxillary odontogenic infections may also spread superiorly to cause secondary periorbital or orbital cellulitis or cavernous sinus thrombosis. Periorbital or orbital cellulitis rarely occurs as the result of odontogenic infection, but when either does occur, the presentation is typical: redness and swelling of the eyelids and involvement of both the vascular and neural components of the orbit. This is a serious infection and requires aggressive medical and surgical intervention from multiple specialists.

Cavernous sinus thrombosis may also occur as a result of superior spread of odontogenic infection via a hematogenous route. **Bacteria may travel from the maxilla posteriorly via the pterygoid plexus and emissary veins or anteriorly via the angular vein and inferior or superior ophthalmic veins to the cavernous sinus.**

The veins of the face and orbit lack valves, which permits blood to flow in either direction. Thus bacteria can travel via the venous drainage system and contaminate the cavernous sinus, which results in thrombosis. Cavernous sinus thrombosis is an unusual occurrence that is rarely the result of an infected tooth. Like orbital cellulitis, cavernous sinus thrombosis is a serious, life-threatening infection that requires aggressive medical and surgical care. Cavernous sinus thrombosis has a high mortality even today.

Peterson et al, Contemporary Oral and Maxillofacial Surgery, 3rd edition.

281. A Cryer elevator often used in extraction of broken roots has a

- A. straight blade with angled shank
- B. triangular blade with angled shank
- C. straight blade with straight shank
- D. triangular blade with straight shank

Answer: D. triangular blade with straight shank

Components of an elevator:

- 1. Handle
 - a. Straight
 - b. T-bar
- 2. Shank
 - a. Straight
 - b. Angled
 - i. Potts
 - ii. Miller
- 3. Blade
 - a. Straight
 - i. Small 301
 - ii. Large 34S, 46, 77R
 - b. Triangle
 - i. Cryer
 - c. Pick type
 - i. Crane pick
 - ii. Root tip pick

Peterson, Ellis, Hupp, Tucker, Contemporary Maxillofacial Surgery, third edition. Mosby, 1998

282. The prophylactic use of pre-operative steroids such as dexamethasone is recommended to do all except

- a. Reduce postoperative nausea and vomiting
- b. Reduce pain
- c. Reduce inflammation
- d. Enhance wound healing

Answer D

Despite the introduction of new anti-emetic drugs, short-acting anaesthetic agents and minimal invasive surgical techniques, the incidence of postoperative nausea and vomiting (PONV) has remained largely unchanged. Use of anti-emetic prophylaxis has become the standard approach to minimize the nausea and vomiting postoperatively. Glucocorticosteroids are well known for their analgesic, anti-inflammatory, immune- modulatory and anti-emetic effects. Dexamethasone was reported as an effective anti-emetic in patients receiving cancer chemotherapy in 1981. The incidence of postoperative nausea and vomiting has been significantly decreased by preoperative single dose steroid administration in several studies. Glucocorticoids have been recognized as an important modifier of the postoperative physiology, inflammatory, humoral and immunologic response, by regulation of trauma- induced humoral mediators.

As an immune modulation strategy, Dexamethasone appears to shift the balance of inflammation, in favor of anti-inflammatory mediators. The incidence and severity of PONV have been significantly decreased as shown in several studies. This prophylaxis also seemed to reduce postoperative pain and early convalescence. Bisgaard *et al* concluded that, preoperative Dexamethasone reduced pain, fatigue, nausea, vomiting and duration of convalescence in patients undergoing LC, as compared to placebo and they recommend the routine use of Dexamethasone.

The exact mechanism by which glucocorticoids decrease the incidence of nausea / vomiting is not fully understood, but probably can be explained by centrally mediated anti-emetic action via inhibition of prostaglandin synthesis, or inhibition of release of endogenous opioids.

The timing of steroid administration seems to be the key (1-2 hr preoperatively), if excess inflammatory and related postoperative morbidity is to be attenuated.

The major concern regarding the use of Dexamethasone is infection, delayed wound healing and other side effects.

But various studies in the literature have shown that single-dose Dexamethasone does not increase complications. A recent metanalysis concluded that, perioperative administration of high dose of Methylprednisolone (30-35 mg/kg), a dose approximately 50 times that of the dose used in the study, was not associated with significant side effects. We did not have any postoperative complication which could be attributed to Dexamethasone prophylaxis.

P Gupta, J Khanna, AK Mitramustafi, VK Bharti: Role of pre-operative dexamethasone as prophylaxis for postoperative nausea and vomiting in laparoscopic surgery J Min Access Surg 2006;2:12-5.

283. After performing extractions of #1 and 32 under local anesthesia, the patient stands up and says he feels swollen. You can visualize swelling extraorally. What is the most likely cause?

- A. Hematoma from a PSA injection
- B. Anaphylactic allergy
- C. Infection at the injection site
- D. Hematoma from an IAN injection

ANSWER: A. Hematoma from a PSA injection

The effusion of blood into extravascular spaces can result from inadvertently nicking a blood vessel (artery or vein) during the injection of a local anesthetic. A hematoma developing subsequent to the nicking of an artery usually increases rapidly in size until treatment is instituted, because of the significantly greater blood pressure within the artery. Nicking a vein may or may not result in the formation of a hematoma. Tissue density surrounding the injured vessel is a determining factor.

Because of the density of tissue in the hard palate and its firm adherence to bone, hematoma rarely develops after a palatal injection. A rather large hematoma may result from either arterial or venous puncture after posterior superior alveolar or inferior alveolar nerve block. The tissues surrounding these vessels more readily accommodate significant volumes of blood. The blood effuses from vessels until extravascular exceeds intravascular pressure or clotting occurs. Hematomas after the inferior alveolar nerve block are usually only visible intraorally, whereas PSA hematomas are visible extraorally.

A hematoma rarely produces significant problems, aside from the resulting "bruise," which may or may not be visible extraorally. Possible complications of hematoma include trismus and pain. The swelling and discoloration of the region usually subside within 7 to 14 days.

Prevention

1. Knowledge of the normal anatomy involved in the proposed injection is important. Certain techniques have a greater risk of visible hematoma. The PSA nerve block is the most common, followed by the IANB (a distant second) and the mental/incisive nerve block (a close third when the foramen is entered, a distant third if the technique described in Chapter 14 is adhered to).
2. Modify the injection technique as dictated by the patient's anatomy. For example, the depth of penetration for a PSA nerve block may be decreased in a patient with smaller facial characteristics.
3. Use a short needle for the PSA nerve block to decrease the risk of hematoma.
4. Minimize the number of needle penetrations into tissue.
5. Never use a needle as a probe in tissues.

Hematoma is not always preventable.

Malamed, Stanley. Handbook of Local Anesthesia, 5th Edition. Mosby, 072004. 17.6

284. What is the proper order for suturing a laceration of the lip including the vermilion border, starting from the first layer to the last layer sutured?

- A. One suture at the mucocutaneous junction → dermal layer → muscle → mucosa
- B. Mucosa → muscle → dermal layer
- C. The dermis is the only layer that needs suturing
- D. One suture at the mucocutaneous junction → mucosa → muscle → dermal layer

Answer: D. One suture at the mucocutaneous junction → mucosa → muscle → dermal layer

Once wound has been cleansed and debrided and hemostasis achieved, the laceration is ready to be closed. Not every laceration needs closure with sutures, such as small lacerations of palatal mucosa, or on the inner lip or tongue. These usually heal by secondary intention.

Goal during closure is proper positioning of all tissue layers. When lacerations of gingiva and alveolar mucosa (or floor of mouth) are noted, they are closed in one layer. If tongue or lip laceration involves muscle, resorbable sutures should be placed to close the muscle layer or layers, after which mucosa is sutured.

In lacerations extending through entire thickness of lip, a triple-layer closure is necessary. If laceration involves vermilion border, **the first suture placed should be at the mucocutaneous junction, while lining up the junction of skin and mucosa perfectly. Once suture is placed, wound is closed in layers from inside out: mucosa (silk or resorbable) → muscle (interrupted resorbable) → dermal layer (5-0 or 6-0 nylon).** Dermal layer should be covered with antibiotic ointment.

Generally, facial skin sutures should be removed 4-6 days later. Suture should be cut and then pulled in a direction that doesn't cause wound to gape. Adhesive strips can be placed at time of suture removal to give external support to the healing wound.

Peterson, Ellis, Hupp, Tucker. Contemporary Oral and Maxillofacial Surgery, 4th edition, 2003.

285. Which of the following sedative medications are contraindicated in pediatric patients with seizure disorder?

- a. Meperidine
- b. Barbiturates
- c. Chloral Hydrate
- d. Benzodiazepines

Answer: A. Meperidine

Pediatric sedation

Contraindications/Side Effects

- | | | | |
|------------------------------|-------------------------|--|---|
| 1. Gas | | | |
| a. Nitrous Oxide/ Oxygen | | | |
| 2. Antihistamines | | | |
| a. Hydroxyzine | <i>Atarax, Vistaril</i> | | |
| b. Promethazine | <i>Phenergan</i> | | <i>Seizure disorder</i> |
| c. Diphenhydramine | <i>Benadryl</i> | | |
| 3. Benzodiazepine | | | |
| a. Diazepam | <i>Valium</i> | | <i>Ataxia, prolong CNS effect</i> |
| b. Midazolam | <i>Versed</i> | | <i>Respiratory depression at ↑ dose</i> |
| 4. Benzodiazepine Antagonist | | | |
| a. Flumazenil | <i>Romazicon</i> | | |
| 5. Sedative Hypnotics | | | |
| a. Barbiturates | | | <i>Severe CNS depression</i> |
| b. Chloral Hydrate | <i>Noctec</i> | | <i>No reversal agent</i> |
| 6. Narcotics | | | |
| a. Meperidine | <i>Demerol</i> | | <i>Seizure disorder</i> |
| b. Fentanyl | <i>Sublimaze</i> | | |
| 7. Narcotic Antagonist | | | |
| a. Naloxone | <i>Narcan</i> | | |

McDonald RE, Avery DR, Dean JA. "Dentistry for the Child and Adolescent", Eighth edition. Mosby 2004.

286. A 36 y/o male presents to the ER after receiving a blow to the mandible during an attempted carjacking. Clinical and radiographic information describe a fracture that does not communicate through to external surfaces, completely transects the angle of the mandible in one line and the fracture line resists muscle pull. What would be your diagnoses?

- a. An Unfavorable Compound simple mandibular fracture
- b. An Unfavorable simple mandibular fracture
- c. A Favorable Comminuted mandibular fracture
- d. A Favorable simple mandibular fracture

ANSWER d. A Favorable simple mandibular fracture

Fractures of the mandible are designated as occurring in the condylar, angle, body, symphyseal, alveolar, ramus, and coronoid process areas.

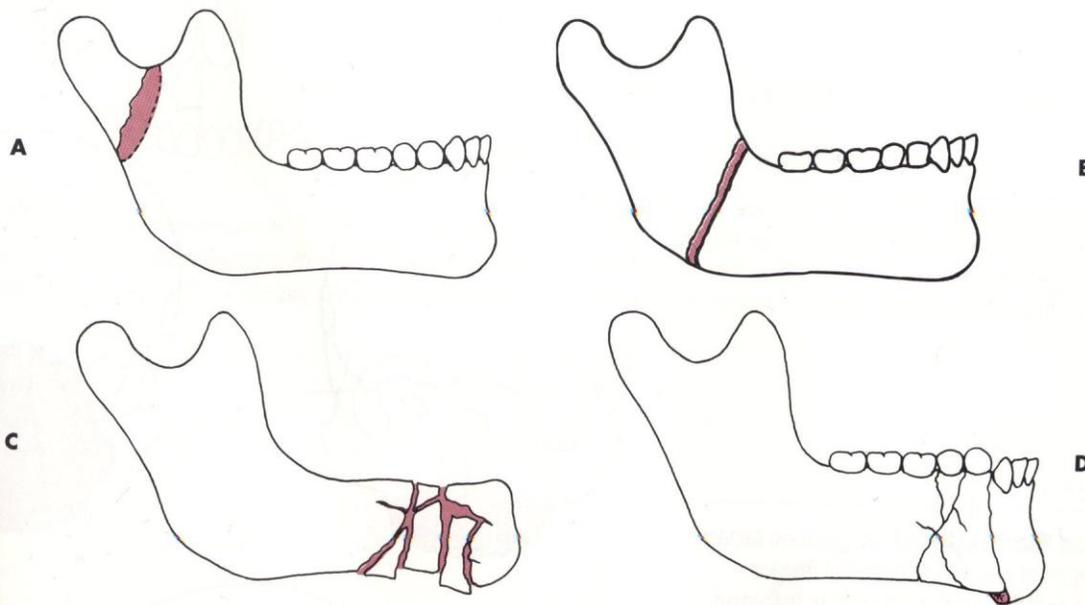
Another system of classification of mandibular fractures categorizes the type of fracture as greenstick, simple, comminuted, and compound fractures. These categories describe the condition of the bone fragments at the fracture site and possible communication with the external environment.

Green stick fractures are those involving incomplete fractures with flexible bone. Generally exhibit minimal mobility when palpated.

A simple fracture is a complete transection of the bone with minimal fragmentation at the fracture site.

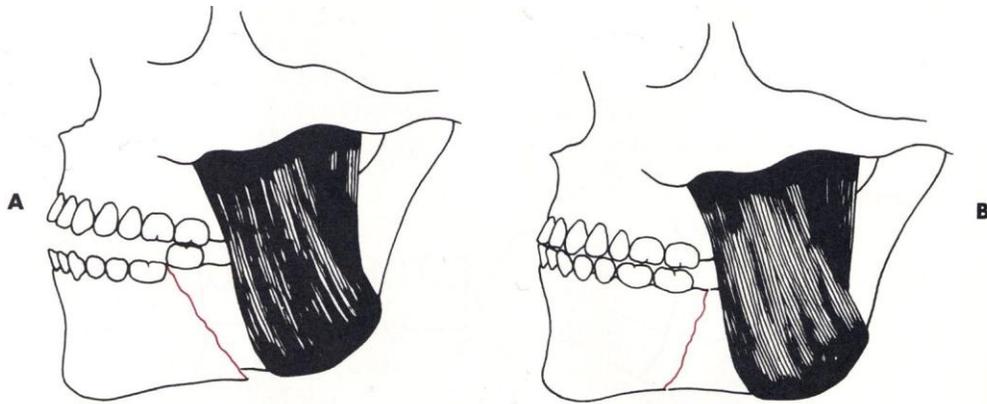
In a comminuted fracture the fractured bone is left in multiple segments. Gunshot wounds and other high-impact injuries to the jaws frequently result in comminuted fractures.

A compound fracture results in communication of the margin of the fractured bone with the external environment. Fractures of the mandible are referred to as favorable or unfavorable, depending on the angulation of the fracture and the force of the muscle pull proximal and distal to the fracture. In a favorable fracture, the fracture line and the muscle pull resist displacement of the fracture. In an unfavorable fracture, the muscle pull results in displacement of the fractured segments.



◆ **Figure 25-11**

Types of mandible fractures classified according to extent of injury in area of fracture site. **A**, Greenstick. **B**, Simple. **C**, Comminuted. **D**, Compound.



◆ Figure 25-12

Favorable and unfavorable fractures of mandible. **A**, Unfavorable fractures resulting in displacement at fracture site caused by pull of masseter muscle. **B**, Favorable fracture in which direction of fracture and angulation of muscle pull resists displacement.

Peterson et al. Oral and Maxillofacial Surgery; Contemporary Oral and Maxillofacial Surgery; 3rd ed.

287. Which one of the following is the analgesic and antipyretic of choice during all phases of pregnancy?

- A. Ibuprofen
- B. Acetaminophen
- C. Naprosyn
- D. Aspirin

Answer: B. Acetaminophen

- Teratogenic potential of a drug is related to dosage and time of administration :
 - During blastogenesis fetal death
 - During embryogenesis deformity
 - During the last trimester functional anomalies
- Aspirin may be administered to the pregnant woman as an anti-inflammatory agent but in the lowest therapeutic dosage
- Aspirin should be avoided during later stages of pregnancy since it may :
 - prolong labor
 - lead to greater blood loss during delivery
 - increase the incidence of stillbirths
- The pyrazolones may lead to sometimes fatal agranulocytosis
- Acetaminophen is the analgesic and antipyretic of choice during all phases of pregnancy

H. Niederhoff. H. Zahradnik. Analgesics during pregnancy. The American Journal of Medicine 1983,75(5),1;14,117-120

288. Fissured tongue is a condition that is _____.

- a. Seen in healthy, normal individuals
- b. Occurs on the lateral surfaces of the tongue
- c. Usually painful
- d. Associated with a thickening of the filiform papillae

Answer **A.**

Fissured tongue (also known as "scrotal tongue," "lingua plicata," "Plicated tongue," and "furrowed tongue" is a benign condition characterized by deep grooves (fissures) in the dorsum of the tongue. Although these grooves may look unsettling, the condition is painless and individuals experience no physical discomfort.

Fissured tongue is seen in Melkersson-Rosenthal syndrome, in most patients with Down syndrome, in association with geographic tongue, and in healthy, normal individuals.



Photo and definition from Wikipedia

A plethora of terms (erythema migrans, glossitis, areata migans, glossitis areata exfoliativa, geographic tongue, wandering rash of the tongue, and annulus migrans) has been used to identify migratory glossitis (MG). Although the cause is unknown, emotional stress may be one of several factors involved in the onset or exacerbation of the lesion. Sensitivity to the environment (atopy) has been suggested as another possible cause.

The histopathology of the lesions shows a loss of the filiform papillae and a variable thinning of the mucosa. In some areas, there is an epithelial hyperplasia. The epithelium shows spongiosis and infiltration by acute and chronic inflammatory cells.

Wood, Norman and Goaz, Paul; Differential diagnosis of Oral and Maxillofacial lesions 5th ed.

289. The best time to extract third molars is _____, because _____.

- A. By age 20; Bone density is higher
- B. After age 20; Bone density is lower
- C. After age 20; The roots are completely formed making bone removal easier
- D. By age 20; The roots are incompletely formed

ANSWER: D. By age 20; The roots are incompletely formed

Crown formation is usually complete by age 14 years, and the roots are approximately 50% formed by age 16 years. During this time the body of the mandible grows in length at the expense of resorption of the anterior border of the ramus. As this process occurs the position of the third molar relative to the adjacent teeth changes, with the third molar assuming a position at approximately the root level of the adjacent second molar. The angulation of the crown becomes more horizontal also. Usually the roots are completely formed with an open apex by age 18 years. By age 24 years 95% of all third molars that will erupt have completed their eruption.

Another important determinant of difficulty of extraction is the age of the patient. When impacted teeth are removed before age 20 years, the surgery is almost always less difficult to perform. The roots are usually incompletely formed and thus less bone removal is required for tooth extraction. There is usually a broader pericoronal space formed by the follicle of the tooth, which provides additional access for tooth extraction without bone removal. Because the roots of the impacted teeth are incompletely formed, they are usually separated from the inferior alveolar nerve.

In contradistinction, removal of impacted teeth in patients of older age groups is almost always more difficult. The roots are usually completely formed and are thus longer, which requires more bone removal, and closer to the inferior alveolar canal, which increases the risk of postsurgical anesthesia and paresthesia. The follicular sac almost always degenerates with age, which makes the pericoronal space thinner; as a result, more bone must be removed for access to the crown of the tooth. Finally, there is increasing density and decreasing elasticity in the bone, necessitating greater bone removal to deliver the tooth from its socket.

In summary, the degree of difficulty of the surgery to remove an impacted tooth is determined primarily by two major factors: (1) the depth of impaction and type of overlying tissue and (2) the age of the patient. Full bony impactions are always more difficult to remove than are soft tissue impactions and, given two impactions of the same depth, the impaction in the older patient is always more difficult than the one in the younger patient.

A corollary of surgical difficulty is difficulty of recovery from the surgery. As a general rule, a more challenging and time-consuming surgical procedure results in a more troublesome and prolonged postoperative recovery. It is more difficult to perform surgery in the older individual, and it is harder for these patients to recover from the surgical procedure.

Miloro, M. Peterson's Principals of Oral and Maxillofacial Surgery 2004, 1.2.8.139-40.

290. Elective oral surgery generally should be postponed on patients with severe hypertension with a blood pressure of what reading?

- A. 150/90
- B. 170/100
- C. 180/105
- D. $\geq 200/\geq 110$

Answer: D. $\geq 200 / \geq 110$

Elective oral surgery for patients with severe hypertension (ie, $\geq 200/\geq 110$) should be postponed until the pressure is better controlled. Emergency oral surgery in severely hypertensive patients should be performed in a well-controlled environment or in the hospital to allow the pressure and patient to be carefully monitored during surgery and then arrange for acute blood pressure control.

Mild-to-Moderate Hypertension (>140/>90)

*Recommend patient seek primary care physician's guidance for medical therapy of HTN

*Monitor patient's BP at each visit & whenever administration of epi-containing LA surpasses 0.04mg during single visit

*Use anxiety reduction protocol

*Avoid rapid posture changes in patients taking drugs that cause vasodilation

*Avoid administration of sodium-containing IV solutions

Severe HTN (>200/>110)

*Defer elective dental treatment until HTN is better controlled

*Consider referral to oral and maxillofacial surgeon for emergency problems

Peterson, Ellis, Hupp, Tucker. Contemporary Oral and Maxillofacial Surgery, 4th edition, 2003.

291. Which of the following local hemostatic agents converts fibrinogen to fibrin?

- a. Collagen
- b. Oxidized regenerated cellulose
- c. Absorbable gelatin sponge
- d. Topical thrombin

Answer. D Topical Thrombin

Local Hemostatic Adjuncts

Description	Brand	Mechanism of action		Cons
Absorbable gelatin sponge	Gelfoam	Most commonly used, least expensive	Forms a scaffold	Cannot be packed under pressure
Oxidized regenerated cellulose	Surgicel	More absorbant than gelatin	Promotes coagulation	Can be packed under pressure but delays healing
Topical thrombin		Liquid preparation used in patient with decreased ability to clot	Converts fibrinogen to fibrin enzymatically	
Collagen	Collaplug Collatape Avitene	Promotes platelet aggregation	Helps accelerate blood coagulation	

Peterson, Ellis Contemporary Maxillofacial Surgery 3rd edition

292. Which clinical presentation is not a situation in which the use of antibiotics is indicated?

- a. Diffuse swelling
- b. Osteomyelitis
- c. Severe pericoronitis
- d. Chronic well-localized abscess

ANSWER **d. Chronic well-localized abscess**

Indications for use of antibiotics

1. Rapidly progressive swelling
2. Diffuse swelling
3. Compromised host defenses
4. Involvement of fascial spaces
5. Severe pericoronitis
6. Osteomyelitis

Situations in which use of antibiotics is not necessary

1. Chronic well-localized abscess
2. Minor vestibular abscess
3. Dry socket
4. Mild pericoronitis

Effective orally administered antibiotics for odontogenic infections

1. Penicillin
2. Erythromycin
3. Clindamycin
4. Cefadroxil
5. Metronidazole
6. Tetracycline

Indications for culture and antibiotic sensitivity testing

1. Rapidly spreading infection
2. Postoperative infection
3. Nonresponsive infection
4. Recurrent infection
5. Compromised host defenses
6. Osteomyelitis
7. Suspected actinomycosis

Peterson et al. Oral and Maxillofacial Surgery; Contemporary Oral and Maxillofacial Surgery; 3rd edition.

293. Surgical trauma and bacterial infections are proposed initiating factors of localized fibrinolytic activity that leads to:

- A. Osteomyelitis
- B. Alveolar Osteitis
- C. Localized post surgical infection
- D. Localized post surgical inflammation

Answer: B. Alveolar Osteitis

- Dry socket, alveolar osteitis, is characterized by severe pain, starting on the 2nd or 3rd day post surgical
- Accepted etiology is increased local fibrinolysis leading to disintegration of the clot
- When anti-fibrinolytic agents are placed topically in an extraction site, decrease incidence of dry socket is noted
- Surgical trauma, which leads to liberation of different tissue activators, and bacterial infections remain to be the 2 most acceptable initiating factors of localized fibrinolytic activity. Other factors: Increased difficulty of extractions: surgical trauma increase Single tooth extractions
- Compared to single, most multiple extractions are less traumatic (usually perio)
- Less pain toleration by patients with single extraction
- Smoking: poor healing, heat and suction, or smokers don't follow instructions

Nusair Y, Aby Younis M. Prevalence, Clinical Picture, and Risk Factors of Dry Socket. The J of Contemporary Dental Practice. 2007. Vol 8, No 3 p 053

Birn, H. Fibrinolytic Activity of Alveolar Bone in Dry Socket. Acta Odont Scand, Vol 30, 1 March 1972 pgs 23-32

294. Axonotmesis

- A. Involves complete loss of nerve continuity
- B. Is produced by severe blunt trauma, nerve crushing, or extreme traction of the nerve
- C. Is produced by inflammation around a nerve, or local ischemia of a nerve
- D. Has a generally poor prognosis for spontaneous recovery

Answer B. Produced by severe blunt trauma, nerve crushing, or extreme traction of the nerve

When the inferior alveolar-mental nerve is injured, the usual causes are the following

1. Mandibular body fractures
 2. Preprosthetic surgical procedures
 3. Sagittal split osteotomy surgery
 4. Mandibular resection for oral neoplasms
 5. Removal of impacted lower third molars.
- Neurapraxia
 - The least severe form of peripheral nerve injury
 - Contusion of a nerve in which continuity of both the epineurial sheath and the axons is maintained
 - Produced by blunt trauma or stretching of a nerve, inflammation around a nerve, or local ischemia of a nerve
 - Spontaneous full recovery of nerve function usually occurs in a few days or weeks
 - Axonotmesis
 - Continuity of the axons but not the epineurial sheath is disrupted
 - Produced by severe blunt trauma, nerve crushing, or extreme traction of a nerve
 - Axonal regeneration can (but does not always) occur with a resolution of nerve dysfunction in 2 to 6 months
 - neurotmesis
 - the most severe type of nerve injury
 - involves complete loss of nerve continuity
 - can be produced by badly displaced fractures, severance by bullets or knives during an assault, or by iatrogenic transection
 - prognosis for spontaneous recovery of nerves except if the ends of the affected nerve have been left in close approximation and properly oriented