COMMON COURSE OUTLINE: Course discipline/number/title: DA 1270: Expanded Functions II

A. CATALOG DESCRIPTION

1. Credits: 1
2. Hours/Week: 16 total hours of mandatory attendance (delivered in 2-8 hour days)
3. Prerequisites (Course discipline/number): RCTC Dental Assistant Program admission, completion of DA 1265: Expanded Functions I, current Certification in American Red Cross CPR/AED for the Professional Rescuer or American Red Cross Healthcare Provider CPR (Adult, Infant, Child, plus Defibrillators).
4. Co-requisites (Course discipline/number): None
5. MnTC Goals (if any): NA

This course focuses specifically on the theory and clinical experiences required by the Minnesota Board of Dentistry to perform the following two Minnesota expanded duties that may be delegated to a Licensed Dental Assistant: 1) Monitor a patient that has been induced by a dentist into nitrous oxide-oxygen relative analgesia, Indirect Supervision; 2) Administer nitrous oxide inhalation analgesia pursuant to the rule provisions. A maximum dosage must have been prescribed for the patient by the dentist, Direct Supervision. Successful completion of this course is required prior to entry into DA 1280: Dental Assisting Internship.

B. DATE LAST REVISED (Month, year): April, 2012

C. OUTLINE OF MAJOR CONTENT AREAS:

1. Nitrous Oxide-Oxygen Relative Analgesia
   a) Laws
   b) Definitions/ Terminology
   c) Purpose/Use
2. Pain and Anxiety in Dentistry
   a) Mechanism of Pain
   b) Mechanism of Fear/Anxiety
   c) Basic Fears
   d) Dental Fears
3. Spectrum of Pain and Anxiety Control
   a) Analgesia, Anesthesia, Sedation, Conscious Sedation
   b) The Stages of General Anesthesia
   c) Comparing Nitrous Oxide-Oxygen Relative Analgesia to Other Methods
4. Patient Assessment:
   a) Goals of Physical and Psychological Evaluation
   b) Health History
   c) Physical Evaluation / Patient Vital Signs
   d) Recognition of Anxiety
   e) Assessing Patient Risk
   f) Stress Reduction Protocols
5. Monitoring During Conscious Sedation Techniques
   a) Routine Pre-Operative Monitoring
   b) Record Keeping
6. Inhalation Sedation – Historical Perspective
   a) Beginnings
   b) Early Days
   c) Anesthesia Develops
   d) The Twentieth Century
   e) Modern Times
7. The Rationale of Pharmosedation
   a) Advantages / Disadvantages
   b) Indications / Contraindications
   c) Uses in Dentistry
8. Physical Properties and Pharmacokinetics of Nitrous Oxide
   a) Nitrous Oxide
   b) Oxygen
OUTLINE OF MAJOR CONTENT AREAS: Continued...

9. Nitrous Oxide Interaction
   a) Body Systems and Conditions
   b) Medications
   c) Altered States

10. Anatomy & Physiology of Respiration
    a) Respiratory System Design
    b) Physiology of Respiration

11. Analgesia Equipment
    a) Inhalation Sedation Units – Types, Delivery Methods, Parts
    b) Safety Features
    c) Infection Control

12. Titration of Nitrous Oxide/Oxygen Gases
    a) Significance
    b) Adjusting the Levels
    c) Normal Distribution Curve
    d) Signs and Symptoms of N2O in Various Levels of Sedation
    e) Signs of Over-Sedation
    f) Tips for Success

13. Inhalation Sedation Techniques of Administration
    a) Fundamental Principles
    b) Preoperative Unit Preparation
    c) Patient Participation
    d) Steps for Administration
    e) Recovery from Nitrous Oxide-Oxygen Relative Analgesia
    f) Prudent Record Keeping Procedures

14. Inhalation Sedation Complications
    a) Inadequate/Incomplete Sedation
    b) Poor Patient Experience
    c) Equipment Performance
    d) Potential Complications
    e) Managing Complications

15. Contemporary Issues Surrounding Nitrous Oxide
    a) Potential Biohazards for Health Personnel with Chronic Exposure
    b) Nitrous Oxide-Oxygen Abuse Issues
    c) Sexual Awareness Regarding Nitrous Oxide

16. Practical Considerations
    a) Determination of Proper Titration at Subsequent Visits
    b) Poor Patient Evaluation
    c) Patient Unattended During Sedation
    d) Improper Recovery Procedures
    e) Postsedation Nausea, Headache, Lethargy
    f) Equipment

17. Clinic
    a) Monitoring Nitrous Oxide-Oxygen Inhalation Sedation
    b) Administering Nitrous Oxide-Oxygen Inhalation Sedation

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Define the terms related to nitrous oxide-oxygen relative analgesia.
2. State the laws in Minnesota regulating monitoring and administration of nitrous oxide-oxygen relative analgesia.
3. Explain the dental purposes and uses of nitrous oxide-oxygen relative analgesia.
4. Describe the mechanism of pain, fear, and anxiety.
5. Describe the stages/planes of anesthesia.
6. Describe the spectrum of pain and anxiety management
7. Describe patient responses in each plane of analgesia.
8. Describe the physiological effects of nitrous oxide-oxygen relative analgesia.
9. Comparing nitrous oxide-oxygen relative analgesia to other methods.

D. LEARNING OUTCOMES (GENERAL): The student will be able to: Continued...
11. Describe the physical properties and pharmacokinetics of nitrous oxide.
12. Describe nitrous oxide’s interaction with the body and medications.
13. Describe anatomy and physiology of respiration
15. Describe analgesia equipment design and function.
16. Describe the fundamental principles of the technique for administration of nitrous oxide-oxygen relative analgesia
17. List and describe the steps for administering nitrous oxide-oxygen relative analgesia.
18. Describe prudent record keeping procedures for N2O relative analgesia.
19. Describe/identify the signs and symptoms of nitrous oxide-oxygen relative analgesia.
20. Describe the recovery considerations of nitrous oxide-oxygen relative analgesia.
21. Describe factors that may lead to a negative patient experience with nitrous oxide-oxygen sedation.
22. Describe potential abuse issues with nitrous oxide.
23. Recognize potential biohazards for health personnel with chronic exposure to N2O.
24. Describe nitrous oxide monitoring systems.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
2. Written final exam.

G. RCTC CORE OUTCOME(S) ADDRESSED:
- Communication
- Critical Thinking
- Global Awareness/Diversity

H. SPECIAL INFORMATION (if any):
1. Malpractice Insurance
2. RCTC Dental Assistant Program Uniform and Nametag
3. RCTC Dental Assistant program Approved Safety glasses
4. Current Certification in American Red Cross CPR/AED for the Professional Rescuer or American Heart Association BLS Healthcare Provider CPR/AED
5. Approved State and National Background Studies
6. Approved Heath Assessment
7. Hepatitis B Vaccine
8. Health Insurance
9. Compliance with RCTC Dental Assistant Program Clinic/Lab Policies and Protocols (i.e. Dental Infection Control Protocols, Hazard Communication Protocols, Uniform Protocol, Etiquette, and Attendance policies)