



The 2019 Core Content of Emergency Medical Services Medicine

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THE 2019 CORE CONTENT OF EMERGENCY MEDICAL SERVICES MEDICINE

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ABSTRACT

On March 13, 2019 the EMS Examination Committee of the American Board of Emergency Medicine (ABEM) approved modifications to the Core Content of EMS Medicine. The Core Content is used to define the subspecialty of EMS Medicine, provides the basis for questions to be used during written examinations, and leads to development of a certification examination blueprint. The Core Content defines the universe of knowledge for the treatment of prehospital patients that is necessary to practice EMS Medicine. It informs fellowship directors and candidates for certification of the full range of content that might appear on certification examinations. **Key words:** core content; EMS medicine; board certification

PREHOSPITAL EMERGENCY CARE 2019;00:000–000

PREAMBLE

On March 13, 2019 the Emergency Medical Services (EMS) Examination Committee of the American Board of Emergency Medicine (ABEM) approved modifications to the Core Content of EMS Medicine.

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The Core Content is used to define the subspecialty of EMS Medicine, provides the basis for questions to be used during written examinations, and leads to development of a certification examination blueprint. The Core Content defines the universe of knowledge for the treatment of prehospital patients that is necessary to practice EMS Medicine (Table 1). It informs fellowship directors and candidates for certification of the full range of content that might appear on certification examinations.

The American Board of Emergency Medicine (ABEM) awarded the first certificates in EMS Medicine in the fall of 2013. The purpose of subspecialty certification in EMS, as defined by ABEM, is to standardize physician training and qualifications for EMS practice, to improve patient safety and enhance the quality of emergency medical care provided to patients in the prehospital environment, and to facilitate integration of prehospital patient treatment into the continuum of patient care.

EMS certification examinations are administered biennially, and to date, have been based on the Core Content published in 2012 (1). At the time of its development, the Core Content was deemed to be a living document that would require periodic updates. Recognizing EMS Medicine as an evolving and maturing subspecialty with more than 600 ABEM-certified subspecialists, the EMS Committee undertook the current Core Content revision to best reflect current practice in EMS Medicine and ensure that examination content is relevant. Beginning in 2021, certification examinations will be based on the 2019 Core Content of Emergency Medical Services Medicine.

DEVELOPMENT OF THE CORE CONTENT

Development of the original Core Content began with content outlines provided by the National Association of EMS Physicians (NAEMSP) and ABEM as part of the application to the American Board of Medical Specialties for a subspecialty in EMS. As an inclusive list of content areas was expanded it was cross-referenced with the Accreditation Council on Graduate Medical Education 6 core competencies for the practice of medicine (2). The ABEM EMS Task Force validated

TABLE 1. The Core Content of EMS Medicine*

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
1.0 CLINICAL ASPECTS OF EMS MEDICINE						
1.1 TIME/LIFE-CRITICAL CONDITIONS	X	X	X			X
1.1.1 Cardiac Arrest	X	X			X	
1.1.1.1 General management and field resuscitation	X	X			X	
1.1.1.2 Transport decisions	X	X	X			X
1.1.1.3 Post-resuscitation care	X	X	X			X
1.1.1.4 Termination of resuscitation in the field	X	X				X
1.1.2 Airway Compromise/Respiratory Failure	X	X				
1.1.2.1 Devices for securing airway	X	X				
1.1.2.2 Portable ventilator management	X	X				
1.1.2.3 Medication-assisted intubation	X	X				
1.1.2.4 Tracheotomy complications	X	X	X			
1.1.3 Hypotension and Shock	X	X				
1.1.3.1 Recognition of shock and hypotension	X	X				
1.1.3.2 Management of hypotension and shock	X	X				
1.1.4 Altered Mental Status	X	X				
1.2 INJURY	X	X				
1.2.1 Trauma	X	X				X
1.2.1.1 Care of the trapped patient	X	X				
1.2.1.2 Protocols delineating shortened scene time	X	X				X
1.2.1.3 Management and resuscitation of multi-trauma patient	X	X				X
1.2.1.4 Field trauma triage	X	X				X
1.2.1.5 Spinal motion restriction	X	X				
1.2.1.6 Management of burns	X	X				
1.2.1.7 Management of crush injuries	X	X		X	X	
1.2.1.8 Management of ocular trauma	X	X				
1.2.2 Orthopedics	X	X				
1.2.2.1 Fractures and dislocations	X	X				
1.2.2.1.1 Splinting, including use of nontraditional materials	X	X				
1.2.2.1.2 Reductions without anesthetics	X	X			X	
1.2.3 Traumatic Brain Injuries	X	X				
1.2.3.1 Management of severe head injuries	X	X	X			X
1.2.3.2 Management of concussions	X	X				
1.2.4 Assault – Domestic/Sexual/Elder Abuse/Child Abuse	X	X		X	X	X
1.2.4.1 Safety					X	X
1.2.4.2 Evidence preservation and reporting		X				X
1.2.5 Environmental	X	X				
1.2.5.1 Cold-related illnesses	X	X				
1.2.5.1.1 Hypothermia	X	X				
1.2.5.1.1.1 Diagnosis without the use of a thermometer	X	X				
1.2.5.1.2 Frostbite	X	X				
1.2.5.1.2.1 Protection of injury vs. re-warming	X	X				

(Continued)

TABLE 1. (Continued).

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
1.2.5.2 Heat-related illnesses	X	X				
1.2.5.2.1 Methods to cool a patient in the field	X	X				X
1.2.5.3 High altitude injury (e.g., high altitude pulmonary edema, high altitude cerebral edema)	X	X				
1.2.5.3.1 Protection of the rescuer from high altitude injury	X	X				
1.2.5.3.2 Portable hyperbaric chamber	X	X				X
1.2.5.3.3 Field prophylaxis and treatment	X	X				
1.2.5.4 Drowning, submersion, and diving injuries	X	X	X			
1.2.5.4.1 Initial management in water	X	X				X
1.2.5.5 Lightning and electrical injuries	X	X				X
1.2.5.5.1 Reverse triage	X	X				
1.3 MEDICAL EMERGENCIES	X	X				
1.3.1 Respiratory	X	X				
1.3.1.1 Shortness of breath	X	X				
1.3.1.1.1 Determination of causes	X	X				
1.3.1.1.2 Use of capnometry and capnography waveforms in diagnosis	X	X				
1.3.1.1.3 Medical management of respiratory distress or shortness of breath	X	X				
1.3.1.2 Pneumothorax	X	X				
1.3.1.2.1 Identifying without ancillary testing	X	X				
1.3.1.2.2 Management with occlusive dressings and alternative drain devices	X	X				
1.3.2 Cardiovascular	X	X				
1.3.2.1 ST elevation myocardial infarction (STEMI)	X	X				
1.3.2.1.1 Utilization of electrocardiogram (ECG) in the field	X	X				X
1.3.2.1.2 Systems of care						X
1.3.2.2 Acute exacerbation of congestive heart failure (CHF)	X	X				
1.3.2.2.1 Field identification of CHF	X	X				
1.3.2.2.2 Medical management in the field	X	X				
1.3.2.3 Implantable cardiac devices	X	X				
1.3.2.3.1 Evaluation and management of malfunction	X	X				
1.3.3 Neurological	X	X				
1.3.3.1 Stroke	X	X				
1.3.3.1.1 Prehospital stroke scales	X	X				
1.3.3.1.2 Recognition of stroke mimics in the field	X	X				
1.3.3.2 Management of seizures	X	X				
1.3.4 Diabetic Emergencies	X	X				
1.3.4.1 Glucagon, oral/intravenous glucose	X	X				
1.3.4.2 Protocols for treat & release	X	X				X
1.3.4.3 Evaluation and treatment of hyperglycemia	X	X				X
1.3.5 Renal	X	X				
1.3.5.1 Hemodialysis	X	X				X
1.3.5.1.1 Use of dialysis access for resuscitation	X	X				X
1.3.5.1.2 Uncontrolled hemorrhage from shunt site	X	X				
1.3.5.1.3 Special considerations for hyperkalemia	X	X				

(Continued)

TABLE 1. (Continued).

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
1.3.6 Obstetric and Gynecologic Emergencies	X	X				
1.3.6.1 Perinatal issues	X	X				
1.3.6.1.1 Control of seizures in eclampsia	X	X				
1.3.6.1.2 Placental abruption	X	X				
1.3.6.1.3 Placenta previa	X	X				
1.3.6.2 Childbirth	X	X				
1.3.6.2.1 High risk vs. normal delivery	X	X				
1.3.6.2.2 Managing home birth catastrophes	X	X				
1.3.6.2.3 Post-partum hemorrhage	X	X				
1.3.6.2.4 Breech/shoulder dystocia in the field	X	X				
1.3.6.2.5 Umbilical cord prolapse	X	X				
1.3.6.3 Vaginal hemorrhage	X	X				
1.3.6.3.1 Packing in the field	X	X				
1.3.6.4 Ectopic pregnancy	X	X				
1.3.6.4.1 Effect of clinical diagnosis on transport decisions	X	X				X
1.3.7 Poisoning/Toxicologic Emergencies	X	X				
1.3.7.1 Clinical management of toxins	X	X				
1.3.7.1.1 Carbon monoxide	X	X				
1.3.7.1.2 Cyanide	X	X				
1.3.7.1.3 Chlorine	X	X				
1.3.7.1.4 Hydrofluoric Acid	X	X				
1.3.7.1.5 Organophosphates	X	X				
1.3.7.1.6 Mustards and other blister agents	X	X				
1.3.7.1.7 Phosgene	X	X				
1.3.7.1.8 Hydrocarbons	X	X				
1.3.7.2 Knowledge of poisons, antidotes, chemical properties of hazardous materials, effects of radiation exposure, and approach to initial decontamination	X	X				X
1.3.7.3 Caustic substance ingestion	X	X				
1.3.7.3.1 Prehospital airway management options	X	X				
1.3.7.4 Decontamination	X	X				
1.3.8 Dermatology	X	X				
1.3.8.1 Identification of lesions indicating communicable disease or biohazard	X	X				
1.3.9 Communicable Diseases	X	X				
1.3.9.1 General	X	X				
1.3.9.1.1 Knowledge of prehospital personal protective equipment (PPE)	X	X				
1.3.9.1.2 Isolation of persons with suspected infectious agents (e.g., severe acute respiratory syndrome [SARS])	X	X				X
1.3.9.2 Multi-Drug Resistant Organisms (MDROs)	X	X				
1.3.9.2.1 Protection in the field (e.g., PPE, decontamination of ambulances)	X	X				
1.3.9.3 Category A bioterrorism agents	X	X				
1.3.9.3.1 Hemorrhagic fevers	X	X				
1.3.9.3.2 Smallpox	X	X				
1.3.9.3.3 Plague	X	X				

(Continued)

TABLE 1. (Continued).

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
1.3.9.4 Emerging infections	X	X				
1.3.9.4.1 Pandemic viral illnesses	X	X				
1.3.9.4.2 SARS	X	X				
1.3.9.5 Quarantine	X	X				
1.3.10 Behavioral Emergencies	X	X				
1.3.10.1 Managing combative patients	X	X				
1.3.10.1.1 Use of restraints (chemical vs. mechanical)	X	X				
1.3.10.2 Excited delirium	X	X				
1.3.10.3 Violence against EMS providers					X	X
1.4 SPECIAL CLINICAL CONSIDERATIONS	X	X	X			X
1.4.1 Airway Management in Adverse Conditions	X	X	X			X
1.4.1.1 Low light	X	X	X			X
1.4.1.2 Atypical patient position	X	X	X			X
1.4.1.3 Minimal backup	X	X	X			X
1.4.1.4 Sub-optimal suction in the absence of standard equipment	X	X	X			X
1.4.2 Procedures	X	X				
1.4.2.1 Airway	X	X				
1.4.2.1.1 Opening airway with head-tilt/chin-lift method	X	X				
1.4.2.1.2 Opening airway with jaw thrust method	X	X				
1.4.2.1.3 Insertion of oropharyngeal & nasopharyngeal airways	X	X				
1.4.2.1.4 Bag-valve-mask	X	X				
1.4.2.1.5 Glottic/Supraglottic/Extraglottic airways	X	X				
1.4.2.1.6 Non-invasive positive pressure ventilation	X	X				
1.4.2.1.7 Airway intubation adjuncts	X	X				
1.4.2.1.8 Direct laryngoscopy with endotracheal intubation	X	X				
1.4.2.1.9 Nasal intubation	X	X				
1.4.2.1.10 Medication-facilitated intubation	X	X				
1.4.2.1.11 Cricothyroidotomy	X	X				
1.4.2.1.12 Control of post-tonsillectomy hemorrhage	X	X				
1.4.2.1.13 Video laryngoscopy	X	X				
1.4.2.2 Cardiovascular	X	X				
1.4.2.2.1 Placement of peripheral intravenous lines	X	X				
1.4.2.2.2 Access or placement of central venous lines in the field	X	X				
1.4.2.2.3 Placement of intraosseous lines	X	X				
1.4.2.2.3.1 Adult	X	X				
1.4.2.2.3.2 Pediatric	X	X				
1.4.2.2.4 Prehospital administration of thrombolytics for STEMI	X	X				
1.4.2.2.5 Pericardiocentesis without ultrasound guidance or other guidance device	X	X				
1.4.2.2.6 Balloon pump management	X	X				
1.4.2.3 Trauma	X	X				
1.4.2.3.1 Needle thoracostomy	X	X				
1.4.2.3.2 Tube thoracostomy	X	X				
1.4.2.3.3 Control of life threatening hemorrhage	X	X				

(Continued)

TABLE 1. (Continued).

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
1.4.2.3.4 Application of traction devices	X	X				
1.4.2.3.5 Wound care management	X	X				
1.4.2.3.6 Application of backboard as extrication device	X	X				
1.4.2.3.7 Controlled hyperventilation for management of impending brain herniation in head trauma	X	X				
1.4.2.4 Obstetrics	X	X				
1.4.2.4.1 Normal delivery of a fetus	X	X				
1.4.2.4.1.1 Challenges of prehospital deliveries	X	X				
1.4.2.4.1.2 Resource allocation with increasing number of multiple births	X	X				X
1.4.2.4.2 Management of abnormal presentations of fetus	X	X				
1.4.2.4.3 Management of post-partum hemorrhage	X	X				
1.4.2.4.4 Peri/post-mortem cesarean section	X	X				
1.4.2.5 Point of care testing	X					
1.4.2.6 Ultrasound Use in EMS	X	X				
1.4.2.6.1 Focused assessment with Sonography for Trauma (FAST) examination	X	X				
1.4.2.6.2 Line placement	X	X				
1.4.2.6.3 Cardiac activity for field termination of resuscitation	X	X				
1.4.3 Pain Assessment and Management in the Field	X	X				
1.4.4 Flight Physiology	X	X				
1.4.4.1 Effect of altitude on patient management	X	X	X			X
1.4.4.2 Effect of altitude on the healthcare provider		X	X			X
1.4.5 Pediatrics	X	X				
1.4.5.1 Controversies over airway management	X	X				
1.4.5.2 Pediatric trauma	X	X				X
1.4.5.3 Specialized equipment	X	X				
1.4.5.4 Unique issues related to consent	X	X		X	X	X
1.4.5.5 Maltreatment	X	X		X	X	
1.4.5.6 Brief resolved unexplained event (BRUE)	X	X				
1.4.5.7 Seizure mimics	X	X				
1.4.5.8 Special needs children	X	X				
1.4.5.8.1 Technology dependent	X	X				
1.4.6 Geriatrics	X	X				
1.4.6.1 Geriatric trauma	X	X				
1.4.6.2 Polypharmacy	X	X	X			X
1.4.6.3 Maltreatment	X	X			X	X
1.4.7 Bariatric Issues	X	X				
1.4.7.1 Equipment					X	X
1.4.7.2 Procedure challenges	X	X			X	
1.4.8 End-of-Life Issues	X	X		X	X	X
1.4.8.1 Hospice	X			X	X	X
1.4.8.2 DNR/DNI/Advanced Directives/Physician Orders for Life Sustaining Treatment (POLST)	X			X	X	X

(Continued)

TABLE 1. (Continued).

		ACGME** and ABMS*** Core Competencies					
		Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
1.4.9	Social Issues				X	X	X
1.4.9.1	Isolation syndrome				X	X	X
1.4.9.2	Family centered care				X	X	X
1.4.9.3	Management of bystanders while caring for patient				X	X	X
1.5	SPECIAL CONSIDERATIONS FOR EVALUATION, TREATMENT, TRANSPORT, AND DESTINATIONS	X	X	X			X
1.5.1	Time-Life Critical Conditions	X	X	X			X
1.5.2	Special Patient Populations		X	X		X	X
2.0	MEDICAL OVERSIGHT OF EMS						
2.1	MEDICAL OVERSIGHT	X	X	X	X	X	X
2.1.1	Medical Oversight of EMS Systems	X	X	X	X	X	X
2.1.1.1	Direct medical oversight	X	X		X	X	X
2.1.1.1.1	Provision of direct patient care	X	X		X		
2.1.1.1.2	Physician directed care via radio or phone	X	X		X	X	X
2.1.1.1.3	Physician directed care in person	X	X		X	X	X
2.1.1.1.4	Telemedicine	X				X	X
2.1.1.2	Indirect medical oversight	X	X	X	X	X	X
2.1.1.2.1	Evidence guided development of medical care protocols	X	X	X		X	X
2.1.1.2.2	Quality improvement programs	X	X	X		X	X
2.1.1.2.3	Determination of medical necessity in the field	X	X	X		X	X
2.1.1.3	Assessment of provider competence and fitness for duty	X			X	X	X
2.1.2	Legal Issues	X			X	X	X
2.1.2.1	Definition of a patient	X			X	X	X
2.1.2.2	Mandatory reporting issues	X	X		X	X	X
2.1.2.3	Determination and/or pronouncement of death	X	X		X	X	X
2.1.2.4	Capacity to refuse care	X	X		X	X	X
2.1.2.4.1	Understand the elements of informed consent and informed refusal	X	X	X	X	X	
2.1.2.4.2	Understand the difference between capacity and competence	X	X	X	X	X	
2.1.2.5	Federal regulations impacting EMS						X
2.2	EMS SYSTEMS	X	X			X	X
2.2.1	Public Safety Answering Points			X	X	X	X
2.2.1.1	Pre-arrival instructions	X	X		X	X	
2.2.1.2	Dispatch	X	X	X	X	X	X
2.2.1.2.1	Use of lights and sirens	X		X	X	X	X
2.2.1.2.2	Prioritization of response (e.g., determining local needs based on local resources)	X	X	X	X	X	X
2.2.1.2.3	Tiered-response			X			X
2.2.2	Design of System Components						X
2.2.2.1	Response and transport vehicles						X
2.2.2.2	EMS provider levels						X
2.2.2.3	Service delivery models						X
2.2.2.4	Equipment design and supply issues						X

(Continued)

TABLE 1. (Continued).

		ACGME** and ABMS*** Core Competencies					
		Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
2.2.3	Delivery Systems with Special Considerations						X
2.2.3.1	Urban EMS						X
2.2.3.2	Rural EMS						X
2.2.3.3	Wilderness EMS						X
2.2.3.4	Volunteer EMS						X
2.2.3.5	Inter-facility transport						X
2.2.3.6	Military EMS						X
2.2.3.7	Air medical						X
2.2.3.8	International EMS						X
2.3	EMS PERSONNEL						X
2.3.1	Scope of Practice Models						X
2.3.1.1	State vs. national						X
2.3.1.2	Levels of providers						X
2.3.1.3	Field capabilities						X
2.3.2	Education			X			X
2.3.2.1	Theories of adult learning			X			X
2.3.2.2	Education delivery models			X			X
2.3.2.3	Provider training programs			X			X
2.3.2.3.1	Initial education			X			X
2.3.2.3.2	Continuing education			X			X
2.3.2.4	Accreditation of training programs			X			X
2.3.2.5	Remediation and work force re-entry			X			X
2.3.3	EMS Provider Health and Wellness	X	X		X	X	X
2.3.3.1	Occupational culture of safety	X	X		X	X	X
2.3.3.1.1	Occupational health	X	X		X	X	X
2.3.3.1.2	Knowledge of regulations and standards (e.g., National Fire Protection Association [NFPA] 1582, Ryan White Act, Occupational Safety and Health Administration [OSHA] requirements)			X			X
2.3.3.1.3	Emergency incident rehabilitation	X		X	X	X	X
2.3.3.1.4	Awareness of ergonomic factors			X			X
2.3.3.1.5	Disordered sleep and work schedule				X	X	X
2.3.3.1.6	Prevention and intervention for psychologically stressful events				X	X	X
2.3.3.1.7	Emergency vehicle operations	X		X	X		X
2.3.3.2	Exposure to communicable disease	X	X	X	X	X	X
2.3.3.2.1	Standard PPE precautions	X	X				
2.3.3.2.2	Appropriate use of PPE for various infectious agents (contact vs. droplet vs. airborne precautions)	X	X				
2.3.3.2.3	Body substance exposure	X	X				
2.3.3.2.3.1	Knowledge of Centers for Disease Control and Prevention (CDC) guidelines for human immunodeficiency virus (HIV) and other blood-borne pathogens	X	X	X			
2.3.3.2.3.2	Medical director liaison role between hospital and EMS agency	X	X				
2.3.3.2.4	Post-exposure prophylaxis and testing	X	X				

(Continued)

TABLE 1. (Continued).

		ACGME** and ABMS*** Core Competencies					
		Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
2.4	SYSTEM MANAGEMENT				X	X	X
2.4.1	System Finance						X
2.4.1.1	Allocation of resources						X
2.4.2	Legislation and Government						X
2.4.2.1	Working with government and public health agencies					X	X
2.4.2.2	Knowledge of state EMS laws						X
2.4.2.3	Understanding of healthcare law			X			X
2.4.3	Public Health		X	X			X
2.4.3.1	Specialty hospital designations and transport of patient		X	X			X
2.4.3.2	Field triage issues		X	X			X
2.4.3.3	Public access to defibrillation (PAD)		X	X			X
2.4.3.4	Issues of hospital diversion and bypass		X	X			X
2.4.3.5	Integration of EMS with community public resources and social services	X		X			X
2.4.4	System Status Management		X				X
2.4.4.1	Response times	X		X			X
2.4.5	Service Delivery Models						X
2.4.6	Patient Safety	X	X				X
2.4.7	Ethics in EMS	X			X	X	
2.4.8	Use of Alternative Destinations	X	X				X
3.0	QUALITY MANAGEMENT AND RESEARCH						
3.1	QUALITY IMPROVEMENT PRINCIPLES AND PROGRAMS			X			X
3.1.1	Data Collection, Management, and Analysis			X			X
3.1.2	Quality Improvement Programs			X			X
3.1.3	Evidence-based Practice			X			X
3.2	RESEARCH			X			X
3.2.1	Informed Consent (e.g., Use of FDA "Final Rule" and Exception from Informed Consent)			X			X
3.2.2	Fundamental Knowledge of Biostatistics and Epidemiology			X			X
3.2.3	EMS Research Design			X			X
4.0	SPECIAL OPERATIONS						
4.1	MASS CASUALTY MANAGEMENT	X		X			X
4.1.1	Incident Command System (ICS)	X				X	X
4.1.1.1	Integration of medical operations					X	X
4.1.1.2	Local, state, federal assets					X	X
4.1.1.3	Regional resource allocation and management					X	X
4.1.1.4	Role of emergency management agencies					X	X
4.1.2	Triage	X	X				X
4.1.3	Patient Care in Mass Casualty Events/Scene Management	X	X		X	X	X
4.1.3.1	On-site treatment	X	X		X	X	X
4.1.3.2	Transport modes						X
4.1.3.3	Destination						X

(Continued)

TABLE 1. (Continued).

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
4.2 CHEMICAL/BIOLOGICAL/RADIOLOGICAL/NUCLEAR/EXPLOSIVE (CBRNE)	X	X	X			X
4.2.1 Toxic Exposure/Poisoning/Hazardous Materials (HAZMAT)	X	X	X	X	X	X
4.2.1.1 Indications for HAZMAT team/antidotes	X	X				X
4.2.1.2 Field identification of toxins/hazardous materials	X	X				X
4.2.1.3 Field/provider/patient decontamination	X	X				X
4.2.1.4 Care of the contaminated patient while wearing PPE	X	X				X
4.2.1.5 Knowledge of various levels of PPE			X			X
4.2.1.6 Knowledge of poisons, antidotes, chemical properties of hazardous materials, radiation and effects of exposure	X	X				
4.2.2 Explosive Incidents						X
4.2.2.1 Improvised Explosive Devices (IEDs) and terrorist activity						X
4.2.2.2 Community risk assessment						X
4.2.2.3 Integration with search and rescue						X
4.2.3 Weapons of Mass Destruction and Related Injury						X
4.2.3.1 Secondary devices and scene safety						X
4.3 MASS GATHERING	X	X				X
4.3.1 Planning and Operations			X			X
4.3.1.1 Medical risk assessment			X			X
4.3.2 Personnel Needs	X	X				X
4.3.2.1 Care teams	X	X				X
4.3.2.2 Physician placement	X	X				X
4.3.3 Training and Drills			X			X
4.3.4 Design of Temporary Treatment Facilities						X
4.3.4.1 Level of care						X
4.3.4.2 Ingress/egress						X
4.3.5 Equipment						X
4.3.6 Communications				X	X	
4.4 DISASTER MANAGEMENT	X	X				X
4.4.1 National Incident Management System (NIMS) & National Response Framework						X
4.4.1.1 NIMS 100,200, 700, 800						X
4.4.2 Catastrophic Events						X
4.4.2.1 State and federal criteria for disaster declaration						X
4.4.2.2 State emergency mutual aid compacts						X
4.4.3 Health and Medical Resources						X
4.4.3.1 National Disaster Medical System (NDMS)						X
4.4.3.2 Specialized teams						X
4.4.3.3 Non-governmental agencies						X
4.4.3.4 Regional medical response corps						X
4.4.3.5 State and federal assets						X
4.4.4 Special Response Considerations						X
4.4.4.1 Allocation of scene resources			X			X
4.4.4.2 Provider credentialing issues				X		X
4.4.4.3 Modified standards of care			X		X	X

(Continued)

TABLE 1. (Continued).

	ACGME** and ABMS*** Core Competencies					
	Patient Care	Medical Knowledge	Practice-based learning	Professionalism	Interpersonal Skills	System-based Practice
4.5 EMS SPECIAL OPERATIONS	X	X				X
4.5.1 Tactical	X	X				X
4.5.1.1 Initial responder approach to hostile environment	X	X				X
4.5.1.2 Care in a hostile environment	X	X				X
4.5.1.2.1 Bleeding control	X	X				
4.5.1.3 Operational considerations for provider & casualty	X	X				X
4.5.2 Technical Rescue	X	X				
4.5.2.1 Confined space care (OSHA definition)	X	X				
4.5.2.2 Extrication	X	X				
4.5.3 Wilderness EMS Systems	X					X
4.5.3.1 Management of traumatic and medical disorders in a wilderness environment	X	X				
4.5.3.2 Evacuation/non-traditional transport	X	X				
4.5.3.3 Multi-agency response coordination						X
4.5.3.4 Knowledge of survival skills in remote/wilderness environments						X
4.5.4 Mobile Integrated Healthcare/Community Paramedicine						X
4.5.4.1 Personnel education						X
4.5.4.2 Medical oversight						X
4.5.4.3 Integration with healthcare systems						X

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**Accreditation Council for Graduate Medical Education (ACGME).

***American Board of Medical Specialties (ABMS).

TABLE 2. Summary of 2019 EMS Core Content Task Force changes

Location	Description of Change
1.1.1.1	Changed General management to General management and field resuscitation
1.1.1.2	Changed Resuscitate in the field vs. transport to Transport decisions
1.1.1.4	Added Termination of resuscitation in the field
1.1.2.3	Changed Pros and cons of drug-assisted intubation to Medication-assisted intubation
1.1.3.1	Changed Diagnosis with limited ancillary testing to Recognition of shock and hypotension
1.1.3.2	Added Management of hypotension and shock
1.2.1.3	Changed Resuscitation in the field vs. rapid transport to trauma center to Management and resuscitation of multi-trauma patient
1.2.1.5	Changed Management of spine trauma (application of spinal immobilization, selective immobilization) to Spinal motion restriction
1.2.1.8	Added Management of ocular trauma
1.2.2.1.1	Changed Splinting using nontraditional materials to Splinting, including use of nontraditional materials
1.2.3.3	Deleted Sideline management for team medics/physicians
1.2.5.1.1.1	Changed Clinical diagnosis without the use of a thermometer to Diagnosis without the use of a thermometer
1.2.5.4	Changed Near-drowning, submersion, and diving injuries to Drowning, submersion, and diving injuries
1.3.1.1.1	Deleted Use of portable noninvasive ventilation devices
1.3.1.1.2	Changed Field identification of chronic obstructive pulmonary disease (COPD) to (1.3.1.1.1) Determination of causes
1.3.1.1.3	Deleted Assisted ventilation
1.3.1.1.4	Changed Use of capnometry and capnometry waveforms in diagnosis to (1.3.1.1.2) Use of capnometry and capnography waveforms in diagnosis
1.3.1.1.3	Added Medical management of respiratory distress or shortness of breath
1.3.2.1.2	Deleted Use of oxygen (e.g., how much to use; demand vs. supply)
1.3.2.1.2	Added Systems of care
1.3.2.1.3	Deleted Methods of revascularization in the field
1.3.2.2.1	Deleted Use of portable noninvasive ventilation devices
1.3.2.2.3	Changed Field use of vasopressors and inotropes without confirmed diagnosis to (1.3.2.2.2) Medical management in the field
1.3.2.2.4	Deleted Assisted ventilation
1.3.2.3.1	Changed Use of magnets for management of devices to Evaluation and management of malfunction
1.3.3.1.2	Added Recognition of stroke mimics in the field
1.3.4.3	Added Evaluation and treatment of hyperglycemia
1.3.8.1	Changed from Use of burn dressings for desquamating disease to Identification of lesions indicating communicable disease or biohazard
1.3.9.1.3	Deleted Use of prehospital providers for mass vaccination programs
1.3.9.3.4	Deleted Ricin
1.3.10.2	Added Excited delirium
1.3.10.3	Added Violence against EMS providers
1.4.2.1.5	Changed Glottic airways to Glottic/Supraglottic/Extraglottic airways
1.4.2.1.6	Deleted Supraglottic airways
1.4.2.1.7	Changed Continuous positive airway pressure (CPAP) to Noninvasive positive pressure ventilation
1.4.2.1.7.1	Deleted Use of prehospital CPAP devices
1.4.2.1.11	Changed Facilitated intubation without paralytics to Medication-facilitated intubation
1.4.2.1.12	Deleted Rapid sequence intubation (RSI) and use of paralytics
1.4.2.1.14	Added Video laryngoscopy
1.4.2.2.5	Deleted Transport directly to percutaneous coronary intervention (PCI) capable hospital
1.4.2.2.5.1	Deleted Helicopter EMS (HEMS) activation
1.4.2.3.3	Deleted Pericardiocentesis without ultrasound guidance or other guidance device
1.4.2.3.7	Deleted Field trauma triage
1.4.2.3.6	Added Application of backboard as extrication device
1.4.2.3.8	Deleted Application of cervical collar and backboard
1.4.2.3.9	Deleted Selective spine immobilization
1.4.5.6	Changed Apparent life-threatening event (ALTE) to Brief resolved unexplained event (BRUE)
1.4.10	Deleted Termination of Resuscitation
2.3.1.1	Deleted Military/federal government medical personnel
2.3.3.2.5	Deleted Occupational health screening (e.g., tuberculosis, hepatitis)
2.4.8	Added Use of Alternative Destinations
3.2.3	Added EMS Research Design
4.1.1.1	Changed Integration with fire ICS/medical operations to Integration of medical operations
4.1.1.2	Added Local, state, federal assets
4.1.1.3	Added Regional resource allocation and management
4.1.1.4	Added Role of emergency management agencies

(Continued)

TABLE 2. (Continued).

4.1.3	Changed Mass Casualty Management to Patient Care in Mass Casualty Events/Scene Management
4.1.3.1	Deleted Local, state, federal assets; Added On-site treatment
4.1.3.2	Deleted Regional resource allocation and management; Added Transport modes
4.1.3.3	Deleted Role of emergency management agencies; Added Destination
4.2.1.1	Changed Need for HAZMAT team/antidotes to Indications for HAZMAT team/antidotes
4.2.1.4	Deleted Protecting the public (containment)/public health concerns
4.2.1.4	Changed Resuscitation during contamination while wearing PPE to Care of the contaminated patient while wearing PPE
4.2.1.7	Deleted Knowledge of federal law enforcement reporting requirements
4.2.2	Deleted Immediate Danger to Life and Health (IDLH) Environments
4.2.2.1	Deleted Knowledge of asphyxiation and other gas and fire hazards
4.3.1	Changed Disaster Planning and Operations to Planning and Operations
4.3.1.1	Added Medical risk assessment
4.3.2	Changed Human Resource Needs in Disaster Response to Personnel Needs
4.3.5	Changed Equipment Needs to Equipment
4.3.5.1	Changed Communications from subheading under 4.3.5 to 4.3.6
4.3.5.2	Deleted Integration of telecom systems with existing EMS system
4.4.4.3	Changed Altered standards of care to Modified standards of care
4.5.1.1	Changed Low or no light environment of care to Initial responder approach to hostile environment
4.5.1.3	Deleted Care with limited supplies
4.5.1.3.1	Changed Hemostatic agent use to (4.5.1.2.1) Bleeding control
4.5.1.3.2	Deleted Airway management in low or no light
4.5.1.4	Deleted Remote assessment
4.5.1.5	Deleted Knowledge of tactical combat casualty care
4.5.2	Deleted Casualty Evacuation section
4.5.2	Changed Limited Patient Access Situations to Technical Rescue
4.5.3.3	Changed Multi-agency response to Multi-agency response coordination
4.5.3.4	Changed Survival skills and ability to operate independently in remote/wilderness environments to Knowledge of survival skills in remote/wilderness environments
4.5.4	Added Mobile Integrated Healthcare/Community Paramedicine section

work by surveying clinically active EMS physicians through contact information supplied by NAEMSP and the American College of Emergency Physicians. The Task Force considered all feedback received during subsequent discussions to reach consensus.

The Core Content was, and remains, divided into 4 broad categories: 1.0 Clinical Aspects of EMS Medicine; 2.0 Medical Oversight of EMS; 3.0 Quality Management and Research; and 4.0 Special Operations. Each of these categories is further divided into broad topics and subtopics.

The 2019 Core Content utilized a survey of all currently board-certified and board-eligible EMS physicians, which was administered electronically. Each component of the Core Content was presented, and participants were asked to gauge how important a particular topic area was and how often it was a factor in their practice of EMS Medicine. The EMS Core Content Task Force reviewed the survey results, giving greatest consideration to areas of knowledge indicated to be highly important and frequently used, while de-emphasizing areas indicated to be of lesser importance and frequency. For example, based on the survey results, the Task Force considered how to incorporate an expectation of knowledge about evolving roles for EMS in the health care delivery system. The revised Core Content acknowledges this broad area as relevant and

of potentially growing importance while limiting the specificity of knowledge that should be expected of a candidate for subspecialty certification.

Additional attention was directed toward more appropriately categorizing topic areas, updating terminology, and limiting redundancy to improve clarity and make the Core Content more useful for educators and candidates for certification. A summary of 2019 EMS Core Content Task Force changes is included as [Table 2](#).

Given the progression of the specialty and the consensus of the Task Force, the EMS Committee adopted the 2019 Core Content of Emergency Medical Services Medicine as a better reflection of the practice of EMS Medicine.

FUTURE DEVELOPMENT OF THE CORE CONTENT

EMS Medicine continues to be a rapidly evolving field. Expertise is growing as the number of certified physicians continues to expand. Thus, the Core Content continues to be a living document. ABEM anticipates regular updates to the Core Content, with publication every 5 to 7 years. Suggested

changes to the Core Content can be addressed to examcontent@abem.org.

References

1. Perina DG, Pons PT, Blackwell TH, Bogucki S, Brice JH, Cunningham CA, Delbridge TR, Gausche-Hill M, Gerard WC, Gratton MC, et al. The core content of emergency medical services medicine. *Prehosp Emerg Care* 2012;16(3): 309–22.
2. Accreditation Council for Graduate Medical Education. 2017 Common Program Requirements. Available at: https://www.acgme.org/portal/0/PFAssets/ProgramRequirements/CPRs_2017-07-01.pdf [accessed February 21, 2019].