

Virginia Western Community College
DNH 120
Management of Emergencies

Prerequisites

Admission to the Dental Hygiene Program

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: 2****Required Materials****Textbook:**

Malamed, Stanley F. Emergencies in the Dental Office (7th edition). ISBN: 9780323171229

Wynn, et al. Drug Information Handbook for Dentistry (26th edition). ISBN: 978-1591953821 Lexicomp

Boyd. Clinical Practice of the Dental Hygienist (13th edition). ISBN: 9781496396273 Jones & Bartlett Learning

Virginia Western Community College, Dental Hygiene Student Guidelines and Procedures Manual (2021-2022)

Other Required Materials:

Manual Blood Pressure Cuff & Stethoscope (automated BP cuff not permitted)

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)

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.

Topical Description

UNIT 1: WEEKS 1-3

INTRODUCTION, LEGAL CONSIDERATIONS, PREVENTION AND PREPARATION

1. Introduction
2. Risk factors
3. Describe at least four factors that contribute to the occurrence of medical emergencies in the dental setting.
4. Take knowledge acquired in your recent BLS/CPR course and apply it to emergency situations in the dental setting.
5. Name the three components of a complete physical evaluation and discuss why it is needed for patient care.
6. Classification of life-threatening situations
7. Medicolegal Considerations
8. Discuss the legal aspects and responsibilities of the dental practitioner as these relate to medical emergencies occurring during treatment.
9. Relate the concepts of Standard of Care, Foreseeability, Informed consent and the Good Samaritan Law to management of emergencies.
10. Recognize the proper protocols and responsibilities of the dental practitioner as related to notations and reviews of client medical histories.
11. Identify clinic forms required in each client's health history.
12. Understand the importance of client/parental consent and signatures.
13. Verbalize what the acronym HIPAA stands for. Why is HIPAA necessary?
14. Evaluation goals
15. Physical evaluation
16. Anxiety recognition
17. Prevention
18. Name the three vital signs routinely measured at the VWCC clinic.
19. State the current normal ranges for blood pressure, heart rate, and respiratory rate for adults and children.
20. Discuss possible signs and symptoms of impending or developing medical emergencies.
21. Discuss why stress reduction protocol must be a part of every patient's care.
22. Identify ASA Risk levels I-V and the implication for dental hygiene treatment associated with each level.
23. Identify absolute contraindications in treatment related to specific health conditions that may precipitate a medical emergency.
24. Preparation
25. List the emergency equipment essential to the dental setting.
26. Emergency drug kits
27. List the drugs essential to an emergency kit and the common indications for their administration.
28. Recite the emergency phone numbers for EMS, campus police, poison control, and the building and room designation at your campus dental clinic site.
29. Be able to locate fire alarm pulls and fire extinguishers in the event of an emergency.

30. Review and recite the evacuation and situation in place plans for your campus classroom and clinic setting.
31. Identify an AED and recognize the limitations of use.
32. Identify steps to be implemented by the dental team to prevent/reduce the incidence of emergencies in the dental setting.
33. Identify the proper sequence of steps necessary to manage a specific emergency.
34. Identify the roles of the dental team members in managing an emergency.
35. Recount the critical elements to be documented in a patient chart following a medical emergency.
36. Properly identify, locate and proficiently demonstrate the use of emergency equipment and supplies in the clinic.
37. Describe proper protocol and procedures for management of a life-threatening emergency in the clinic.

UNIT 2: WEEKS 5-7

ALTERED CONSCIOUSNESS AND UNCONSCIOUSNESS, GENERAL CONSIDERATIONS

1. Identify predisposing factors for unconsciousness
2. Prevention of unconsciousness
3. Vasodepressor Syncope
4. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
5. Identify common causes for Syncope.
6. Identify absolute contraindications in pre-treatment and treatment related to Syncope that may precipitate a medical emergency.
7. Describe the "Fight or Flight" response.
8. Identify the proper sequence of steps necessary to manage Syncope.
9. Postural Hypotension
10. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
11. Identify common causes for Orthostatic (Postural) Hypotension.
12. Identify absolute contraindications in pre-treatment and treatment related to Postural Hypotension that may precipitate a medical emergency.
13. Identify the proper sequence of steps necessary to manage Postural Hypotension
14. Acute Adrenal Insufficiency
15. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
16. 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.
17. Identify the role of glucocorticosteroid drug therapy on the adrenal gland.
18. Identify predisposing factors for altered consciousness
19. Prevention of altered consciousness
20. Diabetes Mellitus: Hyperglycemia and Hypoglycemia
21. Acute Complications
22. Chronic Complications
23. Predisposing Factors
24. Classification of Diabetes
25. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management

26. Hyperglycemia
27. Hypoglycemia
28. Control of Diabetes
29. Discuss Insulin's role in Diabetes Mellitus.
30. Relate how Diabetes Mellitus may affect other functions of the body.
31. State why dialogue questions is especially important for the patient with a history of Diabetes.
32. Discuss possible signs and symptoms of Hypoglycemia and Hyperglycemia.
33. Recite and describe the three classifications of Diabetes Mellitus.
34. Discuss why "sugar for everyone" is the general rule for treatment for a diabetic showing signs of altered consciousness.
35. Thyroid Gland Dysfunction
36. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
37. Compare signs and symptoms of Hypothyroidism and Hyperthyroidism.
38. Recognize the "Rule of Two's".
39. Compare the standards of "Emergency Position" and "Position of Comfort".
40. Discuss Thyroid Hormone's role in Myxedema Coma & Thyroid Storm.
41. Cerebrovascular Accident
42. Classification
43. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management
44. Discuss the differences in Occlusive and Hemorrhagic Strokes.
45. Compare Transient Ischemic Attacks (TIA) to Cerebrovascular Accident.
46. Identify absolute contraindications in treatment related to patients with a history of TIA or Stroke.
47. Discuss why and what treatment modifications are necessary for patients on anticoagulant or antiplatelet therapy.
48. Discuss why vasoconstrictors are controversial for use with the patient with a history of CVA.
49. Recognize normal Prothrombin Time.
50. Identify the proper sequence of steps necessary to manage a TIA or CVA.
51. Seizures
52. Identify common physiological reasons for Seizures.
53. Types of Seizure Disorders and Causes
54. Compare Grand Mal, Petit Mal, Jacksonian and psychomotor seizures.
55. Describe the characteristics of each phase of a Grand Mal seizure.
56. Predisposing Factors and Prevention
57. Clinical Manifestations
58. Pathophysiology
59. Management
60. Identify absolute contraindications in treatment of a Seizure.
61. Identify the proper sequence of steps necessary to manage a Seizure.
62. Differential Diagnosis
 - a. Look at the medical history, sex, and age of patients
 - b. Look at positioning of patients
 - c. Know the signs and symptoms of to prepare/manage an emergency.

UNIT 3: WEEKS 9-10**RESPIRATORY AND CARDIAC EMERGENCIES**

1. Respiratory Distress: General Considerations
2. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management with Respiratory Distress
3. Foreign Body Airway Obstruction
4. Knowledge on Identification and Prevention
5. Acknowledge the “universal sign” for choking
6. Revisit BLS standards
7. Management of emergency
8. Hyperventilation
9. Identify the proper sequence of steps necessary to manage Hyperventilation.
10. Identify absolute contraindications in treatment related to the treatment of Hyperventilation.
11. Asthma and Bronchospasm
12. Compare the similarities and differences in Hyperventilation and an Acute Asthma Attack.
13. Identify the proper sequence of steps necessary to manage an Acute Asthma Attack.
14. Identify absolute contraindications in pre-treatment and treatment related to treatment of a patient with a history of Asthma.
15. Recount each step in assisting with the administration of a bronchodilator.
16. Heart Failure and Acute Pulmonary Edema
17. Relate the relationship between Heart Failure and Acute Pulmonary Edema.
18. Identify absolute contraindications in treatment related to a patient with Heart Failure that may precipitate a medical emergency.
19. Identify the proper sequence of steps necessary to manage Acute Pulmonary Edema.
20. Chest Pain: General Considerations
21. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management with Chest Pain
22. Angina Pectoris
23. Compare the characteristics of Stable, Unstable and Variant angina.
24. Discuss why stress reduction protocol is especially important to the cardiac risk patient.
25. Describe the “Fight or Flight” response.
26. State why dialogue questions are especially important to the patient with a history of Angina.
27. Discuss why vasoconstrictors are controversial for use with the cardiac risk patient.
28. Recite the indications and contraindications to the administration of nitroglycerin.
29. Acute Myocardial Infarction
30. Compare the signs and symptoms of Angina to those of Acute Myocardial Infarction.
31. Discuss why vasoconstrictors are controversial for use with the cardiac risk patient.
32. Discuss why and what treatment modifications are necessary for patients on anticoagulant or antiplatelet therapy.
33. Recite normal Prothrombin Time.

34. Cardiac Arrest and Cardiopulmonary Resuscitation
35. Identify response times
36. Know the “Chain of Survival”
37. Re visit BLS/CPR
38. Differential Diagnosis
 - a. Look at the medical history, sex, and age of patients
 - b. Look at positioning of patients
 - c. Know the signs and symptoms of to prepare/manage an emergency.
39. Pediatric Considerations
 - a. Basic Management/Positioning
 - b. Re visit BLS/CPR sequence for pediatric patients
 - c. Know emergency drugs/ how administered

UNIT 4: WEEKS 12-14

ALLERGIES & DRUG RELATED EMERGENCIES

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.
3. Predisposing Factors, Prevention, Clinical Manifestations, Pathophysiology, and Management of Allergies
4. Identify types of allergies
5. Identify precipitating factors for an allergic response/reaction.
6. Identify types of reactions related to allergies.
7. Skin Reactions
8. Respiratory Reactions
9. Epinephrine and Allergy
10. Generalized Anaphylaxis
11. Discuss possible signs and symptoms of Anaphylaxis.
12. Describe the role and dosage of epinephrine in the treatment of Anaphylaxis.
13. Identify the proper sequence of steps necessary to manage Anaphylactic Shock.
14. Drug Overdose Reactions
15. Identify potential for overdose reactions
16. Compare “absolute” and “relative” as they relate to drug overdose.
17. Discuss possible signs and symptoms of Overdose.
18. Identify the proper sequence of steps necessary to manage an Overdose.
19. Classification and Management of Common Drug Emergencies within the Dental setting
20. Local Anesthetic Overdose Reaction
21. Epinephrine (Vasoconstrictor) Overdose Reaction
22. CNS Depressant Overdose Reaction
23. Differential Diagnosis
 - a. Look at the medical history, sex, and age of patients
 - b. Look at positioning of patients

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

Notes to Instructors

None