

# Candidate Study Guide for the Illinois EMT-Paramedic (EMT-P) Licensure Examination

The following information is intended to help you prepare for the Illinois Emergency Medical Technician-Paramedic (EMT-P) 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-P 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-P 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 will 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-P as adapted and approved by the Illinois Department of Public Health.

### **Emergency Medical Technician – Paramedic (EMT-P)**

- 1. Preparation and Professional Issues (20 questions)**
  - A. EMS responsibilities and well-being of the EMT-P
  - B. Medical and legal issues
  - C. General principles of pathophysiology
  - D. Pharmacology
  - E. Venous access and medication administration
  - F. Therapeutic communications
  
- 2. Airway Management and Ventilation (4 questions)**
  - A. Intubation indications, contraindications, placement and complications
  - B. Needle cricothyrotomy
  
- 3. Patient Assessment (10 questions)**
  - A. History taking and techniques of physical examination
  - B. Scene size-up, initial assessment, GCS, detailed examination and transport decisions
  - C. Communications and documentation
  
- 4. Trauma (24 questions)**
  - A. Mechanisms of injury
  - B. Hemorrhage and shock
  - C. Soft tissue trauma and burns
  - D. Head and facial trauma
  - E. Spinal trauma
  - F. Thoracic trauma
  - G. Abdominal and pelvic trauma
  - H. Musculoskeletal trauma
  
- 5. Pulmonary and Cardiovascular Medical Emergencies (33 questions)**
  - A. Respiratory emergencies
  - B. Cardiovascular emergencies
  
- 6. Other Medical Emergencies (39 questions)**
  - A. Neurology
  - B. Endocrinology
  - C. Allergies and anaphylaxis
  - D. Gastroenterology
  - E. Renal and urogenital disorders
  - F. Toxicology
  - G. Hematologic disorders
  - H. Environmental conditions
  - I. Infectious and communicable diseases
  - J. Behavioral and psychiatric disorders
  - K. Obstetrics

7. **Neonatology, Pediatrics and Geriatrics** (14 questions)  
A. Neonatal assessment and resuscitation  
B. Pediatrics  
C. Geriatrics
8. **Other Topics** (6 questions)  
A. Abuse and assault  
B. Crime scene awareness, disaster response and medical incident command  
C. Hazardous materials, domestic preparedness and homeland security

### 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.

Bledsoe, B.E., Porter, B.S., Cherry, R.A. (2007). *Essentials of Paramedic Care, 2<sup>nd</sup> Edition*, Prentice-Hall.

Bledsoe, B.E., Porter, B.S., Cherry, R.A. (2006). *Paramedic Care Principles and Practice, 2<sup>nd</sup> Edition*, Prentice-Hall.

Caroline, N. (AAOS, 2007). *Emergency Care in the Streets, 6<sup>th</sup> Edition*, Jones and Bartlett.

Sanders, M.J., et. al. (2005). *Mosby's Paramedic Textbook, 3<sup>rd</sup> Edition*, Mosby.

### Medication list for EMT-P from DOT Curriculum

In most instances, dosages are not tested as they vary from System to System unless listed below. Students should be prepared to answer questions on drug actions, indications, contraindications, and side effects.

adenosine (Adenocard)  
albuterol (Proventil) (2.5 mg usual first dose)  
amiodarone (may be mentioned with Lidocaine for Rx of ventricular dysrhythmias)  
aspirin  
atropine  
dextrose 50% 50 ml IVP (adult dose for hypoglycemia)  
diazepam (Valium) (peds dose: 0.2/0.5 mg IVP/IR)  
diphenhydramine (Benadryl)  
dopamine  
epinephrine 1:1000 0.3-0.5 mg for bronchospasm  
epinephrine 1:10,000 1 mg IVP for code mgt.  
furosemide (Lasix)  
glucagon  
lidocaine  
midazolam (Versed)  
morphine  
naloxone (Narcan)  
nitroglycerin  
sodium bicarbonate  
vasopressin (may be mentioned with Epi 1:10,000 for Rx of V-fib and asystole)  
verapamil (offered as an alternative to diltiazem)

## Abbreviations

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

ABCs	airway, breathing/ventilation, circulatory status
ACE	angiotensin-converting enzyme
ADA	Americans with Disabilities Act
ADH	antidiuretic hormone
AED	automated external defibrillator
AIDS	acquired immune deficiency syndrome
ALS	Advanced Life Support
AMI	acute myocardial infarction
APGAR	appearance, pulse, grimace, activity, respirations
ANSI	American National Standards Institute
ARDS	adult respiratory distress syndrome
ASA	aspirin
ATP	adenosine triphosphate (body's energy source)
AV	atrioventricular
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
CAD	coronary artery disease
c-collar	cervical collar
CDC	Center for Disease Control
CHEMTREC	Chemical Transportation Emergency Center
CHF	congestive heart failure
CISD	critical incident stress debriefing
CISM	critical incident stress management
c-spine	cervical spine
CNS	central nervous system
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
D <sub>50</sub> W	50% dextrose in water
DCAP-BTLS	deformities, contusions, abrasions, punctures/penetrations, burns, tenderness, lacerations, swelling
DCFS	Department of Children and Family Services
DH	diuretic hormone
DKA	diabetic ketoacidosis
dl or dL	deciliter
DNR	do not resuscitate
DOT	Department of Transportation

**Abbreviations** (continued)

ECG or EKG	electrocardiogram
ECRN	Emergency Communications Registered Nurse
ED	emergency department
EDD	esophageal detector device
EMD	emergency medical dispatcher
EMS	Emergency Medical Services
EOMs	extraocular movements
mEq/L	milli-equivalents per liter
ET	endotracheal
ETT	endotracheal tube
°F	degrees Fahrenheit
GCS	Glasgow Coma Score
GI	gastrointestinal
gm	gram
gtts/min	drops per minute
Hazmat	hazardous materials
HCO <sub>3</sub>	bicarbonate
HEENT	head, eyes, ears, nose and throat
HEPA mask	high efficiency particulate airborne mask
HHN	hand held nebulizer
HHNC	hyperglycemic hyperosmolar nonketotic coma
HHNK	hyperglycemic hyperosmolar nonketotic
HHNS	hyperosmolar hyperglycemic nonketotic syndrome
HIPAA	Health Insurance Portability and Accountability Act
HIS	bundle of AV fibers
HIV	human immunodeficiency virus
HR	heart rate
HTN	hypertension
ICS	incident command system
IM	intramuscular
IMS	incident management system
IV	intravenous
IVP	intravenous push
IVPB	intravenous piggy back
IVR	idioventricular
J	joules
JVD	jugular venous distension
KED	Kendrick extrication device
kg	kilogram
L	liter
lbs	pounds
LLQ	lower left quadrant
LMP	last menstrual period
L/min or lpm	liters per minute
LOC	level of consciousness
LR	lactated Ringers solution
LUQ	left upper quadrant
mA	milliamps
MCI	multiple casualty incident
MDI	metered dose inhaler

**Abbreviations** (continued)

mEq	milli-equivalents
mg	milligram
MI	myocardial infarction
min	minute
mL or ml	milliliters
mmHG	millimeters of mercury
MSDS	Material Safety Data Sheet
MVC	motor vehicle collision
NC	nasal cannula
NFPA	National Fire Protection Association
NRM or NRB	non-rebreather mask
NS	normal saline
NSR	normal sinus rhythm
NTG	nitroglycerine
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
PAC	premature atrial contraction
Palp	palpation
PASG	pneumatic anti-shock garment
PCO <sub>2</sub>	partial pressure of carbon dioxide
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)
PICC	peripherally inserted central catheter
PO <sub>2</sub>	partial pressure of oxygen
PPE	personal protective equipment
PR or PRI	P-R interval
psi	per square inch
PSVT	paroxysmal supraventricular tachycardia
PTH	parathyroid hormone
PtL	Pharyngo-treacheal lumen airway (dual lumen airway)
PVC	premature ventricular contraction
QRS	ventricular depolarization pattern
QT or QTI	QT interval
R	respirations
RA	room air
RBC	red blood cell
RLQ	right lower quadrant
RR	respiratory rate
RSV	respiratory syncytial virus
RTS	revised trauma score

**Abbreviations (continued)**

Rule of nines	Each 9%	Whole head, chest, abdomen, anterior each leg, posterior each leg, upper back, lower back/buttocks, whole arm
	1%	Perineum
RUQ	right upper quadrant	
S&S	signs and symptoms	
SA	sinoatrial	
SAMPLE	symptoms, allergies, medications, past medical history, last oral intake, events surrounding the incident	
SCBA	self-contained breathing apparatus	
SIDS	sudden death infant syndrome	
SL	sublingual	
SOB	shortness of breath	
SpO <sub>2</sub>	pulse oximetry	
S-T or ST	S-T segment	
START	simple triage and rapid treatment	
Sub-q or SQ	subcutaneous	
T or Temp	temperature	
TB	tuberculosis	
TBSA	total body surface area	
TIA	transient ischemic attack	
TKO	to keep open	
TSH	thyroid-stimulating hormone	
V-fib or VF	ventricular fibrillation	
VS	vital signs	
V-tach or VT	ventricular tachycardia	
WAP	wandering atrial pacemaker	
WMD	weapons of mass destruction	
y/o	year old	

**Reference Norms**

Intrinsic pacing rates	SA node	60-100
	AV node	40-60
	Ventricles	20-40
PR interval	0.12 – 0.20 seconds	
QRS duration	0.04 – 0.10 seconds	
Carotid pulse = systolic BP of 60 mmHg	Femoral pulse = systolic BP of 70 mmHg	
Radial pulse = systolic BP of 80 mmHg	Upper limits of pacing mA = 200	

Airway, stroke & cardiac treatment questions reference ANA 2005 ACLS Guidelines

Stroke assessments using Cincinnati quick screen: change in speech, facial asymmetry and arm drift

Peds fluid resuscitation volumes are calculated at 20 mL/kg

1 lb = 2.2 kg

### 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.

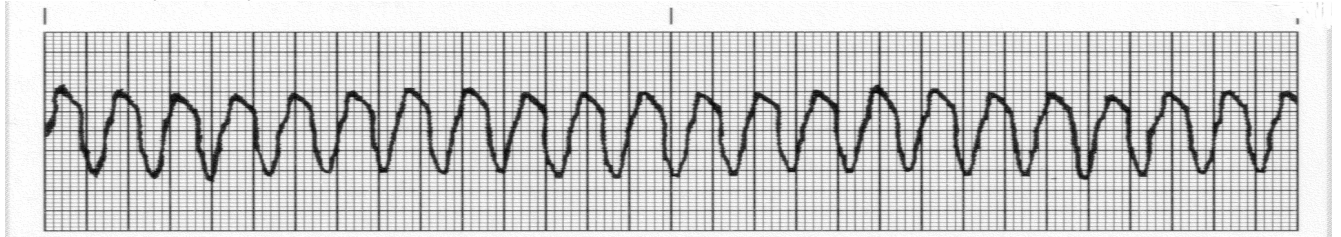
**NOTE: ALL REFERENCES TO EMT IN THIS EXAMINATION REFER TO EMT-PARAMEDIC UNLESS SPECIFICALLY STATED OTHERWISE IN THE QUESTION**

1. Which of these is *NOT* required to prove negligence against an EMT?
  - A. Motive
  - B. Duty to act
  - C. Breach of duty
  - D. Proximate cause
  
2. What do all etiologies and stages of shock have in common?
  - A. Tachycardia
  - B. Hypotension
  - C. Cellular hypoxia
  - D. Cool, pale, moist skin
  
3. A drug comes packaged 2 mg/10 ml. How many milliliters should be administered to a patient who is prescribed to receive a dose of 0.5 mg?
  - A. 0.1
  - B. 0.25
  - C. 1.0
  - D. 2.5
  
4. Which of these is an indication for performing a needle cricothyrotomy on a patient?
  - A. Massive facial trauma
  - B. Tension pneumothorax
  - C. Partial airway obstruction
  - D. Intubation equipment not available
  
5. When performed correctly, endotracheal intubation
  - A. reduces the risk of aspiration.
  - B. should be performed before defibrillation.
  - C. should be accomplished in 40 seconds or less.
  - D. can only be used in spontaneously breathing patients.

6. Which of these symptoms is **NOT** typically associated with a patient experiencing renal calculi?
  - A. Pain radiating to the groin
  - B. Unilateral flank pain
  - C. Hematuria
  - D. Fever
  
7. What injury occurs when compression forces are applied directly to the top of the head and are transmitted to the cervical spine?
  - A. Hyperextension
  - B. Axial loading
  - C. Hyperflexion
  - D. Distraction
  
8. An adult patient has partial thickness burns of the chest, abdomen, perineum and the anterior surface of both the right and left legs. Using the Rule of Nines, how much of total body surface area has been burned?
  - A. 19%
  - B. 28%
  - C. 37%
  - D. 55%
  
9. A patient from a fire has a hoarse voice, soot around the mouth and nares, respirations of 20 and stridorous. Which of these would be the best intervention for this patient?
  - A. Intubation
  - B. Fluid resuscitation
  - C. Ventilation by mouth to mask
  - D. Nebulized bronchodilator treatment
  
10. Which of the following findings is the most concerning when treating a patient with a suspected head injury?
  - A. Pulse oximetry decreases to 93
  - B. Pulse oximetry decreases from 95 to 92
  - C. Glasgow Coma Score decreases from 13 to 12
  - D. Glasgow Coma Score decreases from 13 to 10

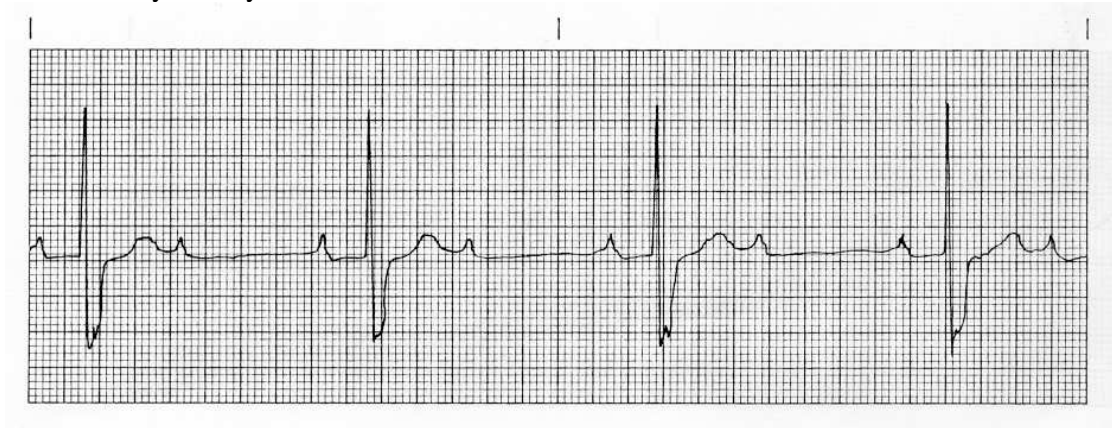
11. An unrestrained victim of a high-speed MVC has a bruise over the sternum and appears pale and anxious. VS: BP in the right arm 120/80, left arm 110/72; P 120; R 20, SpO<sub>2</sub> 96%; ECG ST. Neck veins are flat, breath sounds are clear and equal, heart tones are normal, abdomen is soft and non-tender; femoral and pedal pulses are diminished. What injury should the paramedic suspect?
- A. Cardiac tamponade
  - B. Massive hemothorax
  - C. Thoracic aortic disruption
  - D. Blunt cardiac contusion
12. Which of these refers to pain after release of the hand during palpation of a patient's abdomen?
- A. Peritoneal irritation
  - B. Rebound tenderness
  - C. Abdominal guarding
  - D. Diaphragmatic compensation
13. What are albuterol and metaproterenol?
- A. Parasympatholytic bronchodilators
  - B. Parasympatomimetic bronchodilators
  - C. Sympatholytic bronchodilators
  - D. Sympathomimetic bronchodilators
14. Hyperventilation syndrome causes
- A. excess elimination of O<sub>2</sub>.
  - B. excess elimination of CO<sub>2</sub>.
  - C. excess accumulation of CO.
  - D. excess accumulation of CO<sub>2</sub>.
15. A 65 y/o patient with COPD presents with sudden onset of right-sided chest pain and shortness of breath after coughing vigorously. Neck veins are flat, the trachea is midline, lung sounds are absent on the right and normal on the left. Assessment reveals no fever or hemoptysis. VS: BP 132/78, P 110, R 30 and shallow, SPO<sub>2</sub> 92%. What should a paramedic suspect?
- A. Spontaneous pneumothorax
  - B. Hyperventilation syndrome
  - C. Pulmonary embolism
  - D. Pleurisy

16. Identify this rhythm.



- A. Ventricular fibrillation
- B. Premature ventricular contractions
- C. Polymorphic ventricular tachycardia
- D. Monomorphic ventricular tachycardia

17. Identify this rhythm.



- A. Sinus rhythm with premature atrial contractions
- B. Second degree Mobitz II heart block
- C. Second degree Mobitz I heart block
- D. Complete heart block

18. Which of the following correctly describes the pharmacologic action of furosemide when administered to a patient in pulmonary edema?

- A. It causes vasoconstriction to decrease venous capacitance and improve pre-load.
- B. It causes vasodilation to increase venous capacitance and decrease afterload.
- C. It decreases water retention by the adrenal glands to improve circulation.
- D. It increases water retention by the kidney to improve circulation.

19. Which of these findings is associated with Cushing's triad?

- A. Increased heart rate
- B. Jugular vein distention
- C. Increasing systolic blood pressure
- D. Decreasing systolic blood pressure

20. Which of these is found in a pediatric hypoglycemic patient but rarely in an adult?
- A. Seizure
  - B. Altered LOC
  - C. Slurred speech
  - D. Neurological deficit
21. Which body systems are most affected by narcotics and opiates?
- A. Central nervous and gastrointestinal
  - B. Gastrointestinal and respiratory
  - C. Respiratory and integumentary
  - D. Central nervous and respiratory
22. Which of these conditions is **NOT** commonly associated with sickle cell anemia?
- A. Renal disease
  - B. Abdominal pain
  - C. Excessive bleeding
  - D. Musculoskeletal pain
23. Which of these is the primary objective when responding to a behavioral emergency?
- A. De-escalate the situation
  - B. Ensure scene safety
  - C. Notify law enforcement
  - D. Contact a psychologist
24. A patient in her third trimester of pregnancy c/o a headache, spots in her visual field and weight gain of 20 pounds in the last two weeks. Skin is pale, warm and dry with generalized edema. Breath sounds are clear bilaterally. VS: BP 160/100, P 80, RR 24. What should the EMT suspect?
- A. Retinal detachment
  - B. Hypertensive crisis
  - C. Pre-eclampsia
  - D. Eclampsia
25. What complication should a paramedic anticipate if there is meconium in the amniotic fluid?
- A. Profound hypoglycemia
  - B. Fetal tachycardia and CHF
  - C. An infant with a birth defect
  - D. Primary or secondary apnea

26. Which of these is the preferred site for intraosseous access on a pediatric patient?
- A. Distal femur
  - B. Proximal tibia
  - C. Distal humerus
  - D. Proximal radius
27. Where must an Illinois EMT report suspected elder abuse?
- A. Emergency department staff
  - B. The local states attorney
  - C. The elder abuse hotline
  - D. The local police
28. Which of these biological agents would lead to nausea, vomiting and “food poisoning” symptoms?
- A. Salmonella
  - B. Botulism
  - C. Anthrax
  - D. Ricin

**Answers for EMT-P Sample Questions**

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