

# **DNH 120**

## **Management of Emergencies**

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**Dean's Review:**

**Dean's Signature: \_\_\_\_\_ Date Reviewed: \_\_\_/\_\_\_/\_\_\_**

**Revised: Fall 2019**

# **DNH 120**

## **Management of Emergencies**

### **COURSE OUTLINE**

#### **Prerequisites:**

**None**

#### **Course Description:**

**Studies the various medical emergencies and techniques for managing emergencies in the dental setting. Additional practical applications and simulations of emergencies may be conducted to enhance basic knowledge from the two-hour lecture component.**

**Semester Credits: 2 Lecture Hours**

## **DNH 120 Management of Emergencies**

### **Course Outcomes**

**At the completion of this course, the student should be able to:**

1. Develop a working knowledge of common medical emergencies that may occur in the oral health setting, including preventive strategies, recognition of emergency conditions/situations, and appropriate management.
2. Apply knowledge of medical/dental emergencies to the clinical setting and to role playing activities or case scenarios.
3. Follow VWCC protocols and procedures related to risk reduction and emergency management.
4. Relate material from this course to the dental hygiene process of care.

## **DNH 120 Management of Emergencies**

### **Required Textbooks:**

- Wynn, et al. Drug Information Handbook for Dentistry. 25<sup>th</sup> edition  
ISBN: 978-1591953784 Lexicomp
- Medical Emergencies in the Dental Office by Stanley F. Malamed 7<sup>th</sup> edition  
ISBN: 978-0323171229
- Clinical Practice of the Dental Hygienist by Esther M. Wilkins. 12<sup>th</sup> edition  
ISBN: 978-1451193114 LWW
- Virginia Western Community College Dental Hygiene Student Guidelines & Procedures Manual 2019-2020.

### **Required Items:**

- Plastic Box to File Several Index Cards
- No larger than - 6 ½ inches long x 5 inches tall x 4 inches deep
- Lined Index Cards (need to fit with plastic box noted above)
- Divider Cards /Tab Cards (need to fit with plastic box noted above)

## **DNH 120 Management of Emergencies**

### **Course Objectives:**

#### Chapter 1 – Introduction

1. Describe at least four factors that contribute to the occurrence of medical emergencies in the dental setting.
2. Take knowledge acquired in your recent BLS/CPR course and apply it to emergency situations in the dental setting.
3. Name the three components of a complete physical evaluation and discuss why it is needed for patient care.

#### Chapter 4 – Legal Consideration

1. Discuss the legal aspects and responsibilities of the dental practitioner as these relate to medical emergencies occurring during treatment.
2. Relate the concepts of Standard of Care, Foreseeability, Informed consent and the Good Samaritan Law to management of emergencies.
3. Recognize the proper protocols and responsibilities of the dental practitioner as related to notations and reviews of client medical histories.
4. Identify clinic forms required in each client's health history.
5. Understand the importance of client/parental consent and signatures.
6. Verbalize what the acronym HIPAA stands for. Why is HIPAA necessary?

#### Chapter 2 – Prevention

1. Name the three vital signs routinely measured at the VWCC clinic.
2. State the current normal ranges for blood pressure, heart rate, and respiratory rate for adults and children.
3. Discuss possible signs and symptoms of impending or developing medical emergencies.
4. Discuss why stress reduction protocol must be a part of every patient's care.
5. Identify ASA Risk levels I-V and the implication for dental hygiene treatment associated with each level.

6. Identify absolute contraindications in treatment related to specific health conditions that may precipitate a medical emergency.

### Chapter 3 – Preparation

1. List the emergency equipment essential to the dental setting.
2. List the drugs essential to an emergency kit and the common indications for their administration.
3. Recite the emergency phone numbers for EMS, campus police, poison control, and the building and room designation at your campus dental clinic site.
4. Be able to locate fire alarm pulls and fire extinguishers in the event of an emergency.
5. Review and recite the evacuation and situation in place plans for your campus classroom and clinic setting.
6. Identify an AED and recognize the limitations of use.
7. Identify steps to be implemented by the dental team to prevent/reduce the incidence of emergencies in the dental setting.
8. Identify the proper sequence of steps necessary to manage a specific emergency.
9. Identify the roles of the dental team members in managing an emergency.
10. Recount the critical elements to be documented in a patient chart following a medical emergency.
11. Properly identify, locate and proficiently demonstrate the use of emergency equipment and supplies in the clinic.
12. Describe proper protocol and procedures for management of a life-threatening emergency in the clinic.

### Chapter 5 – Unconsciousness: General Considerations

1. Identify predisposing factors for unconsciousness
2. Prevention of unconsciousness

### Chapter 6 – Vasodepressor Syncope

1. Identify common causes for Syncope.
2. Identify absolute contraindications in pre-treatment and treatment related to Syncope that may precipitate a medical emergency.
3. Describe the “Fight or Flight” response.

4. Identify the proper sequence of steps necessary to manage Syncope.

#### Chapter 7 – Postural Hypotension

1. Identify common causes for Orthostatic (Postural) Hypotension.
2. Identify absolute contraindications in pre-treatment and treatment related to Postural Hypotension that may precipitate a medical emergency.
3. Identify the proper sequence of steps necessary to manage Postural Hypotension.

#### Chapter 8 – Acute Adrenal Insufficiency

1. Discuss why the adrenal gland is sometimes unable to secrete sufficient cortisol to allow a patient to physically adapt to the stress of a dental visit.
2. Identify the role of glucocorticosteroid drug therapy on the adrenal gland.

#### Chapter 9 – Unconsciousness: Differential Diagnosis

1. Look at the age of patients
2. Positioning of patients
3. Recognize signs and symptoms of syncope, OH, and adrenal insufficiency to prepare/manage an emergency.

#### Chapter 16 – Altered Consciousness: General Considerations

1. Identify predisposing factors for altered consciousness
2. Prevention of altered consciousness

#### Chapter 17 – Diabetes Mellitus: Hyperglycemia and Hypoglycemia

1. Discuss Insulin's role in Diabetes Mellitus.
2. Relate how Diabetes Mellitus may affect other functions of the body.
3. State why dialogue questions is especially important for the patient with a history of Diabetes.
4. Discuss possible signs and symptoms of Hypoglycemia and Hyperglycemia.
5. Recite and describe the three classifications of Diabetes Mellitus.

6. Discuss why “sugar for everyone” is the general rule for treatment for a diabetic showing signs of altered consciousness.

#### Chapter 18 – Thyroid Gland Dysfunction

1. Compare signs and symptoms of Hypothyroidism and Hyperthyroidism.
2. Recognize the “Rule of Two’s”.
3. Compare the standards of “Emergency Position” and “Position of Comfort”.
4. Discuss Thyroid Hormone’s role in Myxedema Coma & Thyroid Storm.

#### Chapter 19 – Cerebrovascular Accident

1. Discuss the differences in Occlusive and Hemorrhagic Strokes.
2. Compare Transient Ischemic Attacks (TIA) to Cerebrovascular Accident.
3. Identify absolute contraindications in treatment related to patients with a history of TIA or Stroke.
4. Discuss why and what treatment modifications are necessary for patients on anticoagulant or antiplatelet therapy.
5. Discuss why vasoconstrictors are controversial for use with the patient with a history of CVA.
6. Recognize normal Prothrombin Time.
7. Identify the proper sequence of steps necessary to manage a TIA or CVA.

#### Chapter 20 – Altered Consciousness: Differential Diagnosis

1. Look at the medical history, sex, and age of patients
2. Look at positioning of patients
3. Know the signs and symptoms of to prepare/manage an emergency.

#### Chapter 21 – Seizures

1. Identify common physiological reasons for Seizures.
2. Compare Grand Mal, Petit Mal, Jacksonian and psychomotor seizures.
3. Describe the characteristics of each phase of a Grand Mal seizure.
4. Identify absolute contraindications in treatment of a Seizure.



5. Identify the proper sequence of steps necessary to manage a Seizure.

#### Chapter 10 – Respiratory Distress: General Considerations

1. Identify predisposing factors
2. Knowledge on Prevention
3. Management of Respiratory Distress

#### Chapter 11 – Foreign Body Airway

1. Knowledge on Identification and Prevention
2. Acknowledge the “universal sign” for choking
3. Revisit BLS standards
4. Management of emergency

#### Chapter 12 – Hyperventilation

1. Identify the proper sequence of steps necessary to manage Hyperventilation.
2. Identify absolute contraindications in treatment related to the treatment of Hyperventilation.

#### Chapter 13 – Asthma

1. Compare the similarities and differences in Hyperventilation and an Acute Asthma Attack.
2. Identify the proper sequence of steps necessary to manage an Acute Asthma Attack.
3. Identify absolute contraindications in pre-treatment and treatment related to treatment of a patient with a history of Asthma.
4. Recount each step in assisting with the administration of a bronchodilator.

#### Chapter 14 – Heart Failure and Acute Pulmonary Edema

1. Relate the relationship between Heart Failure and Acute Pulmonary Edema.
2. Identify absolute contraindications in treatment related to a patient with Heart Failure that may precipitate a medical emergency.
3. Identify the proper sequence of steps necessary to manage Acute Pulmonary Edema.

## Chapter 15 - Respiratory Distress: Differential Diagnosis

1. Look at the medical history, sex, and age of patients
2. Look at positioning of patients
3. Know the signs and symptoms of to prepare/manage an emergency.

## Chapter 26 - Chest Pain: General Considerations

1. Know predisposing factors for Chest Pain
2. Prevention Of Chest Paint
3. Management of Chest Pain

## Chapter 27 - Angina Pectoris

1. Compare the characteristics of Stable, Unstable and Variant angina.
2. Discuss why stress reduction protocol is especially important to the cardiac risk patient.
3. Describe the "Fight or Flight" response.
4. State why dialogue questions are especially important to the patient with a history of Angina.
5. Discuss why vasoconstrictors are controversial for use with the cardiac risk patient.
6. Recite the indications and contraindications to the administration of nitroglycerin.

## Chapter 28 – Acute Myocardial Infarction

1. Compare the signs and symptoms of Angina to those of Acute Myocardial Infarction.
2. Discuss why vasoconstrictors are controversial for use with the cardiac risk patient.
3. Discuss why and what treatment modifications are necessary for patients on anticoagulant or antiplatelet therapy.
4. Recite normal Prothrombin Time.

## Chapter 29 – Chest Pain: Differential Diagnosis

1. Look at the medical history, sex, and age of patients
2. Look at positioning of patients
3. Know the signs and symptoms of to prepare/manage an emergency.

## Chapter 30 – Cardiac Arrest

1. Identify response times
2. Know the “Chain of Survival”
3. Re visit BLS/CPR

## Chapter 31 – Pediatric Considerations

1. Basic Management/Positioning
2. Re visit BLS/CPR sequence for pediatric patients
3. Know emergency drugs/ how administered

## Chapter 22 – Drug Related Emergencies: General Considerations

1. Describe an idiosyncratic drug reaction.
2. Identify absolute contraindications in treatment related to prevention of a drug overdose or allergic reaction that may prevent a medical emergency.

## Chapter 23 – Drug Overdose Reactions

1. Identify potential for overdose reactions
2. Compare “absolute” and “relative” as they relate to drug overdose.
3. Discuss possible signs and symptoms of Overdose.
4. Identify the proper sequence of steps necessary to manage an Overdose.

## Chapter 24 – Allergy

1. Identify types of allergies
2. Identify precipitating factors for an allergic response/reaction.
3. Identify types of reactions related to allergies.
4. Discuss possible signs and symptoms of Anaphylaxis.
5. Describe the role and dosage of epinephrine in the treatment of Anaphylaxis.
6. Identify the proper sequence of steps necessary to manage Anaphylactic Shock.

## Chapter 25 – Drug Related Emergencies: Differential Diagnosis

1. Look at the medical history, sex, and age of patients
2. Look at positioning of patients

3. Recount the important patient information necessary before administering ANY drug in order to prevent an overdose.
4. Know the signs and symptoms of to prepare/manage an emergency

## **DNH 120 Management of Emergencies**

### **Topical Description:**

#### **UNIT 1: INTRODUCTION, LEGAL CONSIDERATIONS, PREVENTION AND PREPARATION – WEEKS 1-3**

- A. Introduction
- B. Risk factors
- C. Classification of life-threatening situations
- D. Medicolegal Considerations
- E. Evaluation goals
- F. Physical evaluation
- G. Anxiety recognition
- H. Prevention
- I. Preparation
- J. Emergency drug kits

#### **UNIT 2: ALTERED CONSCIOUSNESS AND UNCONSCIOUSNESS, GENERAL CONSIDERATIONS – WEEKS 5-7**

- A. Vasodepressor Syncope
- B. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
- C. Postural Hypotension
- D. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
- E. Acute Adrenal Insufficiency
- F. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
- G. Diabetes Mellitus: Hyperglycemia and Hypoglycemia
- H. Acute Complications
- I. Chronic Complications
- J. Predisposing Factors
- K. Classification Of Diabetes
- L. Hyperglycemia
- M. Hypoglycemia
- N. Control Of Diabetes
- O. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
- P. Thyroid Gland Dysfunction

Q. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management

R. Cerebrovascular Accident

**Classification**

S. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management

T. Seizures

U. Types Of Seizure Disorders and Causes

Predisposing Factors and Prevention

**Clinical Manifestations**

Pathophysiology

Management

### UNIT 3: RESPIRATORY AND CARDIAC EMERGENCIES – WEEKS 9-10

A. Respiratory Distress: General Considerations

B. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management with Respiratory Distress

C. Foreign Body Airway Obstruction

D. Hyperventilation

E. Asthma and Bronchospasm

F. Heart Failure and Acute Pulmonary Edema

G. Chest Pain: General Considerations

H. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management with Chest Pain

I. Angina Pectoris

J. Acute Myocardial Infarction

K. Cardiac Arrest and Cardiopulmonary Resuscitation

L. Pediatric Considerations

### UNIT 4: ALLERGIES & DRUG RELATED EMERGENCIES – WEEKS 12-14

A. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management of Allergies

B. Skin Reactions

C. Respiratory Reactions

D. Epinephrine and Allergy

E. Generalized Anaphylaxis

F. Drug Overdose Reactions

G. Classification and Management of Common Drug Emergencies within the Dental setting

H. Local Anesthetic Overdose Reaction

I. Epinephrine (Vasoconstrictor) Overdose Reaction

J. CNS Depressant Overdose Reaction