

Montgomery County Community College
BICEC 1651
Making Local Anesthesia Stick: A Review of the Clinical Pharmacology and
Therapeutics of Local Anesthetic Agents and Vasoconstrictors
0-2-0

Course Description:

Due to their potential for producing life-threatening systemic adverse reactions, a thorough knowledge of the pharmacological and clinical properties of local anesthetic agents is essential for their safe and effective use. This program will provide participants with an overview of the pharmacology and therapeutics of local anesthetic agents. Special emphasis will be given to those agents commonly administered in dental practice and patient management techniques necessary with specific disease states.

Requisites:

Previous Course Requirements

None

Previous or Concurrent Course Requirements

None

Course Comment(s)

None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Explain the basic concepts of neurophysiology and nerve conduction and the mechanism of action of local anesthetic agents.	Lecture	Discussion
2. Differentiate between the two major classes of local anesthetic agents with respect to their distribution, metabolism and routes of excretion.	Lecture	Discussion
3. Discuss the rationale for the use of vasoconstrictors in local anesthetic	Lecture	Discussion

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
solutions and their potential effects in common organ system disease states.		
4. Specify the various local aesthetic agent combinations most commonly used in dentistry and the rationales for their use in specific clinical situations.	Lecture	Discussion
5. Discuss general adverse effects, contraindications and pedodontic considerations with the use of local anesthetics.	Lecture	Discussion

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria*.

Sequence of Topics:

1. Course Introduction
2. Neurophysiology and mechanism of action of local anesthetics
3. Classes of anesthetics
4. Metabolism and excretion of local anesthetic agents
5. Selection of vasoconstrictors
6. Rationales for different local anesthetic agents in conjunction with medical conditions
7. Rationales for vasoconstrictors in conjunction with medical conditions
8. Adverse effects and contraindications with pediatric patients and administration of local anesthesia

Learning Materials:

Course instructor will provide necessary materials based on presentation notes

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

Course Approval:

Prepared by: Kimberly Erdman

Date: 10/1/18



Jim Fox, Executive Director, Workforce Development
Compliance Verification:

Date: 10/1/18

Revised by:

Date:

Jim Fox, Executive Director, Workforce Development
Compliance Verification:

Date:

This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.