

The background of the top half of the page is a light blue color. Overlaid on this background is a large, faint watermark of the University of Florida seal. The seal is circular and contains the text "UNIVERSITY OF FLORIDA" around the top edge and "OFFICE OF CONTINUING EDUCATION" around the bottom edge. In the center of the seal is a smaller emblem featuring a sun, a palm tree, and a book.

# LOCAL ANESTHESIA TRAINING FOR TODAY'S DENTAL HYGIENISTS

**Curriculum**

**Approved October 10, 2013**

## Local Anesthesia for Dental Hygienists

### CEUs: 60 contact hours. Participation

- 30 hr. didactic (5 hr. live and 25 hr. web-based and self-instruction)
- 30 hr. clinical (15 hr. live and 15 hr. observational)

**Program Format – due to the nature of the program registrations will close two weeks prior to the course.**

*\* Must attend the live weekend session, pass the written examination and finish all web-based, self-instruction and observational criteria to complete the program.*

- Live Weekend: Hands-on Participation Schedule
  - Friday 5 hr. didactic Noon – 5 pm (1-6 PM?) Networking Lunch?
  - Saturday 7.5 hours clinical 8 am – 5 pm Breakfast & Networking Lunch
  - Sunday 7.5 hours clinical 8 am – 5 pm Breakfast & Networking Lunch

### Course Fee: Breakfast/Lunch included

- Regular \$ 1,349\*
- Early Bird \$1,299\* (Up to 1 month before course date)

**\*Required Textbook (not included in fee) Local Anesthesia For Dental Professionals**  
by Bassett, Di Marco and Naughton

### Course Dates:

January 3-5, 2014

March 7-9, 2014

May 16-18, 2014

July 18-20, 2014

September 19-21, 2014

October 31-November 2, 2014

### Location:

UF College of Dentistry

1395 Center Dr.

Gainesville, FL 32610

Register online at [Local Anesthesia for Today's Dental Hygienist: Certification Training](#)

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**University of Florida College of Dentistry Curriculum:**

**Local Anesthesia Training for Dental Hygienists**

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### **Statute 466.017 (SB 1040)**

(5) A dental hygienist under the direct supervision of a dentist may administer local anesthesia, including intraoral block anesthesia, soft tissue infiltration anesthesia, or both, to a nonsedated patient who is 18 years of age or older, if the following criteria are met:

(a) The dental hygienist has successfully completed a course in the administration of local anesthesia which is offered by a dental or dental hygiene program accredited by the Commission on Dental Accreditation of the American Dental Association or approved by the board. The course must include a minimum of 30 hours of didactic instruction and 30 hours of clinical experience, and instruction in:

1. Theory of pain control
2. Selection-of-pain-control modalities.
3. Anatomy.
4. Neurophysiology.
5. Pharmacology of local anesthetics.
6. Pharmacology of vasoconstrictors.
7. Psychological aspects of pain control.
8. Systematic complications.
9. Techniques of maxillary anesthesia.
10. Techniques of mandibular anesthesia.
11. Infection control.
12. Medical emergencies involving local anesthesia

(b) The dental hygienist presents evidence of current certification in basic or advanced cardiac life support. (c) The dental hygienist possesses a valid certificate issued under subsection (6).

(6) Any dental hygienist seeking a certificate to administer local anesthesia must apply to the department, remit an application fee, and submit proof of successful completion of a course in the administration of local anesthesia pursuant to subsection (5). The board shall certify, and the department shall issue a certificate to, any dental hygienist who fulfills the qualifications of subsection (5). The board shall establish a one-time application fee not to exceed \$35. The certificate is not subject to renewal but is part of the dental hygienist's permanent record and must be prominently displayed at the location where the dental hygienist is authorized to administer local anesthesia.

The board shall adopt rules necessary to administer subsection (5) and this subsection.

### **Faculty**

Dr. Samuel B Low          Course Director, Department of Periodontics

### **Course Description:**

Today's dental hygienist must be knowledgeable in all aspects of the hygiene profession including providing local anesthesia administration to provide comfort to the dental patient. Presented by the \*[ADA CERP](#) recognized University of Florida Office of Continuing Dental Education and utilizing University of Florida faculty, this course provides the participant with the mechanics to create a positive patient environment with competent pain and anxiety management.

All aspects of local anesthesia are explored from pharmacology to anatomy and managing all dental patients requiring local anesthesia. Special emphasis is placed on administering anesthesia to a periodontal

patient. Practice management aspects are provided with “pearls” to utilize quality local anesthesia administration by the dental hygienist as a practice builder involving today’s demanding patient.

As with any hands-on training course, the participant should realize that competency, and ultimately proficiency, in the administration of local anesthesia requires repeated administration and periodic self-reeducation.

**\*ADA CERP Recognized Provider**

Only providers that can meet ADA CERP standards and procedures are granted approval and are authorized to use the ADA CERP logo and recognition statement. Once approved, providers are held accountable for maintaining those same high standards through periodic reevaluation.

**Pre-Requisites:**

- Read and study textbook (listed under Required Materials) and Course Curriculum Guide
- Complete all online course assignments
- Complete online Bloodborne pathogen training
- Complete UFCD medical history and RX form (All participants are expected to practice as both a patient and an operator)
- Copy of completed UF HIPAA and Confidentiality Statement
- Copy of current license
- Copy of current CPR
- Copy of HepB verification

**Course Goals:**

The goals of this class are to assist the dental hygienist to become:

- 1) Knowledgeable in the use and administration of local anesthetics
- 2) Knowledgeable in the pharmacology, neurophysiology, neurochemistry and anatomy related to the administration of local anesthetics
- 3) Knowledgeable and competent in the physical and psychological evaluation of the patient prior to receiving local anesthetic or dental treatment
- 4) Knowledgeable in the side effects, complications and the management of those problems associated with local anesthetics

**Course Objectives:**

At the conclusion of the course, the participant will be trained in:

- A. Scope of pain and anxiety control
  1. Discuss the differences between the types of sedation / anesthesia
  2. Discuss the pros and cons of each method of sedation / anesthesia
  3. Describe the risks and benefits of each method of sedation / anesthesia

4. Summarize the requirements of state law regarding the administration of local anesthesia
5. Discuss the legal ramifications of administration of local anesthesia

#### B. Neurophysiology

1. Discuss the desirable properties of local anesthetics
2. Discuss the fundamentals of impulse generation and transmission
3. Discuss the mode and site of action of local anesthetics

#### C. Pharmacology of local anesthetics and vasoconstrictors

1. Discuss the pharmacokinetics of local anesthetics, including uptake, distribution, metabolism, and excretion
2. Discuss the systemic actions of local anesthetics on the following:
  - a. Central nervous system
  - b. Cardiovascular system
  - c. Respiratory system
  - d. Other miscellaneous actions
3. Describe the indications for using a vasoconstrictor in a local anesthetic solution. Consider the following:
  - a. Mechanism of action
  - b. Metabolism
  - c. Maximum dosage
  - d. Toxic effects
  - e. Contraindications
4. Discuss the following information for lidocaine, mepivacaine and bupivacaine:
  - a. Type of anesthetic, ester or amide
  - b. Brand name(s)
  - c. Onset and duration of action
  - d. Metabolism, including uptake, redistribution, inactivation, and excretion
  - e. Common concentrations used in dentistry
  - f. Maximum dosage
5. Name the two general categories of topical anesthetics. Discuss benzocaine, lidocaine, and tetracaine topical anesthetics
6. Calculate the amount of anesthetic and vasoconstrictor contained in the various types of anesthetic solutions

#### D. Armamentarium

1. Identify the components of the breech-loading aspirating syringes, needles, and carpules
2. Identify the problems that can occur with the syringes, needles and carpules
3. Discuss the component chemicals contained within the cartridge and their function
4. Recognize when local anesthetic is no longer safe to administer
5. Special consideration in patient with latex allergy

#### E. Physical and psychological evaluation

1. Discuss the evaluation of the patient prior to administration of local anesthesia or sedation, including the following:
  - a. Medical history
  - b. Physical evaluation
  - c. Psychological evaluation

2. Recognition of signs and symptoms of anxiety
  3. List the ASA classification
  4. Demonstrate how to monitor the central nervous system, respiratory system and cardiovascular system for adverse reactions
- F. Anatomic considerations, clinical application and supplemental injection techniques
1. Discuss the following types of administration of anesthetic:
    - a. Maxillary anesthesia
    - b. Mandibular anesthesia
    - c. Gow-Gates
    - d. Akinosi
    - e. PDL
    - f. Interosseous
    - g. Electronic
    - h. Controlled delivery devices
- G. Local and systemic complications
1. Discuss the causes, problems, prevention and management of the following local complications:
    - a. Needle breakage
    - b. Pain on injection
    - c. Persistent anesthesia: paresthesia
    - d. Trismus
    - e. Hematoma
    - f. Infection
    - g. Tissue sloughing
    - i. Lip chewing
    - j. Facial nerve paralysis
    - k. Intravascular injection
  2. Discuss the causes, problems, prevention and management of the following systemic complications:
    - a. Local anesthetic overdose
    - b. Epinephrine overdose
    - c. Allergy
    - d. Idiosyncratic reaction
    - e. Side effects

**Evaluation:**

Cognitive Assessment: Students will be evaluated by a final written examination

**Laboratory Preparation:**

**Review: Injection Videos in the document section, prior to your lab session.**

- Read and study textbook (listed under Required Materials) and Course Curriculum Guide
- Complete all online course assignments

Learn and perform the following injection techniques on manikins and/or live patients:

- a. ASA
- b. MSA
- c. PSA
- d. Greater palatine
- e. Infraorbital
- f. Inferior alveolar
- g. Lingual
- h. Long buccal

Clinical Assessment: Demonstrate the proper injection technique for the assigned anesthesia assessment

**Grade Weights:**

Cumulative Final: 75%

Lab activities: S=Satisfactory

Remediation for this course will consist of a written assignment and then an oral examination with the course director. Students not receiving a "satisfactory" in the didactic or clinical session must remediate by participating in a remediation clinical session.

**UF CDE curriculum:**

Formal Training:

**30 hr. Didactic** (5 hr. live and 25 hr. web-based and self-instruction)

4 hrs. **Emergency Medical Procedures**

- Online "Treatment of Medical Emergencies"

- A. Monitoring Vital Signs
- B. Emergency Equipment and Preparedness
- C. Recognition of Common Medical Emergencies and Treatment
- D. Chest Pain /Cardiac Arrest
- E. Allergy and Anaphylaxis
- F. Hypotension
- G. Syncopy
- H. Basic Life Support
- I. Seizure Management

2 hrs. **Scope of pain and anxiety control**

- A. Discuss the differences between the types of sedation/anesthesia
- B. Discuss the pros and cons of each method of sedation/anesthesia
- C. Describe the risks and benefits of each method of sedation/anesthesia
- D. Summarize the requirements of state law regarding the administration of local anesthesia
- E. Discuss the legal ramifications of administration of local anesthesia

3 hrs. **Medical Assessment of Patient**

- A. Medical History
- B. Review of Systems
- C. Pulmonary Evaluation
- D. Cardiovascular Evaluation
- E. Performing and Interpretation of Vital Signs



- F. ASA Classification
- G. Case-based Learning Session
- 3 hrs. **Management of Pain and Anxiety**
  - A. Physical and Psychological Evaluation
  - B. Non-pharmacologic reduction of pain and anxiety
  - C. Neurophysiology
  - D. Evaluation of Anesthetic Choice
  - E. Analgesic Agents – Topical Anesthetics
- 2 hrs. **Head and Neck Anatomy**
  - A. Muscles of Mastication
  - B. Muscles of Facial Expression
  - C. Facial Spaces
  - D. Trigeminal Nerve and Associated Vasculature
- 2 hrs. **Pharmacology of Local Anesthesia**
  - A. Mechanism of Action
  - B. Classification
  - C. Metabolism
  - D. Recommended and Maximum Doses
  - E. Drug Interactions and Side effects
- 2 hrs. **Pharmacology of Vasoconstrictors**
  - A. Mechanism of Action
  - B. Use with Local Anesthetics
  - C. Specific Agents
  - D. Toxicity
  - E. Recommended and Maximum Dosages
  - F. Contraindications
- 2 hrs. **Armamentarium–infection control**
  - A. The Syringe
  - B. The Needle
  - C. The Cartridge
  - D. Preparation of Armamentarium
- 8 hrs. **Techniques of Local Anesthesia**
  - A. Techniques of Maxillary Anesthesia
  - B. Techniques of Mandibular Anesthesia
    - 1. Basic Injection Techniques
    - 2. Anatomical Considerations
  - C. Manikin Practice Demonstration of:
    - 1. Infiltrations in Maxilla and Mandible
    - 2. Mandibular Nerve Block
    - 3. Mental Nerve Block
    - 4. Long Buccal Nerve Block
  - D. Manikin Practical
  - E. Local Anesthesia Considerations
  - F. Case-based Seminar
- 2 hrs. **Complications and Legal Considerations**
  - A. Local Complications
  - B. Systemic Complications
  - C. Legal Considerations

Written Examination

### **30 hr. Clinical Experience**

The clinical course hours will be as follows:

1. 15 hours in the University of Florida dental clinics providing local anesthesia consisting of documentation for all maxillary and mandibular techniques (will include a practical examination to evaluate competency.)
2. 15 hours observing either in an educational institution or with a respective employer. (All observable procedures will be documented including technique, patient observations, and management.)

Clinical Assessment

### **Required Material:**

#### **\*Required Textbook (not included in fee) Local Anesthesia For Dental Professionals**

by Bassett, Di Marco and Naughton

- Suggested vendors for purchasing textbook:  
[Amazon.com](http://Amazon.com)  
[Prentice Hall](http://Prentice Hall)

Required Videos: (Online)

- University of Florida didactic local anesthesia videos
- Mandibular Anesthesia: Increasing the Success of Injection Techniques, Astra. (11 Videos; 23 minutes)
- Maxillary Anesthesia: Increasing the Success of Injection Techniques, Astra. (9 videos; 24 minutes)

Course hours per required areas of study:

2hrs D	1. Theory of pain control
2hrs D	2. Selection-of-pain-control modalities
2hrs D	3. Anatomy
2hrs D	4. Neurophysiology
2hrs D	5. Pharmacology of local anesthetics
2hrs D	6. Pharmacology of vasoconstrictors
2hrs D	7. Psychological aspects of pain control
2hrs D	8. Systematic complications
4hrs D/15hrs C	9. Techniques of maxillary anesthesia
4hrs D/15hrs C	10. Techniques of mandibular anesthesia
2hrs D	11. Infection control
4hrs D	12. Medical emergencies involving local anesthesia

Total: 30 hours Didactic and 30 hours Clinical