Iowa EMT-P to Paramedic Documentation

Iowa Department of Public Health
Bureau of Emergency Medical Services
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SECTION A: PROVIDER INFORMATION

Certification Number

Last Name | First Name | MI

Home Mailing Address

City | State | Zip Code

Sex: ☐ Male ☐ Female | Date of Birth: __ / __ / __ | Age

Phone Number: ___ - ___ - ____

Email Address

SECTION B: TRANSITION INSTRUCTIONS

EMT-Paramedics may transition to the Paramedic level. To complete the transition, the EMT-Paramedic must complete the following training requirements topics and successfully complete the National Registry Paramedic computer-based examination. Upon completion of the training requirements, submit pages 1 and 2 of this document to the Bureau of EMS at the address at the top of the form. You will then receive instructions concerning the computer-based examination for the Paramedic.

Active EMT-Paramedics who have not completed the transition prior to April 1, 2018 will receive certification at the Advanced EMT level.

SECTION C: AFFIRMATION STATEMENT

I affirm that I have attained training which includes all the requirements identified in Section D of this document. I completed the training in my initial training, continuing education, on the job training or other educational process.

I hereby affirm that the information provided on this application is true and correct to the best of my knowledge. I understand that providing false and/or misleading information may result in citation and warning, denial, probation, suspension or revocation of my certification. I understand that I am required to updates answers or information submitted to the Bureau of EMS of the response of the information changes. I consent to any reasonable inquiry that may be necessary to verify or clarify the information I have provided.

_____ _____

Applicant's Signature Date

SECTION D: TRAINING REQUIREMENTS

I. ANATOMY AND PHYSIOLOGY

Integrates a complex depth and comprehensive depth and comprehensive breadth of knowledge of the anatomy and physiology of all human systems.

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Name the levels of organization of the body and explain each
2. Name the organ systems of the body
3. Define homeostasis and give an example of a typical homeostatic mechanism
4. Describe the anatomical position
5. Use proper terminology to describe the location of body parts with respect to one another
6. Name the body cavities, their membranes and some organs within each cavity
7. Define matter, element, atom, proton, neutron, and electron
8. Using symbols, name some common elements found in the body
9. Describe the purpose of ionic, covalent and hydrogen bonds in the body
10. Describe what happens in synthesis and decomposition reactions
11. Explain the importance of water to the function of the body
12. Describe where water is found in the body
13. Explain the roles of oxygen and carbon dioxide in cell respiration
14. Explain pH and state normal pH ranges in body fluids
15. Explain how a buffer system resists major pH changes
16. Describe the functions and types of sugars, fats, and proteins
17. Explain how enzymes function as catalysts
18. Describe the function of DNA, RNA and ATP
19. Name the organic molecules that make up the cell membrane and state their functions
20. State the arrangement of the molecules in the cell membrane
21. State the five functions of proteins in the cell membrane
22. Describe the cytoplasm
23. Describe how the cell membrane regulates the composition of the cytoplasm
24. Explain isotonic, hypotonic, and hypertonic solutions and their effects on the cell
25. State the function of the nucleus and chromosomes
26. Describe the function of the cell organelles
27. Define each of these cellular transport mechanisms and give an example of the role of each in the body: diffusion, osmosis, facilitated diffusion, active transport, filtration, phagocytosis and pinocytosis
28. Describe what happens in mitosis and meiosis and describe the importance of each
29. Describe the four major categories of tissues and give general characteristics of each
30. Describe the function of epithelial tissue depending on their location
31. Describe the functions of connective tissue and relate them to the function of the body or an organ system
32. Explain the basic differences between smooth, skeletal and cardiac muscle
33. Describe in brief nervous tissue
34. Name the organs made of nerve tissue
35. Describe the location of pleural membranes, pericardial membranes, and the perineum-mesentery
36. State the location of mucous membranes and state the function of mucus
37. Name some membranes made of connective tissue
38. State the three functions of the integumentary system

39. Name the two layers of skin
40. State the location and function of the stratum corneum and the stratum germinativum
41. Describe the function of melanocytes and melanin
42. Describe the function of hair and nails
43. Describe the functions of the secretions of sebaceous glands, ceruminous glands and eccrine sweat glands
44. Describe how the arterioles in the dermis respond to heat, cold, and stress
45. Name the tissues that make up the subcutaneous tissue and describe their functions
46. Describe the function of the skeleton
47. Explain how bones are classified and give an example of each
48. Describe how the embryonic skeleton is replaced by bone
49. State the nutrients necessary for bone growth
50. Name the hormones involved in bone growth and maintenance
51. Explain what is meant by exercise for bones and explain its importance
52. Identify the two major subdivisions of the skeleton and list the bones in each area
53. Explain how joints are classified; give an example of each and describe the movements possible
54. Describe the parts of a synovial joint and explain their function
55. Describe muscle structure in terms of muscle cells, tendons and bones
56. Describe the difference between antagonistic and synergistic muscles
57. Name the energy sources for muscle contraction and state the simple equation for cell respiration
58. Explain the importance of hemoglobin and myoglobin and oxygen debt and lactic acid
59. Describe the neuromuscular junction and explain the function for each part
60. Describe the structure of a sarcomere
61. Explain polarization, depolarization and repolarization in terms of ions and charges
62. Describe the sliding filament theory of muscle contraction
63. State the major muscles of the body and their functions
64. Name the divisions of the nervous system and state the general functions of each
65. Name the parts of a neuron and the function of each
66. Explain the importance of Schwann cells in the peripheral nervous system and neuroglia in the central nervous system
67. Describe the electrical nerve impulse and impulse transmission at the synapse
68. Describe the types of neurons, nerves and nerve tracts
69. Explain the importance of stretch reflexes and flexor reflexes
70. Describe the reflex arc
71. State the functions of the parts of the brain and locate each part on a diagram
72. Name the meninges and describe their locations
73. State the locations and functions of cerebrospinal fluid
74. Explain the general purpose of sensations
75. Name the parts of the sensory pathway and the general functions of each part
76. Describe the characteristics of sensations
77. Name the cutaneous senses and explain their purpose
78. Explain referred pain and explain its importance
79. Explain the importance of proprioception, or muscle sense
80. Describe the pathways for the senses of smell and taste and explain how these senses are interrelated
81. Name the parts of the eye and explain their function in sight
82. Name the parts of the ear and explain their function in hearing
83. Describe the physiology of equilibrium
84. Distinguish between endocrine and exocrine glands
85. Define hormone and prostaglandin
86. Identify the primary endocrine glands and list the major hormones secreted by each

87. Explain the roles of positive and negative feedback mechanisms in hormone secretions
88. Describe the relationship between parathyroid hormone and calcitonin
89. Describe the relationship between insulin and glucagon
90. Explain what prostaglandins are made of and state some of their functions
91. Explain how protein hormones are believed to exert their effects
92. Explain how steroid hormones are believed to exert their effects
93. Describe the primary functions of blood
94. List the formed elements of blood and state the primary functions of each
95. Name the hemopoietic tissues and the kinds of blood cells each produces
96. Describe what happens to red blood cells at the end of their life span including the fate of hemoglobin
97. Explain the ABO and Rh blood types
98. Name the five kinds of white blood cells and the functions of each
99. State what platelets are and explain how they are involved in hemostasis
100. Describe the three stages of blood clotting
101. Explain how abnormal clotting is prevented in the vascular system
102. Describe the location of the heart in terms of body cavities and relationship to other structures
103. Name the chambers of the heart and the vessels that enter or leave each
104. State the valves of the heart and their function
105. State how heart sounds are created
106. Trace the pathway of a blood cell throughout the body
107. Describe coronary circulation
108. Describe the cardiac conduction pathway and its relationship to a normal electrocardiogram
109. Explain stroke volume, cardiac output and Starling's law of the heart
110. Explain how the nervous system regulates the function of the heart
111. Describe the structure and function of each of the blood vessels: arteries, veins and capillaries
112. Describe the exchange of gases that occur at the capillary level
113. Name the major systemic arteries and the parts of the body they nourish
114. Name the major systemic veins and the parts of the body they drain of blood
115. Define blood pressure and state the normal ranges for the systolic and diastolic indices
116. Describe the functions of the lymphatic system
117. State how lymph is formed
118. Describe the system of lymph vessels and explain how lymph is returned to the blood
119. State the location and function of lymph nodules and nodes
120. State the location and function of the spleen
121. Define immunity
122. Explain the role of the thymus in immunity
123. Explain the differences between humoral immunity and cell mediated immunity
124. Compare and contrast the development and function of B cells and T cells
125. Describe the differences between acquired immunity and genetic immunity
126. Explain how vaccines work
127. State the pathway of the respiratory system including nasal cavities, pharynx and larynx
128. State the function of the turbinates in the nasal cavity
129. Describe the structure and function of the larynx and the speaking mechanism
130. State the roles of the visceral and parietal pleura in respiration
131. State the changes in air pressure within the thoracic cavity during respiration
132. Explain the diffusion of gases in external and internal respiration
133. Explain how respiration affects the pH of certain body fluids
134. Identify the accessory organs of digestion
135. Explain the difference between mechanical and chemical digestion
136. Describe the structure and function of the teeth and tongue

137. Explain the function of saliva
138. Describe the location and function of the pharynx and esophagus
139. List and describe the four layers of the alimentary canal
140. Describe the difference in absorption between the large and small intestine
141. Describe the function of the normal flora in the colon
142. Define peristalsis
143. Define chyme
144. State the normal range of body temperature
145. Define metabolism, catabolism and anabolism
146. State the different ways heat is generated and lost in the body
147. State why the hypothalamus is the thermostat of the body
148. State what the products of cell respiration are and how the body disposes of them
149. Describe the metabolic roles of fats, glucose and proteins
150. Describe basal metabolic rate and the factors that affect it
151. Define kilocalories
152. Explain how water moves between the compartments
153. Describe the location and general function of each organ in the urinary system
154. Name the parts of a nephron
155. Define glomerular filtration rate
156. Describe how the kidneys function in maintaining normal blood volume and pressure
157. Describe how the kidneys help to maintain normal blood pH and electrolyte balance
158. State the hormones that affect kidney function
159. Explain the interaction between capillary blood pressure and blood proteins
160. Describe the characteristics of normal urine
161. Define diploid and haploid
162. Describe the difference between spermatogenesis and oogenesis
163. Define gametes
164. Name the hormones necessary for the formation of gametes
165. List the essential and accessory organs of the male and female, give the general function of each
166. Identify and describe the structures that constitute external genitals in both sexes
167. Name the parts of a sperm cell
168. Define endometrium
169. Briefly describe the life cycle of an oocyte
170. Describe the menstrual cycle in terms of change sin hormone levels and the condition of the endometrium
171. Beginning with fertilization, describe the major developmental changes during gestation
172. Describe the structure and function of the placenta and umbilical cord
173. Describe the difference between fetal circulation/respiration and adult circulation/respiration
174. State the length of an average gestation period
175. Describe the states of labor
176. Describe the major changes that take place in an infant at birth
177. Explain how microorganisms are named and classified
178. Describe the distribution of and the benefits of normal flora
179. Explain what is meant by infectious disease
180. Describe the different methods by which infectious diseases are spread
181. List some important infectious diseases
182. Define genetic disease
183. Explain how genes can cause disease
184. Define homologous chromosomes, autosomes, sex chromosomes and genes
185. Define alleles, genotype, phenotype, homozygous, and heterozygous

186. Discuss the difference between dominant and recessive traits
187. List some important genetic diseases

II. PATHOPHYSIOLOGY

Integrates comprehensive knowledge of pathophysiology of major human systems.

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Discuss cellular adaptation.
2. Describe cellular injury and cellular death.
3. Describe the factors that precipitate disease in the human body.
4. Describe the cellular environment.
5. Discuss analyzing disease risk.
6. Describe environmental risk factors.
7. Discuss combined effects and interaction among risk factors.
8. Describe aging as a risk factor for disease.
9. Discuss familial diseases and associated risk factors.
10. Discuss hypoperfusion.
11. Define cardiogenic, hypovolemic, neurogenic, anaphylactic and septic shock.
12. Describe multiple organ dysfunction syndrome.
13. Define the characteristics of the immune response.
14. Discuss induction of the immune system.
15. Discuss fetal and neonatal immune function.
16. Discuss aging and the immune function in the elderly.
17. Describe the inflammation response.
18. Discuss the role of mast cells as part of the inflammation response.
19. Describe the plasma protein system.
20. Discuss the cellular components of inflammation.
21. Describe the systemic manifestations of the inflammation response.
22. Describe the resolution and repair from inflammation.
23. Discuss the effect of aging on the mechanisms of self-defense.
24. Discuss hypersensitivity.
25. Describe deficiencies in immunity and inflammation.
26. Describe homeostasis as a dynamic steady state.
27. List types of tissue.
28. Describe the systemic manifestations that result from cellular injury.
29. Describe neuroendocrine regulation.
30. Discuss the inter-relationships between stress, coping, and illness.

III. PHARMACOLOGY

Integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient.

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Describe historical trends in pharmacology.
2. Differentiate among the chemical, generic (nonproprietary), and trade (proprietary) names of a drug.
3. List the four main sources of drug products.
4. List legislative acts controlling drug use and abuse in the United States.
5. Differentiate among Schedule I, II, III, IV, and V substances.
6. List examples of substances in each schedule.
7. Discuss the paramedic's responsibilities and scope of management pertinent to the administration of medications.
8. Review autonomic pharmacology.
9. Differentiate among drug interactions.
10. List the component of a drug profile by classification.
11. List and describe drugs that the paramedic may administer according to local protocol.
12. Integrate pathophysiological principles of pharmacology with patient assessment.
13. Synthesize patient history information and assessment findings to form a field impression.
14. Synthesize a field impression to implement a pharmacologic management plan.
15. Assess the pathophysiology of a patient's condition by identifying classifications of drugs.

IV. AIRWAY MANAGEMENT, RESPIRATION, AND OXYGENATION

Integrates complex knowledge of anatomy, physiology and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patent airway, adequate mechanical ventilations and respiration for patients of all ages.

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Describe indications, contraindications, advantages, disadvantages, complications, equipment and technique for digital endotracheal intubation.
2. Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for nasotracheal intubation.
3. Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for CPAP/BiPAP.
4. Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for a chest tube.
5. Describe the indications, contraindications, advantages, disadvantages, complications, equipment and technique for PEEP.
6. Describe peak expiratory flow.
7. Intubate the trachea by the following methods
    a. Nasotracheal intubation
    b. Digital Intubation
    c. Transillumination
8. Demonstrate the application of a CPAP/BiPAP unit
9. Demonstrate the set up, maintenance and troubleshooting of a thoracic drainage system.

V. MEDICINE

Integrates assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Discuss the effects of collagen vascular diseases.
2. Describe the prehospital implications of collagen vascular diseases.
3. Describe common transplant-related problems.
4. Identify common drug resistant bacterial conditions
5. Understand the pathophysiology, incidence, causes, risk factors, methods of transmission, assessment findings and complications of drug resistant bacterial conditions.
6. Assess and manage a patient with agitated delirium
7. Identify patient situations where multi-lead ECG rhythm analysis is indicated.
8. Recognize the changes on the multi-lead ECG that may reflect evidence of myocardial ischemia and injury.
9. Recognize the limitations of the multi-lead ECG in reflecting evidence of myocardial ischemia and injury.
10. Correlate abnormal multi-lead ECG findings with clinical interpretation.
11. Identify the multi-lead ECG changes characteristically seen during evolution of an acute myocardial infarction.
12. Specify the measures that may be taken to prevent or minimize complications in the patient suspected of myocardial infarction.
13. Describe the "window of opportunity" as it pertains to reperfusion of a myocardial injury or infarction.
14. List the characteristics of a patient eligible for thrombolytic therapy.
15. Describe complications associated with blood transfusion.
16. Describe the epidemiology, anatomy, physiology and pathophysiology of non-traumatic musculoskeletal conditions
17. Assess the patient with a non-traumatic musculoskeletal condition.
18. Develop a treatment plan for a patient with anon-traumatic musculoskeletal condition.
19. Demonstrate how to record a multi-lead ECG.
20. Identify various devices and/or equipment utilized in the care of the patient with a central line.
21. Compare and contrast various types of central lines in terms of advantages, disadvantages, complications, and care.
22. Outline a problem solving procedure to implement in the event of a malfunctioning central line.
23. Demonstrate the procedure for administering medications and/or fluids through the use of a central line.
24. Demonstrate the routine maintenance and care of a central line.
25. State the normal range of values for the components of: arterial blood gasses, routine blood chemistry, complete blood count, cardiac enzymes, coagulation studies, routine urinalysis and cerebrospinal fluid analysis.
26. Given a set of laboratory values, provide a clinical interpretation of the findings.
27. Recognize factors that may lead to errors in stated lab values.
28. Recognize the clinical signs and symptoms associated with specific derangements of fluid and electrolyte balance.
29. Summarize the pathophysiology of common clinical that leads to laboratory abnormalities.
30. Explain possible interventions to correct specific laboratory abnormalities.

31. Given a clinical scenario including assessment data and laboratory values, suggest strategies of intervention directed at maintaining or restoring homeostasis.
32. Appraise the effect of the interventions implemented based on re-evaluation of the patient's clinical status and lab values.

VI. MULTI-SYSTEM TRAUMA

Integrates assessment findings with principles of epidemiology and pathophysiology to formulate a field impression to implement a comprehensive treatment/disposition plan for an acutely injured patient.

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Describe the incidence and pathophysiology of the pregnant trauma patient.
2. Assess the pregnant patient with a traumatic injury.
3. Develop a treatment plan for the pregnant patient with a traumatic injury.
4. Describe the incidence and pathophysiology of the pediatric trauma patient.
5. Assess the pediatric patient with a traumatic injury.
6. Develop a treatment plan for the pediatric patient with a traumatic injury.
7. Describe the incidence and pathophysiology of the geriatric trauma patient.
8. Assess the geriatric patient with a traumatic injury.
9. Develop a treatment plan for the geriatric patient with a traumatic injury.
10. Describe the incidence and pathophysiology of the cognitively impaired trauma patient.
11. Assess the cognitively impaired patient with a traumatic injury.
12. Develop a treatment plan for the cognitively impaired patient with a traumatic injury.
13. Apply the fundamental elements of critical thinking for paramedics
14. Identify when rapid transport is necessary
15. Discuss the incidence, morbidity, and mortality of blast injuries.
16. Predict blast injuries based on mechanism of injury, including: (C-2)
    a. Primary
    b. Secondary
    c. Tertiary

VII. SPECIAL PATIENT POPULATIONS

Integrates assessment findings with principles of pathphysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special needs.

I have obtained initial training, continuing education, on-the-job training or other education which enables me to:

1. Understand the risk factors associated with bariatric patient.
2. Describe patient handling issues associated with the bariatric patient.