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Management of third molars

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PUBLICATION DATE:	JULY 2020
EXPIRATION DATE:	JUNE 2023

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ABSTRACT

Evidence-based factors can aid the dental practitioner in making a more informed decision on whether and when to extract third molars. Understanding the different management options and the factors to consider in predicting eruption helps in decision-making. Possible pathologic sequelae of maintaining third molars include periodontitis and pericoronitis. The patient's age is a significant factor in deciding whether and when third molars should be extracted. There are also orthodontic and prosthodontic considerations. The most common third molar extraction risks include alveolar osteitis, infection, delayed healing, clinically significant bleeding, and paresthesia. Germectomy and coronectomy are management options for third molars. Classification of impacted third molars helps predict extraction difficulty.

EDUCATIONAL OBJECTIVES

At the conclusion of this educational activity, participants will be able to:

1. Improve decision-making on whether and when third molars should be extracted
2. Manage options for third molars
3. Discuss factors that can improve the prediction of third molar eruption
4. Describe the pathologic sequelae of maintaining third molars
5. Evaluate factors associated with third molars that are affected by the patient's age
6. Consider orthodontics and prosthodontics in third molar extractions
7. Assess the risks of third molar extractions
8. Consider germectomies and coronectomies as management options for third molars
9. Classify impacted mandibular third molars

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THE DILEMMA: TO EXTRACT OR NOT TO EXTRACT?

The dilemma of whether and when third molars should be extracted—especially asymptomatic and nonpathologic teeth—faces dental practitioners daily, and the best approach to this dilemma is to use evidence-based studies and the patient's specific findings to make the decision (figure 1). The management options for third molars can include extraction of the third molar; coronectomy (extraction of the third molar crown only, to avoid injury to the inferior alveolar nerve or IAN); operculectomy (to reduce the risk of pericoronitis); surgical exposure (to aid the passive or active orthodontic eruption); orthodontic tooth repositioning; and retention of the third molar with close clinical and radiographic observation.[1]

The decision of whether to extract third molars is based on many factors, including the third molar's potential for complete eruption in proper occlusion; the maintainability of the third and second molars; the potential for pathological sequelae to both the second and third molars when maintaining the third molars; the patient's age at the time of third molar extraction; orthodontic and prosthodontic considerations in third molar removal; and the intraoperative and postoperative complication risks of third molar extractions.[2]

PREDICTION OF THIRD MOLAR ERUPTION

Prediction of third molar eruption will influence the dentist's decision on whether and when to extract third molars. Although it is not possible to predict third molar eruption patterns in all cases, and impacted third molars can change position even after the age of 25, some factors can aid in this prediction.[3] These factors include the following: available space for third molar eruption (between the second molar and the mandibular ramus); third molar angulation; the third molar's stage of root development; the depth of the third molar as compared to the occlusal plane; and the third molar's size.[2]

The most important of these factors associated with third molar impaction is insufficient hard tissue space for normal eruption between the second molar and the mandibular ramus. According to a 1999 study by Hattab and Alhaija, the majority of impacted third molars showed the hard tissue space/third molar crown width ratio to be less than one.[4] The dental provider's prediction of the complete eruption of a third molar to the occlusal plane does not ensure that there will be enough physiological space to maintain the health of the erupted tooth (figure 2).[5]

FIGURE 2: Panoramic radiograph used to help predict eruption

MAINTENANCE AND PATHOLOGICAL SEQUELAE OF THIRD MOLARS

Maintaining the health of third molars through excellent oral hygiene practices can be a challenge because of their location, even if they have completely erupted and are at the occlusal level. Clinically visible third molars that are incompletely erupted and with a distal operculum have a higher risk for periodontitis and pericoronitis due to the difficulty of maintaining the site. According to a 2002 study by Blakey et al., second molars adjacent to third molars showed distal periodontal pockets of at least 5 mm in 25% of the patients, resulting in at least 1

FIGURE 1: Panoramic radiograph showing unerupted third molars

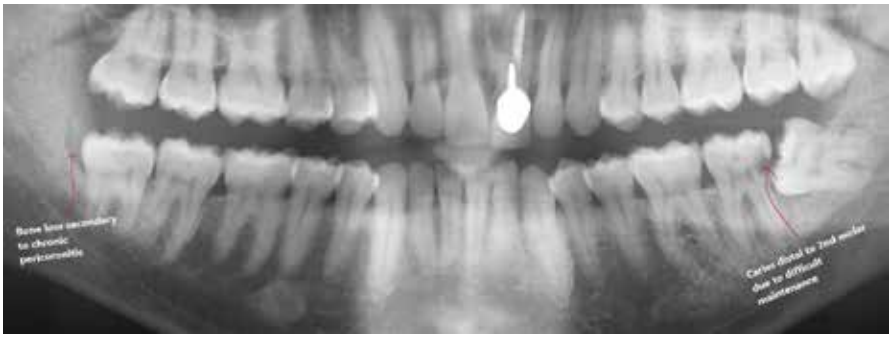

FIGURE 3: Panoramic radiograph showing possible pathological sequelae of third molars

mm loss of periodontal attachment in all of these patients.[6]

The eruption of the third molar is associated with inflammation of the surrounding mucosa and gingiva, which can develop into an acute infection with clinical signs and symptoms of pain, swelling, and erythema. This type of infection, called pericoronitis, can progress to a life-threatening infection if left untreated (figure 3). The treatment of pericoronitis includes antibiotics and surgical intervention, such as an operculectomy or the curative removal of the associated third molar.[2] Asymptomatic third molars do not indicate the absence of disease since microbes associated with periodontitis have been found around the second/third molar area in asymptomatic patients.[7]

PATIENT'S AGE

The age of the patient affects many factors associated with third molars, including symptoms, periodontitis, caries, and surgical risks. Symptoms that motivate patients to seek treatment for third molars increase with age and may include pain (35.3%), swelling (21.7%), food impaction (3.6%), and purulent discharge (3%).[8] Asymptomatic periodontal defects associated with third molars are more common in patients older than 25 (33%) as compared to patients younger than 25 (17%), and these defects have been correlated with inflammatory mediators and periodontal pathogens.[6,9] Significant postoperative periodontal defects associated with the distal of second molars after the extraction of their associated third molars were three times more common in patients older than 25.[10] Caries prevalence in third molars increases over time, and patients over age 25 have a greater risk.[11]

The risks of surgical complications must be considered when deciding on whether to extract or maintain third molars. All complications of third molar extractions increased with age, and health-related quality of life (HRQOL) indicators for third molar surgical recovery deteriorated with age.[12,13] The HRQOL domains included "lifestyle, oral function, pain and symptoms reported daily by patients."[13]

According to a 2007 study by Chuang et al., which included 4,004 patients and 8,748 third molars, with most of the patients older than age 25 (93.9%), the overall complication rate for the extraction of third molars was 18.3%, with an intraoperative complication rate of 3.9% and a postoperative complication rate of 16.3%. The same study showed the following most common complications: alveolar osteitis (7.4%), IAN injury (1.6%), unexpected trismus (1.2%), and infection (1.1%). The surgical complications of third molar removal increased with age; patients over age 25 showed 1.5 times the risk of these complications as compared to younger patients.[14]

The literature shows that the risks for symptoms, periodontitis, and caries when maintaining third molars, as well as the risks of intraoperative and postoperative third molar extraction complications, increase above age 25. The risks of postoperative mandibular fractures after mandibular third molar extractions and the intraoperative risks of oroantral perforation during the extraction of maxillary third molars have also been shown to increase with age.[15,16] The literature review leads to the conclusion that the decision to extract third molars should be made early and before the age of 25 in order to minimize complications. In addition, germectomy (the removal of a tooth with root development of one third or less) has been associated with a lower rate of complications with third molar extraction.[2]

ORTHODONTIC CONSIDERATIONS

Many dental providers and patients believe that third molars may cause incisor crowding, but crowding is multifactorial, and literature can be found for and against this concept. Some literature finds third molars to have some effect on crowding, but this effect was usually insignificant. Due to the inability to isolate third molars from other factors associated with crowding, this relationship is difficult to establish.[17,18] Most of these types of studies focus on the presence of third molars affecting crowding in the anterior mandible but not the arch form,

FIGURE 4: Panoramic radiograph showing orthodontic patient with unerupted third molars

length, or width.[2] Third molars may require extraction to allow arch space for orthodontic treatment of dental crowding, especially if the second molar is unerupted and an impacted third molar is in its eruption path (figure 4).

PROSTHODONTIC CONSIDERATIONS

Many dental providers recommend the extraction of impacted third molars under a planned prosthesis. This decision should be made by evaluating all previously discussed factors related to third molars and not solely on the plan for a prosthesis. Additional factors to consider include the unpredictability of possible change in position or eruption of third molars later in life, the potential for pathology, and the increased difficulty and risks of complications when third molars are removed at a later age.[6,12,19] If a decision is made by the dental clinician not to extract an impacted third molar, periodic clinical and radiographic examinations should be performed since future pathological changes cannot be reliably predicted.

EXTRACTION RISKS

When considering third molars for extraction, the previously discussed factors and the benefits and risks of oral surgery must be considered. The benefits must outweigh the risks to justify the recommendation of extraction. The risks of complications associated with third molar extractions vary with each patient. According to a 2003 study by Bui et al., which included 583 patients with a mean age of 26.4 ± 8.4, the overall complication rate was 4.6%, with mandibular third molars showing a complication rate at least three times that of maxillary third molars.[20]

The same study also showed that the most common complications were alveolar osteitis (1.4%), infection (0.8%), delayed healing (0.7%), clinically significant bleeding (0.6%), and paresthesia (0.4%), with most of the paresthesia involving the IAN. Less frequent risks in this study included severe pain (0.3%), oroantral communication (0.2%), incomplete root removal (0.06%), severe swelling (0.06%), and bony spicule (0.06%). Most complications in this study were minor (92%) and managed on an outpatient basis without surgery. The major complications in the study were mostly IAN injuries, the majority of which resolved within one year.[20]

Damage to the inferior alveolar and/or lingual nerve occasionally occurs after mandibular third molar extractions. The incidence of IAN involvement is 1%–5% within a week after surgery and 0.0%–0.9% long term (more than six months). However, the incidence of lingual nerve involvement is 0.4%–1.5% one day after surgery and 0.0% long term (more than six months).[2] Third molar extractions have relatively low postoperative risk, and most of these risks are easily managed without long-term morbidity, especially in young patients (less than 25 years old). These risks, although relatively low in incidence and severity, must be considered as part of the decision in managing third molars.

GERMECTOMY

Germectomy is the removal of a tooth with one third or less root development. This surgery has been associated with lower postoperative risks as compared to removal of third molars after their complete development (figure 5).[2] However, a 1995 study by Chiapasco et al. found that there was no significant difference in risks with germectomy versus delayed removal of third molars if the patient was under age 24. These authors also recommended waiting until the ages of 17 to 24 to determine the need for prophylactic extraction of asymptomatic and nonpathologic third molars, since the decision may be easier.[21]

The timing of the prophylactic removal of third molars when considering a germectomy versus delayed removal is controversial when comparing early removal (under the age of 18) versus late removal (between the ages of 18 to 24). However, the literature supports the removal of third molars, if removal is indicated, before the age of 25 to reduce the risks of the procedure. Advocates of early removal of third molars cite the following advantages: simpler procedure due to incomplete root development, preventing pressure from erupting third molars on other teeth, and preventing pericoronal inflammation during eruption. Advocates of late third molar removal suggest that many third molars that are unerupted at the age of 20 will erupt within three to four years. The intermediate period (between the ages of 18 to 20) may be a good compromise to allow the extraction of third molars when eruption potential can be better assessed and pericoronal inflammation is minimal.[1]

FIGURE 5: Germectomy is the removal of a tooth with one third or less root development

CORONECTOMY

Coronectomy is the partial removal of impacted third molars that are problematic, with vital pulps, and that have an intimate relationship between the roots and the IAN (figure 6). The crown of impacted mandibular third molars is often the cause of caries, food impaction, and pericoronitis. Removing the crown and retaining the roots that are in an intimate relationship with the IAN can reduce these problems while also reducing the risk to the IAN.

To consider this surgical option over the complete extraction of the impacted mandibular third molar, imaging must suggest an intimate relationship with the IAN and a high risk of nerve trauma. Imaging for this assessment can include a panoramic radiograph for screening and further detailed evaluation using cone beam computed tomography (CBCT) if the panoramic radiograph shows signs of close proximity of the third molar to the IAN. Root migration is a real concern with coronectomies, but according to a 2012 study by Leung et al., root migration (61%) does not result in any symptoms or complications in most patients. According to the same study, the few patients who required later retrieval of retained roots after a coronectomy (5%) showed no IAN injury.[22]

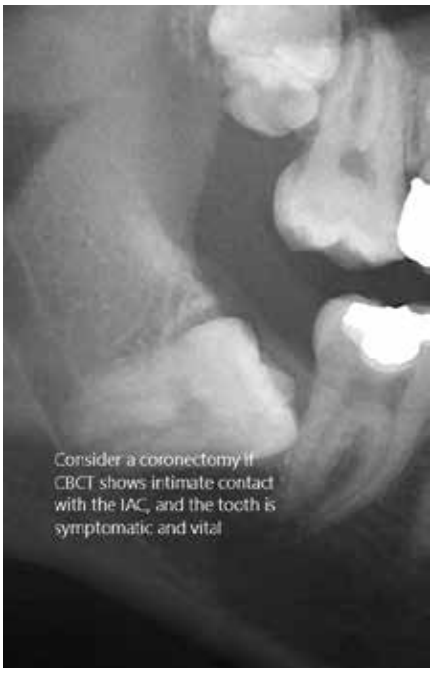

FIGURE 6: Coronectomy is the partial removal of impacted third molars that are problematic

In a 2019 study by Kang et al., coronectomies were found to be better in reducing IAN injuries as compared to the traditional extractions of deeply impacted mandibular third molars, with few additional complications. This study showed a 10.91% IAN injury in the traditional extraction group as compared to 0.0% in the coronectomy group.[23] Coronectomies should be considered in cases that require the removal of mandibular third molars that are in intimate contact with the IAN.

MANDIBULAR THIRD MOLAR CLASSIFICATIONS

The difficulty of mandibular third molar extractions has been evaluated by using a panoramic radiograph, resulting in two common classification systems to aid the surgeon in preoperative assessment for expected difficulty of the extraction and risk of complications, such as IAN injury. The most common classification systems used to predict the difficulty of mandibular third molar extractions are the Winter and the Pell and Gregory systems.

The Winter system uses the angulation of the impacted third molar compared to the long axis of the second molar.[24] The Pell and Gregory system classifies impacted third molars according to their relationship to the ascending mandibular ramus and their depth of impaction relative to the occlusal plane.[25] These third molar classification systems can help dentists predict the potential difficulty of the extraction and compare it to their skill level, thereby determining if the procedure should be performed by a specialist.

For example, a Pell and Gregory class I/level A third molar with a Winter's mesioangular impaction is relatively easy to extract. However, a Pell and Gregory class III/level C third molar with a Winter's distoangular impaction would be a challenge for even the most experienced oral surgeon (figure 7). A 2009 literature review by Akadiri and Obiechina identified the most consistent variables in determining the difficulty of third molar extractions, which included the radiographic impacted tooth angulation, depth, and root morphology, as well as the patient's age and the surgeon's experience.[26]

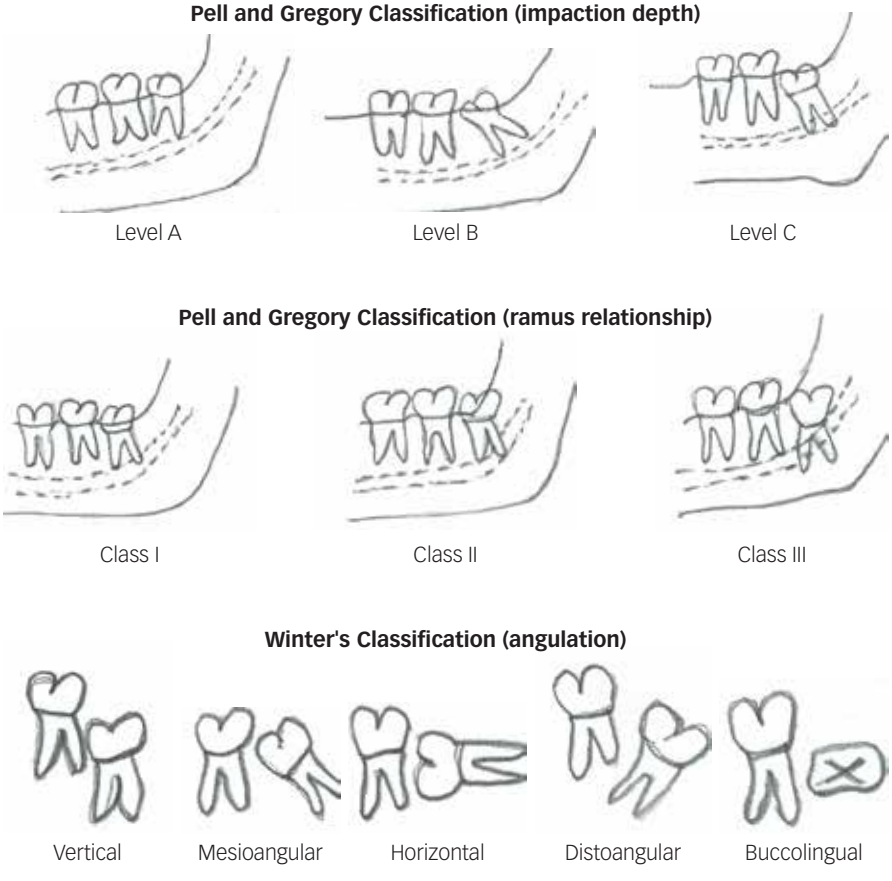

FIGURE 7: Mandibular third molar classifications

CBCT

CBCT imaging provides more accurate information and less distortion than panoramic radiographs, but due to the increased radiation exposure with CBCT, a panoramic radiograph should be obtained first to evaluate the third molar position and a CBCT obtained only if signs of a close relationship between the third molar and the IAN are noted. These signs include the darkening and narrowing of the third molar roots, diversion of the IAN, and interruption of the line.[27]

CONCLUSION

Reviewing the literature points to the age of the patient and whether the third molars are symptomatic or pathologic as the most important factors in the extraction decision process. The older the patient, the higher the complication rate of third molar extractions and the more likely extractions can result in bony defects and damage to the adjacent

second molars. The two studies previously discussed illustrate the significant difference in third molar extraction complications when the patient's age is considered. The 2007 study by Chuang et al., which included 93.9% of patients older than 25, resulted in an overall third molar extraction complication rate of 18.3%.[14] However, in the 2003 study by Bui et al., which included patients with a mean age of 26.4, the overall third molar extraction complication rate was 4.6%.[20]

Third molars that are symptomatic, nonrestorable, with severe periodontitis, or with associated pathology such as a cyst must be surgically managed as soon as possible. However, the dilemma arises with asymptomatic third molars that show no obvious pathology. Patients who are older than 25 and have a complete bony impacted asymptomatic third molar with no pathology are candidates for close radiographic follow-up, especially if the risks of extraction complications are high. However, patients younger than age 25 who have complete bony impacted asymptomatic third molars with no pathology must be closely evaluated for potential pathology and the possible risks of retaining the third molars instead of extracting them. This decision is the most difficult since dental providers must use their professional judgment on whether extractions are the best option for the patient, especially knowing that the complication risks of extractions are less today than they would be in the future.

Patients with partially erupted third molars have a higher risk for periodontitis, pericoronitis, and caries due to difficult access for maintenance, even if the teeth are asymptomatic. Completely erupted asymptomatic third molars can also develop periodontal and caries problems due to maintenance difficulty. In such cases, the earlier the decision is made for possible extractions, the lower the risk for pathology and the lower the incidence of intraoperative and postoperative complications when third molars are extracted.

The decision on the management of third molars is a complex one and must include the previously discussed factors and proper diagnostic imaging such as a panoramic radiograph and/or CBCT. The Pell and the Gregory and Winter third molar classifications should also be used as tools to determine the potential difficulty of extraction, thereby aiding the dentist's decision on whether to recommend the extraction and whether to perform the extraction or refer the patient to an experienced oral surgeon (figure 8). When the best option for the patient is not apparent, especially when there are no symptoms or evidence of pathology, consideration should be made to obtain another dental professional's opinion, such as that of an oral surgeon.

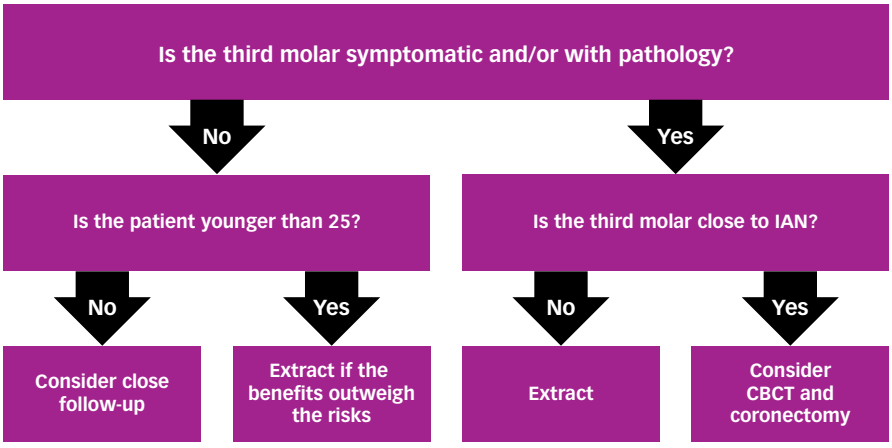

FIGURE 8: Third molar extraction decision chart

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QUESTIONS

1. Which of the following are management options for symptomatic or pathologic third molars?

A. Extractions
B. Coronectomies
C. Surgical exposures
D. All of the above

2. Which of the following factors should be considered in the decision on whether to extract a third molar?

A. The third molar's potential for complete eruption in proper occlusion
B. The third and second molars' maintainability
C. The potential for pathological sequelae of maintaining the third molar
D. All of the above

3. Which of the following factors is the most important in predicting third molar eruption?

A. The tooth angulation
B. The stage of root development
C. The available eruption space
D. The tooth size

4. According to a 1999 study by Hattab and Alhaija, the majority of impacted third molars showed an available eruption space (between the second molar and the mandibular ramus), as measured by space/third molar crown width ratio, to be which of the following?

A. 1
B. <1
C. 2
D. 1.5

5. According to a 2002 study by Blakey et al., what percentage of patients showed distal periodontal pockets of ≥5 mm in second molars adjacent to third molars?

A. 100%
B. 90%
C. 25%
D. 5%

6. Which of the following signs or symptoms are associated with pericoronitis?

A. Pain
B. Swelling
C. Erythema
D. All of the above

7. Asymptomatic periodontal defects are more common in patients in which of the following age categories?

A. 12 to 15
B. 15 to 20
C. 20 to 25
D. >25

8. According to a 2007 study by Chuang et al., what was the overall complication rate after extraction of third molars in older patients?

A. 100%
B. 82%
C. 18.3%
D. 1.5%

9. Which of the following postoperative complications was the most common after extraction of third molars?

A. Infection
B Alveolar osteitis
C. Inferior alveolar nerve injury
D. Trismus

10. Which of the following postoperative complications was the least common after extraction of third molars?

A. Infection
B. Alveolar osteitis
C. Inferior alveolar nerve injury
D. Trismus

11. According to a 2007 study by Chuang et al., what was the postoperative complications risk rate of patients over the age of 25 versus their younger counterparts?

A. The same rate
B. Twice the risk
C. One-half the risk
D. 1.5 times the risk

12. Which of the following risks associated with retaining third molars increase with age?

A. Symptoms
B. Caries
C. Periodontitis
D. All of the above

13. Which of the following statements best describes the relationship of third molars to incisor crowding?

A. There is definitive evidence for a direct relationship.
B. There is no evidence for a direct relationship.
C. The relationship is multifactorial and therefore difficult to establish.
D. All of the above

14. Which of the following statements best describes the evidence-based decision on the removal of third molars under a planned prosthesis?

A. Third molars under a planned prosthesis should be removed prior to placing the prosthesis since there is a risk of eruption or change in position later in life.
B. Third molars under a planned prosthesis should not be removed prior to placing the prosthesis unless they are symptomatic since they are unlikely to erupt or change position later in life.
C. Third molars under a planned prosthesis should not be removed prior to placing the prosthesis if the prosthesis does not contact the third molar.
D. The decision on whether to remove third molars under a planned prosthesis should be made by evaluating all factors related to third molars and not solely on the plan for a prosthesis, and the possible eruption and change in position later in life should also be considered.

15. How does the extraction complication rate differ between maxillary and mandibular third molars?

A. The same rate
B. Mandibular third molars showed slightly higher risk than maxillary third molars.
C. Mandibular third molars showed half the risk of maxillary third molars.
D. Mandibular third molars showed more than three times the risk of maxillary third molars.

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QUESTIONS

16. According to a 2003 study by Bui et al., which included patients with a mean age of 26.4, what was the overall complication rate after extraction of third molars?

A. 4.6% B. 75% C. 100% D. 34%

17. According to a 2003 study by Bui et al., what percentage of third molar postextraction complications were minor and managed on an outpatient basis with no surgery?

A. 100% B. 22% C. 92% D. 5%

18. Which of the following complications made up most of the major long-term third molar postextraction complications?

A. Mandibular fractures
B. Lingual nerve injuries
C. Inferior alveolar nerve injuries
D. Maxillary oroantral fistulas

19. Which of the following are advantages of a germectomy versus delayed removal of third molars?

A. Simpler procedure due to incomplete root development
B. Preventing pressure from erupting third molars on other teeth
C. Preventing pericoronal inflammation during eruption
D. All of the above

20. Which of the following is an advantage of late third molar removal (the ages of 20 to 25)?

A. Many third molars that are unerupted at the age of 20 will erupt within three to four years.
B. All third molars eventually erupt or remain asymptomatic in later years.
C. The risk of third molar pathology is very low even if the third molar has partially erupted.
D. All of the above

21. Which of the following age ranges may allow the extraction of third molars when the eruption potential can be better assessed and pericoronal inflammation is minimal?

A. Under 18 C. 20 to 25
B. 18 to 20 D. Over 25

22. According to a 2012 study by Leung et al., what percentage of patients required later removal of third molar roots after a coronectomy, and what percentage of these patients developed inferior alveolar nerve injury?

A. 5% and 0% C. 25% and 3%
B. 32% and 7% D. 47% and 12%

23. Which of the following best describes Winter's third molar classification system?

A. Classifies impacted third molars according to their relationship to the ascending mandibular ramus
B. Classifies impacted third molars according to their depth of impaction relative to the occlusal plane
C. Classifies impacted third molars using their angulation compared to the long axis of the second molar
D. None of the above

24. Which of the following best describes the Pell and Gregory third molar classification system?

A. Classifies impacted third molars according to their relationship to the ascending mandibular ramus
B. Classifies impacted third molars according to their depth of impaction relative to the occlusal plane
C. Classifies impacted third molars using their angulation compared to the long axis of the second molar
D. Both A and B

25. Which of the following Pell and Gregory/Winter class of impacted third molars is potentially most difficult to extract?

A. Class II/level B/mesioangular
B. Class I/level B/vertical
C. Class III/level C/distoangular
D. Class I/level A/horizontal

26. According to the literature, what is the incidence of inferior alveolar nerve involvement immediately after third molar extractions?

A. 25%–50% C. 1%–5%
B. 15%–30% D. 50%–65%

27. According to the literature, what is the incidence of lingual nerve involvement one day after third molar extractions?

A. 25%-50% C. 1%-5%
B. 15%-30% D. 0.4%-1.5%

28. Which of the following factors is the most important in the extraction decision process?

A. Patient's age
B. The depth of the impacted third molar
C. Third molar symptoms and/or pathology
D. Both A and C

29. Which of the following types of imaging can be helpful in the preoperative evaluation of third molars?

A. Cone beam computed tomography
B. Panoramic radiographs
C. Periapical radiographs
D. All of the above

30. Which of the following patients are candidates for monitoring impacted third molars instead of extractions?

A. 17-year-old male with symptomatic third molars
B. 36-year-old male with complete bony/deeply impacted third molars that are asymptomatic and show no pathology
C. 20-year-old female with third molars showing radiographic pericoronal radiolucencies
D. 25-year-old male with decayed/soft tissue impacted third molars

PUBLICATION DATE:	JULY 2020
EXPIRATION DATE:	JUNE 2023

ANSWER SHEET

Management of third molars

Name: Title: Specialty:

Address: Email: AGD member ID (if applies):

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Requirements for obtaining CE credits by mail/fax: 1) Read entire course. 2) Complete info above. 3) Complete test by marking one answer per question. 4) Complete course evaluation. 5) Complete credit card info or write check payable to Endeavor Business Media. 6) Mail/fax this page to DACE. A score of 70% is required for CE credit. **For questions, call (800) 633-1681. Course may also be completed at dentalacademyofce.com.**

EDUCATIONAL OBJECTIVES

1. Improve decision-making on whether and when third molars should be extracted
2. Manage options for third molars
3. Discuss factors that can improve the prediction of third molar eruption
4. Describe the pathologic sequelae of maintaining third molars
5. Evaluate factors associated with third molars that are affected by the patient's age
6. Consider orthodontics and prosthodontics in third molar extractions
7. Assess the risks of third molar extractions
8. Consider germectomies and coronectomies as management options for third molars
9. Classify impacted mandibular third molars

COURSE EVALUATION

1. Were the individual course objectives met?

Objective #1: Yes No Objective #2: Yes No

Objective #3: Yes No Objective #4: Yes No

Please evaluate this course by responding to the following statements, using a scale of Excellent = 5 to Poor = 0.

2. To what extent were the course objectives accomplished overall?	5	4	3	2	1	0
3. Please rate your personal mastery of the course objectives.	5	4	3	2	1	0
4. How would you rate the objectives and educational methods?	5	4	3	2	1	0
5. How do you rate the author's grasp of the topic?	5	4	3	2	1	0
6. Please rate the instructor's effectiveness.	5	4	3	2	1	0
7. Was the overall administration of the course effective?	5	4	3	2	1	0
8. Please rate the usefulness and clinical applicability of this course.	5	4	3	2	1	0
9. Please rate the usefulness of the supplemental webliography.	5	4	3	2	1	0
10. Do you feel that the references were adequate?		Yes		No		
11. Would you participate in a similar program on a different topic?		Yes		No		

12. If any of the continuing education questions were unclear or ambiguous, please list them.

_____

13. Was there any subject matter you found confusing? Please describe.

_____

14. How long did it take you to complete this course?

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15. What additional continuing dental education topics would you like to see?

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5.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	20.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
6.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	21.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
7.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	22.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
8.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	23.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
9.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	24.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	25.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
11.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	26.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
12.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	27.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
13.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	28.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
14.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	29.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
15.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	30.	Ⓐ	Ⓑ	Ⓒ	Ⓓ

AGD Code: 310

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