

DH 78 Course Outline as of Fall 2017**CATALOG INFORMATION**

Dept and Nbr: DH 78 Title: LOCAL ANESTHESIA
 Full Title: Local Anesthesia/Nitrous Oxide Conscious Sedation
 Last Reviewed: 2/7/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	0.75	17.5	Lecture Scheduled	13.13
Minimum	1.00	Lab Scheduled	1.50	6	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	2.25		Contact Total	39.38
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 26.25

Total Student Learning Hours: 65.63

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

A course covering the techniques of pain control by the administration of local anesthetics and nitrous oxide/conscious sedation. The course will prepare the student for management of the more complex clinical client during advanced dental hygiene care procedures.

Prerequisites/Corequisites:

Course Completion of DH 74 and DH 75

Recommended Preparation:**Limits on Enrollment:**

Acceptance into the Allied Dental Program

Schedule of Classes Information:

Description: A course covering the techniques of pain control by the administration of local anesthetics and nitrous oxide/conscious sedation. The course will prepare the student for management of the more complex clinical client during advanced dental hygiene care procedures. (Grade Only)

Prerequisites/Corequisites: Course Completion of DH 74 and DH 75

Recommended:

Limits on Enrollment: Acceptance into the Allied Dental Program

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree: Area Effective: Inactive:

CSU GE: Transfer Area Effective: Inactive:

IGETC: Transfer Area Effective: Inactive:

CSU Transfer: Transferable Effective: Summer 2000 Inactive:

UC Transfer: Effective: Inactive:

CID:

Certificate/Major Applicable:

Major Applicable Course

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Use appropriate interventions to manage patient fear, anxiety, and/or pain in a dental clinic setting.
2. Demonstrate the accurate dosage and type of local anesthetic (LA) agent, based on the patient's health history and treatment needs; and effectively apply it to the dental hygiene care plan.
3. Demonstrate the dental hygiene care plan and implement the use of LA in a safe, pain free setting.
4. Demonstrate skills in the discernment and proper management of complications that may result from the administration of anesthetic agents.

Objectives:

Upon completion of this course, the student will be able to:

1. Explain various strategies for reducing apprehension and fear.
2. Assess the patient's need for pain control procedures according to protocol.
3. Assess the patient's vital signs.
4. Perform the proper chart documentation of pain control choices, including informed consent.
5. Describe the nerve conduction process.
6. Describe the anesthetic agents and vasoconstrictors used in dentistry, and discuss the rationale for choosing certain agents.
7. Assess the medical history of the patient to determine the correct local anesthetic (LA) agent; if contraindicated, be able to recommend an appropriate modification.
8. Assemble the armamentarium associated with Oraqix anesthetic.
9. Demonstrate the use of Oraqix anesthetic on a typodont.
10. Identify all anatomical landmarks associated with LA injections.
11. Identify the nerve, teeth, and soft tissue structures that are anesthetized with all injections.
12. Using best practices deliver anesthesia utilizing LA.
13. Identify the local complications that could result from the administration of LA and how to

- properly manage these complications.
14. Recognize and assist in the management of any systemic complications that may result from the administration of LA.
 15. Discuss history of nitrous oxide use and its association with the dental profession.
 16. Utilize best practices for the delivery of nitrous oxide administration.

Topics and Scope:

I. Introduction to Clinical Procedures*

- A. Medical histories
- B. Emergency management-Cardio Pulmonary Resuscitation (CPR) review
- C. Infection control
- D. Patient assessments
- E. Rationale for specific agents
- F. Modifications
- G. Patient management techniques
- H. Documentation
- I. Best practices for LA and nitrous oxide sedation

II. Armamentarium*

- A. Syringe
- B. Cartridge
- C. Needle
- D. Preparation of armamentarium
- E. Break-down and disposal of armamentarium

III. Anesthesia*

- A. Local anesthetics
 1. Pharmacology
 2. Independent agent
- B. Technique
- C. Calculate maximum safe dose
- D. Complications
- E. Rationale for use of specific agents
- F. Nerve conduction process

IV. Topical Anesthetics*

- A. Oraqix
- B. Complications

V. Anatomic Review of Oro-Facial Structures

VI. Identification of Anatomical Landmarks Associated with LA Injections*

- A. Miscellaneous Landmarks
 1. Supraperiosteal/local infiltration
 2. Interpapillary
- B. Maxillary Landmarks
 1. Anterior superior alveolar block
 2. Middle superior alveolar block
 3. Posterior superior alveolar nerve block
 4. Infraorbital nerve block
 5. Greater palatine nerve block
 6. Nasopalatine nerve block
- C. Mandibular Landmarks
 1. Inferior alveolar nerve block
 2. Lingual nerve block
 3. Long buccal nerve block

- 4. Mental nerve block
- 5. Incisive nerve block
- 6. Gow Gates nerve block
- VIII. Teeth, Soft Tissues and Nerves Anesthetized in Local Anesthesia Injections
 - A. Maxillary arch
 - B. Mandibular arch
- IX. Local Anesthetic Administration Techniques of Mandibular and Maxillary Injections*
 - A. Local Infiltrations
 - 1. Supraperiosteal
 - 2. Interpapillary
 - B. Field Blocks
 - 1. Anterior Superior Alveolar
 - 2. Middle Superior Alveolar
 - C. Nerve Blocks
 - 1. Infraorbital
 - 2. Posterior Superior Alveolar
 - 3. Greater Palatine
 - 4. Nasopalatine
 - 5. Inferior Alveolar
 - 6. Lingual
 - 7. Buccal
 - 8. Mental
 - 9. Incisive
 - D. Local Complications
- X. Nitrous Oxide Conscious Sedation*
 - A. History
 - B. Physiology
 - C. Pharmacology
 - D. Indications/contraindications
 - E. Advantages/disadvantages
 - F. Equipment
 - G. Scavenger systems
 - H Hazards to personnel
 - I. Tidal volume
 - J. Technique for administration
 - 1. Determining and monitoring levels of gases
 - 2. Oxygenation at end of procedure
 - K. Management of complications
- XI. Laboratory Competencies:
 - A. Preparation for administration of Local Anesthetic Injections
 - 1. Review of Medical History/Treatment Modifications
 - 2. Local Anesthetic and Needle Selection
 - 3. Assembly of Armamentarium
 - 4. Placement of Topical Anesthetic
 - 5. Identification of Landmarks
 - B. Administration of Local Anesthetic Maxillary Injections
 - 1. Anterior middle superior alveolar nerve block
 - 2. Posterior superior alveolar nerve block
 - 3. Infraorbital nerve block
 - 4. Greater palatine nerve block
 - 5. Nasopalatine nerve block

- C. Administration of Local Anesthetic Mandibular Injections
 - 1. Inferior alveolar nerve block
 - 2. Lingual nerve block
 - 3. Long buccal nerve block
 - 4. Mental nerve block
 - 5. Incisive nerve block
- D. Administration of Local Anesthetic Miscellaneous Injections
 - 1. Supraperiostial/Local Infiltration
 - 2. Interpapillary infiltration
- E. Proper Documentation of Procedure

*These items are introduced in lecture and the related skill is performed in the lab.

Assignment:

- 1. Lecture Assignments:
 - a. Participation in class discussion
 - b. Quizzes (4-6)
 - c. Two exams
- 2. Lab Assignments:
 - a. Administration of local anesthesia (LA) on student partner
 - b. Assembly and disassembly of syringe
 - c. Assembly and disassembly of nitrous oxide equipment
 - d. Administration of nitrous oxide to a fellow classmate
 - e. One exam
- 3. Weekly case studies

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Weekly case studies	Writing 10 - 15%
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Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None	Problem solving 0 - 0%
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Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Lab competencies	Skill Demonstrations 45 - 60%
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Exams: All forms of formal testing, other than skill performance exams.

Lecture quizzes and exams, lab exam	Exams 25 - 40%
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Other: Includes any assessment tools that do not logically fit into the above categories.

None

Other Category
0 - 0%

Representative Textbooks and Materials:

Local Anesthesia for Dental Professionals. 2nd ed. Bassett, Kathy and DiMarco, Arthur and Naughton, Doreen. Elsevier. 2014

Drug Information Handbook for Dentistry. 22nd ed. Richard, Wynn. Wolters Kluwer. 2016

Techniques for Successful Local Anesthesia for Dental Professionals. DVD. Royer, Royann and Paarmann, Carlene. Elsevier. 2005 (classic)