

Oral Surgery Morning Questions

Comp. Dent. T-2 2003-04

#1. Alternative methods for obtaining pulpal anesthesia are the Periodontal Ligament Injection Technique and Intraosseous Injection Technique. An alternative method for obtaining regional block anesthesia is the Intraosseous Injection Technique.

- A. Both statements are true**
- B. Both statements are false**
- C. First statement is true, second statement is false**
- D. First statement is false, second statement is true**

Regular 30, or 27 gauge short needles can be used to provide this method of anesthesia. Technique: Bend the needle to a 45-degree angle. Place the bevel of the needle up against the root surface and apply heavy apical pressure at the level of the bend with the opposite thumb or finger. Maintain steady firm injection pressure on the plunger for at least 30 seconds per site of injection at all line angles of the tooth e.g./ mandibular molar - MB, DB, ML, DL - 4 sites. Avoid injecting large amounts of anesthetic into the gingiva or papilla. This is especially important if you use higher concentrations of epinephrine. (1/50,000). It can cause sloughing and cratering post op. Care should be taken with the glass carpules, this kind of pressure can cause them to shatter. Patients should always wear eye protection when injections of this type are being given and plastic adhesive barrier film can be placed around the barrel of the syringe. Virtually all research has shown that a special "Ligmaject" gun is not required, but can make it easier.

Intraosseous injections start with topical anesthesia of the overlying gingiva then a system for penetrating the cortical plate of bone within the keratinized gingiva distal to the desired tooth with a trefine-type bur in a latch-type low speed handpiece so that the anesthetic agent may be injected into the cancellous tissue space from where it then diffuses to the desired root apices. Care must be used to prevent drilling into the PDL/apices or roots. The Stabident System (Fairfax Dental) is a two-part system with a separate perforator needle that mounts to a low-speed handpiece. The anesthetic injection needle is then passed through the perforation into the cancellous bone. One cause of difficulty with this system is the necessity of aligning the injection needle precisely with the perforation channel to gain access to the cancellous space. This problem has been addressed in the Stabident System by adding a funnel-shaped needle guide that is inserted into the perforation channel. The X-Tip System (X-Tip Technologies) has also addressed this problem in its system design. The X-Tip is also a two-part system, similar to the Stabident, with the exception that removal of the perforator needle leaves a cannular guide for insertion of the anesthetic injection needle into the cancellous bone. Because intraosseous injections are into the highly vascular cancellous bone tissue space, use of vasoconstrictor-containing anesthetic agents is generally not advised due to the rapid uptake of the agent into the circulatory system with a subsequent increase in patient heart rate.

The correct answer is A. Both statements are true

[Kaufmann](#), R.M., *A Periodic Review of Current Clinically Related Endodontic Topics*
Tips and hints for the practicing Dentist, The Endo Experience Oct. 2001 Vol. 2 Issue
No.7

Alan W. Budenz, MS, DDS, MBA *Local Anesthetics in Dentistry: Then and Now*
JOURNAL OF THE CALIFORNIA DENTAL ASSOCIATION, May 2003

#2. What is the most common type of mandibular fracture?

- A. Condylar**
- B. Ramus**
- C. Dentoalveolar**
- D. Body**
- E. Symphysis**

The anatomic distribution of mandibular fractures is as follows:

Condylar 29.1%

Angle 24.5%

Symphysis 22%

Body 16%

Dentoalveolar 3.1%

Ramus 1.7%

Coronoid 1.3%

The correct answer is A. Condylar

Peterson, Ellis, Hupp, Tucker, *Contemporary Oral and Maxillofacial Surgery* 3rd Edition, Mosby 1998, page 595

#3. WHICH OF THE FOLLOWING ARE SIGNS OF ANESTHETIC TOXICITY?

- 1. A patient may express to you a true epinephrine allergy.**
 - 2. In a mild toxicity the patient may be very talkative, anxious, have slurred speech and may be confused.**
 - 3. In moderate toxicity they may stutter, have tremors, headache, dizziness, blurred vision, drowsiness and nystagmus.**
 - 4. In a severe toxic state the patient may have tonic-clonic seizure activity, cardiac dysrhythmia or cardiac arrest.**
 - 5. Prevention involves using the minimal dose necessary to provide adequate pain control. The patient's age, weight, health, and anesthetic past problems should be considered.**
 - 6. The Dentist should inject slowly, avoid intravascular injections, and use vasoconstrictors to slow the entry of local anesthetics into the blood stream.**
- A. All are true**
 - B. 1,2,5,6 are true**
 - C. 2,3,4,5,6 are true**
 - D. 4,5,6 are true**
 - F. 2,4,6 are true**

Allergy to epinephrine can NOT occur. Ideal rate of local anesthetic administration is 1 ml/minute (carpules contain 1.8 ml). Also choose the local anesthetic based on need as the lipid solubility, vasodilatory properties, protein binding and inherent toxicity all vary. MANAGEMENT INCLUDES: Stop administration of all local anesthetics, monitor vital signs, observe in office for 1 hour. For moderate toxicity- stop administration, place in supine position, monitor vital signs, administer oxygen, observe for 1 hour. For severe toxicity-place in supine position, if seizure occurs-protect from nearby objects, suction oral cavity if vomiting occurs, summon medical assistance, monitor vital signs, administer oxygen, start an IV, administer diazepam 5-10 mg slowly, institute BLS as needed, transport to a medical facility.

The correct answer is C

Source: *Contemporary Oral and Maxillofacial Surgery*, Peterson, Ellis, Hupp and Tucker, 3rd edition p. 39-40.

#4. WHICH OF THE FOLLOWING RADIOGRAPHS WOULD YOU USE FOR DIAGNOSING AN ORBITAL BLOWOUT?

- 1. Lateral Skull View**
- 2. Waters View**
- 3. Submental Vertex**
- 4. Posterior Anterior View**
- 5. Lateral Oblique**
- 6. Periapical film.**

- A. 1 is true**
- B. 2,3 are true**
- C. 2 is true**
- D. 4,5 are true**
- E. 2,5 are true**

A lateral skull view can show a Le Fort III fracture or a craniofacial separation.

A Waters view shows fractures of the orbital rim area and maxillary sinuses.

A submental vertex demonstrates a zygomatic arch fracture.

A Posterior Anterior View can demonstrate a fracture in the body of the mandible.

A Lateral Oblique can show a fracture in the angle area.

A panorex can show body and subcondylar fractures.

The correct answer is C

Source: *Contemporary Oral and Maxillofacial Surgery*, Peterson, Ellis, Hupp and Tucker, 3rd edition p.592-593.

#5. WHICH OF THE FOLLOWING ARE TRUE CONCERNING THE V2 BLOCK?

- 1. The cranial nerve CN V branches into three branches, the oculomotor, maxillary and mandibular, with V2 being the maxillary branch.**
- 2. The Akinosi technique is an example of a V2 block.**
- 3. With the tuberosity or high buccal approach the pterygoid plexus of veins is rarely approached thus little chance of hematoma can occur with this technique.**
- 4. Advantage of the V2 block are to do quadrant Dentistry, and the ability to gain anesthesia by bypassing areas of infection anterior to the block.**
- 5. The success rate is greater than 95%, due to landmarks including being located between the middle of the third molar and the middle of the second molar 84% of the time, and on average it is located 7 mm anterior to the junction of the hard and soft palate.**

- A. All the above are true**
- B. 1,2,3,4 are true**
- C. 1,3,4,5 are true**
- D. 4, 5 are true**

#1 is false-the cranial nerve CN V branches into three branches , V1-OPHTHALMIC, V2-maxillary and V3-mandibular

#2 is False, it is a V3 block.

#3 With the tuberosity or high buccal approach the pterygoid plexus of veins is in close proximity thus there is a relatively **high** risk of hematoma with this technique.

#4, 5 are true. Technique involves two injections, place topical then inject .5 mm of Lidocaine 1:100,000 with a 30 gauge needle, wait 2-3 minutes, then use a 25 or 27 gauge needle bent at 45 degrees and bevel facing posteriorly, place the needle tip into the foramen and gently rotate it until the needle **FALLS UP** into the canal without any resistance. Advance in a superior and posterior direction to the final depth (generally in the 25-30 mm range) Long needles are generally 35 mm long. Inject one whole carpule of plain local anesthetic or one with a vasoconstrictor at 1:200,000 or 1:100,000 epinephrine. Onset is in 3-10 minutes with duration 1.5-2 hours duration of anesthesia.

The correct answer is D

Resource : September 1998 *CDA Journal*-Maxillary Nerve Block: The Pterygopalatine Canal Approach. Hawkins and Isen.

**#6. Bruises behind the ears suggest a basilar skull fracture.
Battle's sign appears several days following a basilar skull fracture.**

- A. The first statement is true, the second statement is false.**
- B. The first statement is false, the second statement is true.**
- C. Both statements are true.**
- D. Both statements are false.**

-Battle's sign, Facial trauma evaluation:

-Evaluate facial area, organized and sequential fashion.

-Look for lacerations, abrasions, contusions, areas of edema, hematoma formation, and contour defects. Ecchymosis must be evaluated carefully. Skull fractures are common in children and result from accidents (auto or auto/bicycle) or abuse.

-Periorbital ecchymosis especially with subconjunctival hemorrhage suggests orbital rim or zygomatic complex fracture.

-Bruises behind ear (Battle's sign) suggest basilar skull fracture. They appear several days after the actual trauma.

-Ecchymosis in floor of mouth can be anterior mandibular fracture.

-Neurologic exam of face needed.

The correct answer is C

Contemporary Oral and Maxillofacial Surgery, Peterson, Ellis, Hupp, Tucker, 3rd ed, 1998 Mosby, page 589.

www.mercksource.com/pp/us/cns/printpage_hl.jsp

#7. The first suture in through and through lip lacerations is placed in the deepest area of the wound. Nylon sutures are placed in the outer dermal layer of a through and through skin lesion.

- A. The first statement is true, the second statement is false**
- B. The first statement is false, the second statement is true**
- C. Both statements are true**
- D. Both statements are false**

Close through and through wound, technique
Steps in wound closure:

1. Cleansing – mechanical cleansing to prevent debris from remaining. Use surgical soap with local anesthetic. Copious saline irrigation to remove water soluble material.
2. Debridement – removal of contused and devitalized tissue. Maxilla does not require much debridement due to rich blood supply. Excise obviously non vital tissue. Most oral lacerations do not need debridement except for minor salivary gland tissue.
3. Hemostasis – must have bleeding under control prior to closure. Clamps or ligatures or cauterization. Large labial artery courses horizontally across lip beneath labial mucosa.
4. Closure – Not all lacerations require it. Depth and location are determining factors. Goal of closure is proper positioning of all tissue layers.

Tongue or lip laceration may involve muscle tissue. Place resorbable suture when close to muscle layers, followed by suturing of the mucosa.

Closure Steps:

- With through and through lacerations of the lip the first suture is placed at the mucocutaneous junction to approximate the vermilion border. Wound is then closed from the inside out.
- Oral mucosa is closed with silk or resorbable suture.
- Orbicularis oris muscle is then sutured with interrupted
- Dermal surface of lip is sutured closed with 5-0 or 6-0 nylon sutures.
- Consider use of antibiotics depending on size or nature of wound.
- Check patient's tetanus status.
- Remove facial skin sutures 4-6 days post operative.

The correct answer is B

Contemporary Oral and Maxillofacial Surgery, Peterson, Ellis, Hupp, Tucker, 3rd ed, 1998 Mosby, page 585-6

#8. Which is not a common oral presentation of patients undergoing head and neck radiation therapy?

- A. Xerostomia**
- B. Thinned epithelium**
- C. Candidiasis**
- D. Lichen Planus**
- E. Mucositis**

30,000 cases of head and neck cancer every year. Therapeutic radiation destroys neoplastic cells while sparing normal cells in an ideal system. In reality, normal cells are also affected.

Radiation interferes with nuclear material needed for cell reproduction and maintenance. Targets cells with faster turnover, such as neoplastics, hematopoietics, epithelial and endothelial.

Initial affects – Erythema in the first one or second weeks. May progress to severe mucositis with or without ulceration, pain, and dysphagia. These subside at end of therapy. Taste buds are affected, loss of taste returns gradually.

Long term affects – Predisposition to breakdown and delayed healing with even minor insults. Epithelium is thin, less keratinized, and submucosa is less vascular (pale). Submucosal fibrosis - lining of oral cavity is less pliable. Results in slow healing ulcers.

Salivary glands – May present with fine vascular destruction, atrophy, fibrosis, degeneration, xerostomia, radiation caries, periodontitis, and dysphagia.

Bone – Osteoradionecrosis. Radiation beam devitalizes the bone that in the area of treatment. Endarteritis occurs with an elimination of fine vasculature. Remodeling is halted. The mandible is more affected due to restricted blood supply.

Other affects - Oral flora modification, with overgrowth of anaerobic species and fungi. *Candida Albicans* thrives.

Teeth affected - Determined by patient's awareness, hygiene skills, and timing of radiation. 3rd molars with oral communication should be removed. Denture wearers are susceptible to pressure ulceration and osteoradionecrosis.

Typical treatment of squamous cell carcinomas

90% of malignant tumors are treated with radiation.

Squamous Cell carcinoma requires larger doses to be effective. Usually > 6000 rads or 60gy.

Lymphomas need relatively less at < 5000 rad, or 50gy. Side effects are dramatically less with lymphoma treatment.

Answer: D

Contemporary Oral and Maxillofacial Surgery, Peterson, Ellis, Hupp, Tucker, 4th ed, 2003 Mosby, page 405-409.

#9. Leforte Fractures

Match:

- | | |
|----------------|--|
| 1. Le Fort I | a. Craniofacial separation |
| 2. Le Fort II | b. Separation of maxilla from the pterygoid plates and nasal zygomatic structures |
| 3. Le Fort III | c. Zygomatic complex fracture |
| 4. Most common | d. Separation of maxilla and nasal complex from the orbital and zygomatic structures |

- | | |
|----|------------------------|
| A) | 1: b; 2: d; 3: a; 4: c |
| B) | 1: a; 2: b; 3: c; 4: d |
| C) | 1: b; 2: c; 3: d; 4: a |
| D) | 1: c; 2: d; 3: a; 4: b |
| E) | 1: d; 2: a; 3: b; 4: c |

These fractures result from horizontal force to the mid face. The most common type of midface fracture is the zygomatic complex fracture.

Le Fort I= Separation of maxilla from the pterygoid plates and nasal zygomatic structures.

Le Fort II= Separation of maxilla and nasal complex from the cranial base, orbital and zygomatic structures.

Le Fort III= Craniofacial separation. Fracture also extends through orbits bilaterally.

Answer: A

Contemporary Oral and Maxillofacial Surgery, Peterson, Ellis, Hupp and Tucker, 3rd ed, 1998, p 596-597.

#10. Which heart valve is most commonly involved in endocarditis?

- A) Mitral valve**
- B) Aortic valve**
- C) Pulmonary valve**
- D) Tricuspid antrioventricular valve**

Infectious endocarditis may be caused by bacteria that was introduced into the circulation from invasive dental procedures. Bacteria attached to a sterile vegetation that exists on abnormal heart valve due to turbulent flow around incompetent valve. Turbulent flow causes loss of surface endocardium, which exposes the underlying collagen. Platelets and fibrin aggregate on the exposed collagen, forming sterile vegetation, which become infected to produce bacterial endocarditis. Mitral valve prolapse is the most frequent underlying disease and the mechanism of mitral regurgitation secondary to infective endocarditis.

Answer: A

Contemporary Oral and Maxillofacial Surgery, Peterson, Ellis, Hupp and Tucker, 3rd ed, 1998, p 412-414.

Mitral regurgitation in infective endocarditis: Habib G, Thuny F, Avierinos JF. *Ann Cardiol Angeiol*, 2003 Apr;52(2):91-7

Antibiotics for SBE prophylaxis for dental treatment is directed toward hemolytic *Streptococcus* organisms. Amoxicillin is an effective killer of *Streptococcus*.

#11. When the patient is taking Penicillin long-term for prevention of recurrent rheumatic fever, the *Streptococci* may be resistant to penicillin. The recommendation is to use Clindamycin or Azithromycin for endocarditis prophylaxis.

- A) Both statements are true.**
- B) Both statements are false.**
- C) The first statement is true, second statement is false.**
- D) The first statement is false, second statement is true.**

Amoxicillin is an effective killer of hemolytic *Streptococcus*, which is the most common cause of endocarditis following dental procedures. Recommendation of Amoxicillin was not due to providing broader Antimicrobial spectrum.

When the patient is taking Penicillin long-term, the recommendation is to use full SBE prophylaxis dose of Clindamycin or Azithromycin.

Answer: A

Contemporary Oral and Maxillofacial Surgery, Peterson, Ellis, Hupp and Tucker, 3rd ed, 1998, p 412-414

#12. WITH RESPECT TO RESORBABLE AND NONRESORBABLE SUTURES, which one of the following is an incorrect statement regarding resorbable or nonresorbable sutures?

- A. Gut, polyglycolic acid and an copolymer of glycolic and lactic acids are resorbable sutures typically used in oral and maxillofacial surgery.**
- B. Polyglycolic acid and polyglactin 910 sutures have the advantage of being less stiff than gut sutures.**
- C. Resorbable sutures are ideal for suturing traumatized patients with (external) skin facial lacerations due to their ability to allow wound repair with minimal follow up.**
- D. A nonresorbable suture, such as silk, is a poor choice for repair of deep cutaneous lacerations.**
- E. The most commonly used nonresorbable sutures in oral and maxillofacial surgery are silk, nylon, polyester, and polypropylene.**

The following are important facts regarding suture materials:

- a. Polyglycolic acid and polyglactin 910 sutures have the advantage of being less stiff than gut sutures. In addition, surgeons find it easier to tie sutures made of these material, with less problem of the knots remaining tight.
- b. Gut is less expensive that the Polyglycolic acid and polyglactin 910 sutures.
- c. Chromic (cat gut) has more resistance to proteolytic enzymes and more suture strength due to treatment with basic chromium salts.
- d. Resorbable sutures are highly reactive, compared with nonresorbable sutures. They evoke an intense inflammatory reaction that may impede wound healing. Therefore they are never used for suturing the surface of a skin wound.
- e. Although silk is classified as a nonresorbable suture material, it gradually loses its tensile strength and disappears in about 2 years if not removed.
- f. The most commonly used nonresorbable sutures in oral and maxillofacial surgery are silk, nylon, polyester, and polypropylene. All nonresorbable sutures have some reactivity. Silk evokes the most intense inflammatory response of the nonresorbable sutures. Polyester is much less reactive than silk, nylon is less reactive than polyester, and polypropylene has the least tendency to induce inflammation. Nylon is usually the cutaneous suture of choice for minimizing wound inflammation, such as with a facial laceration.
- g. Nonresorbable sutures are either monofilamentous, multifilamentous, or both.

The correct answer is C. It is an incorrect statement.

Petersen, Ellis, Hupp, Tucker: *Oral and Maxillofacial Surgery*; Mosby, 3rd Ed. 1998.

- pathologic immune reaction, and treatment of concomitant superinfection.

#13. The bacteria that cause odontogenic infections are most commonly part of the (natural flora) indigenous bacteria. Infections caused by only anaerobic bacteria comprise the majority of odontogenic infections.

- A. Both statements are true.**
- B. Both statements are false.**
- C. The first statement is true and the second statement is false.**
- D. The first statement is false and the second statement is true.**

The bacteria that cause odontogenic infections include those found on mucosal surfaces, plaque bacteria and those found in the sulcus. They are primarily aerobic gram-positive cocci, anaerobic gram-positive cocci, and anaerobic gram-negative rods. These bacteria also cause common diseases, such as caries, gingivitis and periodontitis.

	Number of patients	Percentage
Aerobic only	28	7
Anaerobic only	133	33
Mixed	243	60

- Aerobic bacteria that cause odontogenic infections:
- The most common causative organisms are streptococci (70%) of the species; staphylococci are found in about 5% of the infections. Miscellaneous bacteria contribute 1% or less.
- Anaerobic bacteria that cause odontogenic infections:
- There are an even greater variety of species. Two main groups predominate.
- The anaerobic gram-positive cocci account for one third of the infections. These are anaerobic Streptococcus and Peptostreptococcus. The gram-positive rods and gram-negative cocci play a less important role. They have little to no role in the etiology of odontogenic infections.
- The gram-negative rods are cultured in about half of the infections. These are Prevotella and Porphyromonas (previously Bacteroides) account for 75% of these and Fusobacterium for 25%.
- After inoculation into deeper tissues, the more invasive organisms with higher virulence (the aerobic Streptococcus) being the infection process, initiating a cellulitis type of infection. The anaerobic bacteria will then begin to grow. As the local REDOX potential is lowered (because of growth of the aerobic bacteria), the anaerobic bacteria become more predominant. As the infection reaches a more chronic abscess stage, the anaerobic bacteria predominate and eventually become the exclusive causative organisms.
- In summary, early infections that appear initially as cellulitis are characterized as aerobic streptococcal infections and late, chronic abscesses may be characterized as anaerobic infections.

The correct answer is C

Petersen, Ellis, Hupp, Tucker: *Oral and Maxillofacial Surgery*; Mosby, 3rd Ed. 1998.

#14. RADIOGRAPHS TO TAKE ON A TRAUMATIZED PATIENT

The facial radiographic exam should depend upon the clinical examination and the suspected injury. In cases of severe head and neck trauma, a chest x-ray should be taken.

- A. Both statements are true.
- B. Both statements are false.
- C. The first statement is true and the second statement is false.
- D. The first statement is false and the second statement is true.

In cases of severe head and neck trauma, cervical spine injuries should be ruled out with a complete C-spine series before any manipulation of the neck. In patients with facial trauma, the purpose of the radiographs should be used to confirm the suspected clinical diagnosis, obtain information not clear from the clinical exam and to more accurately delineate the extent of the injury.

Evaluation of the mandible include two or more of the following:

Posterioranterior view, lateral oblique view, Towne view, and panoramic view. In some cases, additional RG's are taken, including occlusal or periapical views. CT scans may be helpful where plain RG's are unable to fully delineate the extent of injury. CT scans are also used to rule out neurologic injury.

Evaluation of the midface fractures include the following:

Water's view, lateral skull, Posterioranterior skull and submental vertex views. Frequently CT scans will also be done in several planes of space or three-dimensional reconstruction.

Midface fractures include: Le Fort I, II, or III fractures, zygomaticomaxillary complex fractures, zygomatic arch fractures, or naso-orbital ethmoid fractures.

Quick review of what fracture each film may commonly demonstrate:

Posterioranterior view-mandibular body fracture

Lateral oblique view-angle area

Towne view-condylar fractures

Panoramic view-subcondylar fractures or body

Water's view-orbital rim areas

Lateral skull-illustrates Le Fort fractures (e.g. Le Fort III with craniofacial separation)

Submental vertex views-trimalar fracture (ZMC)

CT-any area in great detail-often used to show disruption of orbital floor or medial and inferior floor of orbit and 3-D reconstruction of complex Le Fort fractures.

The correct answer is C

Petersen, Ellis, Hupp, Tucker: *Oral and Maxillofacial Surgery*; Mosby, 3rd Ed. 1998.

#15. Reactions to latex typically are either Type IV (delayed) reactions or Type III (immediate) reactions. Type IV reactions are more acute and life threatening than Type I reactions.

- A. Both statements are true**
- B. Both statements are false**
- C. The first statement is true and the second is false**
- D. The first statement is false and the second statement is true**

Type IV (cell mediated, contact dermatitis or delayed reactions) typically occur as contact urticaria and predispose patients to the development of the more severe and acute Type I (immediate, systemic or IgE mediated) anaphylaxis reactions. Delayed reactions can be due to the rubber chemicals such as thiurams and carba. These chemicals are accelerators used in the manufacturing process. Both atopy and hand dermatitis predispose one to a immediate hypersensitivity reaction. The exact mechanism of urticaria is not clear. The low molecular weight and water solubility of latex proteins made play a factor. Powdered gloves made act as a vector for the latex proteins. Skin prick and RAST testing should be done to rule out suspected cases of latex allergies. Simply washing your hands might not be sufficient to remove the latex proteins. Testing can be done with the latex Skin Prick Test.

Type II is a cytotoxic antibody-dependent reaction. This type can occur with incorrect blood type transfusions. Type III is an immune-complex reaction. This type of reaction is mediated by T lymphocytes and does not involve antibodies.

The correct answer is B

Shah M, Lewis FM, and Gawkrödger DJ. Delayed and immediate orofacial reactions following contact with rubber gloves during dental treatment. *British Dental Journal* 1996; 181:4

#16. A Lefort II fracture involves which structures?

- A. Separation of the maxilla and the attached nasal complex from the orbital and zygomatic structure.**
- B. Separation of the nasoorbital ethmoid complex, the zygomas, and the maxilla from the cranial base.**
- C. Separation of the maxilla from the pterygoid plates and nasal and zygomatic sutures.**
- D. None of the above.**
- E. All of the above.**

A Lefort I fracture is answer C, Lefort III is answer B. The most common fracture is the midfacial fracture of the zygomatic complex. Midface deformities with infraorbital rim and malar deficiencies can be corrected with a Lefort II osteotomy.

The correct answer is A.

Contemporary Oral and Maxillofacial Surgery, Second Edition, pg 597

#17. The vital sign that varies the least with odontogenic infections is:

- A. Respiratory rate**
- B. Blood Pressure**
- C. Pulse**
- D. Temperature**

Only if there is significant pain and anxiety will there be a mild elevation in systolic pressure.

Patients who have *systemic* involvement of infection will have elevated temperatures. Patients with severe infections will have temperatures elevated to 101° to 102°F.

Pulse rates of up to 100 beats per minute are not uncommon in patients with infections. A patient with a pulse rate over 100 may have a severe infection and should be treated more aggressively.

The normal respiratory rate is 14-16 breaths per minute. Patients with mild to moderate infections have elevated respiratory rates of up to 18-20 breaths per minute. As respirations are monitored, the dentist should carefully check to insure that the upper airway is clear and that breathing is without difficulty.

The correct answer is B. Blood pressure

Oral and Maxillofacial Surgery, Peterson et al. pp 397-398

#18. A true allergic response to penicillin infrequently manifests as angioneurotic edema and anaphylaxis. Delayed allergic reactions are mediated through the cellular (T-cell) branch of the immune system, and these usually manifest as skin rashes, blisters, and at times, oral ulcerations.

- A. Both statements are true**
- B. Both statements are false**
- C. The first statement is true; the second is false**
- D. The first statement is false; the second is true**

Angioneurotic edema also known as perioral swelling in the throat adequate to restrict or prevent breathing (anaphylaxis)

The correct answer is A.

Essentials of Oral Medicine. Silverman et al. pp 108

#19. Impacted maxillary third molars are occasionally displaced posteriorly into the infratemporal space and during elevation of the tooth the elevator may force the tooth posteriorly through the periosteum into the infratemporal fossa. The tooth is usually lateral to the lateral pterygoid plate and inferior to the lateral pterygoid muscle.

- A. The first statement is true, the second is false**
- B. The first statement is false, the second is true**
- C. Both statements are true**
- D. Both statements are false**

If there is good access and light, the surgeon should make a single cautious effort to retrieve the tooth with a hemostat. The tooth is usually not visible, and blind probing will result in further displacement. If the tooth is not retrieved after a single effort, the incision should be closed and the operation stopped.

The patient should be informed that the tooth has been displaced and will be removed later. Antibiotics should be given to help decrease the possibility of an infection, and routine postoperative care should be provided.

During the initial healing time fibrosis occurs and stabilizes the tooth in a rather firm position. The tooth is removed 4 to 6 weeks later. Preoperative lateral and posteroanterior radiographs are taken to locate the tooth in all three planes of space. After the area is anesthetized, a long needle (usually a spinal needle) is used to locate the tooth. The surgeon then dissects along the needle until the tooth is located. Because this surgical procedure is complex, it is usually performed by an oral and maxillofacial surgeon.

The correct answer is B

Oral and Maxillofacial Surgery. Peterson et al. pp 267