

ADED244C : Pain Management for the Dental Hygienist I

This course is designed to prepare student dental hygienists for the safe and effective administration of local anesthesia nerve blocks and infiltrations. The course includes classroom, lab, and clinical instruction. Course topics include the psychology of pain management, patient assessment and treatment planning, anesthesia techniques, complications, pharmacology of anesthetic agents, emergency precautions and management, ethical considerations, and a review of anatomy and physiology in relation to the administration of anesthetic agents. On successful completion of this course and graduation, participants will have completed the educational requirements for a local anesthesia permit for the state of N.H.

Credits 2

Lab/Practicum/Clinical Hours 3

Lecture Hours 1

Prerequisites

Students are required to pass prerequisite courses with a grade of C or higher. Exceptions apply; please consult your department chair.

ADED103C

ADED114C

Corequisite Courses

ADED212C

ADED240C

ADED242C

ADED247C

ADED248C

Learning Outcomes

- Describe fundamentals of nerve impulse generation and transmission, and the effects of local anesthesia upon impulse conduction (PC 2.1, 6.2, 8.8, 8.9).
- Discuss the concepts and methods to help in the management of pain, anxiety and fear in a variety of dental setting (PC 1.1-1.4, 2.1-2.3, 4.2, 5.2, 6.2, 6.11, 6.12, 6.14, 7.2, 7.6, 8.4, 8.8, 9).
- Describe the anatomical landmarks, bones, muscles, blood vessels and nerves associated with each type and location of local anesthetic injection (PC 2.4, 6.2, 6.3, 8.8).
- Describe the anatomy of the trigeminal nerve, including the divisions, branches and innervated structures (PC 2.1, 2.4, 6.2, 8.8, and 8.9).
- Differentiate between topical anesthesia, field block, and nerve block (PC 2.1, 2.4, 6.2, 6.3, 8.4, 8.8, and 8.9).
- Describe the pharmacology of the most commonly used dental anesthetics and their components including chemical structure, classification, potency, toxicity, mechanisms of action and metabolism of each (PC 2.1-2.4, 3.4, 6.2, 6.14, 8.6).
- Explain the pharmacology of the most common vasoconstrictors used in dentistry including function, advantages, disadvantage, mechanisms of action and maximum recommended dosages (PC 2.1-2.4, 3.4, 6.2, 6.11, 6.12, 6.14, 8.4, 8.7).
- Describe indications and contraindications of local anesthetic use in patient care (PC 1.1- 1.3, 2.1-2.3, 6.1, 6.2, 6.8, 6.12, 6.14, 7.3, 8.4).
- Describe the pharmacology and proper usage of topical anesthetic (PC 2.1-2.4, 3.4, 6.2, 6.11, 6.12, 6.8, 6.14, 7.3, 8.4, 8.8).
- Identify system conditions which influence the selection and the use of local anesthetics and vasoconstrictors (PC 1.1-1.3, 2.1-2.3, 6.1, 6.2, 6.8, 6.14, 7.3, 8.4, 8.8).
- Discuss potential drug interactions with the use of local anesthetics and the effects of local anesthesia (PC 2.1-2.4, 3.4, 6.2, 6.14, 8.8).
- Describe potential adverse effects of the use of anesthesia, vasoconstrictor, preservative or other components of the anesthetic solution (PC 2.1-2.4, 3.4, 6.2, 6.14, 8.8).
- Evaluate the patient medical history and physical status to determine the armamentarium, treatment modifications and potential for emergency situations in the administration of local anesthesia. (PC 1.4, 2.1-2.3, 5.2, 6.1-6.3, 6.8, 6.11, 6.12, 6.14, 7.2, 7.6, 8.4, 8.8).
- Demonstrate knowledge of relevant factors in the choice of proper local anesthetic solutions (PC 2.1-2.4, 6.1-6.3, 6.8, 6.11, 6.15, 7.2, 8.4, 8.8).
- Recognize and manage local and systemic complications due to the injection or local anesthetic solutions, including the causes, symptoms, treatment and prevention (PC 2.1-2.4, 6.1-6.3, 6.8, 6.11, 6.15, 7.2, 8.4, 8.8).
- Determine which injections are appropriate for given situations and select and properly assemble the correct armamentarium for each type of injection (PC 2.1-2.4, 6.1-6.3, 6.8, 6.11, 6.15, 7.2, 8.4, 8.8).

- Describe the procedure for each type of injection, including correct site for needle penetration and solution deposition, as well as the rationale for the selection of the appropriate local anesthetic (PC 2.1-2.4, 6.1-6.3, 6.8, 6.11, 6.15, 7.2, 7.3, 8.4, 8.8).
- Demonstrate effective aspirating technique when administering local anesthetic and explain the rationale for doing so (PC 1.1, 1.2, 2.1-2.3, 3.4, 5.1, 8.4, 8.8).
- Describe explanations to patients of what effects and sensations are likely to be experienced as well as providing verbal and non-verbal reassurance during the injection process (PC 1.1, 1.2, 2.2, 2.4, 3.2, 5.2, 6.2, 6.14, 7.2, 8.4, 8.8, 9.1-9.3).
- Describe the proper rate of anesthetic solution administration and explain the rationale (PC 1.1, 1.2, 2.1-2.3, 3.4, 8.1, 8.4, 8.8).
- Demonstrate the ability to properly and successfully administer infiltration and block local anesthesia in actual clinical settings (PC 1.2, 1.2, 2.1-2.3, 3.4, 5.1, 8.1, 8.4, 8.8).
- Continually assess the patient's response during the administration process of local anesthesia (PC 2.1, 6.1, 6.2, 8.4, 8.8).
- Demonstrate proper handling technique of the aspirating syringe during and after treatment, including needle re-capping, syringe disassembly and cartridge and needle disposal (PC 2.1, 6.2, 6.11, 6.14, 8.1, and 8.4).