

## **EMT-Basic: National Standard Curriculum**

### Appendix A

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#### **APPENDIX A**

The functional job analysis was developed by The Psychoeducational Clinic of the Ohio State University. It has been endorsed by the National Association of State EMS Directors and the National Council of State EMS Training Coordinators. It may be used to assist in student selection.

## FUNCTIONAL JOB ANALYSIS

The following functional job analysis was developed by the Psychoeducational Clinic of the Ohio State University, at the request of the Board of Directors of the National Registry of Emergency Medical Technicians. This job analysis was later endorsed by a committee comprised of members of the National Association of State EMS Directors and the National Council of State EMS Training Coordinators. The NREMT Board utilized this functional job analysis in the development of examination accommodations to meet the requirements of the Americans with Disabilities Act. Readers and persons interested in utilizing this functional job analysis should refer questions related to specific indicators to occupational rehabilitation specialists for interpretation.

### **EMT-Basic Characteristics**

EMT-Basics work as part of a team. Thorough knowledge of theoretical procedures and ability to integrate knowledge and performance into practical situations are critical. Self-confidence, emotional stability, good judgement, tolerance for high stress, and a pleasant personality are also essential characteristics of the successful EMT-Basic at any level. EMT-Basics also must be able to deal with adverse social situations, which include responding to calls in districts known to have high crime rates.

### **Physical Demands**

Aptitudes required for work of this nature are good physical stamina, endurance, and body condition which would not be adversely affected by lifting, carrying, and balancing at times, patients in excess of 125 pounds (250, with assistance). EMT-Basics must be able to work twenty-four-hour continuous shifts. Motor coordination is necessary for the well-being of the patient, the EMT-B, and co-worker over uneven terrain.

### **Comments**

Driving the ambulance in a safe manner, accurately discerning street names through map reading, and the ability to correctly distinguish house numbers or business locations are essential to task completion in the most expedient manner possible. Use of the telephone for transmitting and responding to physician's advice is also essential. The ability to concisely and accurately describe orally to physicians and other concerned staff one's impression of the patient's condition is critical as EMT-Basics work in emergency conditions in which there may be no time for deliberation. EMT-Basics must also be able to accurately summarize all data in the form of a written report. Verbal and reasoning skills are used more extensively than math. Math does play a part, however, in determining medication ratios per patient's body weight.

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### Job Analysis Schedule

1. **ESTABLISH JOB TITLE:** Emergency Medical Technician - Basic
2. **CODE 079026 WTA GROUP:** Occupations in medicine and health
3. **JOB SUMMARY:** Administers life support care to injured and sick persons in prehospital settings as authorized and directed by physician. Assesses nature and extent of injury or illness to establish and prioritize medical procedures to be followed.
4. **WORK PERFORMED RATINGS:**

Worker Functions	Data	People	Things	
		3	7	4

Work Field: 930  
M.P.S.M.S: 939 Medical and other health services. (Materials, Products, Subject Matter, and Services)
5. **WORKER TRAITS RATINGS:**

Scale: Level 6, highest level; level 1, lowest level.  
G.E.D.            1 2 3 4 5 6  
General Education Development  
Overall Rating - Level 4

### **Reasoning development (R)**

Level 4 - Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form.

\* **NOTE:** There appears to be components of level 5 in terms of dealing with several abstract and concrete variables. There were not enough components to rate this as a level 5.

### **Mathematical development (M)**

Level 3 - Compute discount, interest, profit, and loss; commission, markup, and selling price; ratio and proportion and percentage. Calculate surfaces, volumes, weights, and measures.

**Language development (L)**

Level 4 - Reading: Reads novels, poems, newspapers, periodicals, journals, manuals, dictionaries, thesauruses, and encyclopedias.

**Writing:** Prepare business letters, expositions, summaries, and reports, using prescribed format and conforming to all rules of punctuation, grammar, diction, and style.

**Speaking:** Participate in panel discussions, dramatizations, and debates. Speak extemporaneously on a variety of subjects.

\* **NOTE:** In the analyst's opinion, the General Educational Development level appears to be an area in which skill levels could be separated, particularly the math. Precise reading of medications, however, is essential, e.g., Tylenol vs. Tegretol.

SVP 1 2 3 4 5 6 7 8 9

Special Vocational Preparation (Time requirement)

Level 4 - Over three months and including six months

Aptitudes: G 3 V 3 N 3 S 3 P 2 Q 2/3 K 2 F 1/2 M 2 E 2 C 1

**Scale:** Level 1, highest degree of particular aptitude; level 5, lowest degree of particular aptitude.

**G - Intelligence**

Level G-3:1 Renders general nursing care to patients in hospital, infirmary, sanitarium, or similar institution:

Intelligence is required to learn and apply principles of anatomy, physiology, microbiology, nutrition, psychology, and patient care used in nursing; to make independent judgements in absence of doctor; and to determine methods and treatments to use when caring for patients with varying illnesses or injuries.

**V - Verbal Aptitude**

Level V-3:9 Questions patients to obtain their medical history, personal data, and to determine if they are allergic to dental drugs or have any complicating illnesses. Converses with patient in reassuring manner; explains post-operative care, oral hygiene, and importance of preventive dentistry to patients.

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**N - Numerical Aptitude**(The ability to perform arithmetic operations quickly and accurately)

Level 3 - No illustrations in EMS field.

Level N-3:2 Treats patients with disabilities, disorders, and injuries to relieve pain, develop or restore function, and maintain maximum performance, using physical means such as exercise, massage, heat, water, light, and electricity as prescribed by physician:

Numerical aptitude is required to interpret clinical tests such as range of motion, muscle response, and functional tests to ascertain extent of physical loss; to determine intensity and duration of manual or mechanical therapy treatment or procedures such as weight lifting, diathermy, traction, or electro-therapy.

**S - Spatial Aptitude**

Level S-3:1 Treats patients with disabilities, disorders, and injuries to relieve pain, develop or restore function, and maintain maximum performance, using physical means such as exercise, massage, heat, water, light, and electricity, as prescribed by doctor:

Spatial aptitude is required to visualize anatomic positions and the relationship between the point of forces and the area affected (as in traction); and to place treatment devices or administer manual treatment in relationship to the affected body part.

**P - Form Perception**

Level P-2:6 Diagnoses and treats diseases and disorders of animals. Ability to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines. Form perception is required to perceive pertinent details of size, shape, and form in skeletal structure, organs, tissue, and specimens of various animals.

**Q - Clerical Perception**

Level Q-2:19 (for Paramedic and Intermediate) - Renders general nursing care to patients in hospital, infirmary, sanitarium, or similar institution: Notes pertinent detail in written instructions, especially amounts and strengths of medications to administer; accurately perceives numbers when reading instruments, preparing medications, and filling syringes for injections; accurately records data on patients' charts such as temperature, respiration, pulse count, blood pressure, medications and dosage administered.

Level Q-3:3 (for Basic) - Prepares and compiles records in hospital nursing unit, such as obstetrics, pediatrics, or surgery:

Clerical perception is required to post information to patients' charts from doctors' and nurses' notes and laboratory reports; to file charts in chart racks; to make up daily diet sheet for unit; and to maintain inventory of drugs and supplies.

**K - Motor Coordination**

K-2:5 Renders general nursing care to patients in hospital, infirmary, sanitarium, or similar institution:

Coordinates vision and finger and hand movements to give injections with hypodermic needle, medication, position or remove dressings, and to measure medicines.

**F - Finger Dexterity**

F-1:2 No description for EMT-Basic, however, Level 2 is recommended due to ability to wrap bandages and apply splints.

**M - Manual Dexterity**

Level M-2:12 Renders general nursing care to patients in hospital, infirmary, sanitarium, or similar situation. Controls and extinguishes fires, protects life and property, and maintains equipment as volunteer or employee of city, township, or industrial plant. Manual dexterity is required during emergency situations, in positioning ladders and nets; clasping rungs to climb ladders; and in giving artificial respiration.

**E - Eye-Hand-Foot Coordination**

No description given. Level 2 recommended as job may require balancing of ladders, stairs, or walking on uneven terrain while carrying patient. Eye-Hand-Foot coordination required to permit ambulance operation and balancing, lifting, positioning, and transporting patient.

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### C - Color Discrimination

C-1:4 Performs surgery to correct deformities, repair injuries, prevent diseases, and to improve functions in patients:

Uses color discrimination and color memory in making diagnosis of patient's affliction or condition, by recognizing any deviations in color of diseased tissue from healthy tissue; evaluating color characteristics such as hue and saturation of affected body parts; and making determination as to extent or origin of condition.

Temperaments    D F I J M P R S T V

J - Adaptability to making generalizations, evaluations or decisions based on sensory or judgmental criteria.

M - Adaptability to making generalizations, judgments, or decisions based on measurable or verifiable criteria.

P - Adaptability to dealing with people beyond giving and receiving instructions.

S - Adaptability to performing under stress when confronted with emergency, critical, unusual, or dangerous situations; or in situations in which working speed and sustained attention are 'make or break' aspects of the job.

T - Adaptability to situations requiring the precise attainment of set limits, tolerances, or standards.

V - Adaptability to performing a variety of duties, often changing from one task to another of a different nature without loss of efficiency or composure.

Interests    1a 1b 2a 2b 3a 3b 4a 4b 5a 5b

2b - A preference for activities of a scientific and technical nature.

4a - A preference for working for the presumed good of the people.

Physical Demands    S L M H V 2 3 4 5 6

Explanation of terms:

1. Strengths

2. Climbing and/or balancing
3. Stooping, kneeling, crouching and/or crawling
4. Reaching, handling, and fingering and/or feeling
5. Talking and hearing
6. Seeing

Environmental Conditions I O **B** **2** **3** **4** **5** **6** **7**

Explanation of terms:

1. Work location (I = Indoors, O = Outdoors, B = Both)
2. Extreme cold, with or without temperature changes
3. Extreme heat, with or without temperature changes
4. Wet and/or humid
5. Noise and/or vibration
6. Hazards
7. Atmospheric conditions

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**U.S. DEPARTMENT OF LABOR  
MANPOWER ADMINISTRATION  
Physical Demands and Environmental Conditions**

**ESTAB. JOB TITLE** EMT-Paramedic **ESTAB. & SCHED. NO.**  
**DOT TITLE & CODE** 079.010

Code: F = Frequently  
O = Occasionally  
NP = Not present

**PHYSICAL DEMANDS**

**COMMENTS**

**1. STRENGTH**

- |    |          |     |     |  |
|----|----------|-----|-----|--|
| a. | Standing | 45% | 1a. | Very little time is spent sitting down, except for incident report writing.  |
|    | Walking  | 50% |     |  |
|    | Sitting  | 5%  |     |  |
| b. | Lifting  | F   | 1b. | EMTs are required to assist in lifting and carrying injured or sick persons to ambulance, removal from ambulance, and into emergency care setting. |
|    | Carrying | F   |     |  |
|    | Pushing  | O   |     |  |
|    | Pulling  | O   |     |  |

**2. CLIMBING  
BALANCING**

- |   |    |  |
|---|----|--|
| F | 2. | Climbing and balancing are required for safe transport of patient. |
|---|----|--|

**3. STOOPING  
KNEELING  
CROUCHING  
CRAWLING**

- |   |    |  |
|---|----|--|
| F | 3. | Patients are often found injured or sick in locations where removal is possible only through EMT's stooping, kneeling, crouching, or crawling. |
| F |    |  |
| F |    |  |
| F |    |  |

**4. REACHING  
HANDLING  
FINGERING  
FEELING**

- |   |    |  |
|---|----|--|
| F | 4. | Transporting life saving equipment, arm extension, handling carefully patients in fragile conditions, feeling to assess vital signs are part of the nature of this position. |
| F |    |  |
| F |    |  |
| F |    |  |

- |  |   |
|--|---|
| <p><b>5. TALKING</b></p> <p>Ordinary F</p> <p>Other NP</p> <p><b>HEARING</b></p> <p>Ord. Conv. F</p> <p>Other F</p>  | <p>5. Responding to patients, physicians, and co-workers through hearing is necessary in transmitting patient information and following directions.</p> |
| <p><b>6. SEEING</b></p> <p>Acuity, Near F</p> <p>Acuity, Far F</p> <p>Depth Percptn F</p> <p>Accommodat F</p> <p>Color Vision F</p> <p>Field of Vision F</p> | <p>6. Sight is used to drive ambulances, distinguish landmarks, and visually inspect patients.</p>  |

**RATINGS:** S L M H VH 2 3 4 5 6

**Analyst** Cathy Cain    **Date** 1/25/92    **Estab. Reviewer**  
**Reviewer**    **Date**    **Title**    **Date**

- 7. GENERAL EDUCATION** High school graduate or equivalent. Must be at least 18 years old.
- 8. VOCATIONAL PREPARATION**
- a. **College:** None, however, some EMT courses are taught at local colleges.
  - b. **Vocational Education Courses:** For EMT-Basic - 110 hours specialized training.
  - c. **Apprenticeship:** None
  - d. **Implant Training:** None
  - e. **On-the-Job Training:** During course of training, students will have engaged in various clinical experiences in supervised hospital and field settings. Amount of time spent varies.
  - f. **Performance on Other Jobs:** None
- 9. EXPERIENCE** None
- 10. ORIENTATION** None
- 11. LICENSES, ETC.** Certification or Licensure.
- 12. RELATION TO OTHER JOBS AND WORKERS**
- Promotion:** From EMT-Basic to EMT/ Intermediate to (based on training)
- Transfers:** None
- Supervision Received:** Physicians
- Supervision Given:** None

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- 13. MACHINES, TOOLS, EQUIPMENT, AND WORK AIDS** Ambulance, radio/telephone, extrication devices, cardiac monitors, defibrillator, injection needles, pneumatic anti-shock garments, stretchers, "jaws-of-life".
- 14. MATERIALS AND PRODUCTS** Bandages and tape