

# Candidate Study Guide for the Illinois EMT-Basic (EMT-B) Licensure Examination

The following information is intended to help you prepare for the Illinois Emergency Medical Technician-Basic (EMT-B) Licensure Examination. Part I of this study guide contains general information about the profession and testing procedures. Part II provides a content outline, lists the competencies covered in the examination, and identifies reference materials that support this examination. Part III includes sample questions to help you prepare for this test.

## Part I General Information

### **PURPOSE OF THE EXAMINATION**

This examination has been developed in collaboration with Illinois Department of Public Health (IDPH) and representatives of the 11 Illinois Emergency Medical Service regions. EMT licensure is granted only to candidates who demonstrate sufficient knowledge of the U.S. Department of Transportation National Standard Curriculum for EMT-B as adapted and approved by IDPH.

### **TEST VALIDITY**

The time limit for this examination is 2½ hours. This examination has been developed to meet strict standards of test fairness and validity to protect the health and safety of the public.

### **PHOTO ID**

Each candidate must present a photo ID and a valid admission notice to be admitted to any of these examinations. Only a valid Driver's License, Secretary of State ID card, or a current passport is acceptable as photographic identification. If the name on the photo ID does not match the name on the admission notice, proof of legal name change also must be presented before the candidate can be admitted to an examination.

### **SPECIAL ACCOMODATIONS**

Any candidate who needs special accommodations in test-taking procedures because of a disabling condition must communicate that need in writing with his or her application. No accommodations can be arranged on the day of a test.

### **SCORING THE EXAMINATION**

Candidates who pass this examination will receive their license as an EMT-B from the Illinois Department of Public Health.

### **MISSING AN EXAMINATION**

There are no "make-up" examinations. You may re-register for the next scheduled examination date.

### **RE-EXAMINATION**

Candidates who fail the test receive information to help them identify content areas on which they need to improve their performance to pass on a subsequent attempt. Candidates must register to take the test again through one of the regional EMS centers throughout Illinois.

## Part II Test Content Outline

This examination was developed in collaboration with a committee of representatives of the 11 Illinois Emergency Medical Service regions and staff from the Illinois Department of Public Health. Content areas on the test are outlined below. The examination reflects the U.S. Department of Transportation National Standard Curriculum for EMT-B as adapted and approved by the Illinois Department of Public Health.

### Emergency Medical Technician – Basic (EMT-B)

- 1. Preparation and Professional Issues (18 questions)**
  - A. Introduction to emergency medical care and well-being of the EMT-B
  - B. Medical, legal & ethical issues
  - C. The human body
  - D. Baseline vital signs and history taking
  - E. Lifting and moving patients
  
- 2. Airway Management, Ventilation and Oxygen Therapy (12 questions)**
  - A. Airway assessment, suctioning and obstructed airway maneuvers
  - B. Nasopharyngeal and oropharyngeal indications and procedures
  - C. Oxygen delivery, ventilation and pulse oximetry
  
- 3. Patient Assessment (14 questions)**
  - A. Scene size-up, initial assessment and reducing patient anxiety
  - B. Focused history for trauma and medical patients
  - C. Detailed physical exams and ongoing assessment
  - D. Assessing geriatric patients
  - E. Communication and documentation
  
- 4. Medical Emergencies (48 questions)**
  - A. General pharmacology
  - B. Respiratory emergencies
  - C. Cardiac emergencies and AED
  - D. Altered mental status and diabetic emergencies
  - F. Acute stroke signs & symptoms, assessment and management
  - E. Allergies, seizures and syncope
  - G. Poisoning, drug and alcohol emergencies
  - H. Acute abdominal pain
  - I. Environmental, drowning, submersion and diving emergencies
  - J. Behavioral emergencies
  - K. Obstetric and gynecological emergencies

**5. Trauma (39 questions)**

- A. Mechanisms of injury
- B. Bleeding and shock
- C. Soft tissue injuries and burn emergencies
- D. Musculoskeletal injuries
- E. Injuries to the head and spine
- F. Injuries to the eye, face and neck
- G. Chest, abdomen and genitalia injuries

**6. Infants and Children (11 questions)**

- A. Pediatric assessment and airway anatomical differences
- B. Pediatric airway/ventilation management, obstruction and respiratory emergencies
- C. SIDS, organ perfusion, circulatory impairment/shock and cardiac emergencies
- D. Assessment and management of seizures and pediatric trauma
- E. Child abuse/neglect indications and mandatory reporting in Illinois

**7. Operations (8 questions)**

- A. Ambulance operations
- B. Infection control procedures
- C. Scene safety, access, extrication and hazardous materials emergencies
- D. Multiple casualty incidents, START triage and weapons of mass destruction

**Recommended Study Materials**

The following references support questions on this examination. These books may be available in public and academic libraries. They also are available purchased from retail stores or online. All candidates should prepare for this examination by studying one or more of these references.

Mistovich, J.J., Hafen, B.Q. & Karren, K.J. (2004). *Prehospital Emergency Care, 7th Edition*, Prentice-Hall.

Limmer, D. & O'Keefe, M.F. (2005). *Emergency Care, 10th Edition*, Prentice-Hall.

AAOS (2005). *Emergency Care and Transportation of the Sick and Injured, 9th Edition*, Jones & Bartlett.

Stoy, W., Platt, T., Lejeune, D.A. (2005). *Mosby's EMT Basic Textbook, 2nd Edition*, Mosby.

**Medications List for EMT-B from US DOT Curriculum**

Albuterol (patient assist in using MDI)

Epinephrine (Epi Pen) for adults and children for application in treatment of allergic reactions and anaphylaxis

Nitroglycerin (patient assist)

## Abbreviations

The following abbreviations may appear in the EMT-Basic Examinations.

ABCs	airway, breathing/ventilation, circulatory status
ADA	Americans with Disabilities Act
AED	automated external defibrillator
AIDS	acquired immune deficiency syndrome
ALS	Advanced Life Support
APGAR	appearance, pulse, grimace, activity, respirations
ANSI	American National Standards Institute
AVPU	Mental status responsiveness check: alert, responds to verbal or painful stimuli, unresponsive
BLS	Basic Life Support
BP or B/P	blood pressure
BPM	beats per minute
BSI	body substance isolation
BVM	bag valve mask
cc	cubic centimeter
c-collar	cervical collar
CDC	Center for Disease Control
CHEMTREC	Chemical Transportation Emergency Center
CISD	critical incident stress debriefing
c-spine	cervical spine
cm	centimeter
c/o	complains of or complaining of
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
COBRA	federal legislation providing for continuation of health insurance
COPD	chronic obstructive pulmonary disease
CPR	cardiopulmonary resuscitation
CQI	continuous quality improvement
CVA	cerebrovascular accident or stroke
D <sub>5</sub> W	5% dextrose in water
DCAP-BTLS	deformities, contusions, abrasions, punctures/penetrations, burns, tenderness, lacerations, swelling
DCFS	Department of Children and Family Services
dl or dL	deciliter
DNR	do not resuscitate
DOT	Department of Transportation
ED	emergency department
EMD	emergency medical dispatcher
EMS	Emergency Medical Services
ER	emergency room
°F	degrees Fahrenheit
GCS	Glasgow Coma Score
gtts/min	drops per minute
Hazmat	hazardous materials
HEPA mask	high efficiency particulate airborne mask
HIPAA	Health Insurance Portability and Accountability Act
HIV	human immunodeficiency virus
HR	heart rate

**Abbreviations** (continued)

ICS	incident command system
IMS	incident management system
IV	intravenous
J	joules
KED	Kendrick extrication device
kg	kilogram
L	liter
lbs	pounds
L/min or lpm	liters per minute
MCI	multiple casualty incident
mg	milligram
min	minute
mL or ml	milliliters
mmHG	millimeters of mercury
MSDS	Material Safety Data Sheet
MVC	motor vehicle collision
NFPA	National Fire Protection Association
NRM or NRB	non-rebreather mask
O <sub>2</sub>	oxygen
OB	obstetric
OPA	oropharyngeal airway
OPQRST	onset, provokes, quality, radiation, severity, time
OSHA	Occupational Health and Safety Administration
P	pulse
PASG	pneumatic anti-shock garment
PCR	patient care report
Peds	pediatrics
PERRL	pupils equal and round, regular in size, react to light
pH	partial pressure of hydrogen (hydrogen ion concentration)
PPE	personal protective equipment
psi	pounds per square inch
R	respirations
RR	respiratory rate
Rule of nines	Each 9%      Whole head, chest, abdomen, anterior each leg, posterior each leg, upper back, lower back/buttocks, whole arm
	1%      Perineum
SAMPLE	symptoms, allergies, medications, past medical history, last oral intake, events surrounding the incident
SCBA	self-contained breathing apparatus
SIDS	sudden death infant syndrome
START	simple triage and rapid treatment
TB	tuberculosis
TIA	transient ischemic attack
VS	vital signs
y/o	year old

### Part III Sample Questions

All questions on this examination are multiple-choice with one correct answer. Each question is supported by study materials cited in this bulletin. The answer key appears after these questions.

**NOTE: ALL REFERENCES TO EMT IN THIS EXAMINATION REFER TO EMT-BASIC UNLESS SPECIFICALLY STATED OTHERWISE IN THE QUESTION**

1. Which of these is the next step an EMT should complete after ensuring scene safety?
  - A. Provide transport
  - B. Quality assurance
  - C. Provide documentation
  - D. Gain access to the patient
  
2. Which of these refers to actions and care that are legally allowed by state law?
  - A. Standard of care
  - B. Scope of practice
  - C. Duty to act
  - D. Medical direction
  
3. Which of these attributes is generally **NOT** used to describe a patient's breathing?
  - A. Duration
  - B. Rhythm
  - C. Quality
  - D. Rate
  
4. Which of these is the best estimate of systolic pressure when palpating the femoral pulse of a patient?
  - A. At least 50 mm/Hg
  - B. At least 60 mm/Hg
  - C. At least 70 mm/Hg
  - D. At least 80 mm/Hg
  
5. Which of these patients does **NOT** require administration of supplemental O<sub>2</sub>?
  - A. A 24 y/o woman who is breathing 28 times per minute after an argument with her spouse
  - B. A 6 y/o child with a history of asthma whose breath sounds are silent and who is drowsy
  - C. A 31 y/o male who is unresponsive due to an overdose of narcotics
  - D. A 60 y/o patient with a history of COPD who cannot speak more than 2-3 words without taking another breath

6. For which of these patients is an oropharyngeal airway contraindicated?
  - A. A cancer patient without a valid DNR who is in cardiac arrest
  - B. A suspected stroke patient who has no gag response
  - C. An unresponsive patient with a blood sugar of 30
  - D. A trauma patient who is awake and responsive
  
7. A 4 y/o child was struck by a vehicle and is unresponsive with an apparent head injury. The EMT detects increasing resistance to ventilation with a BVM. What should the EMT do next?
  - A. Check the rate of ventilation.
  - B. Verify that the airway is open.
  - C. Switch to a flow-restricted oxygen-powered ventilation device.
  - D. Stop ventilations for one to two minutes to allow trapped air to escape.
  
8. Which of these is **NOT** part of the initial assessment?
  - A. Starting CPR
  - B. Assessing the airway
  - C. Splinting open fractures
  - D. Forming a general impression
  
9. Where must an Illinois EMT report suspected elder abuse?
  - A. The local police
  - B. The elder abuse hotline
  - C. The local states attorney
  - D. Emergency department staff
  
10. Which of these is most appropriate to communicate with a patient who does not speak English?
  - A. Ask for assistance from a person who can translate.
  - B. Speak more softly with numerous hand movements.
  - C. Talk slowly to help the patient understand English.
  - D. Don't speak at all while administering care to the patient.
  
11. Why is oral glucose administered between the patient's cheek and gum?
  - A. It minimizes the taste.
  - B. It prolongs the drug's action.
  - C. It is absorbed more easily there.
  - D. It is easier for the patient to swallow.

12. Which of these refers to the loss of elasticity of the alveoli leading to a form of COPD?
- A. Pneumonia
  - B. Emphysema
  - C. Chronic bronchitis
  - D. Pulmonary edema
13. A 55 y/o patient c/o breathing difficulty with sudden sharp stabbing chest pain. The patient has a severe cold and a history of emphysema. VS: P 110, R 30/min and labored, BP 98/70. What should the EMT suspect?
- A. Pneumonia
  - B. Chronic COPD
  - C. Acute bronchitis
  - D. Spontaneous pneumothorax
14. Which of these is most commonly associated with acute coronary syndrome?
- A. Warm, dry, blue-tinged skin
  - B. Increased feeling of well-being
  - C. Normal pulse and blood pressure
  - D. Radiating chest discomfort and pain
15. Which blood glucose value is consistent with hypoglycemia?
- A. 60
  - B. 90
  - C. 100
  - D. 150
16. Which of these indicates severe hypothermia?
- A. The patient shivers intensely.
  - B. The patient is no longer shivering.
  - C. The patient complains of chest pain.
  - D. The patient complains of numbness and tingling.
17. Which of these is **LEAST** likely to cause behavioral emergencies?
- A. Hypoxia
  - B. Hypoglycemia
  - C. Hyperglycemia
  - D. Drugs or alcohol

18. What does meconium in the amniotic fluid indicate?
- A. The neonate may be in distress.
  - B. Postpartum hemorrhage is likely.
  - C. A precipitous delivery may occur.
  - D. The delivery is progressing normally.
19. When should APGAR assessment be completed on a newborn?
- A. 1 and 10 minutes after delivery
  - B. 5 and 10 minutes after delivery
  - C. 3 and 6 minutes after delivery
  - D. 1 and 5 minutes after delivery
20. A patient presents with abdominal pain after falling from a third-floor window. VS: BP 84/60, P 110, RR 22. The EMT should suspect which stage of shock?
- A. Irreversible
  - B. Retractable
  - C. Compensated
  - D. Decompensated
21. A conscious adult patient presents with red, painful skin on the entire back and the posterior of both lower extremities after a day at the beach. Using the Rule of Nines, how much of the body surface area is burned?
- A. 27%
  - B. 36%
  - C. 45%
  - D. 54%
22. Which of these is **NOT** a common complication of bone fractures?
- A. Swelling
  - B. Hemorrhage
  - C. Osteoporosis
  - D. Nerve damage
23. Which of these should be included in treatment for head injuries?
- A. Apply the PASG to increase perfusion to the brain.
  - B. Transport the patient in the Trendelenburg position to treat for shock.
  - C. Administer high-concentration O<sub>2</sub> to help reduce brain tissue swelling.
  - D. Hyperventilate the patient to blow off CO<sub>2</sub> and restore brain cell function.

24. Which of these is an indication for leaving a helmet in place on a patient?
- A. The helmet fits snugly.
  - B. The helmet is fitted improperly.
  - C. The helmet interferes with immobilization.
  - D. The helmet interferes with access to the airway.
25. Which of these most accurately describes a patient with two or more adjacent ribs fractured in two or more places?
- A. Tension pneumothorax
  - B. Pneumothorax
  - C. Flail segment
  - D. Hemothorax
26. Which of these is **NOT** among the ways that infants and children differ from adults?
- A. The child has a proportionally larger head than an adult.
  - B. Children have a larger total circulating blood volume than adults.
  - C. Infants have proportionally larger tongues than adults.
  - D. The child has a larger body surface to mass ratio than adults.
27. Which of these is the most common cause of cardiopulmonary arrest among children?
- A. Respiratory arrest
  - B. Poisoning
  - C. Seizures
  - D. Sepsis
28. Which of these biological agents would lead to nausea, vomiting and “food poisoning” symptoms?
- A. Ricin
  - B. Anthrax
  - C. Botulism
  - D. Salmonella

### Answers for EMT-B Sample Questions

- |      |       |       |       |
|------|-------|-------|-------|
| 1. D | 8. C  | 15. A | 22. C |
| 2. B | 9. B  | 16. B | 23. C |
| 3. A | 10. A | 17. C | 24. A |
| 4. C | 11. C | 18. A | 25. C |
| 5. A | 12. B | 19. A | 26. B |
| 6. D | 13. D | 20. D | 27. A |
| 7. B | 14. D | 21. B | 28. D |