COURSE OUTLINE

DHYG 215 – PAIN MANAGEMENT

Prepared by: Pamela P. Quinn, RDH, BSE, MSEd
Robert Fangio, DDS
A. **TITLE:** PAIN MANAGEMENT

B. **COURSE NUMBER:** DHYG 215

C. **CREDIT HOURS:** 1

D. **WRITING INTENSIVE COURSE:** NO

E. **COURSE LENGTH:** 3 WEEKS

F. **SEMESTER(S) OFFERED:** FALL

G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**
   14 HOURS OF LECTURE

H. **CATALOG DESCRIPTION:** This course is designed to prepare the dental hygiene student with the necessary theory to appropriately treatment plan and successfully administer topical anesthesia, local infiltration anesthesia and/or nitrous oxide analgesia to increase patient comfort and control pain when providing dental hygiene services.

I. **PRE-REQUISITES/CO-COURSES:** Students must be matriculated in the Dental Hygiene program or have permission of the instructor.

J. **GOALS (STUDENT LEARNING OUTCOMES):** Upon completion of this course, the student will meet the following course learning outcomes which are linked to the institutional learning outcomes. This course provides foundational information for completing the following Dental Hygiene Program Competencies: 1.1, 1.8, 1.16, 2.3, 5.2, 5.4, 6.2, 6.3 and 6.5.

<table>
<thead>
<tr>
<th>Course Learning Outcomes</th>
<th>Institutional Outcomes</th>
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<tbody>
<tr>
<td>1. Explain the NYS Dental Hygiene Practice Act and scope of practice when utilizing local anesthesia and/or nitrous oxide analgesia during dental hygiene care.</td>
<td>3. Prof Competency</td>
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<tr>
<td>2. Evaluate medical/dental histories to identify high risk patients and any contraindications to the administration of local anesthesia and/or nitrous oxide analgesia.</td>
<td>2. Critical Thinking  3. Prof Competency</td>
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<td>3. Identify and discuss precautions and management of potential medical emergencies when administering local anesthesia or nitrous oxide.</td>
<td>2. Critical Thinking  3. Prof Competency</td>
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<td>5. Demonstrate proper technique when administering local anesthesia and nitrous oxide analgesia, and provide appropriate post-operative instructions</td>
<td>3. Prof Competency</td>
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<td>6. Accurately document the patient’s record after the administration of local anesthesia and/or nitrous oxide analgesia.</td>
<td>2. Critical Thinking  3. Prof Competency</td>
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<tr>
<td>7. Utilize proper infection control and workplace safety techniques when administering local anesthesia and nitrous oxide analgesia.</td>
<td>2. Critical Thinking  3. Prof Competency</td>
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K. **TEXTS:**

L. **REFERENCES:**
M. **EQUIPMENT:** scrubs, syringe

N. **GRADING METHOD:** A – F
   A letter grade will be issued utilizing the following conversion table. All students must achieve a minimum C grade to pass this course.
   - A 94 - 100
   - B+ 90 - 93
   - B 84 - 89
   - C+ 80 - 83
   - C 75 - 79
   - D 74 - 70
   - F 69 or lower

O. **MEASUREMENT CRITERIA/METHODS:**
   - Attendance/Class Participation
   - Homework Assignments
   - Final Exam

P. **DETAILED COURSE OUTLINE:**

   I. **NYS Law**
      - A. Guidelines and Regulations for NYS Dental Hygienists
      - B. Infiltration Only
      - C. Personal Supervision of a Dentist

   II. **Basic Neurophysiology**
      - A. Properties of a Local Anesthetic
      - B. Fundamental of Impulse Generation and Transmission
      - C. Mode and Site of Action
      - D. Active Forms of Local Anesthetics
      - E. Kinetics of Local Anesthetic Onset and Duration of Action

   III. **Pharmacology of Local Anesthetics**
      - A. Uptake
      - B. Distribution
      - C. Metabolism
      - D. Excretion
      - E. Systemic Actions
      - F. Use of vasoconstrictors

   IV. **Clinical Action of Specific Agents**
      - A. Duration
      - B. Maximum Doses
      - C. Calculating Dosage
      - D. Specific Local Anesthetic Agents

   V. **Discussion on Armamentarium & Workplace Safety**
      - A. Aspirating Syringe
      - B. Disposable Syringes
      - C. Safety Syringes
D. Potential Problems
E. Needles
F. Cartridge of Anesthetic
G. Utilization of Topical Anesthetics
D. Proper Infection Control Protocols

VI. Anatomical Considerations
A. Trigeminal Nerve
B. Ophthalmic Division
C. Maxillary Division
D. Mandibular Division
E. Osteology of the Maxilla
F. Osteology of the Mandible

VII. Patient Evaluation
A. Medical History/Dialogue History
B. Physical Examination: Vital Signs
C. ASA Classification
D. Contraindications to Giving Anesthesia
E. Developing an Appropriate Treatment Plan
F. Documentation of the Patient Record

VIII. Complications
A. Needle Breakage
B. Burning or Pain on Injection
C. Paresthesia
D. Trismus
E. Hematoma
F. Sloughing of Tissues
G. Infection
H. Post-anesthetic Intraoral Lesions

IX. Systemic Complications
A. Allergic Reaction
B. Overdose
C. Syncope
D. Anaphylaxis

Q. **LABORATORY OUTLINE:** Not applicable