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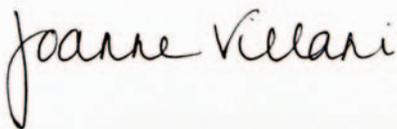
At ADTS we strive to bring you courses that are educational and applicable to your practice of dentistry. We do this by asking you what you would like to know more about. Based on your input we learned that oral surgery is a topic that readers are interested in. This is the first in a series of courses we will publish over the next year entitled Oral Surgery for the General Dentist.

This course focuses on atraumatic extractions and will review what is involved in a complete preoperative assessment, how to evaluate the level of difficulty of a proposed procedure as well as, how to apply the basic surgical techniques required and manage certain complications that may arise from surgery. Look for future courses that will focus on the prevention and treatment of dry socket, an update on suturing techniques, and a comprehensive look at managing surgical complications.

Please take the time to answer the course evaluation questions on the answer sheet. This helps us to determine not only if you are satisfied with the course you have read but also if there are areas where we need to improve in order to serve you more effectively. In addition, we have added an online feedback form at www.inedce.com for those who have more in-depth comments or suggestions.

Another way we look for feedback is by way of an online survey. By taking this survey, you allow us more insight into your educational needs as practicing clinicians. Within this survey we offer you the opportunity to be a Professional Advisor. This is a new way for us to reach the dental community by calling on Professional Advisors to ask about a variety of dental related topics. As a thank you for completing the survey we offer you a discount on any ADTS course. For more information go to www.inedce.com and click on 'Help Us!' CE OFFER

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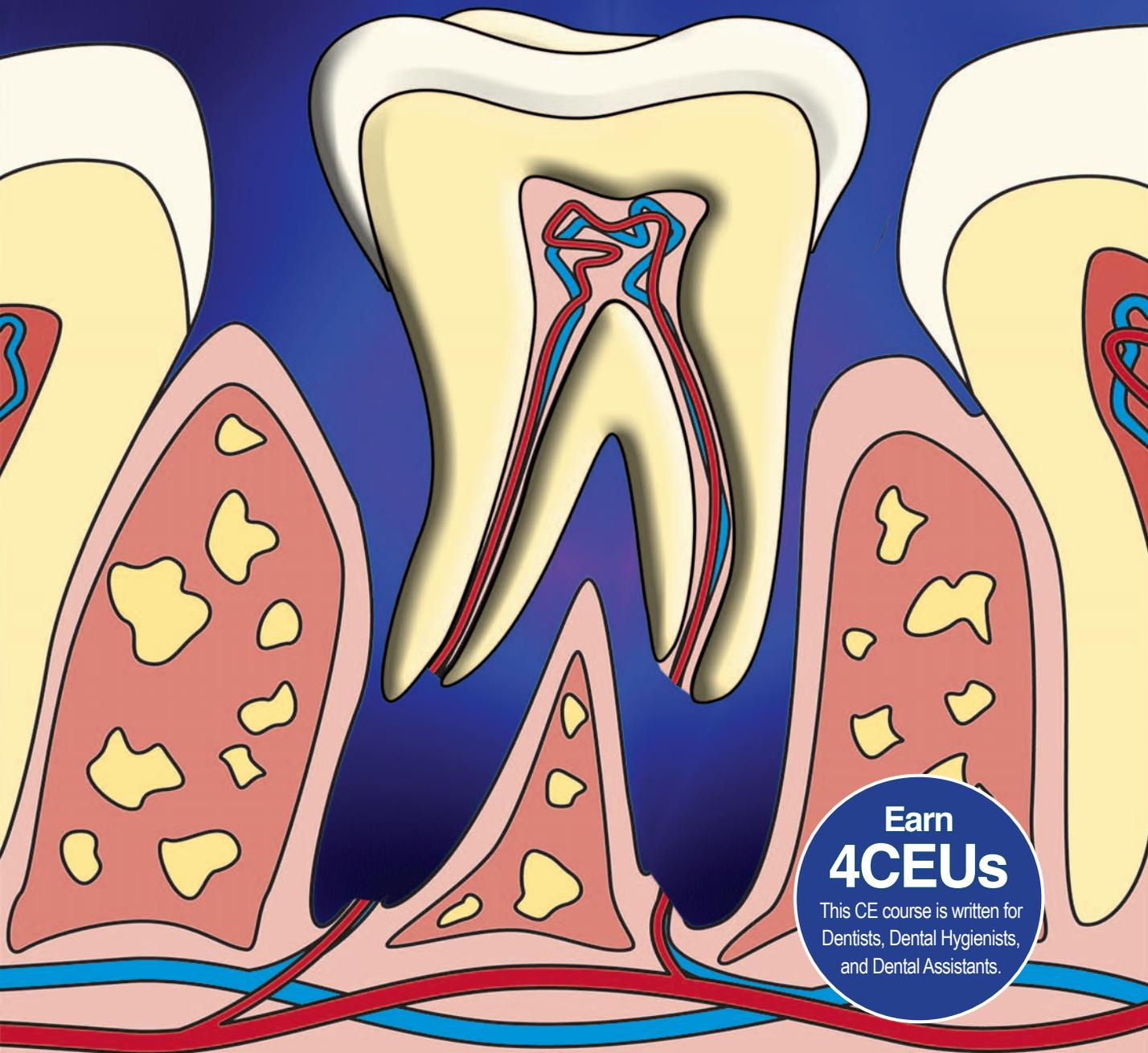
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Editor

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Oral Surgery for the General Dentist

Atraumatic Extractions

A Peer-Reviewed Publication



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4CEUs

This CE course is written for
Dentists, Dental Hygienists,
and Dental Assistants.



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Educational Objectives

This course focuses on atraumatic dental extractions. After completing this course the reader will be able to

1. explain a complete preoperative assessment,
2. evaluate the level of difficulty of the proposed procedure,
3. apply the basic surgical techniques required and
4. manage certain complications that may arise, including root tip retrieval.

Introduction

Almost daily, each dentist may deal with some aspect of oral surgery in his or her practice. It may be a single tooth extraction, an infection, the extraction of third molars, or a biopsy. In this article, we will focus on extractions. The purpose of this article is to give the readers some guidelines on patient assessment, evaluating the level of difficulty of the proposed procedure, the basic surgical techniques required, and management of certain complications that may arise.

For any practitioner, whether a general dentist or a dental specialist, the most important aspect of any surgical procedure is the preoperative assessment. This assessment begins with a thorough medical history and physical examination. An accurate medical history is important to help the practitioner decide whether a patient is able to undergo a surgical procedure. Included in this exam are the patient's chief complaint, history of chief complaint, medical history, and review of systems.

Chief Complaint

Every patient should be asked to state his or her chief complaint. This should be transcribed into the patient's chart in his or her own words. This will aid the practitioner in establishing a diagnosis and developing a treatment plan to fit each individual patient.

History of Chief Complaint

The patient is asked the history of the complaint, including the date of first appearance and changes since its onset. Symptoms should be discussed with the patient to determine onset, type, location, duration, and intensity of pain, with any additional symptoms such as fever, chills, and malaise also being recorded.

Medical History

Dentists are trained in basic and preclinical medical sciences and have a responsibility as health care providers to take a thorough medical history to screen their patients for any medical problems that may preclude them from undergoing a surgical procedure. There are many health questionnaire forms available to dentists from a variety of sources, including dental schools, medical malpractice carriers, and the American Dental Association. Every dentist should obtain a questionnaire suited for obtaining the necessary information and incorporate it into his or her dental chart. This medical history should be reviewed with the patient, and each positive answer should be explored with appropriate follow-up questions. It is outside the scope of this article to discuss all potential medical problems.

Review of Systems

The review of systems is a systematic method of determining symptoms of each organ system. These questions should be

based upon positive answers obtained from the health questionnaire. This review will give the practitioner an idea of the severity of the disease and guide him or her when making treatment decisions (i.e., do the procedure, consult physician, refer to specialist). When in doubt about the patient's medical history, the dentist should consult the patient's physician.

After careful review of the patient's health history, the clinician should focus on the physical evaluation. The physical exam of the oral surgery patient should begin with vital signs (BP, pulse). This information will establish a baseline for each patient for future visits as well as screen the patient for any potential medical problems. The physical exam of the dental patient will focus on the head and neck region with emphasis placed on the oral cavity. Once the physical exam is completed, the clinician should evaluate all the information and then can assign the patient an American Society of Anesthesiologists (ASA) classification of physical status. You may consider obtaining medical clearance for those patients ASA III and above. An example of an ASA II vs ASA III patient, respectively is one with controlled hypertension or diabetes vs a patient with uncontrolled hypertension or diabetes.

American Society of Anesthesiologists

Classification of physical status

ASA I – Normal, healthy patient

ASA II – A patient with mild systemic disease or significant health risk factor

ASA III – A patient with severe systemic disease that is not incapacitating

ASA IV – A patient with severe systemic disease that is a constant threat to life

ASA V – A moribund patient who is not expected to survive without the operation

ASA VI – A declared-brain-dead patient whose organs are being removed for donor purposes

Once the dentist has finished the preoperative medical evaluation and has decided that the patient is healthy enough to undergo the surgical procedure in the dental office, the next aspect of the preoperative assessment is a clinical and radiographic evaluation of the tooth/teeth to be extracted.

Presurgical Evaluation of Erupted Teeth

Clinical Evaluation

Presence of infection – Many teeth are extracted due to large carious lesions or an infection. Because of this, each patient must be evaluated for any local or distant fascial space infection. Since local anesthesia becomes more difficult in the presence of infection, this may make your surgical procedure less effective. The presence of infection, however, is not a contraindication to extraction. When infection is present in the form of an abscess, the abscess must be incised and drained and the source of the infection must be removed. In the case of a dental abscess, this can be accomplished either by root canal treatment or by extraction. Due to the nature of abscesses, antibiotics are unable to reach the site of infection secondary to impaired blood supply, and thus antibiotics alone will be insufficient. When the infection is localized to the alveolar ridges or other low-risk areas, these are easily treated by the general dentist. However, if the infection has spread to deeper fascial spaces or is in close proximity to vital structures, the general dentist should refer the patient to an oral and maxillofacial surgeon or the emergency department at a local hospital.

Maximum incisal opening – During physical examination, attention

should be made to the width of the mouth opening. Restriction of the opening can limit visibility and access to the tooth being extracted and can turn an easy extraction into a difficult surgical extraction for even the most experienced surgeon. The cause of severe limited opening should also be investigated and the patient should be referred to the appropriate specialist.

Tooth mobility – The mobility of the tooth to be extracted should be assessed prior to extraction. Teeth with severe periodontal disease frequently exhibit mobility that can make the extraction considerably easier. At the other end of the spectrum is the ankylosed tooth. Ankylosis is usually seen in retained primary molars and require surgical removal rather than simple forceps extraction.

Condition of the crown – The crown of the proposed tooth should be inspected for the presence of large restorations or gross caries. The presence of either of these increases the likelihood of the crown fracturing or being crushed during routine extraction.

The result would be retained roots and having to convert to a surgical extraction. To try and counteract this, it is important to grasp the tooth as far apically on the root surface with the forceps as possible. It is also important to examine the adjacent teeth for restorations and caries. If present, the surgeon should use elevators judiciously, because damage to adjacent restorations can occur.

Tooth alignment in arch – Teeth that are malpositioned within the arch can be inaccessible with forceps and may require greater skill to remove. When unable to use the proper forceps, a surgical approach may be required.

Radiographic Evaluation

Adequate radiographs – The radiograph must be properly exposed and must show all parts of the tooth to be extracted. If any portion of the tooth is missing on the radiograph, the radiograph must be retaken prior to extraction.

Relationship to vital structures – When performing extractions, care must be taken to note the tooth's relationship to vital structures. The structures involved are the inferior alveolar nerve, mental foramen, and maxillary sinus. When extracting posterior maxillary teeth, the distance from the apex of the root to the floor of the sinus must be noted. If there is only a thin layer of bone or if the sinus appears pneumatized around the roots of the teeth, there is an increased chance of perforating the maxillary sinus. The clinician should then plan for a surgical extraction and divide the maxillary molars into individual roots prior to extraction. The relationship of mandibular molars to the inferior alveolar nerve should also be noted. This will be more important when evaluating impacted third molars.

Configuration of roots – The size, shape, curvature, and number of roots must be carefully evaluated prior to extraction. [Figure 1] Most teeth have a typical number of roots. However, in certain cases, determining the actual number of roots prior to extraction can aid in planning the surgical method to avoid fracturing any additional roots.



Figure 1.

The size and shape of the roots of the tooth being extracted must also be taken into account. Teeth with long, bulbous roots will be much more difficult than those with short, tapering roots. The surgeon must know both the curvature and also the divergence of the roots prior to extraction. Multi rooted teeth with divergent roots can present a challenge to the surgeon, and it may be wise to plan for a surgical extraction prior to starting. The surgeon should also evaluate the root of the tooth for resorption, caries, and previous endodontic therapy. Each of these situations increases the difficulty of the extraction, and a surgical extraction may be indicated.

Condition of surrounding bone – The surrounding bone should be examined for level of density and any pathology that may be present. Bone that is more opaque indicates more dense bone and will likely mean a more difficult extraction. Pathology in the apical region should be noted, and any lesion should be removed at the same time as the tooth. If the dentist is uncomfortable with the removal of the pathological lesion, the extraction and biopsy should be referred to an oral and maxillofacial surgeon.

Techniques for Uncomplicated Extractions

With the increasing popularity of dental implants, more care should be taken in the extraction of teeth planned for implant replacement. This is particularly important in the anterior maxilla, where aesthetics are essential. Care must be taken to preserve as much bony support (especially the buccal cortical plate) in order to keep the soft tissue at a good biologic and aesthetic level and prevent collapse of the bony socket. We will discuss the less traumatic techniques to extract erupted teeth to preserve the surrounding bone and soft tissue.

Maxillary incisors – The central incisors tend to have long conical roots, whereas the lateral incisors are generally more slender and have a slight curve to the distal at the apex. When the crown is fully intact, generally all that is needed is an extraction forceps. Care must be taken to sever the epithelial attachment of the gingiva with the tooth so as to avoid tearing the soft tissue when extracting the tooth. This can be done with any periosteal elevator such as a 9 Molt [Figure 2] or a Woodson elevator [Figure 3].



Figure 2.



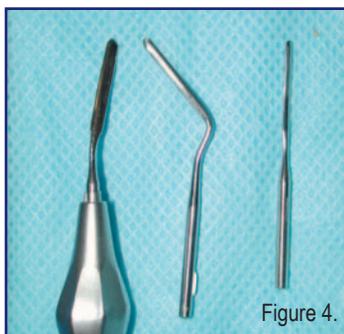
Figure 3.

The extraction forceps' beaks should be adapted to the buccal and lingual contours of the tooth, and a rotational and tractional movement should be used. A buccal-lingual movement should be avoided in this area as the buccal plate can be very thin and fracture can occur. Fracture of the buccal plate will increase the rate and amount of resorption of the alveolar ridge following extraction. The #1 and #99-C forceps are designed for maxillary incisors, but some practitioners use #150 forceps for these extractions.

Maxillary canines – The extraction of maxillary canines can be very difficult even when they are fully erupted, due to their extremely long roots and thin buccal cortical bone overlying the root. This is the most common area for the buccal cortical plate to be fractured. The basic extraction forces are rotation but with added

buccal and palatal movement due to the broad labiolingual dimension of the root. The use of periostomes may be beneficial in this area to expand the socket in a controlled fashion. The periostome [Figure 4] is placed along the root, surface and tapped apically. The periostome is advanced sequentially around the whole circumference of the root taking care not to advance it too far apically initially, as it will increase the chance of instrument breakage.

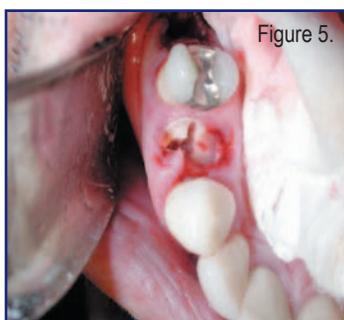
Use on the buccal surface of the root should be very minimal so as to avoid fracture of the buccal plate. Once the tooth is sufficiently luxated, extraction of the tooth can be finished with the extraction forceps. When extracting the maxillary canine, the surgeon should use the remaining hand to palpate the buccal



bone to feel for cortical plate fracture. If the cortical bone is fractured, care should be taken to keep it attached to the periosteum if possible. This is done by placing a thin periosteal elevator down the buccal surface of the root and using it as a lever to separate the bone from the tooth. Extraction of the maxillary canine is done using the #150 forceps.

Maxillary first premolar – The maxillary first premolar, due to the anatomy, must be treated differently than the second premolar. The 1st premolar generally has two roots, with the bifurcation coming in the apical one-third to one-half, and the roots can be extremely thin. This makes the tooth, being prone to root fracture, technically more difficult to extract. The easiest way to extract this tooth is to use the #150 forceps in a traction motion.

This is accomplished by grasping the tooth with the forceps as low as possible, to wedge the beaks of the forceps between the tooth roots and the bone. As the tooth becomes luxated, it can be grasped lower on the root surface. Luxation can also be achieved by the use of a straight elevator.



Care must be taken not to place excessive force on the tooth, as this force can be transmitted to adjacent teeth and restorations.

Excessive buccal-palatal motion should be avoided to prevent root tip fracture. The tooth should be luxated as much as possible before placing buccal-palatal forces on the tooth. This will loosen the roots of the teeth, and a loose root tip is much easier to remove. If the crown fractures, the roots should be sectioned with a thin, tapered fissure bur from mesial to distal, and each root elevated from the socket with gentle luxation. [Figure 5]

Maxillary second premolar – The maxillary second premolar is normally a single-rooted tooth. The root is usually thick with a blunted end. This morphology makes it less prone to root fracture. The buccal bone is similar to that of other maxillary teeth in that it is thinner than the palatal bone and prone to fracture if too much force is applied in a buccal direction.

A maxillary universal forceps (#150 or #150A) is usually adequate for this tooth. As with all teeth, the forceps is seated apically and pushed apically to luxate the tooth. The tooth is then gently rocked buccal to lingual with a slight rotational force until luxation is accomplished. Care must be taken not to apply too much force to the buccal to avoid buccal plate fracture. The tooth can then be drawn from the socket.

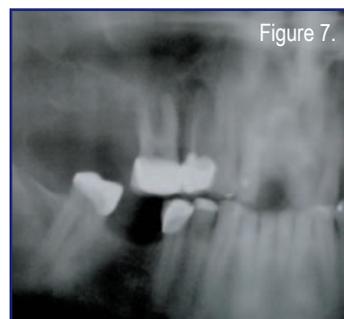
Maxillary first Molar – The maxillary first molar can be a very difficult tooth to extract atraumatically. The normal root morphology includes a very divergent root pattern with a very thick palatal root. The curvature of the roots may create the effect of an anchor. The buccal plate is thin. The combination of thin buccal plate and large palatal root can lead to buccal plate fracture. A #53R or #53L is a good choice for these teeth. The tooth must be pushed apically, and a figure-eight pattern can be used to luxate the roots of this tooth. A buccal-to-lingual force is used, with care being taken to avoid fracture of the palatal root, as fracture of the buccal roots is preferred. The tooth is rolled to the buccal along the path of insertion of the palatal root.

If the tooth is not luxated after using a reasonable amount of force, a surgical approach should be used. The crown should be removed at the CEJ to expose the root stump. The roots should be sectioned in a Y-shaped pattern. The roots can then be elevated individually with a straight elevator or periostome as described previously. [Figure 6]



This tooth is adjacent to the maxillary sinus and thus is the most common cause of oral-antral communication. One must be cognizant, if root fracture occurs, to not apply too much apical pressure, as

this may push the root into the sinus. It is important to check the socket for oral-antral communication after extraction. [Figure 7]



Maxillary second molar – The root morphology is similar to that of the first molar; however, due to the root morphology, this tooth is easier to extract than the first. Its roots tend to be less divergent and smaller in size. Follow the guidelines for extraction of the first molar. A standard #150 forceps or #53R or #53L can be used. If the third molar is not present, a small straight elevator can be inserted between the first and second molars, and distal pressure applied to luxate the tooth. Once the tooth is luxated, it can be removed with a forceps similarly to the first molar.

Mandibular incisors and canines – All the incisors generally have very thin roots and require some care during the extractions. Root fracture on these teeth can be quite common. The canine roots are a bit thicker and do not fracture as frequently as the laterals. The labial bone over the incisors is quite thin but is generally a bit thicker over the canines. A #74 or a #151 universal forceps is generally used with success.

The forceps should be adapted as far apically along the root of the tooth as possible. Slight buccal-lingual motion as well as slight rotation should be used to aid in luxation. Care must be taken when luxating the lower canines to avoid removing the labial plate with the tooth. If the buccal plate fractures with removal of the tooth, it should be dealt with as previously described when discussing the maxillary canines.

Mandibular premolars – The removal of these teeth is similar to removal of the anterior teeth. The root form tends to be conical, slender, and generally straight. Bifurcation of the root is not common but can occur. The alveolar bone is usually thinner on the buccal. A #74 or #151 forceps can be used with a buccal-to-lingual motion and some rotational force. The tooth is removed with tractional force.

Mandibular first and second molars – The roots of the first molar are generally bifurcated with divergent roots. The mesial root is normally curved with a slender profile. This root is more commonly fractured during extraction. The alveolar bone can vary in thickness, but it is common to have a thin lingual plate. The second molar is similar to the first molar but with fewer divergent roots. A universal (#150) or cowhorn (#23) forceps is generally chosen for these teeth. If using the cowhorn, it is applied using a rocking motion so as to seat the teeth of the forceps in the furcation of the tooth.

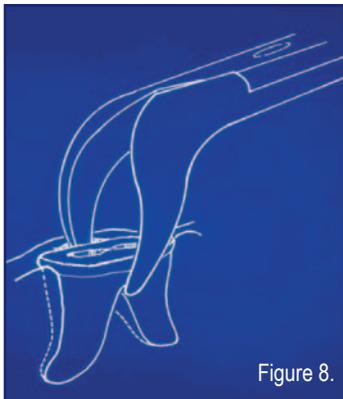


Figure 8.

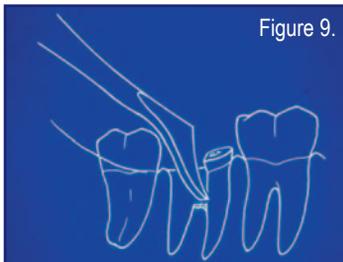


Figure 9.

These teeth are extracted with a controlled buccal-to-lingual motion with apical pressure and delivery to the lingual. If the first molar fractures or an undue amount of force is necessary, a surgical extraction should be started to prevent damage to the surrounding alveolar bone. [Figure 8] The crown is sectioned at the CEJ, and the roots sectioned into mesial and distal roots and elevated individually with either a small straight elevator or an East/West (#30 OR #31) elevator. [Figure 9]

Root Tip Retrieval

Root tips must be luxated to be removed. Care should be given to controlled luxation of a tooth prior to crown fracture. This is generally accomplished with a forceps or small straight elevator. Once the crown fractures, one must decide how to retrieve the broken pieces.

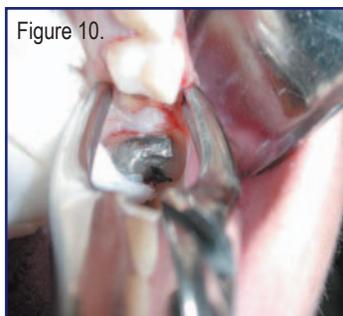


Figure 10.

For larger pieces, a forceps with apically applied force may be sufficient. [Figure 10] Smaller pieces may require the use of a root tip elevator or periosteal elevator. [Figure 11] Care must be taken to avoid removing too much buccal bone during luxation of the root tip.

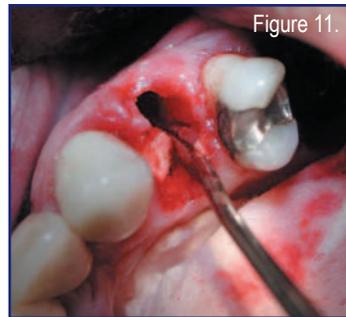


Figure 11.

Larger roots may be sectioned with a thin, tapered fissure bur and removed in two pieces. Placing the root tip elevator in the PDL space while rotating it back and forth and pushing apically will generally luxate the tooth enough for removal. Care must be taken to avoid pushing the root tip into vital structures, i.e., inferior alveolar canal or maxillary sinus.

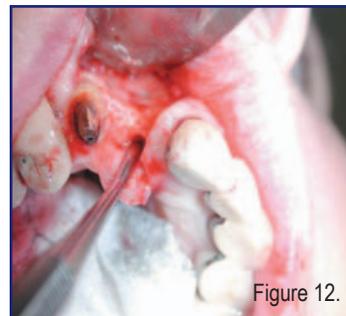


Figure 12.

A conservative full-thickness flap for better visualization will help decrease the amount of damage to the bone that may be caused by root tip removal. [Figure 12]

Conclusion

Proper preoperative evaluation is important to avoid complications due to health problems. A full assessment will help the practitioner avoid difficulties that could otherwise have been avoided. With the ability to replace broken-down teeth with dental implants, careful thought and planning must be used when extracting a tooth. Using proper instrumentation and knowing when to refer, are both very important aspects of efforts to give a patient the best possible outcome for a potential implant restoration.

Course References

1. Peterson L, Ellis E, Hupp J, Tucker M, Contemporary Oral and Maxillofacial Surgery, 3rd ed. St. Louis Mosby 1998:797
2. Little J, Dental Management of the Medically Compromised Patient 6th ed. 2002:736

There are multiple complications that can arise due to extractions. This subject is very involved and any complication that goes beyond the knowledge or skill level of the treating doctor should be referred appropriately.

This topic and the management of complications after dental extractions will be covered in a separate course.

Authors Profile

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Dr. Le has extensive education and experience in both dentistry and medicine. He attended USC School of Dentistry and graduated Omicron Kappa Upsilon. He attended medical school with advanced standing at Oregon Health Sciences University. An internship in General Surgery was completed at Cedars-Sinai Medical Center in Los Angeles. Following this, Dr. Le completed a residency in Oral and Maxillofacial Surgery at Oregon Health Sciences University.

Dr. Le has presented many scientific abstracts and lectures nationally as well as internationally. In addition, Dr. Le has numerous medical journal articles and medical textbook chapters published or submitted for publication in various peer-review journals in diverse areas including trauma, implant dentistry, and facial reconstructive surgery.

Dr. Le is a Diplomate of the American Association of Oral & Maxillofacial Surgeons, the American Dental Society of Anesthesiologist, and the International Congress of Oral Implantologists. Dr. Le also holds Fellowship in the International College of Dentists and the International Association of Oral & Maxillofacial Surgeons. Dr. Le is currently Assistant Professor of Oral & Maxillofacial Surgery at the USC School of Dentistry and Assistant Director of Residency Education at LAC-USC Medical Center.

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Course Questions

1. The most important aspect of any surgical procedure is

- a. setting up the treatment room.
- b. discussing financial arrangements.
- c. the preoperative assessment.
- d. None of these are important.

2. An accurate medical history is important to help the practitioner decide whether a patient is able to undergo a surgical procedure.

- a. True
- b. False

3. The patient's chief complaint should

- a. be transcribed into the patient's chart using his or her own words.
- b. include a history stating changes since the date of first appearance.
- c. be used to develop a treatment plan.
- d. All of the above

4. What should be noted regarding pain?

- a. Onset and type
- b. Location and duration
- c. Intensity
- d. All of the above

5. Symptoms such as fever, chills, and malaise should also be recorded.

- a. True
- b. False

6. Dentists have a responsibility to screen their patients for any medical problems that may preclude them from undergoing a surgical procedure.

- a. True
- b. False

7. Health questionnaire forms are available from a variety of sources including

- a. dental schools.
- b. medical malpractice carriers.
- c. the American Dental Association.
- d. All of the above

8. Which is true regarding the review of systems?

- a. It is a systematic method of determining symptoms of each organ system.
- b. It will give the practitioner an idea of the severity of the disease.
- c. It should help you decide to do the procedure, consult physician or refer to specialist.
- d. All of the above

9. The physical exam of the patient should begin with vital signs.

- a. True
- b. False

10. An example of an ASA III classified patient is

- a. a patient with no medical concerns.
- b. a patient with controlled diabetes.
- c. a patient with uncontrolled hypertension.
- d. a moribund patient who is not expected to survive without the operation.

11. Infection may make local anesthesia more difficult.

- a. True
- b. False

12. The presence of an infection is a contraindication to extraction of a tooth.

- a. True
- b. False

13. If a patient's mouth opening is restricted an easy extraction can turn into a difficult surgical extraction.

- a. True
- b. False

14. The likelihood of crown fracture can increase if the tooth has

- a. a large restoration.
- b. gross caries.
- c. Both a and b
- d. None of the above

15. If any portion of the tooth is missing on the radiograph, it must be retaken prior to extraction.

- a. True
- b. False

16. A vital structure that must be noted prior to extraction is

- a. the inferior alveolar nerve.
- b. the mental foramen.
- c. the maxillary sinus.
- d. all of the above

17. Teeth with short tapering roots will be much more difficult to extract than those with long, bulbous roots.

- a. True
- b. False

18. Bone that is more opaque indicates more dense bone and will likely mean a more difficult extraction.

- a. True
- b. False

19. Care must be taken to preserve as much bony support (especially the buccal cortical plate) in order to

- a. keep the soft tissue at a good biologic and esthetic level.
- b. decrease the time involved with the procedure.
- c. prevent collapse of the bony socket.
- d. Both a and c

20. Fracture of the buccal plate will increase the rate and amount of resorption of the alveolar ridge following extraction of maxillary incisors

- a. True
- b. False

21. A forceps that can be used to extract maxillary incisors is

- a. #1
- b. #99-C
- c. #150
- d. All of the above

22. The extraction of maxillary canines can be very difficult even when they are fully erupted due to their extremely long roots and thin buccal cortical bone overlying the root.

- a. True
- b. False

23. Extraction of maxillary canines can be accomplished by

- a. use of the #50 forceps.
- b. use of periostomes to expand the socket and the #50 forceps.
- c. use of the #150 forceps.
- b. use of periostomes to expand the socket and the #150 forceps.

24. The maxillary 2nd premolar is technically more difficult to extract than the 1st premolar because it is prone to root fracture.

- a. True
- b. False

25. The following is NOT true about extracting mandibular incisors.

- a. Root fractures are common.
- b. A #74 or a #151 universal forceps is generally used with success.
- c. You need to be cautious due to thick roots.
- d. None of the above

26. A #75 or 150 forceps can be used with a buccal to lingual motion and some rotational force to extract mandibular premolars.

- a. True
- b. False

27. A universal (#150) or #23 (cowhorn) forceps is generally chosen for Mandibular 1st and 2nd molars to extract

- a. True
- b. False

28. Root tips must be luxated in order to be removed.

- a. True
- b. False

29. Larger roots may be sectioned with a thin tapered fissure bur and removed in two pieces.

- a. True
- b. False

30. A conservative full thickness flap will help decrease the amount of damage to the bone that may be caused by root tip removal because

- a. it aids in reducing infection.
- b. increases the incisal opening.
- c. it aids with visibility.
- d. All of the above

Oral Surgery for the General Dentist - Atraumatic Extractions

Name: _____

Title: _____ Specialty: _____

Address: _____ E-mail: _____

City: _____ State: _____ Zip: _____

Telephone: Home () _____ Office: () _____

Instructions to obtain four Dental Continuing Education credits: 1) Complete all information above. 2) Answer sheets may be completed with either a pen or pencil. 3) All questions should have only one answer marked. 4) When the test is completed, enclose the completed answer sheet. Successful completion of this course will earn you four CEUs. 5) A blank duplicate answer sheet may be copied for additional course participants.

Mail Completed CE Test to
Academy of Dental Therapeutics and Stomatology
 P.O. Box 116 Chesterland, Ohio 44026
 1-888-I NEED CE (463-3323)

Course Evaluation

Please evaluate this course by responding to the following statements, using a scale of 0 to 5 where 5 equals excellent and 0 equals poor.

1. Were the objectives and educational methods appropriate?
 5 4 3 2 1 0
2. Were the course objectives accomplished?
 5 4 3 2 1 0
3. Please rate the course content.
 5 4 3 2 1 0
4. Please rate the instructors' effectiveness?
 5 4 3 2 1 0
5. Was the overall administration of the course effective.
 5 4 3 2 1 0
6. How do you rate the authors grasp of the topic?
 5 4 3 2 1 0
7. Do you feel that the references were adequate?
 1 Yes 2 No
8. Do you feel the educational objectives were met?
 1 Yes 2 No
9. If any of the continuing education questions were unclear or ambiguous, please list them:

10. Was there any subject matter you were unclear on? Please describe.

11. Would you participate in a program similar to this one in the future on a different topic of interest? 1 Yes 2 No
12. What additional continuing dental education topics would you like to see?

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If paying by credit card, please complete the following:
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1. (A) (B) (C) (D)	16. (A) (B) (C) (D)
2. (A) (B) (C) (D)	17. (A) (B) (C) (D)
3. (A) (B) (C) (D)	18. (A) (B) (C) (D)
4. (A) (B) (C) (D)	19. (A) (B) (C) (D)
5. (A) (B) (C) (D)	20. (A) (B) (C) (D)
6. (A) (B) (C) (D)	21. (A) (B) (C) (D)
7. (A) (B) (C) (D)	22. (A) (B) (C) (D)
8. (A) (B) (C) (D)	23. (A) (B) (C) (D)
9. (A) (B) (C) (D)	24. (A) (B) (C) (D)
10. (A) (B) (C) (D)	25. (A) (B) (C) (D)
11. (A) (B) (C) (D)	26. (A) (B) (C) (D)
12. (A) (B) (C) (D)	27. (A) (B) (C) (D)
13. (A) (B) (C) (D)	28. (A) (B) (C) (D)
14. (A) (B) (C) (D)	29. (A) (B) (C) (D)
15. (A) (B) (C) (D)	30. (A) (B) (C) (D)

Check this box to receive verification of your score.

AUTHORS
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AUTHORS DISCLAIMER

The authors of this course have no commercial ties with the sponsors or the providers of the unrestricted educational grant for this course.

EDUCATIONAL OBJECTIVES

This course focuses on atraumatic dental extractions. After completing this course the reader will be able to

1. explain a complete preoperative assessment,
2. evaluate the level of difficulty of the proposed procedure,
3. apply the basic surgical techniques required and
4. manage certain complications that may arise, including root tip retrieval.

INSTRUCTIONS

All questions should have only one answer. Grading of this examination is done manually. Participants will receive verification in the mail within two weeks of taking an examination.

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COURSE CREDITS/COST

All participants scoring at least 70 percent (answering 21 or more questions correctly) on the examination will receive verification of four CEUs. The formal continuing education program of this sponsor is accepted by the AGD for fellowship/mastership credit. For current terms of acceptance please contact the ADTS. "DANB Approval" indicates that a continuing education course appears to meet certain specifications as described in the DANB Recertification Guidelines. DANB does not, however, endorse or recommend any particular continuing education course and is not responsible for the quality of any course content. Participants are urged to contact their state dental boards for continuing education requirements. The cost of this course is \$55.00.

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Please e-mail all questions to jvillani@ineedce.com or, fax questions to 216-398-7922.

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CANCELLATION/REFUND POLICY

Any participant who is not 100 percent satisfied with this course can request a full refund by contacting the Academy of Dental Therapeutics and Stomatology in writing.

COURSE EVALUATION

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