

SYLLABUS

COURSE: DENF 3541 Emergency Procedures I
SEMESTER: Fall
CREDIT HOURS: 1.0

REVISED: 2008
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COURSE DIRECTOR: Ted Pate, Ph.D.

GOAL

The purpose of this course is to bring together all of the individual medical emergency procedures which have been presented in courses throughout your dental education. It is meant to serve as a method for understanding their use in the clinical situation and to develop a greater sense of confidence in their application.

OBJECTIVES

I. PREVENTION

1. Describe the preventive measures used to reduce medical emergencies in a dental office with specific emphasis on:
 - 1.1 physical evaluation
 - 1.2 vital signs (ref: course DENF 1651, Foundational Skills for Clinic I)
 - 1.3 medical history
2. If a patient is at increased risk, describe how you can reduce this potential risk.
3. Describe the importance of stress reduction, including:
 - 3.1 stress reducing techniques

II. PREPARATION

1. List the steps you should take in general preparation for an office emergency in terms of:
 - 1.1 training of personnel
 - 1.2 emergency kit
2. List the drugs normally found in an emergency kit, including:
 - 2.1 keeping track of shelf life
 - 2.2 commercial vs. homemade drug kits
3. List the minimum equipment that should be in an emergency kit.
4. Describe at least two methods for ventilating a patient with oxygen.

III. UNCONSCIOUSNESS: GENERAL CONSIDERATIONS

1. List possible causes of unconsciousness in the dental office.
2. Describe what can be done to prevent loss of consciousness.
3. Describe the clinical manifestations of unconsciousness in terms of:
 - 3.1 mechanisms
4. Describe the management of the unconscious dental patient.

IV. VASODEPRESSOR SYNCOPE

1. Describe the condition referred to as "syncope" in terms of:
 - 1.1 predisposing factors
 - 1.2 prevention
 - 1.3 clinical manifestations

2. Describe the management of the presyncopal dental patient.
3. Describe the management of the patient suffering syncope.
4. Describe postsyncopal management of the dental patient.

V. ORTHOSTATIC HYPOTENSION

1. List factors which may be responsible for development of hypotension.
2. List drugs that may produce postural (orthostatic) hypotension.
3. Describe the clinical manifestations of postural hypotension.
4. Describe the management of hypotension.

VI. ACUTE ADRENAL INSUFFICIENCY

1. Describe acute adrenal insufficiency with specific emphasis on:
 - 1.1 predisposing factors
 - 1.2 prevention
 - 1.3 "Rule of Two's"
2. Describe the clinical manifestations of acute adrenal insufficiency with emphasis on:
 - 2.1 diagnosis
 - 2.2 management

VII. UNCONSCIOUSNESS: DIFFERENTIAL DIAGNOSIS

1. Explain the factors to be considered in determining the differential diagnosis of unconsciousness.

VIII. RESPIRATORY DIFFICULTY: GENERAL CONSIDERATIONS

1. Explain the factors that may lead to breathing difficulties.
2. Explain the general clinical manifestations of respiratory distress in terms of:
 - 2.1 four common causes
 - 2.2 basic steps in management

IX. AIRWAY OBSTRUCTION

1. Explain the management of a patient who has swallowed or aspirated an object with emphasis on:
 - 1.1 clinical symptoms
 - 1.2 noninvasive airway maneuvers

X. HYPERVENTILATION SYNDROME

1. Describe the typical patient with hyperventilation syndrome in terms of:

- 1.1 predisposing factors
- 1.2 clinical manifestations
- 1.3 management

XI. ASTHMA

- 1. List the predisposing factors in asthma (also called Reactive Airways Disease) with specific emphasis on:
 - 1.1 prevention
- 2. Describe an asthmatic attack in terms of:
 - 2.1 clinical symptoms
 - 2.2 management

XII. HEART FAILURE AND ACUTE PULMONARY EDEMA

- 1. List the predisposing factors in heart failure and pulmonary edema.
- 2. Indicate the type of information that can help prevent problems in the dental office due to heart failure and pulmonary edema.
- 3. Describe the presentation of heart failure and acute pulmonary edema in terms of:
 - 3.1 clinical manifestations
 - 3.2 management

XIII. RESPIRATORY DIFFICULTY: DIFFERENTIAL DIAGNOSIS

- 1. Name the factors that should be considered in determining the cause of a respiratory difficulty.

XIV. ALTERED CONSCIOUSNESS: GENERAL CONSIDERATIONS

- 1. List the causes of altered consciousness including:
 - 1.1 common causes
- 2. Describe the condition of altered consciousness in terms of:
 - 2.1 signs and symptoms
 - 2.2 management

XV. DIABETES MELLITUS: HYPERGLYCEMIA AND HYPOGLYCEMIA

- 1. Describe the acute and chronic complications of patients with diabetes mellitus.
- 2. Explain the difference between adult-onset and juvenile-onset diabetes.
- 3. Describe hypo- and hyperglycemia with emphasis on:
 - 3.1 causes
 - 3.2 clinical manifestations
- 4. Describe the management of hyperglycemia in the:

- 4.1 conscious patient
- 4.2 unconscious patient

5. Describe the management of hypoglycemia in the:

- 5.1 conscious patient
- 5.2 unconscious patient

XVI. CEREBRAL VASCULAR ACCIDENT

1. Describe the classification of cerebral vascular accidents (CVA's).
2. List the factors that significantly increase the chances of developing a CVA.
3. Explain the steps that can be taken to prevent the occurrence or reoccurrence of a CVA in a dental patient.
4. Describe the signs and symptoms of a CVA.
5. Describe the management of an acute CVA for the:
 - 5.1 conscious patient
 - 5.2 unconscious patient

XVII. ALTERED CONSCIOUSNESS: DIFFERENTIAL DIAGNOSIS

1. Explain the factors to be considered in making a differential diagnosis of altered consciousness.

XVIII. SEIZURE DISORDERS

1. Describe the three major types of seizures in terms of:
 - 1.1 predisposing factors
 - 1.2 clinical manifestations
 - 1.3 management

XIX. DRUG-RELATED EMERGENCIES: GENERAL CONSIDERATIONS

1. Explain the general principles of toxicology.
2. Explain the most common forms of drug-related emergencies.
3. List the four major categories of prescription drugs used in dentistry.

XX. DRUG OVERDOSE REACTIONS

1. Describe the predisposing factors, clinical manifestations and management of an overdose reaction to the following drugs:
 - 1.1 local anesthetics
 - 1.2 epinephrine
 - 1.3 sedative-hypnotics and narcotic analgesics

XXI. ALLERGY

1. List the predisposing factors in allergic reactions.
2. Explain the management of a patient with a confirmed or unconfirmed allergy to local anesthetics.
3. Describe an acute allergic reaction in terms of:
 - 3.1 clinical manifestations
 - 3.2 management

XXII. DRUG-RELATED EMERGENCIES: DIFFERENTIAL DIAGNOSIS

1. Explain the factors to be considered in making a differential diagnosis of drug-related emergencies.

XXIII. CHEST PAIN: GENERAL CONSIDERATIONS

1. Describe coronary heart disease (CHD) with specific emphasis on:
 - 1.1 major risk factors
 - 1.2 prevention
 - 1.3 clinical manifestations

XXIV. ANGINA PECTORIS

1. Describe a patient with angina pectoris with emphasis on:
 - 1.1 precipitating factors
 - 1.2 clinical manifestations
 - 1.3 management

XXV. ACUTE MYOCARDIAL INFARCTION

1. List the etiologic factors in acute myocardial infarction (AMI).
2. Explain the difficult task of preventing an AMI.
3. Describe an episode of AMI in a dental patient in terms of:
 - 3.1 clinical manifestations
 - 3.2 management

XXVI. CHEST PAIN: DIFFERENTIAL DIAGNOSIS

1. Compare the differences between cardiac and noncardiac chest pain.
2. Explain the factors to be considered in diagnosing the cause of chest pain.

RESOURCES

I. Media Resources

A. Printed media

1. Required textbook

Malamed, Stanley F.
Handbook of Medical Emergencies in the Dental Office, 6th ed.
The C.V. Mosby Company, 2007

II. Human Resources

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STUDY PLAN AND REQUIREMENTS

This course will use the Team-Based Learning methodology to facilitate preparation of the student to handle medical emergencies in the dental office. Each student will be responsible for specified preparation for each class session and for participation in each class small-group activity. Students will be assigned to teams prior to the course and will remain with the same team throughout the course. A portion of the individual student grade in the course will be derived from team grades.

Prior to each scheduled session, the student must:

1. Review the objectives.
2. Read the appropriate chapters in the required text.
3. Review the appropriate Power Point Presentation on Blackboard.
4. Complete the online self-assessment.

During each scheduled session, the students must:

1. Complete the Individual Readiness Assessment Test.
2. As a team, complete the Team Readiness Assessment Test. (Teams will receive immediate feedback.)
3. As a team, complete the Team Application Activity.
4. Defend the decisions made by your team in the Team Application Activity.

Practical Sessions

During the scheduled Practical Sessions, each team will be responsible for handling mock emergencies.

**DENF 3541 EMERGENCY PROCEDURES I
2009 FALL SEMESTER SCHEDULE**

Wednesdays & Fridays, 8-8:50 am; Room B81
Req'd Text: *Handbook of Medical Emergencies in the Dental Office*, 6th ed.

Date	Facilitator	Topic	Reading Assignment
Aug 19	Pate/ McMahon	Introduction & Video	pp. 3-14
Aug 21	Suchko	Prevention Preparation Medicolegal Considerations	pp. 15-58 pp. 59-104 pp. 105-116
Aug 26	Busaidy	Unconsciousness: General Considerations Vasodepressor Syncope Orthostatic Hypotension Acute Adrenal Insufficiency Differential Diagnosis	pp. 119-130 pp. 131-146 pp. 147-154 pp. 155-169 pp. 171-175
Aug 28	Pate	Respiratory Distress Part I: General Considerations Airway Obstruction Hyperventilation Syndrome Asthma	pp. 179-183 pp. 185-207 pp. 209-214 pp. 215-231
Sep 2	McMahon	Respiratory Distress Part II: Heart Failure & Acute Pulmonary Edema Differential Diagnosis	pp. 233-249 pp. 251-253
Sep 4	Faculty	Practical Session Group 1 Mock Codes 1	
Sep 9	Faculty	Practical Session Group 2 Mock Codes 1	
Sep 11	Gilbert	Altered Consciousness Part I: General Considerations Diabetes Mellitus: Hyper & Hypoglycemia Thyroid Gland Dysfunction	pp. 257-260 pp. 261-286 pp. 287-298
Sep 16	Pate/ McMahon	MID-TERM EXAMINATION Room 207	
Sep 18	Johnson	Altered Consciousness Part II: Cerebral Vascular Accident Differential Diagnosis Seizures	pp. 299-315 pp. 317-320 pp. 323-344
Sep 23	Whitmire	Drug-Related Emergencies Part I: General Considerations Drug Overdose Reactions	pp. 347-357 pp. 359-396

Date	Facilitator	Topic	Reading Assignment
Sep 25	Jeske	Drug-Related Emergencies Part II: Allergy Differential Diagnosis	pp. 397-428 pp. 429-434
Sep 30	McMahon	Chest Pain: General Considerations Angina Pectoris Acute Myocardial Infarction Differential Diagnosis Cardiac Arrest & CPR	pp. 437-450 pp. 451-466 pp. 467-485 pp. 487-490 pp. 493-514
Oct 2	Faculty	Practical Session Group 1 Mock Codes 2	
Oct 7	Faculty	Practical Session Group 2 Mock Codes 2	
Oct 21	Faculty	Course Summary/Review Course Evaluation	
Wed, Oct 28 8-8:50 am	Pate/ McMahon	FINAL EXAMINATION Room 207	

EVALUATION METHODS

The course grade will be derived from the Individual Readiness Assessment Test grades, Team Readiness Assessment Test grades, and the Midterm and Final Exam grades in the following manner:

Individual Readiness Assessment Test Grades	20%
Team Readiness Assessment Test Grades	20%
Mock Codes	10%
Midterm Exam Grade	25%
Final Exam Grade	<u>25%</u>
Total	100%