



Course Information

Course Number: 4810

Course Title: Local Anesthesia and Nitrous Oxide/Oxygen Sedation

Section: 500

Time: *Mondays 1:00-4:00 pm*

Location: 603 AEB/2nd floor AEB Room 244/7th floor CEB/5th floor CEB

Credit Hours: 1

Instructor Details

Course Director: Brandy Cowen, RDH, MS, CDIPC

Office: 3302 Gaston Ave 139F

Phone: 214-828-8325

E-Mail: bcowen@exchange.tamu.edu
Office Hours: Email for appointment

Additional Participating Faculty

Course co-director: Dr. Steven Bender, DDS

Office: 3000 Gaston Ave, 624E

Phone: 214-828-8299

E-Mail: benderdds@tamu.edu
Office Hours: Email for appointment

Faculty: Dr. Marianela Gonzalez DDS

Office: 3000 Gaston Ave. 619

Phone: 214-236-1419

E-Mail: gonzalezm@tamu.edu
Office Hours: Email for appointment

Course Description

The primary method of presentation is lecture, a detailed outline is provided to each student to facilitate the lecture or textbook notes to supplement the outline. Students are given outside assignments to practice dose calculations for each local anesthetic and for a variety of patients. The lecture material is supplemental with videotapes designed to show the correct administration techniques, the neural innervations of each area of the oral cavity and the area anesthetized. https://catalog.tamu.edu/undergraduate/course-descriptions/ddhs/

Course Prerequisites

None

Special Course Designation

DH



Course Learning Outcomes

At the completion of this course the student should be able to:

- 1. Discuss the Texas State Board of Dental Examiners laws and regulations pertaining to the administration of local anesthesia and nitrous oxide/oxygen inhalation sedation.
- 2. Identify the armamentarium used in local anesthesia procedures.
- 3. Discuss the basic terminology used in dentistry to describe injection techniques and responses to local anesthetic injections.
- 4. Discuss the fundamental anatomy, physiology and pharmacology involved in the skillful administration of local anesthetics.
- 5. Describe the indications and contraindications for use of local anesthetic and vasoconstrictors.
- 6. Describe the foundational information necessary to becoming competent in the evaluation of the psychological and physical status of the patient before, during and after the administration of local anesthesia including history taking and physical examination.
- 7. Discuss the pharmacology of agents used in local anesthetics and vasoconstrictors, including drug interactions and incompatibilities.
- 8. Calculate the maximum recommended dosages of local anesthetic and vasoconstrictors for individual patients.
- 9. Develop an understanding for the need for adjustment of local anesthetic and vasoconstrictor doses for healthy and medically compromised or complex patients.
- 10. Appreciate the foundational information necessary to develop competency in the prevention, recognition and initial management procedures to the adverse effects or toxicity of local anesthetics or complications following local anesthetic administration and potential emergency procedures.
- 11. Describe, the fundamental techniques to develop competency required for the administration of both mandibular and maxillary local anesthetics.
- 12. Recognize and manage local complications associated with local anesthetic injections; Recognize local anesthetic failures and corrective measures.
- 13. Describe patient monitoring through observation, with particular attention to vital signs and reflexes related to consciousness during local anesthetic administration and nitrous oxide/oxygen inhalation sedation procedure.
- 14. Describe safety and infection control procedures regarding local infiltration anesthetic techniques and proper disposal of sharps.
- 15. Describe the required post-operative care and instructions to be provided to patients.
- 16. Articulate the foundational information necessary for the maintenance of proper records with accurate entries to reflect any medical, drug or complications associated with local anesthetic administration.

Program Learning Outcomes

Upon graduation, the student should be able to:

- 1.2 Comply with state and federal laws governing the practice of dentistry and dental hygiene.
- 2.1 Apply critical thinking skills and evidence-based decision making to the practice of dental hygiene
- 3.3 Contribute to the knowledge base of dental hygiene.
- 6.1 Determine medical conditions that require special precautions or consideration prior to or during



dental hygiene treatment.

- 6.2 Perform an extraoral and intraoral examination of the patient including assessment of vital signs and radiographic examination and distinguish normal from abnormal findings.
- 6.3 Manage the patient at risk for a medical emergency and be prepared to handle the emergency should it occur during and appointment.
- 6.4 Recognize predisposing, etiologic risk factors, and life-style choices that may require intervention to prevent disease.
- 6.6 Determine the need for referral to the appropriate health professional

Textbook and/or Resource Materials

REQUIRED:

Handbook of Local Anesthesia, 2019, Malamed, SF, 7th Ed., Elsevier. (ISBN 9780323582070) Free link provided by the Baylor Health Sciences Library:

https://bhs.primo.exlibrisgroup.com/permalink/01TEXAM HSC/k8ptrr/alma99346101803756

RECOMMENDED:

Handbook of Nitrous Oxide and Oxygen Sedation, 2019, Clark & Brunick, 5th Ed., Elsevier. (ISBN 9780323567428)

Free link provided by the Baylor Health Sciences Library:

https://bhs.primo.exlibrisgroup.com/permalink/01TEXAM HSC/k8ptrr/alma99332693303756

**only 3 students at a time can have this text open

Learning materials and recordings posted to Canvas

Students are encouraged to acquire the "required or recommended" course material from vendors that provide the best value and amenities for their needs.

Grading Policy

Dental Hygiene Students

LETTER GRADE	NUMERICAL GRADE RANGE	GRADE POINTS	DESCRIPTOR
Α	90-100	4.0	Excellent
В	80-89	3.0	Good
С	75-79	2.0	Fair
D	70-74	1.0	Poor, may require remediation
F	Below 70	0.0	Failure
S		0.0	Satisfactory
U		0.0	Unsatisfactory
1			Incomplete (work or
			assignments)

^{**}unlimited students can have this text open at a time



<u>Evaluation Criteria/Methods:</u> Conscientious attention to deadlines, course-meeting times, completion of reading and/or written assignments, and active participation in all class activities can have a favorable impact on your learning, as well as that of your classmates. The final grade will be based on the following metrics:

Assessment Category	<u>Value</u>	<u>Format</u>
Exam I	20%	Exam
Exam II	20%	Exam
Exam III/ Final Exam	30%	Exam
MRD Quiz	10%	Quiz via Canvas
Class Activities & Assignments	20%	Hands on Activities or Via Canvas
Pass all skill evaluations at 75%	_	Skill Evaluations

Note: Assessment specific guidelines and rubrics are available as appendices.

This course is designed to prepare the student to administer/monitor local anesthesia and nitrous oxide inhalation sedation to patients for pain management during dental treatment. Lecture instruction includes the basic principles of local anesthetics, nitrous oxide/oxygen inhalation sedation, patient pre-evaluation, injection techniques, and recognition of adverse patient reactions and many hands on activites through the course to reinforce learning.

Exams

There will be 3 examinations (2 formative and 1 summative/ comprehensive) covering all course material, including any assigned reading materials or videos. Exams will consist of MC and T/F. If a student misses any examination, the student must schedule a make-up examination with course director. If a student fails exams 1 or 2 (<70%), they will be required to remediate the exam with the course director. According to the TSBDE Rule 115.10 "Each student must pass a final examination on the material covered in the didactic section of the training course with a minimum passing score of 75% before continuing to the clinical section of the course." If a student fails the final exam (<75%), they will be required to remediate the exam with the course director before moving to the clinical portion in Clinic III.

Nitrous Oxide & Oxygen Hands-on Activity

Students will practice and successfully demonstrate the setup, monitoring, and patient communication of nitrous oxide and oxygen sedation via a hands-on activity with peer partners. This is a requirement for students to submit for licensure in nitrous oxide and oxygen sedation monitoring in the state of Texas.

Formative Assessments/ Activities/ Assignments

Formative assessments (FA) will be conducted throughout the semester using hands-on activities during class. Interactive activities with manikins, skulls, and cases will focus on students developing their clinical skills through instructor feedback. Peer and self-assessment will allow students to identify their strengths and areas of improvement and to provide direction for improving future performance. The goal of the FAs is to monitor

^{*}Students that make <75 on any assignments are **required** to meet with the course director to review individual performance and seek remediation, where necessary.





and provide formative feedback to help students improve their clinical skills and confidence by self-assessing and making appropriate adjustments prior to sitting for the Infiltration Clinical Competencies listed on the course outline.

Skill Evaluations

The skill evaluations will be demonstrated on a manikin/typodont and consist of successfully assembling and disassembling the anesthetic syringe and performing infiltration injections in all 4 quadrants. Regardless of the standing grade from exams and hands-on activities, each skill evaluation must be passed at 75% or greater to pass the course. Students who do not achieve a passing score will receive remedial instruction and must retake and pass the evaluation before the end of the semester to successfully complete the course. Below are the list of required skill evaluations that must be completed at a score of a score of >75%. See Addendum A-Skill Evaluations.

- Anesthetic Syringe Assembly / Disassembly Skill Evaluation
- UR Local Anesthesia/ Infiltration Skill Evaluation
- LR Local Anesthesia/ Infiltration Skill Evaluation
- UL Local Anesthesia/Infiltration Skill Evaluation
- LL Local Anesthesia/ Infiltration Skill Evaluation

Remediation Policy

Due to the important nature of the contents of this course to patient safety and clinical practice, Remediation will be offered at the discretion of the course director. A grade of 75 or "C" is the minimum acceptable grade on all exams, evaluations, and competencies. If any exam grade is below 75, the student will be required to meet with the course director to pursue additional study and remediation session reviewing their exam. This is to ensure the students demonstrates an adequate level of knowledge of the material before treating live patients. The student's academic advisor and the Office of Student Development will be informed, as it may also be recommended that the student seek support and guidance outside the dental hygiene department (i.e., meets with an educational specialist to review study habits, note taking and test taking strategies.)

Late Work Policy

Work submitted after the scheduled due date will be considered late. 10 points will be deducted from the earned grade for each day the work is late.

Makeup assessments for excused absences must be administered either in advance of the scheduled exam or within 5 business days of the student's return from the absence.

Course Schedule

This schedule is subject to change during the semester and students will be notified with ample time to prepare. All assignments are due to the night before the scheduled class period. Sundays at 11:59pm (or Monday for our Tuesday AM class- see course outline), unless otherwise noted on the course schedule (i.e. course agreement and in-class activities). All LA supply is required for all classes. Supplies include: safety glasses, LA cassette with all components (syringe, needle, cartridge, recapping device, and mirror.) LA typodont, LA Pole.





Week/ Date	Topic	Objectives	Evaluation Methods	Instructor	Assignments & Due Dates
Week 1 June 9 AEB 603	Course Overview Introduction to Local Anesthesia in DH Practice	Review Course Syllabus Recall the Texas State Board of Dental Examiners' laws and regulations related to local anesthetic infiltration anesthesia in dental hygiene practice.	Exam LA Admin DH Care Reflection	Cowen	Course Agreement Due 6/16 LA Admin in DH Care Reflection
	Dental Anatomy Review: Bony Structures, Cranial Nerves, and Muscles	Review the anatomy of the head, neck, and oral cavity. Identify key landmarks, nerves, and anatomical variations relevant to the safe and effective administration of infiltration, field blocks, and nerve block local anesthesia in dental hygiene practice.	Exam Hands- on activity		LA Syringe Assembly & Disassembly Video (Self Assessment)
	Local Anesthesia Armamentarium With hands-on exercises	1. Describe the components of a syringe, needle, and anesthetic cartridge. 2. Compare and contrast the gauge and length of needles commonly used in dentistry 3. Explain the importance of inspecting the LA armamentarium prior to use 5. Describe the proper sequence for syringe assembly & disassembly. 6. Recognize the need to keep the needle safe at all times and proper needle disposal. 6. Review infiltration competency form and demonstrate correct syringe assembly & disassembly.	Exam Video Activity Peer & self assessment Skill Evaluation		Due 6/22
Week 2 June 16 AEB 603	The Physical and Psychological Evaluation	Explain the rationale for conducting physical and psychological evaluations in clinical hygiene practice. Define the key components of the medical history, psychological history, and dialogue history. Evaluate, through case presentations, the medical risks of a patient receiving local anesthetic infiltration and identify when alternative anesthesia methods may be appropriate or contraindicated.	Exam Skill Evaluation	Bender	
	Local Complications and Systemic Complications	Describe the pharmacology of agents used in local anesthetics and vasoconstrictors. Differentiate potential contraindications to local anesthetic administration and adverse responses that may occur. Describe how local anesthesia can cause complications, such as nerve damage or systemic toxicity. Identify patients at higher risk for local or systemic complications based on their medical history. Evaluate the appropriate steps for managing systemic reactions during a dental procedure.	Exam Skill Evaluation		



	Recent Advances/Specialty Considerations	Discuss recent advances in local anesthesia for dental and hygiene practice. Evaluate which recent advances are most applicable to current dental hygiene practice. Compare the differences and similarities in local anesthesia administration across specialized dental practices.	Exam		
Week 3 June 23	Exam I	Week 1 & 2 Content		Bender	LA Syringe Assembly & Disassembly
AEB 603	Nitrous 1 & 2	Describe how nitrous oxide/oxygen can be used to assist patient comfort and management for best treatment outcomes. Identify patients at higher risk for local or systemic complications based on their medical history. Evaluate the appropriate steps for managing systemic reactions during a dental procedure. Review documentation requirements for nitrous oxide & oxygen sedation in the patient's EHR.	Exam Nitrous Oxide & Oxygen Sedation Activity		Video (Peer Assessment) Due 6/29 Watch/complete the Nitrous Oxide & Oxygen Video Assignment 6/29
	Technique Administration for Maxillary and Mandibular Injections	1. Properly identify the landmarks and areas anesthetized based on the following injections: infiltrations, posterior superior alveolar (PSA) nerve block, middle superior alveolar (MSA) nerve block, anterior superior alveolar (ASA) nerve block, Infraorbital (IO) nerve block, greater palatine (GP) nerve block, anterior middle superior alveolar (AMSA) nerve block, and nasopalatine (NP) nerve block, inferior alveolar (IA) nerve block, long buccal (LB) nerve, mental nerve block, incisive nerve block, and infiltrations. 2. Review infiltration competency form and live	Exam Case study activity Skill evaluation		
Week 4 June 30 CEB 6th floor & AEB	CEB 6th floor- Nitrous Oxide & Oxygen Sedation Activity Group 1 1:00-2:15 Group 2 2:15-4:00	demo on infiltration technique 1. Watch Nitrous Oxide & Oxygen Sedation Instructional Video Prior to Demo 2. Successfully completed hands-on experience with peer partner. 3. Properly document nitrous oxide & oxygen sedation monitoring in the patient's EHR.	Exam Nitrous Oxide & Oxygen Sedation Activity	Gonzalez Shehata Cavazos	Nitrous Oxide & Oxygen Sedation Activity Due 6/30
244	AEB 244- Infiltration Practice of Typodont Group 2 1:00-2:15 Group 1 2:15-4:00	Review infiltration competency form. Successfully practice infiltration injections on all 4 quads (ant, premolar, and posterior teeth) Safely practice removing and replacing needle on syringe.	Peer assessment Skill evaluation	Bender Cowen	LIA Hands- On Practice Reflection Due 6/30
Week 5 Tues July 8 AEB 603 & AEB	Exam II Maximum Recommended Doses & Documentation	Properly document local anesthesia written consent, treatment planning, and administration in the patient's electronic health record (EHR). Accurately determine maximum recommended doses for anesthetics and epinephrine based on the patient's medical status and weight.	Exam MRD Quiz Documentat ion Activity	Cowen	MRD Quiz Due 7/13 LA axiUm Documentation Activity Due



244	Infiltration Practice of	3. Determine contraindications and precautions for local anesthesia for case 4. Properly treatment plan based on periodontal condition and decide what injection technique is required, type of anesthetic, and MRD. 1. Review infiltration competency form. 2. Successfully practice infiltration injections on all 4	Skill Evaluation		7/13 LIA Peer Evaluation Reflection Due 7/8
	Typodont	quads (ant, premolar, and posterior teeth) 3. Safely practice removing and replacing needle on syringe.	Peer assessment		
Week 6 July 14 AEB 244	Max & Mand Infiltration Skill Evaluations	Demonstrate competency administering local infiltration anesthesia on maxillary arch of typodont.	Skill Evaluation	Bender Cowen	LIA skill evals due 7/14
Week 7 July 21 AEB 244	Exam III/ Final Mand & Mand Infiltration Skill Evaluations	Demonstrate competency administering local infiltration anesthesia on mandibular arch of typodont.	Skill Evaluation	Bender Cowen	LIA skill evals due 7/21

Traditionally Delivered Course –7 weeks

Optional Course Information Items

Technology Support

Students are responsible for maintaining their devices and ensuring that they are in proper working order throughout the semester. This includes maintaining access to the college wireless network, access to all accounts (both TAMU and TAMU Health) and keeping passwords up to date. Students are expected to keep their devices up to date in regard to patches and OS updates.

Division of IT

If the student experiences issues with an electronic device, wifi access, axiUm, Zoom, or user accounts, their first point of contact should be the Division of IT Central Help Desk or the local Division of IT at COD. The Central Helpdesk provides 24-hour support.

Division of IT Central Help Desk
Website: https://it.tamu.edu/help/
Phone: 1-979-845-8300
Email: https://it.tamu.edu/help/
Phone: 214-828-8248

COD Instructional Design Team

For electronic exam support or problems concerning other academic technology, such as the LMS (Canvas), ExamSoft, or Examplify, students should contact the Instructional Design team.

Room: 516 - Academic Affairs

Carmina Castro <u>ccastro@tamu.edu</u> (214) 828-8316 Canvas support 24-hours (877) 354-4821





Lecture Recordings and Mediasite Support

Lecture recordings are posted to the Mediasite course catalog typically no more than 24 hours after they have been received. Unless otherwise specified, all course recordings are available via the Mediasite channel link within the Canvas course.

For missing recordings, contact your instructor and the Instructional Design Team.

For problems with recording playback, Mediasite access, or performance, contact IT's Health Technology Care Team (979.436.0250).

University Policies

Attendance Policy

The university views class attendance and participation as an individual student's responsibility. Students are expected to attend class and to complete all assignments.

DDS students, please refer to the student handbook, DH students please refer to student rule 7 for information about excused absences, including definitions, and related documentation and timelines.

Course Attendance/Punctuality

Attendance and punctuality are professional expectations and required of all dental hygiene students. Punctuality means that the student arrives for class on time and that they are prepared to begin scheduled activities for the class session on time. Failure to meet this requirement will result in the student being marked tardy. More than 15 minutes late for class will result in an unexcused absence.

- Excused absences: It is understood that absences due to severe or contagious illness, injuries or emergencies may occur. An absence due to illness may require a medical confirmation note from a student's medical provider. For injuries or illnesses that require a student to be absent from class for three or more business days, a note from his or her medical provider is mandatory. If a student has frequent sick days, the OSA may require a medical provider's note for each absence. Note: An absence for a non-acute medical service does not constitute an excused absence. Religious holy day: A student whose absence is excused under or the observance of religious holy day will be allowed to take an examination or complete an assignment from which the student is excused within 3 days after the absence. If the student fails to schedule and complete the exam or assignment within three days, a grade of zero will be given. Make-up exams, assignments and observations must be completed within one week of the excused absence. Late assignments due to an excused absence will be accepted with no point deduction, however, if the student turns in assignments after the assigned "make up" due date, the assignment is considered late and 10 points will be deducted for each day it's late.
- <u>Unexcused absences:</u> Tardiness and non-emergent appointments (illnesses not considered <u>severe</u> or <u>contagious</u>) scheduled during class time will be considered an unexcused absence. Students who have unexcused absences and tardiness in class, lab, clinic, or senior observations will result in <u>two points</u> <u>off the final grade with each occurrence</u> and the student will not be compensated with additional clinic/class time or instruction. For an unexcused absence on the day of an exam, the student must contact the course director to schedule a time to take the exam and must schedule to take the make-up test proving 75% competency within two weeks, but the student will receive a "0" for that exam. Examinations <u>will not</u> be administered in advance for a planned/anticipated unexcused absence.





• <u>For any absences:</u> (excused or unexcused), it will be the student's responsibility to review the lecture recordings for the class(es) missed. Additionally, the student must complete a make-up assignment(s) within one week after returning to school. The make-up assignment will be assigned by the course director for the class session(s) missed and any other assignments missed during the absence.

Documentation of Absences/ Late Arrivals

• Class- For any class absences (excused or unexcused), it will be the student's responsibility to contact the appropriate people/offices regarding their absence. All absences will go through the Office of Student Affairs (OSA). The OSA will decide if the absence is excused or unexcused for didactic courses. If the student is absent during a didactic course, the student must contact the office by sending an email to Sod-attendance@tamu.edu ASAP or prior to the start of class session.

When contacting the Office of Student Affairs, please include the five pieces of information below.

- 1. Your name,
- 2. Your class level
- 3. The date(s) of absence and reason for your absence
- 4. The names of the instructors that need to be notified
- 5. Any required documentation. Documentation from a medical provider must be on letterhead with the provider's signature and be submitted within 3 business days of returning to school.

If students have further questions about this policy, please refer to https://student-rules.tamu.edu/rule07/ or contact the Office of Student Affairs for didactic/class absences via email to Beau Stewart (bstuart@tamu.edu).

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the Office of Student Affairs.

Please refer to <u>Student Rule 7</u> in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" (Student Rule 7, Section 7.4.1).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" (Student Rule 7, Section 7.4.2).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See <u>Student Rule 24</u>.)



Academic Integrity Statement and Policy

"An Aggie does not lie, cheat or steal, or tolerate those who do."

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" (Section 20.1.2.3, Student Rule 20).

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Students can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and their rights and responsibilities at <u>aggiehonor.tamu.edu</u>. You can also contact Graduate Studies at 214-828-8182, Student Affairs at 214-828-8210, or your Program Director, for guidance.

Americans with Disabilities Act (ADA) Policy

Texas A&M College of Dentistry

Texas A&M University is committed to providing equitable access to learning opportunities for all students. All students are encouraged to discuss their disability-related needs with Disability Resources and their instructors as soon as possible. If you experience barriers to your education due to a disability which may include, but not limited to: attentional, learning, mental health, sensory, physical, or chronic health conditions, visit Disability Resources for more information. http://disability.tamu.edu.

The primary contact for any new disability accommodation requests and for any accommodation questions/concerns:

Tracey Forman, Associate Director of Disability Resources 979.845.1637 | traceyf@disability.tamu.edu |

Staff and administration in Student Affairs, Student Development and Academic Affairs are available as needed to discuss any concerns and navigate the accommodations process with our students locally.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see University Rule 08.01.01.M1):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.





Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

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Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's <u>Title IX webpage</u>. College of Dentistry students can contact Graduate Studies at 214-828-8182, Student Affairs at 214-828-8210, Security at 214-828-8335, their Program Director, or their Department Head to report an incident.

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall well-being. Students are encouraged to engage in healthy self-care by utilizing available resources and services on your campus.

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Students who need someone to talk to immediately can access the 24-hour national emergency helpline through the National Suicide Prevention Hotline (800-273-8255) or at <u>suicidepreventionlifeline.org</u>. You can also contact Graduate Studies at 214-828-8182 or Student Affairs at 214-828-8210 for a referral to a local counselor. These counseling sessions are private and confidential, as are any referral requests. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.



Campus-Specific Policies

Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to https://doi.org/10.1007/journal.org/ do so by going to https://doi.org/10.1007/journal.org/ and clicking on the "Directory Hold Information" link in the Student Records channel on the





MyRecord tab. The complete <u>FERPA Notice to Students</u> and the student records policy is available on the Office of the Registrar webpage.

Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.

College, Department, Course Policies

Dress code for class

Students must follow the TAMU DH Dress Code Policy at all times. Repeat dress code violations may result in a professionalism write-up. Refer to the TAMU DH dress code policy in the <u>Professionalism document</u> located on Canvas. An appropriate <u>clinic dress code is required in class due to the nature of our class activities with materials and sharps.</u> Check announcements regularly to ensure you are aware of any changes to items that are needed for the week. Borrowing another student's typodont/instruments is prohibited. Failure to bring the necessary items to class will be considered an unexcused absence. Independent practice outside of normally scheduled class time is strongly encouraged and often necessary to meet the requirements of this course on time.

Classroom Cell Phone Policy: The full attention of each student is expected and required for the successful completion of this course. Electronic devices used in class for non-learning purposes can be distracting and may hinder learning. Please store cell phones in your backpack or locker, unless using for educational purposes (must be approved by the course director). Students will be asked to put away such devices OR to leave the classroom if the devices become distracting to faculty or other students. If a student is caught on their electronic device or cell phone during class time, this may be counted as an unexcused absence. Point deduction to the final course grade will be applicable in these instances.

Preparation: It is the student's responsibility to bring all items listed on the course outline. Use the course outline to know what supplies and materials to bring to class. Not having all required supplies and/or materials necessary for each class displays a lack of preparation for class and students will not be able to complete the class activity and may be marked absent from the class period.

Professional Written Communication (emails/assignments): Effective written communication affects all aspects of your professional career, including your ability to successfully connect with your patients and colleagues, therefore, spelling and grammatical accuracy are critical skills for dental hygiene practice. All written communication in this course will be presented in a professional tone with the content of the message presented clearly and in an organized manner. Communicating professionally in writing requires the writer to ensure that the message is free of spelling, grammatical and sentence structure errors. A professional tone is one that is free of jargon, informal abbreviations and emotion. In addition, professional written communication always begins with an appropriate salutation and ends with the signature of the author. Any written communication in this course which does not meet these criteria shows unprofessional behavior and can affect the overall course grade. Students may use the TAMU Writing Center or grammarly.com to help students with





their writing. The course director may require proof of use of the use of the university writing center or grammarly.com if a student continually struggles with their writing skills for the emails and course assignments. If students have questions, need help making an appointment, or encounter difficulty accessing the TAMU writing center services, call 979-458-1455 or email uwc@tamu.edu.

Announcements: Announcements posted on Canvas will be e-mailed to all students (check your preferences.) Students are responsible for checking e-mail and Canvas 2x a day and to keep their mailbox clear to receive emails. If students use a personal e-mail versus their TAMU email, students are responsible for forwarding TAMU email to their personal email.

E-mail correspondence: Any email sent to the course director or other clinical instructors, from a student, must come from through the TAMU email or Canvas. The course director will not reply to emails from a non-TAMU email address. In general, emails will be sent and returned during regular business hours (within 24-48 hours.)

Attentive & Responsible: It is the student's responsibility to check Canvas daily for announcements and current grade postings. Any questions regarding grades must be brought to the attention of the course director no later than two weeks after grades are posted.

Professional Behavior: Students must demonstrate professional behavior and communication at all times. If a student fails to demonstrate professional behavior during the course, a meeting with the course director may be required. Unprofessional behavior includes, but is not limited to, a breach in integrity, excessive tardiness and absenteeism, unnecessary talking, loud talking/laughing, inappropriate language, or participating in any activities that do not directly relate to the course, disruptive and/or unprofessional behavior, failure to fully engage, failure to prepare for class, inappropriate handling of electronic devices, cheating, lying, and collusion, disrespect to peers, staff, faculty and refusal or lacking ability to follow all ethics, policies, and/or procedures. Unprofessional behavior or communication in clinic will be documented on the ECPR. See point deduction policy under ECPR and class will result in 1 point deduction for each offense on the overall course grade. The TAMU DH Professionalism Document

Also, the unprofessional conduct will be subject to the Texas A&M College of Dentistry Disciplinary Due Process Document found in your orientation binder and on the SharePoint site.

Student Roles & Responsibilities:

- 1. <u>Be present:</u> Attend all classes/clinics on time as scheduled and be intentional in all aspects of the learning process.
- 2. <u>Be prepared:</u> Prepare for class/clinic by completing all assignments denoted on the course outline, bringing all required supplies, and actively participating in the learning discussions/activities.
- 3. <u>Be aware:</u> Contact the course instructor to make up missed assignments/clinics and for extra help as needed. It's the student's responsibility to self-reflect and to become self-aware of their learning and current skills and progress throughout the program.
- 4. <u>Be humanistic:</u> This classroom welcomes and supports all students, faculty, staff, and patients of all backgrounds and identities. Different people have different perspectives on issues, and that can be valuable for solving problems or generating new ideas. Being unable to understand why someone holds a viewpoint doesn't mean they are wrong. Don't forget that we all make mistakes, and blaming each other doesn't get us anywhere. There is a ZERO TOLERANCE for harassment or discrimination of any kind. Our differences can be our strengths, so let's celebrate them!





- 5. <u>Be socially and emotionally intelligent:</u> Self-reflect, be aware of one's own feelings in the present moment and communicate effectively with others while controlling impulses or reactive behavior.
- 6. <u>Be considerate:</u> We all depend on each other to create a safe and healthy learning environment. Your decisions will affect patients, other students, faculty, and staff (your colleagues), and you should take those considerations into account when making decisions and carefully choosing your words. **Don't make work for other people.**
- 7. <u>Be respectful</u>: We won't all agree all the time, but disagreement is no excuse for disrespectful behavior. An environment where people feel uncomfortable or threatened is not a productive or creative one. We will all experience frustration from time to time but we cannot allow that frustration to become personal attacks or bleed into our dental hygiene community here at TAMU.
- 8. <u>Be optimistic:</u> Teams with winning attitudes are known for their competitive spirit and energy as well as their pragmatic optimism. Practicing optimism involves training yourself to make positive assumptions about your current and future circumstances and success. It also involves modeling optimism and spreading positivity to others on your team. Team optimism may not happen overnight, but with time and practice, you can generate more positivity within yourself and across your team!
- 9. <u>Be professional and ethical:</u> Comply with all program, school, and university policies. Take pride and uphold the Dental Hygiene Code of Ethics & Standards of Care by making a conscious effort to make sound ethical decisions that are based on the core values: Individual autonomy and respect for human beings, Confidentiality, Societal Trust, Non-maleficence, Beneficence, Justice and Fairness, and Veracity.

YOUR VOICE MATTERS TO ME- When the time comes for course evaluations, please consider providing me and our department with constructive feedback regarding this course. Helpful feedback includes giving us some ideas that you have to improve the course. The course continues to change because of past students' innovative thoughts and ideas. Students will be given classroom time to complete an **anonymous and optional**End of Course Evaluation Survey for the course

Specific Learning Objectives

Topic	Objectives
Course Overview Introduction to Local Anesthesia in DH Practice	Review Course Syllabus Recall the Texas State Board of Dental Examiners' laws and regulations related to local anesthetic infiltration anesthesia in dental hygiene practice.
Dental Anatomy Review: Bony Structures, Cranial Nerves, and Muscles	Review the anatomy of the head, neck, and oral cavity. Identify key landmarks, nerves, and anatomical variations relevant to the safe and effective administration of infiltration, field blocks, and nerve block local anesthesia in dental hygiene practice.
Local Anesthesia Armamentarium With hands-on exercises	Describe the components of a syringe, needle, and anesthetic cartridge. Compare and contrast the gauge and length of needles commonly used in dentistry Explain the importance of inspecting the LA armamentarium prior to use Describe the proper sequence for syringe assembly & disassembly. Recognize the need to keep the needle safe at all times and proper needle disposal. Review infiltration competency form and demonstrate correct syringe assembly & disassembly.



The Physical and Psychological Evaluation	Explain the rationale for conducting physical and psychological evaluations in clinical hygiene practice. Define the key components of the medical history, psychological history, and dialogue history. Evaluate, through case presentations, the medical risks of a patient receiving local anesthetic infiltration and identify when alternative anesthesia methods may be appropriate or contraindicated.
Local Complications and Systemic Complications	Describe the pharmacology of agents used in local anesthetics and vasoconstrictors. Differentiate potential contraindications to local anesthetic administration and adverse responses that may occur. Describe how local anesthesia can cause complications, such as nerve damage or systemic toxicity. Identify patients at higher risk for local or systemic complications based on their medical history. Evaluate the appropriate steps for managing systemic reactions during a dental procedure.
Recent Advances/Specialty Considerations	Discuss recent advances in local anesthesia for dental and hygiene practice. Evaluate which recent advances are most applicable to current dental hygiene practice. Compare the differences and similarities in local anesthesia administration across specialized dental practices.
Exam I	Week 1 & 2 Content
Nitrous 1 & 2	Describe how nitrous oxide/oxygen can be used to assist patient comfort and management for best treatment outcomes. Identify patients at higher risk for local or systemic complications based on their medical history. Evaluate the appropriate steps for managing systemic reactions during a dental procedure. Review documentation requirements for nitrous oxide & oxygen sedation in the patient's EHR.
Technique Administration for Maxillary and Mandibular Injections	1. Properly identify the landmarks and areas anesthetized based on the following injections: infiltrations, posterior superior alveolar (PSA) nerve block, middle superior alveolar (MSA) nerve block, anterior superior alveolar (ASA) nerve block, Infraorbital (IO) nerve block, greater palatine (GP) nerve block, anterior middle superior alveolar (AMSA) nerve block, and nasopalatine (NP) nerve block, inferior alveolar (IA) nerve block, long buccal (LB) nerve, mental nerve block, incisive nerve block, and infiltrations.
	2. Review infiltration competency form and live demo on infiltration technique
Nitrous Oxide & Oxygen Sedation Activity	Watch Nitrous Oxide & Oxygen Sedation Instructional Video Prior to Demo Successfully completed hands-on experience with peer partner. Properly document nitrous oxide & oxygen sedation monitoring in the patient's EHR.
Infiltration Practice of Typodont	Review infiltration competency form. Successfully practice infiltration injections on all 4 quads (ant, premolar, and posterior teeth) Safely practice removing and replacing needle on syringe.
Exam II Maximum Recommended Doses & Documentation Case Discussion Workshop	1. Properly document local anesthesia written consent, treatment planning, and administration in the patient's electronic health record (EHR). 2. Accurately determine maximum recommended doses for anesthetics and epinephrine based on the patient's medical status and weight. 3. Determine contraindications and precautions for local anesthesia for case 4. Properly treatment plan based on periodontal condition and decide what injection technique is required, type of anesthetic, and MRD.
Infiltration Practice of Typodont	Review infiltration competency form. Successfully practice infiltration injections on all 4 quads (ant, premolar, and posterior teeth) Safely practice removing and replacing needle on syringe.



Max & Mand Infiltration Skill Evaluations	Demonstrate competency administering local infiltration anesthesia on maxillary arch of typodont.
Exam III/ Final Mand & Mand Infiltration Skill Evaluations	Demonstrate competency administering local infiltration anesthesia on mandibular arch of typodont.

Rubrics/ Skill Evaluations



Student:

Course Syllabus

Date: _____

Addendum A: Skill Evaluations

Texas A&M University School of Dentistry Department of Dental Hygiene Anesthetic Syringe Assembly/ Disassembly Skill Evaluation

Instru meet the cr	cal Errors/ Instructions: uctors will evaluate the student's skills based on the following criteria. Critical errors all the bolded criteria, the student must repeat the evaluation regardless of the score riteria, or an X for No when grading. Provide comments for all Xs selected during grading to pass the tooth.	e. Place a ✓ for Yes, the student met
		√ / X
<u>Pr</u>	<u>eparation</u>	•
1.	Proper armamentarium present for procedure	
2.	Wears eye protection and performs HH prior to handling or assembling	
	armamentarium	
3.	Inspects components for defects or contamination	
Sy	ringe Assembly	
4.	Loads cartridge correctly into the syringe barrel and properly engages harpoon	
5.	Checks harpoon is engaged with barcode on cartridge facing the small window	
6.	Attaches needle securely with bevel properly positioned (lined up with small window)	
7.	Safety removes the needle cap using a one-handed technique (loosens cap near hub-	
	drops on tray)	
8.	Positions cap appropriately on tray for ease of recapping	
9.	Avoids contamination of the needle while upcapped	
	• • •	
<u>Di</u>	sassembly & Disposal	
10.	Safely recaps needle using recapping device or one-handed scoop technique	
11.	Properly removes needle from syringe using locking forceps and disposes into sharps	
	container	
12.	Properly removes anesthetic cartridge from syringe by loosening harpoon from rubber	
	stopper and and disposes into sharps container	
	Comments: Score	
	***Maintains professionalism (-10)	Y / N
	Final	
	Circle one: Pa	ass / Repeat
Evalu	nating Instructor: (8.33 ea	. 9/12 or 75% to pass)



Texas A&M University School of Dentistry Department of Dental Hygiene Local Anesthesia/ Infiltration Skill Evaluation

	Student:		Date:			
Ins me cri	tical Errors/ Instructions: tructors will evaluate the student's skills based on the follo et all the bolded criteria, students must repeat the evaluati teria or an X for No when grading. Provide comments for a all quadrants to pass the evaluation.	on regardless of the score.	Place a ✓	for Yes	the student i	net the
	Circle One: UR LR	UL LL Tooth #s				
1.	Proper armamentarium present for procedure					
2.	Adequately reviews medical history & identifies precaution	ns/ contraindications				
3.	Correctly assembles anesthetic syringe					
4.	Adequately illuminates the area and has proper visibility (retra	ction/ lighting)				
5.	Correctly places topical anesthesia for appropriate length of tir	me				
6.	Properly retracts buccal/labial mucosa and holds tissue taut					
7.	Establishes stable fulcrum (hand rest, finger rest, elbow tuck)					
8.	Correctly identifies insertion site w/ bevel oriented toward needle into tissue w/ verbal cue "SITE OF INSERTION					
9.	Advances needle to correct depth & angle w/ verbal cue '	DEPTH & ANGLE"				
10	Aspirates in two planes and correctly identifies type of as "ASPIRATING, RESULT OF ASPIRATION (- or +) QUARTE					
11	Administers appropriate rate of deposition (.2ml every 20	seconds)				
12	DOES NOT advance with procedure without faculty verba	I cue "PROCEED"				
13	Maintains asepsis and safety protocols throughout proce contaminate the needle, verbalizes "WITHDRAW" wher tissue, properly recaps, removes, changes, and dispos	removing needle from				
Cor	nments:	Score				
	**:	Maintains professionalism (-1	0) Y/N	Y / N	Y / N	
		Final				
		Circle one: F	Pass / Re	peat		
Ev	aluating Instructor:	(7.96 e	a. 10/13 or	75% to	pass)	



Addendum B: Nitrous Oxide & Oxygen Sedation Hands-On Activity Rubric

Nitrous Oxide & Oxygen Sedation Hands-On Activity				
Criteria	Ratings		Pts	
Watched Nitrous Oxide & Oxygen Sedation Instructional Video				
before Demo	1 pts Yes	0 pts No	1 pts	
Successfully completed hands-on experience with peer partner.				
Successfully completed hards on experience with peer partiter.	1 pts Yes	0 pts No	1 pts	
Correctly documents nitrous oxide & oxygen sedation monitoring				
in patient's EHR		0 pts No	1 pts	
Total Points: 3			ı	

Addendum C: LA Documentation Activity Rubric

LA Documentation Activity					
Criteria	Ratings		Pts		
Correctly Completed Consent Form					
	1 pts Yes	0 pts No	1 pts		
Correctly added LA codes as planned procedure based on the provider					
		0 pts No	1 pts		
Correctly documents LA procedure in progress note following					
proper LA template		0 pts No	1 pts		
Total Points: 3					





LIA Self-Reflection Assignment			
Criteria	Ratings	Pts	
Reflection on feelings, experience and identification of strengths	3 pts Excellent Thoroughly describes current feelings and confidence level with LIA technique; provides specific examples of experience. Clearly identifies specific aspects of the LIA technique that come easily; explains how these strengths contribute to success. 2 pts Proficient Adequately describes current feelings and experience with minor lack of depth or clarity. Identifies strengths with some explanation, though could be more specific or reflective. 1 pts Needs Improvement Basic description of feelings with little reflection or detail about experience. Mentions strengths with little detail or without connection to technique.	3 pts	
Identification of Areas of Improvement & Plan for future	3 pts Excellent Thoughtfully and accurately identifies areas needing improvement, with examples or faculty feedback integrated. Outlines a clear, realistic, and well-organized step-by-step plan to improve before skill evaluations. 2 pts Proficient Identifies general areas needing improvement, with limited supporting detail. Provides a general plan with steps that are somewhat organized and actionable. 1 pts Needs Improvement Vaguely identifies areas for improvement; lacks specificity or reflection. Offers a basic or vague plan that lacks specific steps or feasibility.	3 pts	
Clarity & professionalis m	3 pts Excellent Writing is clear, well-organized, and free of grammatical errors; reflects professional tone. 2 pts Proficient Mostly clear and organized; few minor grammatical errors. 1 pts Needs Improvement Poorly organized or somewhat disorganized; difficult to follow, with noticeable grammatical issues.	3 pts	

Total Points: 9



Addendum E: LIA Peer Evaluation Reflection

	LIA Peer Evaluation Reflection	
Criteria	Ratings	Pts
Submit a copy of your partner's peer evaluation of your LIA skills.	2 pts submitted 0 pts Not submitted	2 pts
Self vs. Peer Comparison	3 pts Excellent Thoughtfully compares self-assessment to partner's evaluation; clearly discusses similarities and differences with reflection on strengths and growth areas. 2 pts Proficient Describes observed skills and mentions influence on understanding with moderate insight. 1 pts Needs Improvement Mentions comparison, but lacks depth, clarity, insight or is incomplete or unclear	3 pts
Observations of peers	3 pts Excellent Clearly identifies specific skills observed; explains how these observations challenged or deepened understanding. 2 pts Proficient Identifies general areas needing improvement, with limited supporting detail. Provides a general plan with steps that are somewhat organized and actionable. 1 pts Needs Improvement Vaguely identifies peer's techniques with limited discussion of impact or little to no detail or relevance on learning	3 pts
Application to Clinical Practice	 3 pts Excellent Clearly explains how peer observation will influence their own clinical performance with concrete examples. 2 pts Proficient Explains some impact on clinical practice with general or abstract statements. 1 pts Needs Improvement Provides minimal or vague link to future practice or no clear application discussed 	3 pts
Clarity & professionalism	 3 pts Excellent Writing is clear, well-organized, and free of grammatical errors; reflects professional tone. 2 pts Proficient Mostly clear and organized; few minor grammatical errors. 1 pts Needs Improvement Poorly organized or somewhat disorganized; difficult to follow, with noticeable grammatical issues. 	3 pts

Total Points: 14



Course Agreement & Statement of Understanding

*This document must be signed and turned in by the end of the first week of class.

By signing my name below, I, (print name)______, acknowledge and agree with the following statements below.

- I received a copy of the course syllabus and outline for **DDHS 4810 Local Anesthesia & Nitrous Oxide & Oxygen Sedation.**
- The course director reviewed the syllabus and course outline in class, and I have had the opportunity to ask questions about it.
- I read the syllabus, course outline and understand the expectations and policies outlined for the course.
- I understand that the syllabus and course outline can be amended with an addendum with adequate notice to students.
- I understand that when I have a question, my first step is to refer to the syllabus for assignments and policies, and my next step is to contact the course director.
- I understand the University's Academic Honesty policies and agree to abide by the policies, including avoiding plagiarism and cheating and doing my own work.
- I have read and I agree to abide by the course syllabus, outline, and Professionalism & Attire document.

Student Signature	Date
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^{*}Upload a signed copy of THIS PAGE ONLY to the appropriate submission in Canvas by the due date.*