

DHY 218 Local Anesthesia

Course Abstract

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Edison Hall Room 100, 732.906.2546.

To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct,
which is published in the college catalog and website.

Course ID and Name: DHY 218 Local Anesthesia

Department: Dental Hygiene

Course Instructor: Jamie Leizer (Wasserman), D.M.D

Prerequisites: DHY 105, DHY 208

Co-requisite: DHY 211

Course Description:

This course is designed to prepare the student to administer local anesthesia to patients for pain management during the course of dental treatment. The course will include instruction in the fundamental knowledge of the anatomy of the head and neck, pharmacology of anesthetic and analgesic agents, patient pre-evaluation. Including medical and dental history considerations, recognition of adverse events, management of emergency procedures and basic life support, selection of appropriate anesthetic agents and techniques for administering local anesthesia, and the administration of local anesthetic reversal agents. The clinical training component includes 25 monitored administrations of local anesthesia on laboratory partners including suprapariosteal (infiltration), periodontal ligament, intraseptal and block anesthesia (with the exception of the maxillary, second division, V2 nerve block).

Successful course completion prepares the student to take the North East Regional Board (NERB) written examination on the administration of local anesthesia and to be eligible to apply for a New Jersey State Board of Dentistry local anesthesia permit.

General Education Status:

Credits: 2 **Lecture Hours:** 1 **Lab Hours:** 2 **Practicum Hours:** 0 **Recitation Hours:** 0

Learning Outcomes:

Upon successful completion of the course, students will be able to:

1. Describe the anatomy and neurophysiology associated with the administration of local anesthesia for pain management during dental treatment. **C2, C3, C4, C9, C10**
2. Discuss the pharmacology, physiologic effects and clinical actions of anesthetic and analgesic agents used in the administration of local anesthesia in dentistry. **C2, C3, C4, C9, C10, PC1, PC3**
3. Demonstrate clinical proficiency in the selection and administration of local anesthetic agents for dental injections designated in the Scope of Practice of Licensed Dental Hygienists. **C1, C2, C3, C5, C9, C10, PC1, PC2, PC3, PC5**

4. Recognize the symptoms of adverse reactions and medical emergencies related to administration of local anesthesia and demonstrate knowledge of emergency management procedures. **C1, C2, C3, C9, C10, PC3, PC4, PC5**

Course Objectives:

Upon completion of lecture, class participation, assignments and clinical practicum, the student will be able to:

LECTURE:

1. Describe anatomical structures related to cranial nerves and the administration of local anesthesia. **C4, C9, C10**
2. Discuss the pharmacology of anesthetic and analgesic agents. **C9, C10, PC1, PC4**
3. Discuss the pharmacology, actions and metabolism of local anesthetic agents. **C9, C10, PC1, PC4**
4. Identify pain thresholds and determine the need for local anesthesia. **C1, C2, C4, C9, C10, PC1, PC4**
5. Perform a complete patient pre-treatment assessment including medical history, dental history and vital signs, and discuss their relevance to the administration of local anesthetic agents. **C1, C2, C4, C9, C10, PC1**
6. Select the appropriate anesthetic and analgesic agents based on patient need. **C1, C2, C4, C9, C10, PC1, PC4**
7. Describe and calculate appropriate dosages. **C2, C4, PC1, PC4, PC5**
8. Describe the prevention and management of common local complications of local anesthetic administration. **C2, C4, C9, C10, PC1, PC4, PC5**
9. Recognize the symptoms of adverse reactions and medical emergencies related to administration of local anesthesia and demonstrate knowledge of emergency management procedures. **C2, C4, C9, C10, PC1, PC4, PC5**
10. Describe the agents, effects and administration of local anesthetic reversal agents. **C2, C4, C9, PC4**

CLINICAL PRACTICUM:

1. Identify anatomical structures related to the cranial nerves and the administration of local anesthesia. **C1, C2, C9, C10, PC1**
2. Select and demonstrate the proper handling of the armamentarium needed to administer local anesthesia.
3. Identify injection sites for the successful administration of local anesthesia, first on a mannequin and then on live patients. **C1, C4, C5, C9, PC4, PC5**
4. Demonstrate clinical proficiency in the administration of the following types of injections: **C1, C2, C4, C5, C9, C10, PC1, PC4, PC5**
 - a. Supraperiosteal (infiltration)
 - b. Periodontal Ligament (PDL)
 - c. Intraseptal
 - d. Posterior Superior Alveolar (PSA) nerve block
 - e. Middle Superior Alveolar (MSA) nerve block
 - f. Anterior Superior Alveolar (ASA) nerve block
 - g. Nasopalatine nerve block
 - h. Greater Palatine nerve block
 - i. Mandibular nerve block
 - j. Mental nerve block
 - k. Long Buccal nerve block
5. Demonstrates proper treatment documentation and record keeping. **C2, C9, PC1, PC5**