EMS MEDICAL DIRECTORS' COURSE

Table of Contents

Chapter (Please click the chapter you would like to navigate to.)

I. Ohio EMS History and Structure

II. Legislative and Legal Issues

III. EMS Systems and Integration

IV. EMS Medical Director Qualifications

V. Direct and Indirect Medical Oversight

VI. Operational Issues

VII. Levels of Prehospital Providers

VIII. EMS Education

IX. Adult Education

X. Grants and Funding

XI. EMS Quality and Performance Improvement

XII. Remediation, Due Process and Grievance

XIII. Protocols and Standing Orders

XIV. Protocol Development and Implementation

XV. Disaster Planning

Acknowledgments

Ohio Chapter ACEP would like to thank the following authors, editors and reviewers for their invaluable contributions to this course:

First Edition Authors

James J. Augustine, MD, FACEP
Emory University; Atlanta, Georgia

Thomas E. Collins, MD, FACEP
MetroHealth Medical Center; Cleveland, Ohio

Thomas J. Gavin, MD, FACEP
The Ohio State University Medical Center; Columbus, Ohio

Sharon E. Mace, MD, FAAP, FACEP
Cleveland Clinic; Cleveland, Ohio

Second Edition Editors

Mary E. Hancock, MD, FACEP
MetroHealth Medical Center; Cleveland, Ohio

Ann M. Dietrich, MD, FAAP, FACEP
Children's Hospital; Columbus, Ohio

Francis R. Mencl, MD, FACEP
St. Thomas Hospital; Akron, Ohio

Reviewers

Eileen F. Baker, MD
Union Hospital; Dover, Ohio

Daniel M. Cohen, MD, FACEP
Children's Hospital; Columbus, Ohio

Paul De Saint Victor, MD, FACEP
St. Vincent Medical Center; Toledo, Ohio

Back to Table of Contents

Sorabh Khandelwal, MD
The Ohio State University College of Medicine
and Public Health; Columbus, Ohio

Randall W. King, MD, FACEP
St. Vincent Mercy Medical Center; Toledo, Ohio

Thomas W. Lukens, Ph.D., MD, FACEP
MetroHealth Medical Center, Cleveland, Ohio

Sharon E. Mace, MD, FAAP, FACEP
Cleveland Clinic; Cleveland, Ohio

Howard A. Werman, MD, FACEP
The Ohio State University College of Medicine
and Public Health; Columbus, Ohio

Back to Table of Contents

CHAPTER I: OHIO EMS HISTORY AND STRUCTURE

I. EARLY LEGISLATION

EMS in Ohio became codified in 1976, when the Ohio General Assembly enacted House Bill 832 to create the Ohio Emergency Services Advisory Council and to establish training and certification requirements for EMTs. Under House Bill 832 these responsibilities were divided between the Ohio Department of Education and the Ohio Board of Regents. The Ohio Department of Education assumed responsibility for the certification and training requirements for EMT-A and ambulance driver programs. The Ohio Board of Regents was responsible for the training and certification of EMT-Ps and ADV EMT-As. As a result of the controversy that developed between these two divisions and their different methods of operation, House Bill 222 was enacted in 1986. This Bill placed all training and certification of EMTs under the Ohio Department of Education. This bill also created the Ohio Emergency Medical Services Agency within the Ohio Department of Education. The medical director and the administrator were appointed by the Superintendent of Public Instruction and served at the pleasure of the Superintendent. The medical director was authorized to direct the Administrator with regard to EMS issues according to the rules adopted by the State Board of Education.

The Ohio Emergency Medical Services Agency was given broad statutory authority in Bill 222. The agency was authorized to

1. Issue certificates of accreditation to applicants offering courses of instruction

2. Suspend, revoke, or cancel a certificate of accreditation

3. Approve the examination for certification of EMT-As, ADV EMT-As and paramedics

4. Issue the certification for EMT-As, ADV EMT-As, and paramedics upon the recommendation of the accredited institution

5. Revoke certificates and take other disciplinary action subject to rules adopted by the State Board of Education

In addition, House Bill 222 created the Ohio Emergency Medical Services Board consisting of 26 voting members and 11 non-voting members. The Superintendent of Public Instruction appointed 23 voting members and 8 non-voting members.

Yet House Bill 222 failed to fully eliminate duplication of oversight responsibility for EMS within Ohio state government. For instance, the Ohio Department of Health was authorized by the ORC, upon application of any affected person or governmental agency, to conduct hearings and make and publish recommendations concerning the

Back to Table of Contents

cost effectiveness of any emergency medical service and the desirability of eliminating unnecessary or duplicate services to avoid unnecessarily costly levels of service and to promote sound management practices.

The next legislative effort came in 1989 with Senate Bill 145. This bill enacted statutory language placing a moratorium on the authority of the State Board of Education to adopt rules relating to emergency medical services until January 1, 1990. According to the bill's sponsor, this legislation was introduced at the request of the emergency medical service volunteers who were frustrated with the extensive requirements and their attendant costs mandated by rules proposed by the State Board of Education.

Amended Substitute Senate Bill 145 was enacted by the Ohio General Assembly and became effective July 26, 1989 as an emergency measure. This bill suspended multiple sections of the Ohio Revised Code and placed a moratorium on the authority of the State Board of Education to adopt, amend or rescind rules pursuant to those sections of law pertaining to emergency medical services. Although existing rules pertaining to emergency medical services remained operational throughout the moratorium, these rules were prohibited from being amended or rescinded from the time period of July 26, 1989 until January 1, 1990.

A Joint Legislative Emergency Medical Services Oversight Committee was created and appointments were made as follows

State Senator Robert Ney (R-Barnesville), Chairman
State Senator Richard Schafrath (R-Loudonville)
State Senator Robert Burch (D-New Philadelphia)
State Representative Joe Secrest (D-Senecaville)
State Representative Marc Guthrie (D-Newark)
State Representative Robert Clark (R-Chardon)

This oversight committee was charged with reviewing activities undertaken by the Ohio Emergency Medical Services Agency, the Ohio Emergency Medical Services Board, and the State Board of Education in administering and enforcing the law and rules; and reporting its findings and recommendations on the effectiveness of the Ohio Emergency Medical Services Agency, the Ohio Emergency Medical Services Board, and the State Board of Education to the President of the Ohio Senate and to the Speaker of the Ohio House of Representatives.

Back to Table of Contents

II. PUBLIC HEARINGS

In 1989 and 1990, the Joint Legislative Emergency Medical Services Oversight Committee, chaired by State Senator Robert Ney, held six public hearings around the state to review the issues which had arisen as a result of rules adopted or proposed by the State Board of Education; to specifically consider the problems faced by volunteer EMS units; and to review the activities undertaken by the Ohio Emergency Medical Services Agency, the Ohio Emergency Medical Services Board, and the State Board of Education in administering and enforcing the law and rules.

Throughout these public hearings, the Joint Legislative Emergency Medical Services Oversight Committee heard testimony from representatives of volunteers, paid squads, EMT-Bs, EMT-Is, paramedics, instructors, emergency nurses, emergency physicians, surgeons, firefighters, fire chiefs, the National Registry, the Ohio Emergency Medical Services Board, the Ohio Emergency Medical Services Advisory Council, and other interested parties on EMS issues.

The Oversight Committee examined the Ohio Department of Education's administration of the EMS system in Ohio and the authority of the Ohio Emergency Medical Services Agency and the Ohio Emergency Medical Services Board. The Oversight Committee considered the following issues pertaining to EMS at these hearings: the authority to regulate EMS; the use of the National Registry examination; problems faced by volunteers; EMS funding; training, training hours and associated training costs; and other EMS issues.

NHTSA Technical Assistance Team

During the EMS rules adoption moratorium imposed on the State Board of Education by Amended Substitute Senate Bill 145, the EMS Board invited the National Highway Traffic and Safety Administrations Technical Assistance Team to evaluate Ohio's EMS programs. A six-member team interviewed stakeholders from December 4th through December 6th, 1990. The Technical Assistance Team provided a 41-page overview and assessment of ten system components, which were

1. Regulation and policy
2. Resource management
3. Personnel and training
4. Transportation
5. Facilities
6. Communication
7. Evaluation
8. Public information and education
9. Medical direction
10. Trauma systems

Back to Table of Contents

III. NEW LEGISLATION PROPOSED / STRUCTURAL BASIS FOR CURRENT EMS

The Technical Assistance Team (T.A.T.) report was a constructive and objective resource during the drafting of new EMS legislation. Senate Bill 98, sponsored by State Senator Bob Ney, created the State Board of Emergency Medical Services, which became responsible for the certification of emergency medical technicians-ambulance (EMT-A), advanced emergency medical technicians-ambulance (ADV EMT-A), emergency medical technicians-paramedic (EMT-P), and the accreditation of emergency medical services training programs and continuing education programs.

After substitute bills, a conference committee reported a bill accepted by the General Assembly in June, 1992. As substituted and amended, Senate Bill 98 created a State Board of Emergency Medical Services within the division of Emergency Medical Services of the Ohio Department of Public Safety. The Ohio Department of Public Safety is the new name for the former Ohio Department of Highway Safety. The emergency medical services functions previously performed by the Ohio Emergency Medical Services Agency, the Emergency Medical Services Board under the Ohio Department of Education, and by the Governor's Emergency Medical Services Advisory Council were repealed and placed under the State Board of Emergency Medical Services. The functions and authority of the State Board of Emergency Medical Services were established in section 4765 of the Ohio Revised Code.

The State Board of Emergency Medical Services consists of 18 members appointed by the Governor. Section 4765.02 of the Ohio Revised Code specifies that the Governor, with the advice and consent of the Senate, will appoint members with background or experience in EMS or trauma care and shall attempt to include members representing urban and rural areas, various geographical regions of the State and various schools of training.

State Board Members include

1. A physician certified by the American Board of Emergency Medicine or the American Osteopathic Board of Emergency Medicine who is in the active practice of emergency medicine and is actively involved with an EMS organization.

   The Governor is required to appoint this physician member from among three persons nominated by the Ohio Chapter of the American College of Emergency Physicians and three nominated by the Ohio Osteopathic Association.

2. A physician certified by the American Board of Surgery or the American Osteopathic Board of Surgery who is active in the practice of surgery and is actively involved with EMS.

Back to Table of Contents

The Governor is required to appoint this member from among three persons nominated by the Ohio Chapter of the American College of Surgeons and three nominated by the Ohio Osteopathic Association.

3. A physician certified by the American Academy of Pediatrics or American Osteopathic Board of Pediatrics who is active in the practice of pediatric emergency medicine and actively involved with EMS organizations.

   The Governor is required to appoint this member from among three persons nominated by the Ohio Chapter of the American Academy of Pediatrics.

4. A hospital administrator with an active emergency room (changed to an adult and/or pediatric trauma center in 2000).

   The Governor is required to appoint this member from among three persons nominated by the Ohio Hospital Association, the Ohio Osteopathic Association, Ohio Association of Children's Hospitals and the Health Forum of Ohio.

5. A registered nurse who is in the active practice of emergency nursing.

   The Governor is required to appoint this member from among three persons nominated by the Ohio Nurses Association and three persons nominated by the Ohio State Council of the Emergency Nurses Association.

6. A fire chief of a fire department that is also an EMS organization in which more than 50% of the persons who provide emergency medical services are full-time paid employees.

   The Governor is required to appoint this member from among three persons nominated by the Ohio Fire Chiefs' Association.

7. A fire chief of a fire department that is an emergency medical service organization in which more than 50% of the persons who provide emergency medical services are volunteers.

   The Governor is required to appoint this member from among three persons nominated by the Ohio Fire Chiefs' Association.

8. A person who is certified to teach under section 4765.23 of this legislation or, if the Board has not yet certified persons to teach under that section, a person who is qualified to be certified to teach under that section.

Back to Table of Contents

The Governor is required to appoint this member from among three persons nominated by the Ohio Emergency Medical Technician Instructors Association and the Ohio Instructor/Coordinators' Society.

9. An EMT-A, an ADV EMT-A and a paramedic

   The Governor is required to appoint these members from among three EMT-As, three ADV EMT-As and three paramedics nominated by the Ohio Association of Professional Firefighters and the Northern Ohio Firefighters.

10. An EMT-A, an ADV EMT-A and a paramedic

    The Governor is required to appoint these members from among three EMT-As, ADV EMT-As and three paramedics nominated by the Ohio State Firefighters Association.

11. An EMT-A, an ADV EMT-A or a paramedic

    The Governor is required to appoint this member from nominees from the Ohio Association of EMS.

12. An EMT-A, an ADV EMT-A or a paramedic

    The Governor is required to appoint this member who is to be affiliated with an emergency medical service organization.

13. An Ohio Ambulance Association member

    The Governor is required to appoint this member from among three persons nominated by the Ohio Ambulance Association.

14. An Ohio Department of Public Safety Employee

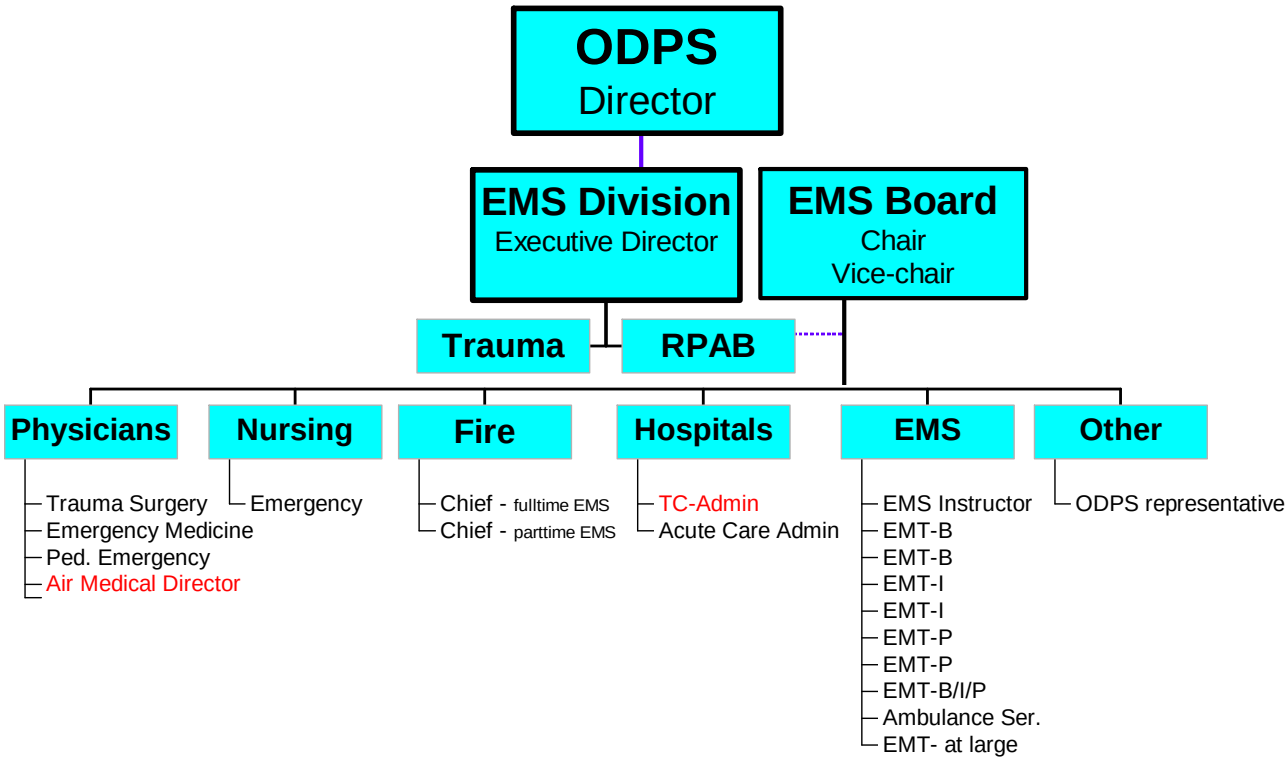
    The Director of the Ohio Department of Public Safety is required to designate an employee of the Department to serve as a member of the Board at the Director's pleasure. This member serves as a liaison between the Department and the Division of Emergency Medical Services in cooperation with the Executive Director of the Board. Trauma legislation enabling a statewide trauma system, effective November 2000, added two members to the Board, bringing the total to 20.

    A physician certified by the American Board of Surgery, American Board of Osteopathic Surgery, American Osteopathic Board of Emergency Medicine or American Board of Emergency Medicine who is the chief medical officer of an air medical agency and is currently active in providing emergency medical services (appointed from among three persons recommended by the Ohio Association of Air Medical services.

Back to Table of Contents

An administrator of a hospital that is not a trauma center. Governor approvals from among three nominations each – Ohio Hospital Association, Ohio Osteopathic Association, Ohio Association of Children's Hopitals and Health Forum of Ohio.

State Board of Emergency Medical Services



The State Board of Emergency Medical Services has a full-time Executive Director recommended by the Board and appointed by the Director of the Ohio Department of Public Safety; a Medical Director appointed by the Board; and staff appointed by the Board. The Board is authorized to appoint advisory groups to serve in consultation with the Board, the Executive Director and the Medical Director.

The Board has the authority to adopt rules; however, prior to adopting rules, except the emergency rules, the Board is required to submit the proposed rule to the Director of the Ohio Department of Public Safety for a sixty-day review by the Director. If the Director disapproves any rule of the Board, the Board could overrule the disapproval by a vote of at least 12 members of the Board.

Back to Table of Contents

The rule-making authority of the Board covers standards for the performance of emergency medical services for EMT-Bs, EMT-Is and EMT-Ps; application fees; waiver of fees; procedures for issuance and renewal of certificates; standards for certificates of accreditation and approval; qualifications for certificates; the curricula, number of hours of instruction and training, and instructional materials to be used in training programs and continuing education programs; examinations for certifications to practice; procedures for granting extensions and exemptions of continuing education requirements; procedures for approving additional functions to be performed by EMT-Bs, EMT-Is and EMT-Ps; and standards for protecting the confidentiality of information maintained by the Board.

The Board is required to establish an Emergency Medical Services Incidence Reporting System and a Trauma System Registry. Additionally, this legislation authorizes basic emergency medical technicians to use automated defibrillators.

The Board is required to divide the state into “prehospital emergency medical services regions” for the purpose of “overseeing the delivery of prehospital emergency services” which equal the same geographic regions as the current ten health service areas under the certificate of need program designated by the Director of the Ohio Department of Health. In addition, the Board is required to appoint a physician as the regional director or appoint a physician advisory board as the regional advisory board in each of these ten regions.

Funding for the Board comes from fines for traffic violations (not wearing a seat belt while operating, riding in or allowing passengers to ride unrestrained in a motor vehicle). Such funds are required to be used as follows

1. 10% of the money in the Fund is required to be appropriated to the Ohio Department of Public Safety for the purpose of establishing and administering elementary school programs that encourage seat belt use.

2. 10% of the money in the Fund is required to be appropriated to the Ohio Department of Public Safety for the purpose of establishing and administering a seat belt education program.

3. 2% of the money in the Fund, but not to exceed 50% of the cost of operating the ambulance licensing program, is required to be appropriated to the Ohio Ambulance Licensing Board.

4. Not more than 28% of the money in the Fund is appropriated to the Ohio Department of Public Safety for the administration of the Division of Emergency Medical Services and State Board of Emergency Medical Services.

5. The balance of the money in the Fund is required to be appropriated to the State Board of Emergency Medical Services to be distributed as grants to emergency medical service organizations for the training of their

Back to Table of Contents

personnel, for the purchase of equipment, and to improve the availability, accessibility and quality of emergency medical services in Ohio. However, the Board is required to give priority in distributing the grants to grants that will be used in the training of personnel.

An attempt was made in the Ohio House of Representatives to include the State Fire Marshal's Office under the new Ohio Department of Public Safety; however, this was so controversial that this change was not made and the State Fire Marshal's Office remained under the Ohio Department of Commerce. However, Senate Bill 98 did remove the fire service training program for paid and volunteer firefighters and fire safety inspectors from under the jurisdiction of the State Superintendent of Public Instruction, placing it instead under the Executive Director of the State Board of Emergency Medical Services, with the advice and counsel of the Subcommittee of the State Board of Emergency Medical Services for Firefighter and Fire Safety Inspector Training, which is created by this legislation.

The Executive Director, with the advice and counsel of this Subcommittee, is required to adopt standards to regulate such firefighter and fire safety inspector training programs. The Subcommittee of the State Board of Emergency Medical Services for Firefighter and Fire Safety Inspector Training consists of the member of the State Board of Emergency Medical Services who is appointed by the Director of the Ohio Department of Public Safety, the members of the Board who are chiefs of fire departments, and the members of the Board who are by EMT-Bs, EMT-Is and EMT-Ps appointed to the Board from among persons nominated by the Ohio State Firefighter's Association and the Ohio Association of Professional Firefighters.

In addition, this legislation provides that the Ohio General Assembly is to encourage the Director of the Ohio Department of Public Safety, in cooperation with the Director of the Ohio Department of Commerce, to locate the offices of the Division of Emergency Medical Services close to the offices of the State Fire Marshal and Senate Bill 98 requires the Joint Legislative Committee on Emergency Medical Services Oversight to

1. Study the possible ways to bring all emergency situation first responders under the jurisdiction of a single state agency

2. Study the organization, management and financing of the Office of the State Fire Marshal

3. Make a report, not later than December 31, 1994, of such findings and recommendations resulting from the studies to the Governor, the Speaker of the Ohio House of Representatives and the President of the Ohio Senate

Senate Bill 98 makes the Joint Legislative Committee on Emergency Medical Services Oversight a permanent Committee authorized to review all activities undertaken by the State Board of Emergency Medical Services and the Ohio Ambulance Licensing Board.

Back to Table of Contents

On November 12, 1991 amended Senate Bill 98 became law and is contained in ORC Chapter 4765. This remains the essential structure of Ohio EMS today.

IV. STATE OF OHIO EMERGENCY MEDICAL SERVICES BOARD RULES

As established in ORC §4765, the State Board of Emergency Medical Services and Ohio Division of Emergency Medical Services were established to reduce death, injury, and disability to the citizens and visitors of Ohio by developing and continually enhancing a statewide, comprehensive, emergency medicine system which responds to injury and illness.

Emergency Medical Services rules have been established to ensure that the “highest standard of care” is available to communities and their citizens. Emergency Medical Services is defined as services performed during any transport of a patient, including transports between hospitals, and transports to and from helicopters by an emergency medical technician-ambulance; advanced emergency medical technician-ambulance; or emergency medical technician-paramedic.

Advice and counsel in developing the rules for emergency medical services were provided to the State Board of Emergency Medical Services by the following agencies

1. The Ohio Hospital Association
2. The Ohio State Firefighter’s Association
3. The Ohio Chapter of the American Academy of Pediatrics
4. The Ohio Association of Professional Firefighters
5. The Ohio Association of Emergency Medical Services
6. The Ohio Chapter of the American College of Surgeons
7. The Ohio Fire Chief’s Association
8. The Ohio Department of Public Safety
9. The Ohio Nurses Association
10. The Ohio State Council of Emergency Nurses Association
11. The Ohio Emergency Medical Technician Instructor’s Association
12. The Ohio Instructor/Coordinator’s Society
13. The Ohio Chapter of the American College of Emergency Physicians
14. The Ohio Ambulance Association

These rules were duly adopted by the State Board of Emergency Medical Services January 1, 1996 and refer to the following eight EMS topics

1. Organization of the EMS Board
2. RPAB-Regional Physicians Advisory Board
3. Grant program
4. Curriculum guidelines
5. Accreditation of educational institutes
6. Certificate to practice and certificate to teach
7. Ethical standards of conduct

Back to Table of Contents

8. Complaint procedure, investigations, administrative actions, impaired practitioners, report of administrative actions and medical director

V. OHIO AMBULANCE LICENSING BOARD

The Ohio Ambulance Licensing Board, a six-member Board, was created by the passage of Amended Substitute House Bill 319. This Board, established under ORC Section 4766, is the sole supervising body responsible for the certification and licensing of private ambulances in the State of Ohio. The Board is free-standing and is not part of the Division of Emergency Medical Services of the Department of Public Safety. In 2003, this organization changed its name to the Ohio Ambulance and Medical Transportation Association (www.oaaonline.org).

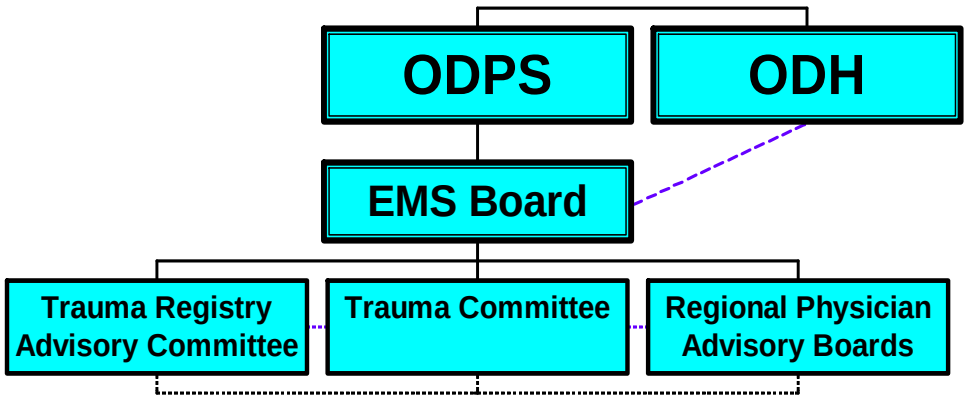
VI. TRAUMA LEGISLATION

Ohio established trauma legislation that became effective November 3, 2000. The legislation includes state oversight, triage, hospital designation, EMS funding, research and registry. The organizational structure is shown below.

Trauma System Organizational Structure

www.ems.ohio.gov/trauma.htm

Ohio State Trauma System Organization



Back to Table of Contents

Major components of the trauma legislation include verification of trauma centers by the American College of Surgeons and/or the Ohio Department of Health, the development of state triage protocols, and the development by individual hospitals of protocols/QI programs. The legislation also required EMS to develop trauma QA and peer review. In addition, new trauma coordination will be developed, risk adjustment and confidentiality of trauma registry data will be provided and expanded funding for trauma and EMS will be formulated. The legislation also emphasizes pediatric and geriatric patients and statewide coordination and study on trauma issues.

As mentioned previously, the trauma legislation went into effect November 3, 2000. The EMS Board was given two years to adopt rules and guidelines. In addition, EMS has three years to implement QI and peer review.

Other objectives for the new trauma legislation include

1. Special studies by the EMS Board

2. Direct transport of patients to an appropriate level trauma center unless

    - Medically inappropriate
    - Unsafe weather or excessive transport time
    - Shortage of local EMS resources
    - No Trauma Center readily available to accept patient
    - Patients request transport to an acute care hospital

3. State triage protocols

    - Avoid under and over triage
    - Address needs of geriatric and pediatric patient
    - EMS evaluate need for Trauma Center care
    - EMS Board can approve regional triage protocols
    - Regional triage protocols must come from the RPAB or regional EMS and must meet minimum State triage protocol guidelines
    - Triage protocols reviewed at least every three years
    - EMS Board will adopt rules to enforce triage protocols

4. Trauma Registry

    The EMS Board will adopt rules within two years that

    - Assure confidentiality of submitted data
    - Assure no individual provider can be identified
    - Create risk adjusted reports to allow for differences in severity
    - Prevent use of data in civil lawsuit
    - Recognize regional trauma registries

The trauma legislation funding is estimated at $3.2 million per year for trauma and EMS. Funds come from increased seat belt fines, license reinstatement fines, forfeited bail and related fines. Funds go to the trauma and EMS grant fund *(the old EMS grant fund)*.

More detailed information and updates on this legislation are available under the Trauma section on the Ohio Department of Public Safety Division of EMS website, www.ems.ohio.gov.

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter I Questions

1. Which of the following is represented on the State of Ohio EMS Board?

   A. Fire chiefs
   B. Nurses
   C. Physicians
   D. All of the above

2. Where does funding for the EMS board come from?

   A. Fines for violations for not wearing a seatbelt
   B. Federal funding
   C. Property taxes
   D. City taxes

3. The Ohio Ambulance Licensing Board is responsible for_____?

   A. Oversight of the EMS Board
   B. Certification and licensing of private ambulances in Ohio
   C. EMS education and certification
   D. Disciplinary actions against EMS

4. The trauma legislation has objectives which include:

   A. Special studies
   B. State triage protocols
   C. Direct transport of patients to an appropriate trauma hospital
   D. All of the above

Back to Table of Contents

CHAPTER II: LEGISLATIVE AND LEGAL ISSUES

I. INTRODUCTION

There are many legislative and legal issues that have an impact upon and guide an EMS system and the medical director. It is important that the EMS medical director maintains an awareness of and involvement with issues at the local, state and federal level. Physician involvement is critical for appropriate compliance and institution of these policies. In this chapter, state and federal legislative and legal issues will be presented. Medical directors must understand and address these issues proactively in the EMS system.

II. LEGISLATIVE ISSUES

In this section, legislation that shapes and governs EMS systems is presented.

Origins of EMS / Essential Components

Most EMS services can trace their origins to the Emergency Medical Systems Act of 1973. This Act required the establishment of an EMS system with 15 essential components. The components are

1. Provision of manpower
2. Training of personnel
3. Communication
4. Transportation
5. Facilities
6. Critical care units
7. Use of public safety agencies
8. Consumer participation
9. Accessibility of care
10. Transfer of patients
11. Standard of medical record keeping
12. Consumer information and education
13. Disaster linkage
14. Mutual aid agreement
15. Independent review and evaluation

Back to Table of Contents

III. FEDERAL REGULATIONS

The following federal regulations directly impact an EMS system

ADA

The Americans with Disabilities Act (ADA) is a federal law that was passed in 1990. This law was developed to eliminate discriminatory treatment of disabled persons and is applicable to employment, public services, public accommodations and telecommunications. A disability may be defined in the following ways

1. A physical or mental impairment that substantially limits one or more of the major life activities

2. A record of such activity, and

3. People regarded as having such an impairment

Discrimination may result from any situation where the disabled individual feels an adverse result occurred because of the disability. The most common situation is an individual seeking employment. It is advisable to obtain legal advice for any situation that may have ADA implications.

OSHA

The Occupational Safety and Health Administration (OSHA) oversees the environment in which employees work. All departments must adhere to the strict guidelines that are established by OSHA and include

1. Documentation procedures for exposures

2. Documented procedures to minimize exposures

3. Engineered work environment to minimize exposures

4. Proper warnings to notify employees of potential hazards

5. Hepatitis B vaccines must be offered at no cost

6. Personal protective equipment must be provided

7. Must have a system that mandates the use of personal protective equipment, with a documented disciplinary system

8. Employers must prohibit eating or drinking in areas where exposure is possible

A good resource for further information is your local hospital or community health department.

Back to Table of Contents

COBRA / EMTALA

The Comprehensive Omnibus Reconciliation Act of 1985 (COBRA) and the Emergency Medical Treatment and Active Labor Act of 1986 (EMTALA) cover “dumping” and “reverse dumping” of patients. EMS may be impacted when a hospital or physician makes a decision to transfer a patient by an EMS service between facilities. COBRA/EMTALA requires the following

1. The treatment benefits to the patient at the receiving hospital outweigh the risks associated with transfer.

2. If there is an emergency condition, the physician must treat the patient to the level that the physician, medical staff and hospital are able. The patient must be stabilized prior to transfer, or the transferring physician must certify that the benefits of transfer to the receiving hospital outweigh the risks associated with the transfer.

3. Women who are in active labor are protected from transfer if delivery is imminent, except if the transferring physician certifies that delivery at the sending hospital poses a greater risk to the mother or fetus than being transferred.

4. If a transfer is necessary

    - The receiving facility must be notified and accept the patient.
    - The sending facility physician must certify that the transfer is medically necessary.
    - Documentation of the patient’s medical condition and copies of the medical record, laboratory studies and radiographs should be sent with the mutually agreed upon transporting agency following appropriate instructions to the transporting personnel.

Violations of COBRA/EMTALA are very expensive. Civil monetary policies may range up to $50,000 per physician and per hospital ***each*** per incident, and physicians and hospitals who violate COBRA/EMTALA risk losing ability to participate in federal payment programs such as Medicare. Receiving hospitals are also required to report violations of COBRA/EMTALA or risk sanction themselves.

CLIA

The Clinical Laboratory Improvement Amendment (CLIA) of 1988 requires that clinical laboratories adhere to certain standards of quality and finances the program through the collection of fees. Based on interpretation of this regulation, EMS agencies may be considered mobile laboratories. Since many EMS agencies only perform glucose monitoring CLIA allows most of these agencies to obtain a waiver for performance of a “simple test.”

FLSA

The Fair Labor Standards Act (FLSA) was passed in 1938, but it did not significantly impact EMS agencies until the 1985 amendment was added. According to this law, an individual who is paid to perform a service for a jurisdiction cannot volunteer to perform the same type of service for the jurisdiction.

HIPAA

1. HIPAA is the acronym for the Health Insurance Portability and Accountability Act of 1996. The Centers for Medicare & Medicaid Services (CMS) is responsible for implementing various unrelated provisions of HIPAA, therefore HIPAA may mean different things to different people. For detailed information, you can visit the CMS web site at www.cms.gov/hipaa.

2. Title I of HIPAA protects health insurance coverage for workers and their families when they change or lose their jobs. This now allows portability of health insurance coverage even if you have pre-existing conditions.

3. The administrative provisions of HIPAA require the Department of Health and Human Services to establish national standards for electronic health care transactions. In addition, national identifiers must be established for providers, health plans and employers. It also addresses the security and privacy of health data. The goal is to promote the widespread use of electronic data interchange in health care. It is anticipated, that by adopting these standards, the efficiency and effectiveness of the nation's health care system will improve.

4. HIPAA for the EMS provider will mean assuring confidentiality of the patient's medical information. This includes spoken, written, electronic and photographic information. It is appropriate to share necessary information with those involved in the direct care of the patient. It is not appropriate to discuss patient information with those extraneous to the patient's care. Radio protocols should continue to use the same generic description of a patient's situation and condition. Reports written or given verbally should reflect the objective medical assessment and be given to those who are part of the patient's care team. This includes secretaries, administrators, technicians, nurses and physicians who play an immediate role in the medical screening, stabilization and disposition of the patient.

5. Documents from the EMS-patient encounter must remain secure. This may require shredding or HIPAA compliant trash disposal paperwork that does not become part of the chart. Electronic devices that store data must also have an inherent means to protect confidentiality.

Back to Table of Contents

6. For a complete understanding of the HIPAA intent and process, a HIPAA in-service is required. Most medical facilities offer these in-services to their employees. There are some private organizations that will contract with the EMS service to provide the training for a fee. Every EMS service must demonstrate HIPAA compliance.

IV. OHIO LEGISLATION

EMS is guided in Ohio by legislative mandate. It controls

1. Licensing
2. Capabilities of personnel under that license
3. Required oversight and involvement of the physicians or physicians' board
4. Accreditation of the education process, continuing education process, and the education agencies for each level of licensed personnel
5. Initial training and ongoing education requirements
6. Termination or downgrading of licenses
7. Statutory immunity
8. Funding options and opportunities
9. EMS delivery organization requirements
10. Composition and conduct of the agency or board which oversees EMS
11. Interaction with other public safety agencies *(fire and law enforcement)*
12. Disaster preparation

V. OHIO LAW

Most state statutes have provisions, and in Ohio this is extended through the Ohio Revised Code which offers immunity to EMS providers in a civil action for injury, death or loss of consortium or property resulting from the administration of emergency medical services, unless the services are administered in a manner that constitutes willful or wanton misconduct. Willful and wanton misconduct is based on showing a reckless disregard for safety and not a mere mistake or failure to meet the appropriate standard of care.

System responsibilities

1. The EMS rules for the state of Ohio should be reviewed and compliance ensured. Every provider should adhere to the rules and regulations, and if possible, each system should have the ability to monitor its personnel and notify the medical director of any issues that may arise.

2. Duty to respond and evaluate

   The EMS system needs policies to maximize response to requests for assistance within their jurisdiction. Policies should be established which clearly delineate under what circumstances a service will, or will not, respond. This can be accomplished by outlining such issues as response area, response times, closest providers and mutual aid. Once the provider has responded to the scene, there is a duty to evaluate the patient and/or the situation

3. Duty to treat

   All protocols and standing orders related to the provision of patient care should be developed with oversight from the medical director. Once developed, it is wise to have periodic educational updates and review of charts, and possible testing to assure prehospital providers' competency. Once an assessment has been completed, EMS caregivers have a responsibility to treat any emergency condition they discover, provided that it can be done safely. Once treatment is initiated, that treatment should be continued until care is safely turned over to a level of provider that is an equivalent or higher level of care. Cessation of treatment without the patient's care being transferred may constitute patient abandonment, unless the patient refuses and is competent to refuse; it is unsafe to continue care; or the system is in a disaster mode.

4. Policies for the decision to transport, the destination of transport, and the level of care during the transport all require medical director involvement.

   All policies and procedures should comply with local laws and regulations. Capabilities of receiving facilities and transport times must be considered in writing transport policies. EMS personnel and the on-line physician are responsible for the patient until they arrive at an emergency facility or an approved destination.

Every patient being transported requires appropriate assessments and management from the initial contact until arrival at the final destination. Complete documentation should be done on every patient. Patient preferences may not be possible if the transport to that facility would pose a risk to the life or safety of the patient. This should be explained to the patient.

5. Patient refusal of care and/or transportation

A mentally competent adult has the right to refuse care or transport even if the refusal goes against medical advice. Documentation is critical in this situation to protect the EMS provider and the medical director. A written policy should be in place that addresses the essential actions and documentation required of the EMS provider. These cases should be reviewed to assure consistency and accurate documentation. The patient, and family member if available, must be informed of the potential consequences of refusal of treatment. Documentation should include the complete assessment, proof of competency, discussion of consequences of the refusal, and after care instructions.

6. Impaired patient

There are times when EMS personnel will encounter patients who may be mentally unstable *(under the influence of drugs, violent, hypoglycemic, hypoxic or otherwise compromised)*. These patients place the prehospital care provider in a very awkward position. These situations may result in litigation if not handled appropriately. The EMS provider must provide appropriate treatment and transport in these situations, and should not accept any refusal of care or transport from such incompetent patients. Frequently, it may be necessary to involve law enforcement to assure proper patient care and safety for all concerned.

7. Patient restraint

EMS providers may use reasonable force to restrain a patient, but they should not cause harm. If available, assistance from law enforcement is encouraged, especially with aggressive patients. Documentation should include descriptions of the patient's condition, concerns regarding the situation and incapacity of the patient to consent or withdraw consent *(alcohol, drugs, trauma, etc.)*, and restraint techniques *(both physical and non-physical)*.

8. Treatment/transport of minor

EMS personnel are routinely called to evaluate minors *(less than 18 years of age)*. Their responsibility is to carry out a complete evaluation, then

perform any emergency medical treatment and appropriate transportation if needed. All calls should be rapidly and appropriately evaluated in a format that fulfills the usual department criteria. In any emergency situation, a minor should be assessed, treated and transported based on implied consent. Specific protocols should be developed and followed.

9. Documentation

Medical directors must assure that all prehospital providers document patient care in a concise, accurate and complete manner. A patient record is required for all transported patients. Appendix A (pages 10-11) lists the essential and local use data elements for the Ohio Emergency Medical Services Incidence Reporting System (EMSIRS). The Incidence Reporting Procedure Manual provides detailed information about these data elements and is available on the Ohio EMS website, www.ems.ohio.gov. It is in everyone's best interest to have situations in which EMS personnel denied transport or the patient refused transport documented even more completely in the prehospital care report. It has been shown that a properly completed patient care report is the best defense against malpractice allegations.

10. Interhospital transfers

EMS personnel may be requested to perform interhospital transfers. COBRA/EMTALA legislation overrides all state or local rules regarding patient transfer. All patients must be thoroughly assessed and transferred in an appropriate manner following stabilization. Although EMS personnel are not directly involved in this process, they may be impacted by physician decisions. It is legally dangerous for any EMS unit to transfer a patient if any non-EMS procedures, protocols or medications are needed in transfer. If the EMS unit is uncomfortable transporting the patient, their medical director should be contacted.

11. Physician on the scene

Occasionally, EMS providers are confronted by the patient's private physician and other physicians wishing to direct the patient care at the scene. When EMS personnel begin assessment and treatment of a patient, they establish a physician-patient relationship between the medical oversight physician and the patient. Therefore, a physician at the scene should not assume responsibility unless authorization has been given by the on-line medical oversight physician. EMS personnel must not deviate from the standard of care protocols and should document all interactions and exchanges made between the physicians. Under selected circumstances, the on-scene physician may control medical care and then give the patient to EMS personnel for transfer. If the medical care of the

Back to Table of Contents

patient is directed by the on-scene physician who does not follow the EMS protocol, the on-scene physician should accompany the patient to the hospital. If the physician-on-scene does not assume control and assists with care that conforms to EMS protocol, he/she need not accompany the unit to the hospital.

12. Transport from a physician's office

This represents a special case of the physician on scene in that a doctor-patient relationship already exists. It is appropriate to assist the physician with care being rendered if it is consistent with EMS protocols. If care is not consistent with EMS protocols, permission from on-line medical oversight is needed. It is often best to expedite transfer and afford care en route if potential conflicts exist.

Back to Table of Contents

Appendix A

Emergency Medical Services Incidence Reporting System (EMSIRS)
Data Elements

This is a listing of the data elements collected by the EMS Incidence Reporting System.

Please refer to the EMSIRS Procedure Manual for definitions of elements and code lists.

- Elements which are in **Bold Type** are "Essential" and must be submitted. All fields have a value for 'unknown' or 'not applicable' that can be used when appropriate.
- Elements which are in *Italics* are "Local Use Only" and are optional.

Agency Identification
Vehicle Type
Level of Service for First Unit on Scene Rendering Care
Other Responding Agencies
Level of Service of Transport Vehicle
Incident Address
Incident City
Incident State
Incident County
Incident Site
Incident Number
Patient Number
Patient Street Address
Patient City of Residence
Patient State of Residence
Patient Zip Code of Residence
Patient County of Residence
Patient's Social Security Number
Patient's Ohio Driver's License Number
Patient's Date of Birth
Patient Age
Patient Gender
Patient Race
Date Incident Reported
Time Incident Received
Time Dispatch Notified
Time Unit Notified
Time Unit Responding
Time Arrival at the Scene
Time Unit Left the Scene
Time First Transporting Unit on Scene
Time Arrival at Destination
Time Back in Service
Factors Affecting EMS Delivery of Care
Chief Complaint
Mechanism (Cause) of Injury

Back to Table of Contents

Onset Date
Onset Time
Pre-existing Conditions
Signs/Symptoms Present
Primary Injury Description
Reported Alcohol/Drug Use
Protective Devices Used
Pulse Rate
Pulse Rhythm
Pulse Quality
Respiratory Rate
Respiratory Effort
Systolic BP
Diastolic BP
Skin Perfusion/Capillary Refill
Skin Temperature
Skin Condition
Skin Color
Glasgow Eye Opening Component
Glasgow Verbal Component
Initial Glasgow Motor Component at Scene
Provider Assessment
Procedure or Treatment Name
Procedure Attempts Successful
Procedure Attempts Unsuccessful
Standing Orders vs On-line Medical Direction
Medication Given
Medication Dose
Medication Route
Patient Medications
Time of First CPR
Provider of First CPR
Time CPR Discontinued
Time of Witnessed Cardiac Arrest
Who Witnessed Cardiac Arrest
Time of First Defibrillation / Cardioversion
Time of Spontaneous Circulation
Initial Cardiac Rhythm
Cardiac Rhythm at Destination
Diagnostic EKG Interpretation
DNR Comfort Care
Destination Determination
Destination/Transferred to
Hospital Number
Incident/Patient Disposition
License Level Crew Member

Source: Ohio Department of Public Safety, Division of EMS website, http://www.state.oh.us/odps/division/ems/ems_local/datacollection/emsirs%20data%20elements.pdf

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter II Questions

1. Which of the following is not true regarding ADA?

   A. ADA is a federal law
   B. The law was designed to eliminate adverse treatment of disabled persons
   C. ADA is a state law
   D. Discrimination may result from a situation where the disabled person feels an adverse result occurred because of the disability

2. Which of the following does OSHA require?

   A. Documented procedures to minimize exposures
   B. HIV screening on all new employees
   C. Individuals provide their own protective equipment
   D. All employees must be warned of infected personnel

3. Generally, which of the following is a COBRA/EMTALA violation?

   A. Transfer of a patient who would be placed at greater risk for a poorer medical outcome by remaining at the sending hospital
   B. Transfer of a pregnant woman with an imminent delivery
   C. Transfer of a patient requiring subspecialty care
   D. Transfer of a patient who is stabilized prior to transfer

4. According to Ohio law, which of the following may result in a claim of malpractice against EMS personnel?

   A. Failure to splint an injured extremity
   B. Failure to administer pain medication
   C. Resuscitating a person with no DNR identification
   D. Willful and wanton misconduct

5. Which of the following is essential when a patient refuses transport?

   A. Proof of competency
   B. Documentation
   C. Patient informed of potential complications
   D. All of the above

Back to Table of Contents

CHAPTER III: EMS SYSTEMS AND INTEGRATION

The EMS system consists of a number of components that must be coordinated and integrated. The major elements are access, personnel, training, transportation, facilities, public information, education and public safety agencies.

I. ACCESS

The first aspect of the EMS system is access. The public must be able to access the system in a convenient manner with an easy to remember code, such as 9-1-1. Currently, 93% of the population has access to some type of 9-1-1 service. Special provisions must be made in the system for individuals who have auditory handicaps or multilingual requirements. The system should be universal and accessible and not dependent on ability to pay. The system should be designed so that an alternative code is available if the main system is not available. Central dispatch is critical for coordination and management of resources. In addition to EMS, other public services should be accessible through central dispatch to enable the system to function in a coordinated fashion. Receiving hospitals must agree to provide knowledgeable medical oversight to field personnel, and be available in a reasonable period of time.

Different types of 9-1-1 service

1. Basic 9-1-1

   Caller is connected to a central area and after determination of location and nature of emergency, EMS personnel are dispatched.

2. Enhanced 9-1-1Computer-based system with automatic caller ID

3. Seven-digit or ten digit number (used in areas where 9-1-1 is not available)

II. EMERGENCY MEDICAL DISPATCHERS

Traditionally, the physician medical director has oversight responsibilities for providers in direct contact with patients. With the emergence of Emergency Medical Dispatchers as an evolving standard of care for prehospital dispatch and pre-arrival instructions, the physician medical director now may have oversight duties in the dispatch center. Most Emergency Medical Dispatch (EMD) programs have regimented quality control procedures with properly-trained quality review personnel. The steps necessary for ensuring quality dispatch and pre-arrival patient instruction can be easily accomplished. Common areas of focused EMD review include

Back to Table of Contents

1. Adherence to triage *(acuity of call)* protocols

2. Adherence to pre-arrival instruction protocols

3. Call processing time *(time of call being answered to EMS unit being dispatched)*

4. Selection of proper EMS response vehicle *(ALS/BLS and location)*

The physician medical director should maintain a close working relationship with the director of the communications center to ensure that this type of quality review occurs.

III. PERSONNEL

All aspects of the system within the service region must be adequate to provide service 24 hours a day, 7 days a week. All aspects of the system should be assessed. The EMS system should consist of first responders *(fire, police and other public safety elements)*, communicators *(EMD)*, EMT-Bs, EMT-Is, EMT-Ps, MICU personnel, nurses, respiratory therapists, EMS systems coordinators and EMS physicians.

EMS medical directors should have knowledge of personnel issues, including their responsibilities. Key issues include determination and evaluation of paramedics' skills, participation in hiring and firing decisions and involvement in disciplinary processes. The physician has complete medical oversight authority and responsibility for EMS system operations. Documentation that should be maintained by the EMS agency and available for medical director review include the new employee's application, references from prior employers and training programs, pre-employment screening and field orientation evaluations. Some systems document the new employee's knowledge of protocols. Patient care and incident/scene management should also be documented.

IV. TRAINING

All personnel should receive appropriate training *(including clinical training)* and continuing education. For state guidelines see Chapter VII.

Telephone complaint operators, dispatchers and other personnel must meet appropriate training and experience requirements.

V. TRANSPORTATION

The region should determine the number of necessary units to transport the patient population served. Consideration should be given to varying types of transportation, including ground, air and water. Both the facilities and vehicles must meet appropriate standards related to location, design, performance and equipment.

The first type of transportation unit is a Basic Life Support (BLS) unit. These units

Back to Table of Contents

should be equipped with radio communication and meet state requirements for both the vehicle and equipment. Staffing should consist of at least two EMT-Bs and responding facility locations should allow for 8-minute response times *(95% of calls)*. The system should be structured to respond in a cost-effective manner to serve the communities' needs.

A second type of ground transport unit is an Advanced Life Support (ALS) unit. In addition to the elements listed under BLS requirements, additional equipment is needed and personnel trained beyond the EMT-B level should be available. Some systems may be tiered and some may be all ALS, depending on available resources.

Critical Care Units *(ground)* should also be available to allow appropriate transportation to specialized hospital critical care units. These units should be available in quantity and quality to meet the service needs of the region. Planning should include the specialty-care areas of trauma, burn, spinal cord injury, poisoning, cardiac, high-risk infant and behavioral emergencies.

Helicopter transport should also be available as a primary response and/or secondary response. Ideal distances for utilization of a helicopter are a 30–150 mile radius from the patient to the facility. The system should be designed to effectively utilize this resource, based on distance, resources and patient complaint. See state aeromedical guidelines.

Fixed wing aircraft are used most effectively for transfer of patients from greater than a 150-mile radius.

Transport vehicles and equipment for water rescue should be based on regional needs.

VI. EQUIPMENT

The appropriate equipment should be available to providers. Pages 13-16 list the recommended equipment for EMS providers as recommended by ACEP and ACS.

VII. FACILITIES

An adequate number of easily accessible emergency medical facilities should be available and collectively capable of providing 24-hour services. Each emergency facility should be categorized according to appropriate standards. EMS planners must understand each facility's capabilities for 24-hour emergency care, critical care, trauma care, burn care and rehabilitation/special-situation care. The minimum criteria for an effective EMS region include

1. Regional categorization with accepted state or national criteria. One ACS-verified Level II trauma center hospital with 24-hour emergency physician coverage in the emergency department in each EMS region.

2. Regional EMS Advisory groups to plan and evaluate the categorization plan. These groups should consist of diverse individuals including hospital administrators, physicians, nurses and other health system planners.

Back to Table of Contents

3. Regional plans for mutual agreement of facility categorization, critical care abilities, transfer agreements and resource sharing.

4. Policies for diversion and bypass for all facilities in the region. *(See the ACEP Policy.)*

Ambulance Diversion

Approved by the ACEP Board of Directors January 1999

This policy statement was prepared by the EMS Committee and replaces the statement, "Ambulance Diversion/Destination Policies," approved by the ACEP Board of Directors November 1991.

The American College of Emergency Physicians (ACEP) believes that each EMS system must develop mechanisms to address patient diversions by health care facilities. These mechanisms must include the establishment of diversion policies for the EMS system that include agreements between facilities regarding when to divert patients and when to accept diverted patients. These cooperative agreements between hospitals and out-of-hospital agencies must be designed to:

- Identify situations in which necessary hospital resources are not available and temporary ambulance diversion is required.
- Notify EMS system personnel and providers (out-of-hospital and hospital) of such occurrences.
- Provide for the safe, appropriate, and timely care of patients who continue to enter the EMS system during periods of diversion.
- Notify EMS system personnel and providers (out-of-hospital and hospital) immediately when the situation that caused the diversion has been resolved.
- Explore solutions that address the causes for diversion and implement policies that minimize the need for diversions.
- Provide for the periodic review of policies and guidelines governing diversion.

http://www.acep.org

Contact info@acep.org for more information.

Back to Table of Contents

Specialty considerations

1. The EMS medical director may establish relationships with local specialists as resources and consultants in their specific areas.

2. Contracts and transfer agreements with all appropriate subspecialty centers should be established and reviewed on an annual basis.

Individual specialties

1. Pediatrics

   The medical director should make sure the EMS providers receive special knowledge and resources to care for pediatric patients.

2. Trauma care

   The EMS medical director should have an awareness of the organized trauma system in the state of Ohio.

   The EMS system should review the triage guidelines, have protocols which address utilization and develop PI programs which monitor performance.

3. Cardiac care

   The EMS medical director should be aware of local resources and have established protocols.

4. Stroke care

   The EMS medical director needs to be familiar with resources in the local community and region. Protocols should be established.

5. Specialty needs and technology-dependent patients

   The EMS medical director must understand resources available in the local community and region for children with special health care needs and ventilator-dependent patients, and have established pre-incident protocols.

VIII. PUBLIC INFORMATION AND EDUCATION

The EMS system must provide programs of public education and information so that all individuals in the area are aware of how to access the system and appropriately utilize it. It should also provide information to the public on first aid and training programs that are available.

IX. PUBLIC SAFETY AGENCIES

Ideally, public safety agencies such as police, fire department, lifeguards and park rangers could function as First Responders and/or EMTs within the EMS system.

X. MUTUAL AID

Agreements should be established by written contract between EMS regional systems to provide emergency services on a reciprocal basis where appropriate. These contracts should be re-evaluated and reviewed annually and address the issues of service coverage, communication linkages, licensors, certification and reimbursement.

XI. RESPONSE PHASES

A complex series of events occurs when the EMS system responds to an emergency.

Pre-arrival

The first phase includes public access, system access, emergency medical dispatcher and emergency vehicle deployment. The public must know how to access the EMS system, understand its appropriate use and learn what they can do before EMS arrives.

Access and dispatch

1. Access

   The first requirement is a universally recognized telephone number. Two configurations are available for the 9-1-1 system.

   - Free access from pay phones with a link to a public safety answering point, and/or
   - Computer files which are linked to the phone system and identify where the call originates. This benefits individuals who may be unable to communicate.

   The public safety answering point has individuals available to determine what types of emergency services are required by protocols implemented and consistently applied.

2. Dispatch

   In most 9-1-1 systems, the 9-1-1 call is received in a complaint telephone center located in a law enforcement or fire dispatch center.

   - Hospital facilities may be also responsible for dispatching EMS resources.
   - There may be a separate dispatch center for EMS.
   - In many municipal systems, the private ambulance companies are not included in the 9-1-1 system.

Back to Table of Contents

Legislative or legal authority for EMS dispatch activities in each system must be understood.

Many areas have not implemented formal emergency medical dispatch (EMD) programs.

Emergency Medical Dispatch (EMD) programs

1. Emergency medical dispatcher is the first EMS provider that a caller contacts. Trained specifically in communications techniques

    - To appropriately interview the caller
    - To determine the nature of the medical emergency
    - To dispatch the necessary resources
    - To provide instructions to the caller to care for the victim until EMS responders arrive

2. Priority dispatching

    Goal is to provide the medically necessary response *(type and level of service)* in an appropriate manner *(e.g. lights and siren or not)* for the nature of the event.

    Decisions are made based on emergency medical dispatch protocols that have been reviewed and approved by the medical director.

3. Pre-arrival instructions

    Protocols established and approved by the medical director with regular and routine re-evaluation

    - Allows the dispatcher to provide instructions to the caller to begin care for the patient until EMS personnel arrive *(e.g., as simple as controlling bleeding or as complex as performing CPR)*

4. Functions of EMS communications

    Operational – those communications activities relative to the operation of the organization or system

    - Dispatch center to vehicles
    - Vehicles to vehicles
    - Medical – allows interaction between field personnel and medical oversight resources

Back to Table of Contents

Vehicle response

1. Two different response patterns may be in place

    - The vehicles are based at stations or
    - The vehicles are positioned at strategic places based on call patterns.

2. The first option is better for personnel and the second option has been shown to improve response times. A third option would be a combination of the first two options, based on the time of the day and call pattern.

Scene response

First responders are usually dispatched based on regional protocols and may consist of fire personnel or police. These personnel are usually formally certified at a First Responder level or at the EMT-B level. A tiered response system should be available consisting of BLS and ALS units.

Transport

The units should have access to protocols that assist with the decisions to stabilize in the field versus rapid transportation to an appropriate facility. Policies for patient destinations should be in place to facilitate appropriate patient care and resolve conflicts. Policies should be in place regarding the transportation of minors and patient refusals.

Transfer of care

Patient data must be transferred to the emergency department staff in an accurate, concise format.

AEROMEDICAL TRANSPORT GUIDELINES

GENERAL CONSIDERATIONS

Control of a medical emergency scene should be the responsibility of the individual in attendance who is most appropriately trained and knowledgeable in providing prehospital emergency stabilization and transport. When an EMS unit is requested and dispatched to the scene of an emergency, a doctor/patient relationship has been established between the patient and the physician providing medical direction for the EMS unit. Where on-line medical direction exists, treatment and transport of the patient are the ultimate responsibility of the on-line physician.

The EMS provider should follow protocols established by the off-line EMS medical director or physician committee or RPAB, in requesting air medical transport. Such requests may require approval by an on-line medical director or direct activation based on written triage standing orders. Factors such as patient condition, proximity to a trauma center, skills of the EMS providers and timeliness of contact with medical direction should be considered. Consistent with other EMS performance improvement activities, the EMS should review its use of air medical transport, looking for areas of under-utilization and over-utilization of air transport resources.

Activation of an EMS air ambulance is a medical oversight decision. A request for an air ambulance should be made by adequately trained prehospital care providers (either BLS or ALS) only after consultation with an on-line medical oversight physician or by written protocol as defined by the EMS System Medical Oversight Authority.

The following circumstances would lend themselves well to helicopter evacuation.

1. Suspected serious trauma with any the following conditions to a patient who will require an extrication time of longer than 15-20 minutes: unsecured airway, unconsciousness, hypotension with tachycardia or being unable to obtain venous access.

2. Serious injury or illness in a patient who is not easily accessible to land vehicles, but where an adequate clearing for helicopter landing is nearby.

3. Scenes of numerous seriously-injured patients.

Back to Table of Contents

PROCEDURE FOR SUMMONING AEROMEDICAL TRANSPORT

1. Assess patient and/or scene.

2. Institute appropriate treatment and/or extrication (follow trauma or medical protocols).

3. Contact appropriate Aeromedical Transport according to procedure established by off-line medical direction.

4. Until a transporting team assumes full responsibility for the patient, the on-line physician is responsible. For physician-staffed aeromedical teams, until the patient becomes the full responsibility of the flight physician, the on-line physician is responsible.

5. Once care of the patient is turned over to the aeromedical team, patient care responsibility rests with the transporting crew and their on-line medical direction. For non-physician-staffed aeromedical teams, once care of the patient is turned over to the aeromedical team, patient care responsibility rests with the transporting crew and their on-line medical direction.

6. The receiving hospital should be determined in consultation between the on-line physician and the flight physician.

7. When dealing with the traumatized patient, the patient should be taken to the nearest appropriate facility. The most appropriate facility will usually be the nearest appropriate verified trauma facility. The transporting team should contact the verified trauma facility as soon as possible in order to initiate the most appropriate trauma response and provide an accurate ETA. Any changes in the patient's condition should also be reported to the receiving facility.

GUIDELINES FOR AIR AMBULANCE TRAUMA SCENE RESPONSE

With increased use of helicopters to fly patients to specialty facilities, there is a need for defined criteria to decide which patients receive air transport. In general, trauma victims need to be transported rapidly as possible to the nearest appropriate facility.

The following guidelines are mentioned to assist the EMS providers in determining the need for air medical transport for scene response. General recommendations regarding air medical transport of trauma patients from the scene should be based on patient condition, time/distance and geography which should be used to develop regional or state protocols. Criteria for dispatching a helicopter to an emergency scene

Back to Table of Contents

Patient Condition

1. Critical injuries resulting in unstable vital signs require the fastest, most direct route of transport to a center providing specialty services.

    - Trauma score < 12
    - Glasgow Coma Score < 10
    - Significant penetrating trauma to the abdomen, pelvis, chest, neck or back.
    - Spinal cord or spinal column injury or any injury producing paralysis of an extremity.
    - Partial or total amputation of an extremity (excluding digits).
    - Two or more long bone fractures or a major pelvic fracture.
    - Crushing injuries to the abdomen, chest or head.
    - Major burns of the body surface area or burns with significant respiratory involvement or major electrical or chemical burns.
    - Patients with near drowning injuries with or without existing hypothermia.
    - Mechanism of injury: rollover with unbelted passengers, high-speed crash, vehicle striking pedestrian at > 10 MPH, falls > 20 feet, motor vehicle ejection.

Time/Distance Factors

- Transportation time to the closest most appropriate center greater than 25 minutes by ground ambulance.
- Transport time to closest appropriate hospital by ground greater than transport time to specialty center by helicopter.
- Patient extrication time > 20 minutes.
- Utilization of local ground ambulance leaves local community without ground ambulance coverage.

Geographic Factors

1. Wilderness rescue.

2. Ambulance access or egress impeded at the scene by road conditions, weather or traffic.

In the event an air ambulance has been dispatched but not on scene and the victim is loaded and ready for transport by ground ambulance, several options should be considered including: (1) ground transport to the nearest hospital for stabilization and transport, (2) ground transport to the nearest verified trauma center and (3) air medical rendezvous. It is of fundamental importance of closely integrating resources so that ground and air services mesh smoothly and efficiently in the best interest of the patient.

APPROPRIATE UTILIZATION OF AIR MEDICAL TRANSPORT IN THE OUT-OF-HOSPITAL SETTING

The American College of Emergency Physicians (ACEP) recognizes that helicopter air evacuation is a crucial component in a tiered response (including all levels of emergency medical services (EMS) providers, basic life support (BLS) and advanced life support (ALS) ground services, rescue, etc.) for the expeditious initial care and delivery of the patient to an appropriate health care facility. An air evacuation helicopter should be an appropriately equipped and licensed ambulance that is staffed with adequate personnel to provide rapid and stabilizing care under various conditions. The air ambulance personnel should provide this care with the supervision of a qualified emergency physician cognizant of the unique features of air evacuation and use approved regional protocols for direct on-line as well as off-line medical control. Dispatch of the air ambulance should be under the control of the appropriate emergency medical response regional entity. That regional entity should coordinate resource utilization, as well as provide data to the EMS system for quality improvement review.

The air ambulance should be recognized as a regional resource that is available to every person needing care, at any time (weather permitting), regardless of the ability to pay. The patient should have initial stabilization and preparation for flight, then be expeditiously transported to the nearest appropriate facility. *(Approved 1999. Reference: ACEP Medical Direction of Emergency Medical Services; Third Edition)*

Back to Table of Contents

American College of Emergency Physicians

American College of Surgeons

EQUIPMENT FOR AMBULANCES

Almost four decades ago, the Committee on Trauma (COT) of the American College of Surgeons (ACS) developed a list of standardized equipment for ambulances. Since 1988, the American College of Emergency Physicians (ACEP) has published a similar list.

Both organizations adhere to the principle that emergency medical technicians (EMT's) at all levels must have the appropriate equipment and supplies to optimize prehospital delivery of care. Since EMTs care for patients of all ages, with a wide variety of medical and traumatic conditions, the ACS COT and the ACEP have joined to produce this document to serve as a widely accepted standard in the field of emergency ambulance service in both the United States and Canada.

PRINCIPLES OF HOSPITAL CARE

On-scene initial assessment and management of traumatic and medical emergencies by properly trained and equipped prehospital providers has significantly improved overall survival.

Integral to this process is medical direction of prehospital care by preexisting protocol (indirect medical direction) or by physician via voice and/or video communication (direct medical direction). The protocols that guide patient care should be established in concert by medical directors for ambulance services, emergency physicians, trauma surgeons, and appropriately trained basic and advanced emergency medical personnel.

High-quality, consistent emergency care demands continuous quality improvement and is directly dependent on effectively monitoring, integrating and evaluating all components of the patient's care.

The goal of prehospital care is to minimize further systemic insult or injury through a series of well-defined and appropriate interventions.

EQUIPMENT AND SUPPLIES

The guidelines list the supplies and equipment that should be stocked on ambulances to provide patient care.

Previous documents regarding ambulance equipment have referred to essential or minimal equipment necessary to adequately equip an ambulance. However, very little scientific evidence supports requirements for specific equipment and supplies. Equipment requirements will vary, depending on the certification levels of the providers, population densities, geographic and economic conditions of the region, and other factors.

Back to Table of Contents

The following list represents a consensus of recommendations for equipment and supplies that will facilitate patient care activities in the out-of-hospital setting.

Basic Level Providers

A. Ventilation and Airway Equipment

1. Portable and fixed suction apparatus
• Wide-bore tubing, rigid pharyngeal curved suction tip; tonsillar and flexible suction catheters, 5F–14F
2. Portable and fixed oxygen equipment
• Variable flow regulator
3. Oxygen administration equipment
• Adequate length tubing; mask (adult, child, and infant sizes), transparent, non-rebreathing, Venturi, and valveless; nasal cannulas (adult, child, and infant sizes)
4. Pocket mask with one-way valve
5. Bag-valve mask
• Hand-operated, self-reexpanding bag (adult and infant sizes), with oxygen reservoir/accumulator; clear mask (adult, child, infant, and neonate sizes); valve (clear, disposable, operable in cold weather)
6. Airways
• Nasopharyngeal, oropharyngeal (adult, child and infant sizes)

B. Monitoring and Defibrillation

Automatic external defibrillator is strongly recommended for systems that do not have immediate availability of an advanced life support service.

C. Immobilization Devices

1. Cervical collars
• Rigid for children ages 2 years or older, infant, child, and adult sizes (small, medium, large, and other available sizes)
2. Head immobilization device (not sandbags)
• Firm padding or commercial device
3. Lower extremity (femur) traction devices
• Lower extremity, limb-support slings, padded ankle hitch, padded pelvic support, traction strap (adult and child sizes)
4. Upper and lower extremity immobilization devices
• Joint-above and joint-below fracture (adult and child sizes), rigid-support appropriate material (cardboard, metal, pneumatic, vacuum, wood, or plastic)
5. Radiolucent backboards (long, short) and extrication device
• Joint-above and joint-below fracture site (chin strap alone should not be used for head immobilization), adult and child sizes, with padding for children, hand holds for moving patients, short (extrication, head-to-pelvis length), long (transport, head to feet), with at least 3 appropriate restraint straps

D. Bandages

1. Burn pack
• Standard package, clean burn sheets (or towels for children)
2. Triangular bandages
• Minimum 2 safety pins each
3. Dressings
• Sterile multitrauma dressings (various large and small sizes)
• ABDs, 10"×12" or larger
• 4"×4" gauze sponges
4. Gauze rolls
• Sterile (various sizes)
5. Elastic bandages
• Nonsterile (various sizes)
6. Occlusive dressing
• Sterile, 3"×8" or larger
7. Adhesive tape
• Various sizes (including 2" or 3") hypoallergenic
• Various sizes (including 2" or 3") adhesive

E. Communication

• Two-way radio communication (UHS, VHF) between EMT, dispatcher, and medical direction (physician)
• Two-way disaster communication
• Cellular phone

F. Obstetrical

1. Kit (separate sterile kit)
• Towels, 4"×4" dressing, umbilical tape, sterile scissors or other cutting utensil, bulb suction, clamps for cord, sterile gloves, blanket
2. Thermal absorbent blanket and head cover, aluminum foil roll, or appropriate heat-reflective material (enough to cover newborn)
3. Appropriate heat source for ambulance compartment

G. Miscellaneous

1. Sphygmomanometer (infant, pediatric, and adult regular and large, for example, thigh sizes)
2. Stethoscope (pediatric and adult)
3. Length/weight-based chart for pediatric equipment sizing
4. Thermometer with low temperature capability
5. Heavy bandage or paramedic scissors for cutting clothing, belts, and boots
6. Cold packs
7. Sterile saline solution for irrigation (1-liter bottles or bags)
8. Flashlights (2) with extra batteries and bulbs
9. Blankets
10. Sheets, linen or paper (minimum 4), and pillows
11. Towels
12. Triage tags
13. Disposable emesis bags or basins
14. Disposable bedpan
15. Disposable urinal
16. Wheeled cot (properly secured patient transport system)
17. Folding stretcher
18. Stair chair or carry chair
19. Patient care charts/forms
20. Lubricating jelly (water soluble)

H. Infection Control*

* Latex-free equipment should be available.

1. Eye protection (full peripheral glasses or goggles, face shield)
2. Masks
3. Gloves, nonsterile
4. Jumpsuits or gowns
5. Shoe covers
6. Disinfectant hand wash, commercial antimicrobial (towelette, spray, liquid)
7. Disinfectant solution for cleaning equipment
8. Standard sharps containers (EMT-Basic, -Intermediate, and -Paramedic)
9. Disposable trash bags (identifiable color, such as red)
10. HEPA mask

Back to Table of Contents

I. Injury Prevention Equipment

1. Appropriate restraints (seat belts, air bags) for patient, crew, and family members
2. Child safety restraints
3. Protective helmet and coat with reflective material (1 each per crew member)
4. Fire extinguisher
5. Hazardous material reference guide
6. Traffic signaling devices (reflective material triangles or other reflective, nonigniting devices)

J. Optional Basic Equipment

1. Pneumatic antishock garment (PASG)
   - Compartmentalized (legs and abdomen separate), control valves (closed/open), inflation pump, lower leg to lower rib cage (does not include chest)
2. Respirator
   - Volume-cycled valve, on/off operation, 100% oxygen, 40–50 psi pressure (child/infant capabilities)

Advanced Level Providers

For EMT-Paramedic, include all the equipment listed for the basic level provider plus the following additional equipment and supplies.

For EMT-Intermediate (and other nonparamedic advanced levels), include all the equipment for the basic level provider and selected equipment and supplies from the following list, as appropriate.

A. Vascular Access

1. Intravenous administration equipment (fluid must be in bags, not bottles)
2. Crystalloid solutions, Ringer's lactate or normal saline solution (1,000-mL bags × 4), 5% dextrose in water (optional)
3. Antiseptic solution (alcohol wipes and povidone-iodine wipes preferred)
4. IV pole or roof hook
5. Intravenous catheters 14G–24G, 1" long
6. Intraosseous needles
7. Tourniquet, rubber bands
8. Syringes of various sizes, including tuberculin
9. Needles, sizes 19G–25G
10. Intravenous administration sets (microdrip and macrodrip), Burretrol, and in-line blood pump (as differentiated from intravenous tubing with an in-line blood filter)
11. Intravenous arm boards, adult and pediatric

B. Airway and Ventilation Equipment

1. Laryngoscope handle with extra batteries and bulbs, adult and pediatric
2. Laryngoscope blades, sizes 0, 1, and 2, straight; sizes 3 and 4, straight and curved
3. Endotracheal tubes, sizes 2.5–6.0 mm uncuffed and 6.5–8.0 mm cuffed (2 each), other sizes optional
4. Meconium aspirator
5. 10-mL non-Luerlock syringes
6. Stylettes for endotracheal tubes, adult and pediatric
7. Magill forceps, adult and pediatric
8. Lubricating jelly (water soluble)
9. Nasogastric tubes, pediatric sizes 5F and 8F, Salem sump sizes 14F, 16F, and 18F
10. End-tidal CO_2 detectors
    - Colorimetric or quantitative

C. Cardiac

1. Portable, battery-operated monitor/defibrillator
   - With tape write-out/recorder, defibrillator pads, quick-look paddles or hands-free patches, ECG leads, adult and pediatric chest attachment electrodes, adult and pediatric paddles, with capability to provide electrical discharge below 25 watt-seconds.
2. Transcutaneous cardiac pacemaker
   - Either stand-alone unit or integrated into monitor/defibrillator

D. Other Advanced Equipment

1. Nebulizer
2. Glucometer or blood glucose measuring device
   - With reagent strips
3. Pulse oximetry with pediatric and adult probes

E. Medications (pre-load when available)

Medications used on advanced level ambulances should be compatible with current standards as indicated by the American Heart Association's Emergency Cardiac Care Committee, as reflected in the Advanced Cardiac Life Support Course, or other such organizations and publications (ACEP, ACS, National Association of EMS Physicians, and so on). In general, medications should include:

- Cardiovascular medication, such as 1:10,000 epinephrine, atropine, lidocaine, bretylium tosylate, adenosine, diltiazem hydrochloride, propranolol, nitroglycerin tablets, aspirin, dopamine
- Cardiopulmonary/respiratory medications, such as albuterol (or other inhaled beta agonist), 1:1,000 epinephrine, furosemide
- 50% dextrose solution (and sterile dilutent or 25% dextrose solution for pediatrics)
- Analgesics, such as morphine, meperidine hydrochloride, nitrous oxide
- Antiepileptic medications, such as diazepam or midazolam
- Activated charcoal, sodium bicarbonate, magnesium sulfate, glucagon, naloxone hydrochloride, flumazenil
- Bacteriostatic water and sodium chloride for injection

F. Optional Advanced Equipment

1. Portable automatic ventilators
2. Alternative airway devices (double lumen tube airways)
3. Umbilical vein catheters (sizes 3.5F and 5F)
4. Blood sample tubes, adult and pediatric
5. Automatic blood pressure device

Back to Table of Contents

EXTRICATION EQUIPMENT

Adequate extrication equipment must be readily available to the emergency medical services responders, but is more often found on heavy rescue vehicles than on the primary responding ambulance. In general, the devices or tools used for extrication fall into several broad categories: disassembly, spreading, cutting, pulling, protective and patient-related. The following is necessary equipment that should be available either on the primary response vehicle or on a heavy rescue vehicle.

Disassembly Tools

- Wrenches (adjustable)
- Screwdrivers (flat and Phillips head)
- Pliers
- Bolt cutter
- Tin snips
- Hammer
- Spring-loaded center punch
- Axes (pry, fire)
- Bars (wrecking, crow)
- Ram (4 ton)

Spreading Tools

- Hydraulic jack/spreader combination
- Boss tool with spreading device

Cutting Tools

- Saws (hacksaw, fire, windshield, pruning, reciprocating)
- Air-cutting gun kit

Pulling Tools/Devices

- Ropes/chains
- Come-along
- Hydraulic truck jack
- Air bags

Protective Devices

- Reflectors/flares
- Hard hats
- Safety goggles
- Fireproof blanket
- Leather gloves
- Jackets/coats/boots

Patient-Related Devices

- Swiss seat
- Stokes basket

Miscellaneous

- Shovel
- Lubricating oil
- Wood/wedges
- Generator
- Floodlights

Local extrication needs may necessitate additional equipment, that is, water, aerial or mountain rescue.

References

Equipment for Ambulances
ACEP Policy Statement
American College of Emergency Physicians
http://www.acep.org/policy/PO400164.htm
Medical Direction of Emergency Medical Services
ACEP Policy Statement
American College of Emergency Physicians
http://www.acep.org/policy/PO400192.htm
Resources for Optimal Care of the Injured Patient: 1999
American College of Surgeons Committee on Trauma
Chicago 1998

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter III Questions

1. Which of the following areas should be reviewed for Emergency Medical Dispatch programs?

   A. Length of calls
   B. Outcomes of patients
   C. Adherence to triage protocols
   D. Quality of EMS personnel utilized

2. Which of the following is true?

   A. Fixed wing transport is best used for distances over 150 miles
   B. Four water reserve units should always be available
   C. Helicopters are best utilized at distances greater than 200 miles
   D. Six MICUs should be available for every 10 square mile area

3. The Equipment for Ambulances guidelines is best described as:

   A. A mandatory list
   B. A requirement for JCAHO
   C. A recommendation for minimal equipment which has been reviewed by experts
   D. A state law

4. During a busy winter day one of the local hospitals places itself on diversion. What should the EMS agency medical director do?

   A. Make sure the EMS system has a policy on diversion
   B. Wait to see if a trend develops
   C. Use the other hospital in town
   D. Make sure the helicopter service's phone number is easily accessible

5. A 45-year-old male calls 9-1-1 with chest pain. What should the dispatcher do?

   A. Appropriately interview the caller
   B. Dispatch the necessary resources
   C. Provide instructions to the caller until EMS responders arrive
   D. All of the above

Back to Table of Contents

CHAPTER IV: EMS MEDICAL DIRECTOR QUALIFICATIONS

I. INTRODUCTION

In order for an EMS system to function in a safe and effective manner, active participation by physicians is crucial. The American College of Emergency Physicians Guidelines for Medical Direction of Prehospital EMS requires the designation of a physician as EMS medical director who assumes primary responsibility to ensure quality medical care throughout the system. Full authority is given to develop and enforce patient care policies and procedures as well as to modify system design and regularly evaluate operations. Continuous evaluation of the system through an established QI program is necessary to ensure that prehospital providers meet or exceed the standard of care in all patient encounters.

II. PHYSICIAN QUALIFICATIONS

Role of the EMS Medical Director

The medical director should have authority over all clinical and patient care aspects of the EMS system or service, with the specific job description dictated by local needs. The job description should include, as a minimum, the following qualifications and responsibilities as adopted by the State of Ohio (see medical director requirements on page 2) and national ACEP. *(See the ACEP policy on pages 3-5.)*

Back to Table of Contents

4765-3-05 Medical Director Requirements

(A) Each medical director shall meet the following minimum qualifications:

(1) Possession of a valid Ohio medical license

(2) Active in emergency care of patients

(3) Active participation with one or more EMS organizations, including but not limited to:

(a) Conducting performance improvement programs

(b) Conducting education programs

(c) Conducting protocol updates

(4) Evidence of high ethical standards and no conflicts of interest.

(5) Evidence that medical director will receive aggregate data from the state EMS office to benchmark at the local level.

(B) Existing medical directors who meet all the qualifications listed in paragraph (A) of this rule are not required to obtain additional training for a period of three years after the effective date of this rule. After three years, such medical directors shall:

(1) Complete the national association of emergency medical service providers (NAEMSP) Medical Directors' course, the Ohio Chapter of the American College of Emergency Physicians (ACEP) Medical Directors' course, or other equivalent course approved by the board; or

(2) Complete a board eligible/board certified residency program in emergency medicine; or

(3) Submit verification of EMS medical director experience and verification of performance improvement programs or training to the board.

(C) New medical directors, and existing medical directors who do not meet the qualifications listed in paragraph (A) of this rule, shall complete the NAEMSP or Ohio Chapter ACEP Medical Directors' course, or complete a board eligible/board certified residency program in emergency medicine.

(D) Each medical director is required to participate in peer review and quality improvement programs, as provided in section 4765.12 of the Revised Code.

(E) Each medical director shall register with the board on an annual basis in order to demonstrate that such medical director continues to meet the minimum qualifications listed in paragraph (A) of this rule.

Back to Table of Contents

Each EMS system should ensure that the medical director has authority over patient care, authority to limit immediately the patient care activities of those who deviate from established standards or do not meet training standards and the responsibility and authority to develop and implement medical policies and procedures. The EMS medical director's qualifications, responsibilities and authority must be delineated in writing within each EMS system. The EMS system has an obligation to provide the EMS medical director with the resources and authority commensurate with these responsibilities.

Medical Direction of Prehospital Emergency Medical Services

Introduction

All aspects of the organization and provision of basic (including first responder) and advanced life support emergency medical services (EMS), require the active involvement and participation of physicians. Furthermore, every prehospital service that provides any level of life support must have an identifiable physician medical director at the local, regional or state level (or combination thereof) whose primary responsibility is to ensure quality patient care. Additional responsibilities include involvement with design, operation, evaluation and ongoing revision of the system including initial patient access, dispatch, prehospital care and delivery to the emergency department.

If medical direction is to be effective, the medical director must have official authority over patient care. The medical director, therefore, must have a well-defined position with respect to the other components of the EMS system; the responsibility to develop necessary medical policies and procedures; and the power to limit the activities of those under the medical director's supervision who deviate from the established clinical standards of care or do not meet training standards.

Physician direction of prehospital emergency care may be accomplished through off-line and on-line medical direction using prospective, concurrent and retrospective methods.

Off-Line (Prospective and Retrospective) Medical Direction

Off-line medical direction is the administrative promulgation and enforcement of accepted standards of prehospital care. Off-line medical direction can be accomplished through both prospective and retrospective methods. Prospective methods include, but are not limited to, training, testing and certification of providers; protocol development; operational policy and procedures development; and legislative activities. Retrospective activities include, but are not limited to, medical audit and review of care, direction of remedial education, and limitation of patient care functions if needed. Various aspects of prospective and retrospective medical direction can be handled by committees functioning under the medical director with representation from appropriate medical and EMS personnel.

Back to Table of Contents

On-Line (Concurrent) Medical Direction

On-line medical direction is the medical direction provided directly to prehospital providers by the medical director or designee either on-scene or by direct voice communication. Ultimate authority and responsibility for concurrent medical direction rests with the medical director.

Role of the EMS Medical Director

The medical director should have authority over all clinical and patient care aspects of the EMS system or service, with the specific job description dictated by local needs. The job description should include, as a minimum, the following qualifications and responsibilities.

Qualifications

To optimize medical direction of all prehospital emergency medical services, these services should be managed by physicians who have demonstrated the following:

Essential:

1. License to practice medicine or osteopathy.
2. Familiarity with the design and operation of prehospital EMS systems.
3. Experience or training in the prehospital emergency care of the acutely ill or injured patient.
4. Experience or training in medical direction of prehospital emergency units.
5. Active participation in the ED management of the acutely ill or injured patient.
6. Experience or training in the instruction of prehospital personnel.
7. Experience or training in the EMS quality improvement process.
8. Knowledge of EMS laws and regulations.
9. Knowledge of EMS dispatch and communications.
10. Knowledge of local mass casualty and disaster plans.

Desirable:

1. Board certification in emergency medicine.

Responsibilities

To optimize medical direction of all prehospital emergency medical services, physicians functioning as medical directors should, at a minimum:

1. Serve as patient advocates in the EMS system.
2. Set and ensure compliance with patient care standards including communications standards and dispatch and medical protocols.
3. Develop and implement protocols and standing orders under which the prehospital care provider functions.
4. Develop and implement the process for the provision of concurrent medical direction.
5. Ensure the appropriateness of initial qualifications of prehospital personnel involved in patient care and dispatch.
6. Ensure the qualifications of prehospital personnel involved in patient care and dispatch are maintained on an ongoing basis through education, testing, and credentialing.
7. Develop and implement an effective quality improvement program for continuous system and patient care improvement.
8. Promote EMS research.
9. Maintain liaison with the medical community including, but not limited to, hospitals, emergency departments, physicians, prehospital providers, and nurses.
10. Interact with regional, state and local EMS authorities to ensure that standards, needs and requirements are met and resource utilization is optimized.
11. Arrange for coordination of activities such as mutual aid, disaster planning and management, and hazardous materials response.

Back to Table of Contents

12. Promulgate public education and information on the prevention of emergencies.
13. Maintain knowledge levels appropriate for an EMS medical director through continued education.

Authority for Medical Direction

Unless otherwise defined or limited by state or local requirements, the medical director must have authority over all clinical and patient care aspects of the EMS system including, but not limited to, the following:

1. Recommend certification, recertification and decertification of non-physician prehospital personnel to the appropriate certifying agency.
2. Establish, implement, revise and authorize system-wide protocols, policies and procedures for all patient care activities from dispatch through triage, treatment and transport.
3. Establish criteria for level of initial emergency response (e.g., first responder, Basic EMT, EMT-Intermediate, Paramedic).
4. Establish criteria for determining patient destination.
5. Ensure the competency of personnel who provide concurrent medical direction to prehospital personnel including, but not limited to, physicians, EMTs, and nurses.
6. Establish the procedures or protocols under which non-transport of patients may occur.
7. Require education and testing to the level of proficiency approved for the following personnel within the EMS system:
    a. First Responders
    b. EMTs, all levels
    c. Nurses involved in prehospital care
    d. Dispatchers
    e. Educational coordinators
    f. On-line physicians
    g. Off-line physicians
8. Implement and supervise an effective quality improvement program. The medical director shall have access to all relevant records needed to accomplish this task.
9. Remove a provider from medical care duties for due cause, using an appropriate review and appeals mechanism.
10. Set or approve hiring standards for personnel involved in patient care.
11. Set or approve standards for equipment used in patient care.

Obligations of the EMS System

The EMS system has an obligation to provide the medical director with the resources and authority commensurate with the responsibilities outlined above, including:

1. Compensation for the time required.
2. Necessary material and personnel resources.
3. Liability insurance for duties/actions performed by the medical director.
4. A written agreement that delineates the medical director's authority and responsibilities and the EMS system's obligations.

III. LEGAL ISSUES

EMS is a health care service that is the unique domain of the emergency physician. Some legal aspects have been underdeveloped secondary to the rapid growth and diversity of services. The medical director supervises many diverse activities such as medical care, personnel management and education.

Back to Table of Contents

Physician legal issues

1. Contract

   This document is an agreement between the EMS agency and the physician medical director. If written in accordance with “The Uniform Commercial Code” and state laws, it is enforceable by civil law processes.

2. Responsibilities

   The contract must delineate the job description and activities that are the responsibility of the medical director. These descriptions include the day-to-day activities *(quality activities, training, direct medical oversight)* and the position of the medical director within the system, especially for policy development. It is also necessary to define the medical director’s role in operations, budget, staffing and dispatch management. Equally important is an agreement on the authority of the medical director. Such authority must be sufficient to carry out the responsibilities of the position. The current status and structure of quality activities, meetings, participation, field activities and special areas such as disaster planning and mass casualties, must be reviewed upon acceptance of the position.

3. Malpractice

   The medical director’s liability coverage should be clearly listed in the contract. Liability issues include not only medical negligence, but also operational issues. Good Samaritan Laws do not provide protection, even if a medical director is not compensated. The medical director will be held to the standard of the law, despite the fact that he or she may be volunteering his or her time.

   There are two types of insurance needed by an EMS medical director. The first is malpractice insurance. The medical director should obtain a letter or binder from his or her malpractice carrier specifically identifying coverage for EMS activities. The second type is director’s or administrative insurance. This covers operational issues and is usually an addition to the policy of the supervising governmental body.

4. Indirect support

   Indirect support, such as secretarial support, computer access, emergency vehicle operations *(if involved with scene response)* and specialized equipment *(where indicated)* should also be negotiated.

5. Compensation

   Compensation will also require negotiation. Some smaller systems will provide compensation at an hourly rate, while other larger systems may offer a compensation package.

Back to Table of Contents

CHAPTER V: DIRECT & INDIRECT MEDICAL OVERSIGHT

I. INTRODUCTION

Medical oversight is defined as physician-directed prehospital emergency medical care in which the EMS medical director assumes medicolegal responsibility for the patient care administered by the prehospital worker. The prehospital worker therefore practices under the license of the medical director. Medical oversight can be further divided into direct *(on-line or immediate)* and indirect *(off-line)* which is further divided into prospective and retrospective phases. Each of these has specific requirements and duties for the physician and the prehospital care provider.

II. ON-LINE MEDICAL OVERSIGHT

On-line concurrent medical oversight is defined as the concurrent interaction between a prehospital provider and a responsible physician by radio, telephone or in person. Direct medical oversight is unique in that the medical care by the physician is delivered through the prehospital provider. Paramedics transmit information regarding patient evaluation to the physician and then perform any further evaluation, procedures or treatments as instructed. The authority to provide direct medical oversight is delegated by the director to other physicians who are familiar with the protocols and capabilities of the EMS system. The prehospital provider serves as an extension of the physician, functioning under the license of the medical director. This arrangement establishes medical accountability.

There are several necessary elements involved in delivering direct medical oversight. A designated physician must be immediately available at all times. Radio, telephone or both must be dedicated for voice communication between prehospital personnel and the physician. Approved, written protocols must exist to serve as a template for medical treatment in the majority of emergency situations encountered. These protocols guide both the physician and prehospital worker and provide the prehospital provider with instructions for emergency care in situations where direct contact with the physician is impossible. Although this is the expected method of application of direct medical oversight, there are systems where there is no requirement for physician contact if the necessary treatment is BLS only. In situations where ALS is essential, however, direct medical oversight is optimal.

Obvious advantages of a direct medical oversight system include assignment of physician accountability and the opportunity to provide supervision and education of prehospital personnel in the field. Transmission of medical information regarding the patient's clinical status, response to treatment and physician involvement prior to instituting any treatments outside established protocols are other benefits.

Back to Table of Contents

III. PHYSICIAN RESPONSIBILITY AND AUTHORITY

In performing on-line medical oversight, the physician establishes a physician/patient relationship with the prehospital provider functioning as the intermediary. This relationship implies the same responsibilities for care as does the direct physician-patient interaction. It is therefore expected and required that the physician provide medical direction that is consistent with the current standard of care for emergency medicine.

Prior to participating in medical oversight, the physician must be instructed as to the proper operation of the radio or telephone system as well as be familiarized with all existing treatment and general operation protocols of the EMS system. These prehospital protocols should be used to appropriately guide patient care and the physician is given the authority to deviate from standard protocol based on the patient's clinical status and the prehospital environment. Other items that must be within the authority of the physician include prescribing prehospital treatment for the patient, choice of receiving facility and mode of transport.

IV. DIRECT MEDICAL OVERSIGHT SYSTEMS DESIGN

There are three basic prototypes of on-line medical oversight systems organization. *Receiving hospital* medical oversight allows the receiving facility to direct the prehospital care of incoming patients. This provides continuity of patient care, but will often compromise standardization of emergency medical care as this may vary according to the facility.

In the *centralized* model, all on-line medical oversight is delivered through a single hospital regardless of the receiving facility. Standardization of care is maximized, quality assurance is facilitated and physician accountability is easily assigned. There is, however, a lack of interaction between physicians and prehospital personnel.

In a *satellite* system, the base hospital as well as associated hospitals provide medical oversight and each squad is assigned to a particular oversight location. An advantage here is increased familiarity of physicians with prehospital personnel, but standardization of care may be difficult despite the use of uniform policies and protocols in this model.

Hospital-based medical oversight units are required to oversee EMS system implementation and general operations, quality assurance and improvement. Added duties include

1. Designation of a medical director
2. EMS system and prehospital care education of the base hospital staff and prehospital personnel
3. Formation of a network of receiving hospitals

Back to Table of Contents

4. Providing medical oversight to the receiving hospitals

5. Direct contact with the receiving hospital regarding incoming ALS patients

6. Daily run review

7. Maintaining patient care records

8. Training and certification of EMS personnel and medical oversight physicians

The American College of Emergency Physicians adds the following guidelines

1. Base hospital equipment and personnel for medical oversight must be located in the Emergency Department.

2. All requests for medical oversight receive a prompt and educated response.

3. Patient confidentiality must be assured.

4. Regional EMS systems must participate in the collection of items necessary to allow quality assurance and improvement.

5. Information to receiving hospitals must be transmitted in an accurate and timely manner.

6. Continuing medical education must be provided for medical oversight and EMS personnel.

7. Choices regarding referral hospital selection must be based solely on clinical grounds, and not monetary gain.

When to provide medical oversight

There are three major reasons to obtain medical oversight from a physician: First, to transmit medical information to the receiving facility; second, to get approval for treatments that are not in the standing orders; and third, to obtain assistance in decision-making. The usefulness of on-line medical oversight is directly related to the availability and ability of the on-line physician. With the increased numbers of incoming calls to 9-1-1 and EMS services, the following general guidelines concerning when to obtain direction have been established including:

1. Discretion of the prehospital provider

2. Choice of medical therapy

Back to Table of Contents

3. Treatment needed is outside the established protocols

4. ALS intervention required

5. Disagreement between prehospital providers as to the appropriate therapeutic intervention

Other instances might involve

1. Cardiorespiratory resuscitation

2. Death in the field

3. Triage of multiple victims

4. Physician or public service personnel intervention at the scene

5. Childbirth

6. Patients in shock

7. Severe respiratory distress

8. Pediatric patient care

9. Chest pain/rule out MI

10. Certain drug overdoses (e.g., tricyclics)

11. Non-transport due to lack of medical necessity or patient refusal

Utilizing standing orders and telemetry

1. The use of standing orders in on-line medical oversight systems allow the prehospital provider to institute therapy in certain well- defined clinical situations prior to contacting medical oversight. These orders do not require communication with medical oversight prior to implementation. Standing orders have been of proven benefit in treating critical care patients, clinical presentations with varied differential diagnoses, high-risk clinical areas and referral hospital selection. For example, in the case of traumatic arrest, standing orders might include CPR, intubation, bilateral chest decompression and ACLS. To be properly utilized, orders must be clearly written and approved by the appropriate EMS council and/or review board so as to have the same implications as those orders given on-line.

2. The use of telemetry was added to on-line medical oversight in an attempt to reduce the risk of sudden death due to arrhythmia early in the post MI

period. Initially, telemetry was applied only in situations where the incidence of a potentially fatal arrhythmia was high and treatment intervention by medical oversight could be lifesaving. The effective application of telemetry requires personnel experienced in ECG interpretation to provide medical oversight. Medical oversight personnel must receive specific training in the recognition, interpretation and treatment of arrhythmias in the form of ACLS. As such, delegation of this duty to non-physicians must be carefully considered.

Quality improvement considerations

1. Simply providing direct medical oversight does not guarantee good medical care or patient outcome. Guidelines to quality improvement are provided in the base hospital contract with the EMS Review Board or other local/regional agencies. The medical oversight center is required to perform regular assessment and in-depth review of all aspects of day-to-day operations to guarantee the services delivered meet the current standard of emergency medical care. Items emphasized include

    - Protocol review for adherence to the current standard of care, state law, administrative codes and EMS policy
    - Training and continuing education of all direct medical oversight personnel
    - Direct field supervision of prehospital personnel
    - Notification and communication of medical information to receiving hospitals
    - Documentation of appropriate certification of medical oversight personnel
    - Review of direct medical oversight patient records and outcome
    - Assistance and cooperation with quality assurance procedures
    - Research studies
    - Formal review of base hospital operations
    - Staffing requirements
    - Qualifications for physician surrogates who provide medical oversight
    - Critique of in-the-field operations
    - System design issues
    - Protocol development and review
    - Outcome analysis
    - Re-assessment after system changes are made

V. INDIRECT MEDICAL OVERSIGHT

Indirect or off-line medical oversight consists of administrative and clinical duties of the EMS medical director throughout the EMS system. Indirect oversight can be further subdivided into prospective, immediate and retrospective phases, each with specific tasks.

Back to Table of Contents

The actual decision to establish an EMS system is the first step in prospective medical oversight. The medical director coordinates and oversees protocol development, personnel training, testing and certification and development of operational policy and procedures. These activities are the direct responsibility of the medical director who is medically accountable.

Protocols are clinical guidelines for the prehospital provider, developed to assure consistency of care during every patient interaction and encompass the medical conditions most likely to be encountered. These may be constructed using either symptoms *(e.g., chest pain)* or diagnosis *(e.g., MI)* in a simple algorithm. The advantage of symptom-based treatment protocols is the ability to use a stepwise approach to evaluation and treatment. Standing orders are procedures or treatments that can be initiated by an EMT prior to contacting medical oversight. Direct medical oversight communication is required following completion of these standing orders. Included under the heading of protocols are operational guidelines dealing with record keeping, restocking of equipment, narcotic administration and communications. Both protocols and standing orders require approval by the EMS Review Board, Regional Medical Board, Regional Physicians Advisory Board or other appropriate prehospital medical care authority promoting agreement as to the standard of care.

Prehospital care training programs, developed by the Department of Transportation, serve as the standard method of EMT certification. ACLS, ATLS, BTLS and PALS courses are used to supplement comprehensive training and update treatment protocols. The level of training and recertification will include comprehensive training and update of treatment protocols. The level of training and recertification will depend on the population served. Maintaining proficiency in assessment techniques, procedural skills and familiarity with medication regimens, however, requires either practice in the field or in-hospital hands-on review sessions, and time spent in the emergency department. Training regarding response, transport and scene time is also required and dependent upon the population characteristics of the community served. It is the duty of the medical director to decide what is necessary.

VI. RETROSPECTIVE MEDICAL OVERSIGHT

The retrospective phase requires the combined efforts of the medical director, assistant medical director, EMS committee and medical oversight personnel. A medical audit in the retrospective phase includes formal examination of the management decisions by the medical director and his/her delegates. System-wide quality improvement evaluations of on-scene times, frequency of medical and procedural interventions, treatment deficiencies, EMT proficiency skills and patient transport refusals should occur to ensure compliance with the standards of emergency medical care as well as the EMS agency's policies. Protocol modifications, EMT counseling, remedial education, and recertification activities are also important components of retrospective medical oversight.

Back to Table of Contents

VII. LEGAL CONSIDERATIONS

There are numerous legal considerations involved in providing prehospital care. To avoid litigation within an EMS system, careful consideration must be devoted to general organization and operation.

The medical director is assigned full responsibility for all aspects of medical care within the system. A written statement fully defining the authority, duties and limitations of the director is essential for promoting mutual understanding about respective roles. Depending on the actual system, this oversight will be assigned by an EMS Board, local or state agency. The relationship of prehospital providers to the director should also be clarified in order to establish the lines of medical accountability. The medical director determines which prehospital providers will be permitted to deliver patient care in the EMS system.

Medical oversight physicians are at significant risk for both vicarious and direct liability. *Vicarious* liability is that which results from the acts or conduct of others who the physician has supervisory responsibilities for, while *direct liability* involves the physician's own acts or omissions. Although the true definition of vicarious liability requires that there be a legal relationship between the involved parties, the fact that the prehospital provider acts as an extension or agent of the physician guides accountability. Ultimately, it is the medical director who incurs liability for negligence in on-line medical oversight, and potentially for off-line medical oversight as well.

Quality improvement and risk management programs act as safeguards against legal risk. These must be designed in such a way as to effectively maintain the standard of care and protect the public from the inappropriate or inadequate delivery of prehospital care. The most common source of claims is risk-taking activity on the part of the provider, such as failure to immobilize the cervical spine despite mechanism consistent with possible injury, failure to operate the ambulance in a responsible manner or equipment failure due to neglect of routine maintenance guidelines. Abandonment, which is the refusal or failure to transport a patient who has summoned assistance, has resulted in numerous claims. One study noted an approximately 20% paramedic triage error rate. For these and other reasons, protocols must be written so as to prevent haphazard deviation from proper treatment regimens.

Issues of consent are another potential source of litigation. In the initial assessment of a patient, the EMT must determine if the patient is able to give consent for treatment and transport. Under applicable state law, the patient must first be determined to be an adult. Then the patient must be determined to have the ability to understand to what they are or are not giving consent and the consequences of making that decision. Problems arise when the patient examination reveals an altered sensorium with physical evidence of potentially life-threatening illness or injury and the patient refuses treatment. Such issues can be managed prospectively with stringent protocols, e.g. to include a mental status examination as part of the initial prehospital evaluation. Consent issues concerning living wills, do not resuscitate orders and choice of receiving hospital must also be decided.

Back to Table of Contents

Legal issues dealing with EMS communication mainly center on dispatch and appropriate call response. Many EMS systems have instituted protocols requiring that all incoming 9-1-1 calls be given a response. Callers are then questioned in order to clarify the nature of the emergency in order to determine an appropriate response level. Pre-arrival instructions are then given and the squad dispatched. Systems with heavy call volumes have instituted “call screening.” In these systems, the dispatch personnel decide if EMS will respond to the call. The risk of making an incorrect decision is high, and is therefore, not recommended.

VIII. CONCLUSION

EMS is in constant evolution secondary to changing demands of the population as well as constraints due to decreased funding. Increased physician involvement has proven instrumental in maintaining high-quality EMS patient care including medical oversight, certification standards and the implementation of lifesaving therapeutics including AED use and early defibrillation. Continued physician involvement will not only ensure that the standard of care of patients within the EMS system is routinely met or exceeded, but will also promote the continued growth and advancement of EMS as a field.

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter V Questions

1. An EMS agency calls your facility and asks for medical control. Your responsibilities include:

   A. Prompt availability
   B. Medical direction consistent with the standard of care
   C. Familiarity with the protocols of the EMS agency
   D. All of the above

2. Which of the following is <u>not</u> a recommended responsibility for an EMS medical director?

   A. Serve as a patient advocate
   B. Develop and implement protocols
   C. Hire and fire EMS personnel
   D. Promote EMS research

3. A helicopter service calls the hospital to which they are transporting a patient. This type of medical control system is called:

   A. Receiving hospital medical control
   B. Centralized model for medical control
   C. Satellite system for medical control
   D. Indirect medical control

4. Which of the following is not a reason to contact medical control?

   A. To transmit medical information to the receiving facility
   B. To review protocols
   C. To get approval for treatments not in the standard orders
   D. To get assistance in decision-making

5. Which of the following is true regarding EMS protocols?

   A. An example of direct medical control
   B. Designed to assure consistency of care in well-defined situations
   C. Operational guidelines are not part of the protocols
   D. Diagnosis-based protocols are the best design for EMS providers

Back to Table of Contents

CHAPTER VI: OPERATIONAL ISSUES

I. INTRODUCTION

EMS Medical Directors may be asked to intervene in system operational issues on occasion. **Any operational issue which impacts patient care comes under the role of the EMS medical director.** It is important for a medical director to be given the authority to influence operational issues in certain high-risk areas.

Common operational issues that will require medical director input include

1. Protocol for dead on arrival (DOA)
2. Do not resuscitate/comfort care guidelines
3. Domestic violence – the role of EMS
4. Non-system physicians on scene
5. Patient refusal
6. Critical incident stress debriefing
7. Prehospital and emergency department infectious disease exposures
8. Interfacility patient transport guidelines
9. Media relations

The following pages outline some of these operational issues that require medical director foresight and oversight. The related policy statements, forms and recommendations are from ACEP, Ohio Chapter ACEP, individual departments and Regional Physician Advisory Boards. These documents may be used as templates for your own departmental policies.

DOA – Protocol for dead on arrival

When a DOA is encountered, the squad members should avoid disturbing the scene or the body as much as possible, unless it is necessary to do so in order to care for and assist other victims. Once it is determined that the victim is, in fact, dead, the crew chief should move as rapidly as possible to transfer responsibility or management of the scene to law enforcement and the Coroner's Office. It is the crew chief's responsibility to notify the Coroner's Office directly or to ensure that the Coroner's Office has been notified by a law enforcement officer on the scene. A determination that the victim is

Back to Table of Contents

dead rests with the crew chief. The following may be used as guidelines to support the determination that a victim is DOA

1. There is an injury that is incompatible with life *(i.e., decapitation or burned beyond recognition)*.

2. The victim shows signs of decomposition, rigor mortis or extreme dependent lividity.

3. The patient is an adult with an unwitnessed cardiac arrest and is found in asystole.

4. **If there are valid DNR (Do Not Resuscitate) orders, see DNR protocol.**

5. If the patient has a history of terminal disease, the family refuses resuscitation and permission to pronounce the patient dead is given by the medical oversight physician.

Caution: If any doubt exists that the victim is dead at the time of arrival of the squad, resuscitative measures should be instituted immediately. Whenever resuscitative measures are instituted, they must be continued until arrival at a hospital or until a physician has pronounced the victim dead. Refer to the ACEP policy on the following page.

Back to Table of Contents

American College of Emergency Physicians®

Discontinuing Resuscitation in the Out-of-Hospital Setting

Approved by the ACEP Board of Directors September 1997
Reaffirmed by the ACEP Board of Directors October 2002

The American College of Emergency Physicians believes that under certain well-defined circumstances, resuscitative efforts may be discontinued in the prehospital setting for pulseless patients who do not respond to an adequate trial of resuscitation therapy. The literature demonstrates that these are situations in which resuscitative efforts would be futile.

Patients for whom resuscitative efforts may be discontinued in the prehospital setting include patients who are asystolic or are in a wide-complex pulseless bradycardic rhythm with a rate less than 60, are normothermic, and fail an adequate trial of resuscitation therapy. Adequate resuscitation therapy may include airway management, CPR, medications, defibrillation and pacing.

When a process for field termination is established, a grief support system should be available to help family members and friends. Local EMS systems must work together with appropriate local agencies to develop an effective policy for field termination of resuscitation, to include appropriate involvement of medical control.

Back to Table of Contents

Ohio DNR-CC – Do not resuscitate / comfort care guidelines

1. Introduction

   HB 494 *(ORC §2133.01 et seq.)* was enacted by the Ohio General Assembly effective 3/15/01. This legislation was designed to better recognize patients' wishes regarding the withholding of life-sustaining treatment. After discussing their wishes with a practitioner including a licensed physician or an Advanced Practice Nurse *(Nurse Practitioner or Clinical Nurse Specialist)*, an order is written by the practitioner for a specific form of Do Not Resuscitate based on the patient's wishes. The practitioner will then initiate a state of Ohio DNR order and identification form. The patient is responsible for maintaining one of the state approved forms of identification on their person so that it is recognizable. This must have the official Ohio DNR logo on it. In an emergency situation, it is the responsibility of the EMS responder to follow the wishes of the patient when this identification is found. Thus, they will either not initiate CPR or stop CPR when this identification is found. Under the law, EMS responders are indemnified from civil and criminal liability as long as they follow the patient's recorded wishes and the appropriate guidelines in good faith. EMS responders are ***not*** required to search the personal effects of patients in an effort to locate an Ohio DNR wallet card or bracelet.

2. Purpose of the law

   This law was conceived in order to provide a standard means of identifying patients who have made decisions about their resuscitation wishes. It also protects health care providers including EMS providers who respect the expressed wishes of the patient in resuscitative situations.

3. Activation

   The protocol and law becomes effective at the time the order is signed and remains valid until and only when the patient revokes the order, either verbally or in writing, or by destroying their forms of identification. This DNR status is portable and follows patients wherever they go throughout the community. Ohio EMS providers may also honor other states' DNR documents as long as they appear to be in substantial compliance or concordance with Ohio's DNR law.

Back to Table of Contents

4. Choices of DNR Protocols

The law broadly defines CPR and identifies exactly what the patient wishes in regards to their care. There are two protocols between which the patient must choose.

DNR COMFORT CARE: A patient who has a terminal illness may choose this protocol. This patient wants no more aggressive therapy for their illness. However, interventions to maintain their comfort are maintained.

By law, health care workers <u>will</u>

- Suction the airway
- Administer oxygen
- Position for comfort
- Splint or immobilize
- Control bleeding
- Provide emotional support
- Provide pain relief
- Contact other appropriate health care providers, such as hospice, home health, attending physician/CNP/CNS.

By law, health care workers <u>will not</u>

- Administer chest compressions
- Insert artificial airways
- Administer resuscitative drugs
- Defibrillate or cardiovert
- Provide respiratory assistance
- Initiate resuscitative IV
- Initiate cardiac monitoring

DNR COMFORT CARE ARREST: This patient has an illness in which the patient chooses to have all treatment up until the time of cardiac or respiratory arrest. This is defined as no palpable pulse and absent or agonal respirations. Once an arrest has occurred, no CPR is performed. Only comfort care is provided. Prior to the arrest, any and all therapy will be provided. Below is Ohio's official DNR/Comfort Care logo

Back to Table of Contents

5. Responding to a patient with a DNR identification

   By law, you are required NOT to begin CPR on these patients once it has been identified that they possess this logo and order. If you have started CPR and then find out they are part of this program, you MUST STOP CPR and provide comfort care only. If a non-health care provider comes to the aid of this patient, they may feel free to call 9-1-1, “Code Blue,” or whatever other emergency resuscitative code is used in the hospital. The health care team or EMS worker will take the appropriate action based on the patient’s DNR status.

6. Transfers between facilities

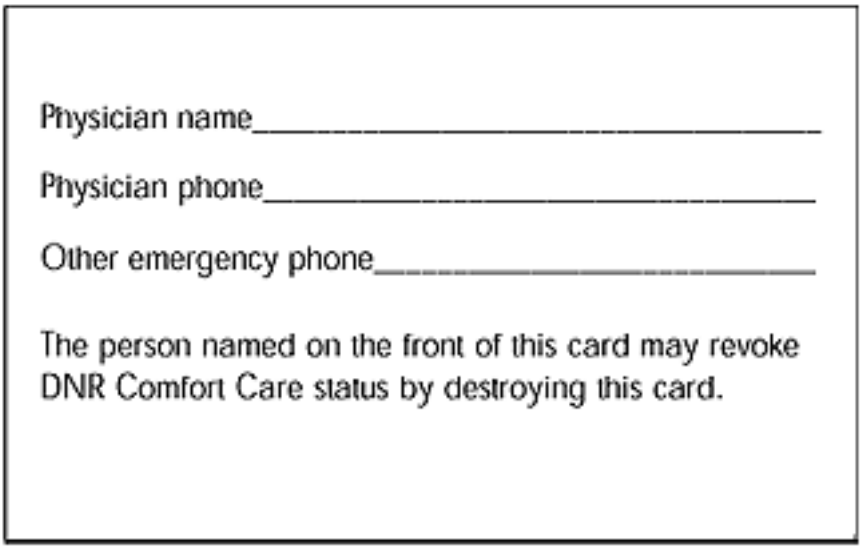
   - Send a copy of the DNR identification form *(State of Ohio)* with the patient *(see pages 7&8)*.
   - Verbally communicate to the facility accepting the patient that the patient has a current state of Ohio DNR protocol in place.
   - Verbally communicate the patient’s state of Ohio DNR status to ambulance personnel.
   - Document that you have sent a copy of the ID form and have verbally communicated in report to the accepting facility.

7. The following minimum data should be included on the EMS run sheet

   - Name, gender, age
   - Attending/hospice physician’s name
   - Date, time, location of run
   - Event, description, history
   - Assessment: vital signs; physical exam
   - Treatment
   - Revocation, if applicable

Back to Table of Contents

DNR Comfort Care Wallet Identification Card



Back to Table of Contents

DNR IDENTIFICATION FORM

☐ **DNRCC**

(If this box is checked the DNR Comfort Care Protocol is activated immediately.)

☐ **DNRCC—Arrest**

(If this box is checked, the DNR Comfort Care Protocol is implemented in the event of a cardiac arrest or a respiratory arrest.)

Patient
Name:_____
Address:_____
City_____ State_____
Zip_____
Birthdate_____ Gender ☐M ☐F
Signature_____ (optional)

Certification of DNR Comfort Care Status (to be completed by the physician)*

(Check only one box)

☐ **Do-Not-Resuscitate Orde**r—My signature below constitutes and confirms a formal order to emergency medical services and other health care personnel that the person identified above is to be treated under the State of Ohio DNR Protocol. I affirm that this order is not contrary to reasonable medical standards or, to the best of my knowledge, contrary to the wishes of the person or of another person who is lawfully authorized to make informed medical decisions on the person's behalf. I also affirm that I have documented the grounds for this order in the person's medical record.

☐ **Living Will (Declaration) and Qualifying Conditio**n—The person identified above has a valid Ohio Living will (declaration) and has been certified by two physicians in accordance with Ohio law as being terminal or in a permanent unconscious state, or both.

Printed name of
physician*:_____
Signature_____
Date_____
Address:_____
Phone_____
City/State_____
Zip_____

* A DNR order may be issued by a certified nurse practitioner or clinical nurse specialist when authorized by section 2133.211 of the Ohio Revised Code.

See reverse side for DNR Protocol

Back to Table of Contents

DO NOT RESUSCITATE COMFORT CARE PROTOCOL

After the State of Ohio DNR Protocol has been activated for a specific DNR Comfort Care patient, the Protocol specifies that emergency medical services and other health care workers are to do the following:

WILL:
- Suction the airway
- Administer oxygen
- Position for comfort
- Splint or immobilize
- Control bleeding
- Provide pain medication
- Provide emotional support
- Contact other appropriate health care providers such as hospice, home health, attending physician/CNS/CNP

WILL NOT:
- Administer chest compressions
- Insert artificial airway
- Administer resuscitative drugs
- Defibrillate or cardiovert
- Provide respiratory assistance (other than that listed above)
- Initiate resuscitative IV
- Initiate cardiac monitoring

If you have responded to an emergency situation by initiating any of the **WILL NOT** actions prior to confirming that the DNR Comfort Care Protocol should be activated, discontinue them when you activate the Protocol. You may continue respiratory assistance, IV medications, etc., that have been part of the patient's ongoing course of treatment for an underlying disease.

Back to Table of Contents

Domestic violence – the role of EMS

Domestic violence is part of a larger spectrum of family violence, which includes sexual assault, child abuse, elder abuse and neglect. Also known as battering, spouse abuse, partner abuse or interpersonal violence, domestic violence is the "leading cause of injury to women in the United States" as stated by C. Everett Koop, former U.S. Surgeon General. Domestic violence is characterized as a pattern of coercive behaviors including physical, sexual and psychological abuse that adults or adolescents use against their intimate partners. Since 96% of victims of domestic violence are women, victims will generally be referred to as 'she.' Keep in mind, however, that not all victims are women. Domestic violence is a crime and the safety of EMS responders, victims, and their children must be a priority.

1. Facts related to domestic violence

    - Domestic abuse is an epidemic in the United States.
    - In the U.S., a woman is battered about every 10 seconds.
    - Intimates commit over 13% of all rapes, robberies and assaults.
    - Four out of five murdered women are killed in their homes.
    - One-third of men who batter women also batter children.
    - Close to 50% of mothers of abused children are themselves abused.
    - One in every four women is at risk of abuse by a current or former spouse or intimate.
    - Battered women account for 25% of attempted suicides.
    - 25% of women utilizing emergency psychiatric services have been victims of domestic violence.
    - 10-30% of women presenting to emergency departments with injuries are in abusive relationships.

2. Recognition

    Domestic violence crosses all boundaries, including age, race, education, socioeconomic class and sexual orientation. Victims frequently do not admit to being abused. Domestic violence often, but not exclusively, occurs in low-income homes, minority households and affects men and women between 18 and 30 years of age.

    Studies have evaluated physician recognition of victims of domestic violence. The results are dismal with less than 10% of victims correctly identified in the studied groups. There are a number of reasons for this low rate of identification; inadequate training and failure to routinely screen patients appear to be the largest factors. In 1992, only 8% of physicians reported receiving adequate training in the identification of victims of domestic violence. As recently as 2001, less than 50% of physicians

Back to Table of Contents

polled felt they had received sufficient training. Many victims identified by physicians are only identified after repeat visits or injury.

In 1997, Landis published an article that discussed the lack of education for prehospital providers in the identification, treatment and reporting of domestic violence. Paramedic textbooks include no specific information about domestic violence. He points out, however, that “EMS personnel have a unique and invaluable opportunity to identify these problems.” EMS personnel are often the first medical care providers to make contact with a victim and they are the only providers to enter the environment where the incident occurred. In addition, studies have shown that up to 30% of calls with issues related to domestic violence are ‘no treat, no transport’ or ‘refusal to transport’ calls. Thus, the EMS personnel may be the only providers to come in contact with the victim(s) of abuse.

Health care providers are legally bound to report certain types of interpersonal violence. According to the Ohio Revised Code, medical personnel are required to report gunshot, stabbing and burn injuries, and all injuries causing serious physical harm to law enforcement authorities, and to record suspected domestic violence. Ohio does not have a mandatory reporting law for domestic violence unless serious physical harm occurs. Child abuse, however, MUST be reported. Often there is overlap of these cases.

3. Understanding the cycle of violence – three phases

- Phase I – increased tension, anger, blaming, arguing
- Phase II – explosive stage, actual battering – may include use of weapons
- Phase III – calm *(honeymoon)* phase – batterer may deny, but generally is apologetic and vows it will never happen again

Eventually, phases I and II escalate and there is less time between incidents. The incidents may become more violent and there may be very little, if any, phase III. There is no single time frame for this cycle and it varies with each couple. It is phase III that keeps victims from leaving. They believe that the perpetrator will be different “this time.” Submission becomes a way of life as victims attempt to prevent violence. The victim suffers loss of self-esteem and often is socially isolated. Victims often are ashamed, humiliated and may feel responsible for the violence. Domestic violence is about power and control. It is a pattern of assaultive and coercive behaviors, including physical, sexual and psychological abuse, used by an individual to hurt, dominate and control an intimate partner. It is important to confirm to the victim that she is not at fault and does not deserve to be abused.

Back to Table of Contents

4. Treatment

Priorities at the scene

- To ensure scene safety – involve law enforcement early; remember, your safety comes first
- To assess and treat the trauma
- To recognize a domestic violence situation
- To prevent further injury to the victim
- Note that it is the responsibility of the police department to enforce the law

A safety plan is necessary for all responders in caring for the physical and psychological needs of the victim.

- Use extreme caution when intervening.
- If you feel the scene is unsafe at the time of your arrival, call for police backup and do not enter until it is safe.
- Police officers state that domestic violence scenes are one of the most dangerous calls to which they respond. This is no less true for EMS.
- If you identify the situation after you have responded, the patient should be removed from the scene as quickly as possible.
- Do not leave a responder alone in the house. Remember there is safety in numbers – the surest way to provide safety to everyone is to leave the scene.
- Do not accuse or confront anyone and remain non-judgmental at the scene.
- Do not offer excessive sympathy in the presence of the attacker – it may cause the attacker to direct violence toward the EMS personnel.
- Explain your role as an emergency medical responder.
- Trust your gut feelings.

5. Indicators of abusive personalities

- Blaming others
- Exhibits obsessive behavior
- Threatening
- Appears paranoid or hypersensitive OR appears disinterested concerning the injury
- Belligerent toward authority
- Abuses illicit substances
- Has access to weapon(s)

Back to Table of Contents

6. If you suspect a domestic violence situation, act accordingly, even if the victim denies it. If children are present, try not to let them leave with the batterer. On scene

   - Provide for the safety of EMS and the victim
   - Assess medical needs
   - Separate the victim from the abuser
   - Assess the victim for possible self-harm
   - Empower the victim – provide referrals to local domestic violence shelters or hot-lines

7. Clues from the physical exam

   - Central pattern to injuries
     - Face
     - Neck
     - Throat
     - Chest
     - Abdomen
     - Genitalia

   - Examine entire body
   - Injuries suggestive of defensive posture, such as to ulnar aspect of forearm
   - Injuries in various stages of healing
   - Injury during pregnancy
   - Injury does not “fit the story”

8. Recognition of pattern injuries

   The most common pattern injuries include those that are the result of contact with

   - Linear objects
   - Hands
   - Fingers
   - Mouths
   - Choking

   Once identified, the physician must decide if intentional or accidental in nature

   EMS providers can lend helpful information to the physician in these cases regarding the scene, the victim’s affect, interactions at the scene, etc.

9. Preservation of evidence and documentation; domestic violence is a crime

- The scene must be treated as a crime scene.
- Adhere to standard precautions regarding preservation of evidence.
    - Do not cut garments through the areas of penetration with a foreign body *(gunshot wound or stabbing).*
    - Encourage patients not to “clean up” before transport to the hospital or interviewing with law enforcement.

Documentation should be comprehensive and exact.

- Record the history, alleged perpetrator and witnesses as stated by the victim, if possible.
- Use the victim’s exact wording and quote it in your record.
- Carefully document all injuries identified and all patient complaints.
- Document patient’s explanation for individual injuries as possible.
- Body diagrams or ‘maps’ are useful, as are photographs.
- Have patient sign for consent for photographs.
- Document the behavior of the victims and others at the scene if they are present.

Report cases to the hospital care providers, even if the victim denies abuse.

- If there is refusal to transport, notify dispatch and document suspected interpersonal violence on the run sheet.

10. EMS and primary injury prevention

- Domestic violence has reached epidemic proportions.
- EMS providers’ scope of practice is expanding for a number of reasons and primary injury prevention is a venue that is being proposed by many groups.
- Evaluating vehicle safety, restraint systems and screening for disease are some of the mechanisms proposed.
- Screening for domestic violence in the prehospital setting may provide earlier interventions and result in less injury to victims in our communities.

Back to Table of Contents

- Screening does not have to be complicated or lengthy.
    - Positive identification of victims is handled by referral to hospital staff or community agencies.
    - There are over 600,000 EMS providers in the United States. *If every provider identified one victim for referral, we would be well on our way of breaking the cycle of domestic violence.* We ask all injured patients about their tetanus status and only 36 cases of tetanus were reported in 1996. Over 2000 women were killed as a result of domestic violence in the same year.
    - Screening steps
        - Many people begin asking questions by stating to the patient, “We see many women having trouble with violence in their relationships, is this a problem for you?”
        - Simply ask the following questions
            - Within the last year, have you been hit, kicked, punched or otherwise hurt by someone you know?
            - If so, by whom?
            - Do you feel safe in your current relationship?
            - Is there anyone from a prior relationship who is making you feel unsafe now?

If the questions are answered positively, EMS providers should report this to the medical staff member who takes over care of the patient.

Be aware of resources in your community such as hot lines, shelters, counseling, etc. See the Ohio Domestic Violence Network at www.odvn.org, or Action Ohio at www.actionohio.org. Also, visit the National Coalition against Domestic Violence at www.ncadv.org.

Non-system physicians on scene

1. A Good Samaritan Physician is a physician on the scene who has no previous connection to the patient. This means he/she is not the patient's private physician. He/she shall be courteously told that to take any control of the scene he/she must be approved by the medical oversight physician over the radio. For the Good Samaritan Physician to assume any responsibility he/she must meet the following criteria

    - Submit proof that he/she is a physician *(a medical license card from Ohio)*.
    - Must be willing to assume responsibility for the patient both at the scene, in transport and until relieved by another physician in the Emergency Department.
    - May not have the EMT perform any procedures or treatments that go against protocols or their specific training.

- If the physician on scene is unable to comply with any of these, then his/her help should be courteously declined.
- Offer care only if the problem is within the physician's area of specialty (don't want an OB to tell you how to run a cardiac arrest).

2. Physician in his/her office, Urgent Care center or Industrial Physician

- The EMS service shall perform its duties in their usual manner under direction of Medical Oversight.
- The physician in his office may elect to take charge and supervise the management of the patient.
- If the physician in the office decides to provide management of the patient, there will be communication with the medical oversight physician to coordinate management and disposition.
- If the EMT is asked to do something that goes beyond his or her level of training or that is against written protocols, he or she will so inform the physician in his office. Under the circumstance, the EMT should NOT do the procedure him or herself as requested by the physician in his office. The EMT should assist the physician if the physician elects to do the procedure him or herself.

Back to Table of Contents

American College of Emergency Physicians®

Direction of Prehospital Care at the Scene of Medical Emergencies

Approved by the ACEP Board of Directors October 1993
Reaffirmed by the ACEP Board of Directors October 1997
Reaffirmed by the ACEP Board of Directors October 2001

ACEP believes that the direction of prehospital care at the scene of a medical emergency should be the responsibility of the individual in attendance who is most appropriately trained and knowledgeable in providing prehospital emergency stabilization and transport. The prehospital provider is responsible for management of the patient and acts as an agent of medical direction unless[1] the patient's physician is present (as would occur in a physician's office).

- *If the private physician[2] is present and assumes responsibility for the patient's care:*

The prehospital provider should defer to the orders of the private physician. On-line medical direction, if that capability exists, should be contacted for record keeping purposes. The prehospital provider retains the right to re-establish medical direction with the on-line physician if the prehospital provider believes that the emergency care rendered by the private physician is inconsistent with quality patient care. Prehospital providers shall not comply with orders which exceed their scope of practice. The prehospital provider's responsibility reverts to off-line medical direction (i.e., existing EMS protocols) or on-line medical direction at any time when the private physician is no longer in attendance.

- *If an intervener physician[3] is present and on-line medical direction is not available:*

A prehospital provider at an emergency scene should relinquish responsibility for patient management when the intervener physician has:

1. been properly identified
2. agreed to assume responsibility and
3. agreed to document the intervention in a manner acceptable to the local emergency medical services system (EMSS).

When these conditions exist, the prehospital provider should defer to the wishes of the physician on the scene. If the treatment at the emergency scene differs from existing EMS protocols and is contradictory to quality patient care, the prehospital provider retains the right to revert to existing EMS protocols for the continued management of the patient: Prehospital providers shall not comply with orders which exceed their scope of practice. The intervener physician should agree in advance to accompany the patient to the hospital if required or needed. In the event of a mass casualty incident or disaster, however, patient care needs may require the intervener physician to remain at the scene.

- *If an intervener physician is present and on-line medical direction does exist:*

The on-line physician is ultimately responsible. If there is any disagreement between the intervener physician and the on-line physician, the prehospital provider should take orders from the on-line physician and place the intervener physician in contact with the on-line physician. The on-line physician has the option of managing the case entirely, working with the intervener physician or allowing the intervener physician to assume responsibility. In the event that the intervener physician assumes responsibility, all orders to the prehospital provider should be repeated over the radio for purposes of recording. The intervener physician should document the intervention in a manner acceptable to the local EMSS. The prehospital provider and on-line medical direction may re-establish on-line medical direction if either believes that the emergency care rendered by the intervener physician is contradictory to EMS protocols and quality patient care. The decision of the intervener physician to accompany the patient to the hospital should be made in consultation with the on-line physician. If the intervener physician does not accompany the patient to the hospital, responsibility for the patient reverts to on-line medical direction.

Back to Table of Contents

References

1. *On-line medical direction exists when EMS personnel are in direct communication with a designated physician, as described in the College's position statement on medical control (2), who assumes responsibility and gives direction for patient management.*

2. *Private physician is a physician who provides evidence of medical licensure in that state, has established a prior physician/patient relationship, wishes to take charge of a medical emergency, and is willing to accompany the patient to the hospital when so requested.*

3. *Intervener physician is a physician who provides evidence of medical licensure, has not established a prior physician/patient relationship, wishes to take charge of a medical emergency, and is willing to accompany the patient to the hospital when so requested.*

Back to Table of Contents

Patient refusal

1. Permission not to treat or transport a patient must be established in the EMS agency's protocol or approved by the base station physician. A set policy or direct communication with the medical contact physician decreases the EMT's liability. Direct communication between the physician and the patient may resolve many questions and often convinces the patient of the importance of treatment and transport. The following is an outline of legal principles that may help the EMT to understand issues related to patient refusal.

   Consent

   - The patient has the responsibility and right to consent to or refuse treatment. If he or she is unable to do so, a legal guardian has this right.
   - A durable power of attorney for health care allows the named individual to decide on health care issues for a patient no longer able to make those decisions.
   - When waiting to obtain lawful consent from the person authorized to make such consent would present a serious risk of death, serious impairment of health or would prolong severe pain or suffering of the patient, treatment may be undertaken to avoid those risks without consent. In no event should legal consent procedures be allowed to delay immediately required treatment.
   - In non-emergency cases, consent should be obtained from the patient or legal guardian prior to undertaking any treatment.
   - AGE: Patient must be over 18 years of age, or between 15 and 18 years and "emancipated" (i.e., living apart from his parents) to be permitted to consent or refuse treatment.
   - If the patient is under age, consent should be from
     - Natural parent
     - Adopted parent
     - Legal guardian

Back to Table of Contents

Mental competence—decision-making capability

A person is mentally competent if he or she

- Is capable of understanding the nature and consequences of the proposed treatment.
- Has sufficient emotional control, judgment and discretion to manage his or her own affairs.

    - Ascertaining that the patient is oriented, has an understanding of what happened and what may possibly happen if treated or not treated, and a plan of action—such as whom he will call for transportation home—should be adequate for these determinations.
    - Patients with impaired cerebral perfusion; in shock, postictal or under the influence of drugs will be unlikely to fulfill these criteria.
    - If the patient is not mentally competent under these guidelines, consent should be obtained from another responsible party—who must also be mentally competent and must be 18 years of age—in the following order of preference

        - Legal guardian
        - Spouse
        - Parent
        - Adult son or daughter
        - Adult brother or sister

    - If the patient is not mentally competent and none of the above persons can be reached, the person should be treated and transported to a medical facility. It is preferable under such circumstances to obtain concurrence of a police officer in this course of action.
    - If the patient himself is not competent to consent and a legal guardian as defined under section IV is present, and if that person is competent, he or she has the same right to consent or refuse treatment as the patient himself. Those wishes cannot be ignored in a non-life-threatening situation.

Non-transport for minors

If, after evaluation of a minor the EMT and medical oversight agree that the patient does not require transport, that minor can be left in the care of a responsible adult that is not the parent or legal guardian. The responsible adult may be a family friend, neighbor, school bus driver, teacher, school official, police officer, social worker or other person at the discretion of medical oversight and the EMT. The ACEP Patient Nontransport Policy is on the next page.

American College of Emergency Physicians®

Patient Nontransport

Approved by the ACEP Board of Directors December 2000

The American College of Emergency Physicians (ACEP) and the National Association of EMS Physicians (NAEMSP) believe that each emergency medical services (EMS) system should develop medically directed protocols regarding patients who are assessed in the out-of-hospital setting and not transported. A significant number of requests for EMS response result in patient nontransport. ACEP and NAEMSP acknowledge that nontransport may occur either at the request of the patient or at the initiation of EMS personnel. Patient nontransport should occur only in the presence of on-line physician medical direction or detailed off-line protocols. Appropriate educational programs targeting EMS personnel, physicians, and the public should be in place before implementation of this policy.

Key elements of these protocols should be to:

- Address the importance of appropriate documentation.
- Address patient consent/refusal issues, including EMTALA applicability, where appropriate.
- Address minors who refuse transport.
- Develop appropriate patient educational materials to be given to all patients who are not transported.
- Ensure that decisions are medically directed and follow established protocols rather than being financially motivated
- Address appropriate patient disposition, including treat and release, or referral to private or non-EMS vehicle.
- Integrate CQI programs to evaluate outcomes of patients who are not transported.

Back to Table of Contents

2. Procedure for refusal

If a patient wishes to refuse treatment, examination or transportation, the following steps will be taken

- The EMT should complete a Patient Refusal Checklist *(see enclosed example)* based on current local protocols or contact medical oversight.
- If medical oversight is contacted, the refusal checklist should be reviewed. This contact and the orders that were given must be documented.
- The patient must be advised of the benefits of treatment and transport as well as the specific risks of refusing treatment and transport.
- The patient must be able to relate to the EMT in his or her own words what are these risks and benefits.
- The patient should be provided with a refusal information sheet, also attached. A copy of this refusal information sheet or the refusal section of the checklist should be signed by the patient, dated, and both will be kept with the patient's file.
- The run sheet should document who is refusing the care-transport (patient, guardian, parent, etc.)
- The patient/family must be informed that they can call EMS to return if the patient's condition changes or if they change their minds about wanting care and transport to the hospital. This must be documented on the run sheet.
- Every agency should have established PI to review runs that involve patient refusal.

Back to Table of Contents

EMS PATIENT REFUSAL CHECKLIST

Name_____ Age_____ Date_____ Run # _____

Assessment of Patient (complete each item, circle appropriate response)

1.	Yes	No	Oriented to: Person?
	Yes	No	Place?
	Yes	No	Time?
	Yes	No	Situation?
2.	Yes	No	Alert
3.	Yes	No	Behavior normal: Describe any abnormal behavior: _____
4.	Yes	No	**NO** Head injury?
5.	Yes	No	**NO** Alcohol/drug ingestion by exam or history?
6.	Yes	No	Age 18 or over?
7.			Who is refusing
	Yes	No	Patient
	Yes	No	Spouse
	Yes	No	Parent
	Yes	No	Legal Guardian
8.	Yes	No	Treatment explained
9.			What has been refused: _____
10.	Yes	No	Importance of treatment and risks of non-treatment explained. List risks told to patient: _____ _____
11.	Yes	No	Patient able to repeat importance and risks
12.	Yes	No	Patient understands importance and risks. Write in the patient's words the risks of refusing: _____
13.	Yes	No	Do the reasons for refusing care seem reasonable? List Reasons: _____
14.	Yes	No	Patient advised that in the opinion of the physician at medical oversight, the patient should be evaluated, treated and/or transported to a hospital by the ambulance and that field treatment does not constitute complete medical care.
15.	Yes	No	Medical Oversight _____ contacted and agrees to accept refusal If not, orders given: _____
16.	Yes	No	Patient advised to call EMS back if treatment or transport is desired
17.	Yes	No	Did the patient accept the refusal information sheet

Released in custody of self_____ parent_____ spouse_____ police_____ other

(describe)_____

This is to certify that I am refusing evaluation, treatment and or transport at my own insistence and that if treatment or transport is advised by EMS, I am going against the advice of the EMT and the physician at the medical oversight hospital. I have been informed of the danger of my not being treated and/or transported at this time. I understand that I should be evaluated immediately for my condition by a physician. I release the EMS service and the medical oversight hospital from all liability for any adverse results caused by my decision. I understand that I may call EMS back any time should I change my mind.

_____ _____

EMT Signature Date Patient/Parent/Signature

Back to Table of Contents

REFUSAL INFORMATION SHEET

Please Read and Keep This Form

This form has been given to you because you have refused treatment and/or transport by the Emergency Medical Service. Your health and safety are our primary concern, so even though you have decided not to accept our advice, please remember the following:

1. The evaluation and/or treatment provided to you by the rescue squad is not a substitute for medical evaluation and treatment by a doctor. We advise you to get medical evaluation and treatment.

2. Your condition may not seem as bad to you as it actually is. Without treatment your condition or problem could become worse. If you are planning to get medical treatment, a decision to refuse treatment or transport by the EMS may result in a delay which could make your condition or problem worse.

3. Medical evaluation and/or treatment may be obtained by calling your doctor, if you have one, or by going to any hospital Emergency Department in this area, all of which are staffed 24 hours a day by Emergency physicians. You may be seen at these Emergency Departments without an appointment.

4. If you change your mind or your condition becomes worse and you decide to accept treatment and transport by the Emergency Medical Service, please do not hesitate to call us back. We will do our best to help you.

5. **DON'T WAIT!** When medical treatment is needed, it's usually better to get it right away.

6. Your problem or condition has been discussed with an Emergency physician at the medical oversight hospital by radio or telephone and the advice given to you by the Emergency Medical Service has been issued or approved by the Emergency physician.

DIAL 9-1-1 IF YOU CHANGE YOUR MIND OR GET WORSE!!

Read and Sign:

DATE: _____ TIME: _____

Patient Signature _____

Witness _____

Back to Table of Contents

Critical incident stress debriefing

The impact of critical incident stress, whether it is intermittent or accumulative, is becoming increasingly appreciated as a problem for prehospital providers. Prehospital medical directors must realize the impact that events have on our prehospital providers and be able to recommend appropriate critical incident stress management and debriefing.

Potentially traumatic events may include severe automobile accidents with loss of limb or life, sexual assault or abuse, severe injury or death of a child, suicide, homicide and injury or death in the line of duty of prehospital providers or law enforcement providers. Disasters such as the Oklahoma City explosion, earthquakes, hurricanes, tornados, fires and floods that may be local or even community-wide disasters all take a tremendous toll on the prehospital provider.

There are many common signs and symptoms of stress reactions that can be broken down into four major components: physical, cognitive, emotional and behavioral. Some physical signs may include fatigue, nausea, chest pain and difficulty breathing, elevated blood pressure and heart rate, weakness, dizziness, profuse sweating, nausea and vomiting. Cognitive signs and symptoms may include blaming, confusion and inability to maintain attention or make decisions, memory problems and interference with either sleep or higher mental activities. Emotional reactions include anxiety, denial, guilt, grief and panic reactions. This may lead to uncertainty and anxiety about future exposures in the prehospital environment as well. Often prehospital providers will feel overwhelmed and may display inappropriate emotional responses such as anger, agitation and irritability. This may lead to behavioral changes such as emotional outbursts, withdrawal, abnormal stress handling modalities such as alcohol or drug consumption, and may even lead to an overall decompensation of the prehospital provider to the point where they are unable to perform at an appropriate level; they withdraw from the EMS service or injure themselves or others.

There are five incidents which mandate immediate debriefing and those include

1. Line of duty deaths
2. Serious injury to one of our own
3. Suicide of one of our own
4. Multi-casualty incident or disaster
5. Police shootings/killings/serious injury of a patient or prehospital provider/police especially when it involves a threat to the safety of the provider

Back to Table of Contents

Involvement of the prehospital providers with a Critical Incident Stress Debriefing Team may help not only individuals involved in the specific critical incident, but help prevent post traumatic stress disorder. Critical Incident Stress managers and teams can often be identified and activated by contacting local police or fire systems. Several communities have developed critical incident stress management teams that are available for at least consultation if not intervention. There is an International Critical Incident Stress Foundation that can be reached at 10176 Baltimore National Pike, Unit 201, Ellicott City, MD 21042 or by phone at (410) 750-9600. Their emergency number is (410) 313-2473. There is an ever-increasing amount of literature that is available on critical incident stress as well as burnout. We, as medical directors, must be aware of the existence of critical incident stress as well as necessary interventions to minimize the effects of stressful events.

Prehospital and emergency department infectious disease exposures

Pages 27-43 contain a number of sample documents regarding evaluation, documentation and treatment for prehospital as well as Emergency Department employees upon exposure to a variety of infectious diseases. Specific areas addressed include exposure to hepatitis, HIV and meningococcal meningitis. In addition, the appendix summarizes the management of outpatient blood exposures.

There are two forms also enclosed, titled “Request for Notification/Documentation of Treatment” and “Documentation of Treatment and Follow Up,” developed by Region 8 which you may find useful as well. The “Request for Notification/Documentation of Treatment” is to be filled out at the time of presentation by the EMS worker. The “Documentation of Treatment and Follow Up” can be used by the Employee Health Center or private outpatient services to document appropriate treatment and follow up for both the prehospital provider as well as the private physician/employer. This information is subject to certain confidentiality restrictions.

Any other specific suggestions and/or guidelines as previously developed by your own region and/or hospital Infectious Disease/Employee Health/Outpatient Services Departments should be followed. The following forms are samples from one department and can be modified for regional utilization.

Back to Table of Contents

SUBJECT: Exposure to blood borne pathogen

PURPOSE: To provide protection to the employee that has incurred a parenteral exposure *(needlestick)*, direct mucous membrane contact *(splash of body fluids into the mouth, eyes or open cut)*, accidental oral ingestion of body fluids, or human bite. This policy covers all blood and other potentially infectious materials.

PROCEDURE: The Employee Health Center RN or the ED RN will:

1. Immediate treatment will consist of *(as appropriate)*

   a. **Cleanse** the wound with soap and water. Advise the employee of the signs of secondary infection (redness, health, swelling, pain, streaking, purulent drainage).

   b. **Rinse** the mouth with water.

   c. **Irrigate** the eyes with normal saline.

2. Determine the significance of the exposure to a blood borne pathogen.

   a. If no exposure, no special care is required other than that already provided, i.e., cleaning the wound, stopping bleeding.

   b. If the exposure is determined to be significant, proceed with #3.

3. Factors to consider in assessing the need for follow-up of occupational exposures *(Source: MMWR Vol. 50 / No. RR-11. Box 2, page 18. June 29, 2001)*:

Type of exposure 1. Percutaneous injury 2. Mucous membrane exposure 3. Nonintact skin exposure 4. Bites resulting in blood exposure to either person involved
Type and amount of fluid/tissue 1. Blood 2. Fluids containing blood 3. Potentially infectious fluid or tissue (semen; vaginal secretions; and cerebrospinal, synovial, pleural, peritoneal, pericardial, and amniotic fluids) 4. Direct contact with concentrated virus
Infectious status of source 1. Presence of HbsAg 2. Presence of HCV antibody 3. Presence of HIV antibody
Susceptibility of exposed person 1. Hepatitis B vaccine and vaccine response status 2. HBV, HCV, and immune status

Back to Table of Contents

4. All documentation of the following information will be recorded on a Post-Exposure Evaluation Investigation Form. See example.

   Recommendations for the contents of the occupational exposure report:

   a. Date and time of exposure.

   b. Details of the procedure being performed, including where and how the exposure occurred; if related to a sharp device, the type and brand of device and how and when in the course of handling the device the exposure occurred.

   c. Details of the exposure, including the type and amount of fluid or material and the severity of the exposure *(e.g., for a percutaneous exposure, depth of injury and whether fluid was injected; for a skin or mucous membrane exposure, the estimated volume of material and the condition of the skin [e.g., chapped, abraded, intact]).*

   d. Details about the exposure source (e.g., whether the source material contained HBV, HCV, or HIV; if the source is HIV-infected, the stage of disease, history of antiretroviral therapy, viral load, and antiretroviral resistance information, if known).

   e. Details about the exposed person *(e.g., hepatitis B vaccination and vaccine-response status).*

   f. Details about counseling, postexposure management, and follow-up *(Source: MMWR Vol. 50, No. RR-11, June 29, 2001, Box 3, p. 20)*.

Evaluation of occupational exposure sources

Known sources
• Test known sources for HbsAg, anti-HCV, and HIV antibody
  • Direct virus assays for routine screening of source patients are **not** recommended
  • Consider using a rapid HIV-antibody test
  • If the source person is **not** infected with a blood borne pathogen, baseline testing or further follow-up of the exposed person is **not** necessary
• For sources whose infection status remains unknown (e.g., the source person refuses testing), consider medical diagnoses, clinical symptoms, and the history of risk behaviors
• Do not test discarded needles for blood borne pathogens
 	
Unknown sources
• For unknown sources, evaluate the likelihood of exposure to a source at high risk for infection
  • Consider likelihood of blood borne pathogen infection among patients in the exposure setting

5. Utilize the following schedule for necessary medications

   a. TD Toxoid: Give if vaccine has not been given within the last ten

Back to Table of Contents

(10) years, and employee is not allergic to any component of the vaccine.

6. Recommended postexposure prophylaxis for exposure to hepatitis B virus *(Source: MMWR Vol. 50, No. RR-11, Table 3, p. 22, June 29, 2001)*:

Vaccination and antibody response status of exposed workers*	**Treatment**		
	Source HbsAG† positive	**Source HbsAg† negative**	**Source unknown or not available for testing**
Unvaccinated	HBIG§ x 1 and initiate HB vaccine series¶	Initiate HB vaccine series	Initiate HB vaccine series
Previously vaccinated			
Known responder**	No treatment	No treatment	No treatment
Known nonresponder††	HBIG x 1 and initiate revaccination or HBIG x 2§§	No treatment	If known high risk source, treat as if source were HBsAg positive
Antibody response Unknown	Test exposed person for anti-HBs¶¶ 1. If adequate,** no treatment is necessary 2. If inadequate†† administer HBIG x 1 and vaccine booster	No treatment	Test exposed person for anti-HBs 1. If adequate,¶ no treatment is necessary 2. If inadequate¶ administer vaccine booster and recheck titer in 1-2 months

* Persons who have previously been infected with HBV are immune to reinfection and do not require postexposure prophylaxis.
† Hepatitis B surface antigen.
§ Hepatitis B immune globulin; dose is 0.06 mL:/kg intramuscularly.
¶ Hepatitis B vaccine.
** A responder is a person with adequate levels of serum antibody to HbsAg (i.e., anti-HBs ≥ 10 mIU/mL).
†† A nonresponder is a person with inadequate response to vaccination (i.e. serum anti-HBs < 10 mIU/mL).
§§ The option of giving one dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For persons who previously completed a second vaccine a series but failed to respond, two doses of HBIG are preferred.
¶¶ Antibody to HbsAg.

7. Employee follow-up:

   a. Draw HbsAg, HbsAb and HIV

   b. Label blood specimens with confidential code number and send to lab.

   c. Employee signs consent form for HIV. Testing for HIV will also be done at six (6) weeks, twelve (12) weeks and six (6) months. HIV specimen will be held in lab for 90 days if employee declines testing.

Back to Table of Contents

d. Employee will be presented with current epidemiological information regarding HIV.

e. If pregnant, arrange ID consultant.

8. Recommended HIV postexposure prophylaxis for percutaneous injuries *(Source: MMWR Vol. 50, No. RR-11, Table 4, p. 24., June 29, 2001)*

Infection status of source					
Exposure Type	**HIV-Positive Class 1***	**HIV-Posivite Class 2***	**Source of unknown HIV status†**	**Unknown source§**	**HIV-Negative**
Less severe¶	Recommend basic 2-drug PEP	Recommend expanded 3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††	Generally, no PEP warranted, however consider basic 2-drug PEP** in settings where exposure to HIV-infected persons is likely	No PEP warranted
More severe§§	Recommend expanded 3-drug PEP	Recommend expanded 3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††	Generally, no PEP warranted, however, consider basic 2-drug PEP** in settings where exposure to HIV-infected persons is likely	No PEP warranted

* HIV-Positive, Class 1 – asymptomatic HIV infection or known low viral load (e.g. <1,500 RNA copies/mL). HIV Positive, Class 2 –symptomatic HIV infection, AIDS, acute seroconversion or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of postexposure prophylaxis (PEP) should not be delayed pending expert consultation and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.
† Source of unknown HIV status (e.g., decreased source person with no samples available for HIV testing).
§ Unknown source (e.g., a needle from a sharps disposal container).
¶ Less severe (e.g., solid needle and superficial injury)
** The designation "consider PEP" indicates that PEP is optional and should be based on an individualized decision between the exposed person and the treating clinician.
†† If PEP is offered and taken and the source is later determined to be HIV-negative, PEP should be discontinued.
§§ More severe (e.g., large-bore hollow needle, deep puncture, visible blood on device or needle used in patient's artery or vein).

9. Recommended HIV postexposure prophylaxis for mucous membrane exposures and nonintact skin* exposures *(Source: MMWR Vol. 50, No. RR-11, Table 5, p. 25, June 29, 2001)*

Back to Table of Contents

Infection status of source					
Exposure type	**HIV-Positive Class 1**[†]	**HIV-Positive Class 2**[†]	**Source of unknown HIV status**[§]	**Unknown source**[¶]	**HIV-Negative**
Small volume**	Consider basic 2-drug PEP[††]	Recommend basic 2-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP[††] for source with HIV risk factors[§§]	Generally, no PEP warranted; however, consider basic 2-drug PEP[††] in setting where exposure to HIV-infected persons is likely	No PEP warranted
Large Volume	Recommend basic 2-drug PEP	Recommend expanded 3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP[††] for source with HIV risk factors[§§]	Generally, no PEP warranted; however, consider basic 2-drug PEP[††] in setting where exposure to HIV-infected persons is likely	No PEP warranted

* For skin exposures, follow-up is indicated only if there is evidence of compromised skin integrity (e.g., dermatitis, abrasion, or open wound).
[†] HIV-Positive, Class 1 – asymptomatic HIV infection or known low viral load (e.g., <1,5—RNA copies/ml). HIV-Positive, Class 2 symptomatic HIV infections, AIDS, acute seroconversion or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of postexposure prophylaxis (PEP) should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.
[§] Source of unknown HIV status (e.g. deceased source person with no samples available for HIV testing).
[¶] Unknown source (e.g. splash from inappropriately disposed blood).
** Small volume (i.e., a few drops).
[††] The designation, "consider PEP," indicates that PEP is optional and should be based on an individualized decision between the exposed person and the treating clinician.
[§§] If PEP is offered and taken and the source is later determined to be HIV-negative, PEP should be discontinued.
[¶¶] Large volume (i.e., major blood splash).

10. Situations for which expert* consultation for HIV postexposure prophylaxis is advised. (*Local experts and/or the National Clinicians' Post-Exposure Prophylaxis Hotline [PEPline 1-888-448-4911])

    a. Delayed *(i.e. later than 24-36 hours)* exposure report.

        i. The interval after which there is no benefit from postexposure prophylaxis (PEP) is undefined.

    b. Unknown source *(e.g. needle in sharps disposal container or laundry)*

        i. Decide use of PEP on a case-by-case basis.

        ii. Consider the severity of the exposure and the epidemiologic likelihood of HIV exposure.

        iii. Do not test needles or other sharp instruments for HIV.

Back to Table of Contents

c. Known or suspected pregnancy in the exposed person:

   i. Does not preclude the use of optimal PEP regimens.

   ii. Do not deny PEP solely on the basis of pregnancy.

d. Resistance of the source virus to antiretroviral agents:

   i. Influence of drug resistance on transmission risk is unknown.

   ii. Selection of drugs to which the source person's virus is unlikely to be resistant is recommended, if the source person's virus is known or suspected to be resistant to ≥1 of the drugs considered for the PEP regimen.

   iii. Resistance testing of the source person's virus at the time of the exposure is not recommended.

e. Toxicity of the initial PEP regimen:

   i. Adverse symptoms, such as nausea and diarrhea are common with PEP.

   ii. Symptoms often can be managed without changing the PEP regimen by prescribing antimotility and/or antiemetic agents.

   iii. Modification of dose intervals *(i.e., administering a lower dose of drug more frequently throughout the day, as recommended by the manufacturer)*, in other situations, might help alleviate symptoms.

11. Lab results on employees and source patients will be retained in the employee's health record for the duration of employment plus thirty (30) years. The source patient's written results will not be sent to the attending physician due to the confidentiality laws. However, the attending physician must be notified immediately if any results are abnormal.

12. All exposures are reported to the Infection Prevention and Control Committee and to the Worker's Compensation Department.

13. All exposures are tracked in a database.

REPORT OF SIGNIFICANT EXPOSURE
TO BLOOD OR BODY FLUID

Name(s) of EMS Personnel: _____

Name of EMS Service:_____

Address of EMS Service:_____

_____

Phone Number (work):_____
Phone Number (home): _____
Unit Number:_____

Date of Exposure:_____ Time of Exposure:_____

Address of Exposure: _____

_____
Name of Patient: _____

Patient's Address: _____

_____

Route of Exposure:

Parenteral exposure (needle stick)	( )
Blood exposure to mucous membrane or open skin	( )
Other body fluid to mucous membrane or open skin	( )
Other (please describe)_____	( )

_____
_____

Precautions Taken During Treatment:

Gloves	( )
Mask	( )
Gown	( )
Eye coverings	( )

Other (please describe)_____
_____

Back to Table of Contents

PLEASE GIVE A COMPLETE DESCRIPTION OF THE CIRCUMSTANCES SURROUNDING THE EXPOSURE, INCLUDING MEASURES TAKEN AFTER EXPOSURE:

_____
_____
_____
_____
_____
_____

Institution Notified:

_____

Date of Notification: _____ Time of Notification: _____

Name of Attending Physician

Notified: _____

_____
Name of Person Filing Report (please print) Date

_____
Signature

Back to Table of Contents

SUBJECT: Obtaining of Informed Consent before HIV testing following blood/bodily fluid exposure.

PURPOSE: To comply with the state law requiring informed consent prior to HIV testing as set forth by the Hobson Bill.

PROCEDURE:

I. Employee

The Employee Health Center RN will:

A. Obtain informed consent from the employee who has incurred a blood/body fluid exposure.

1. Employee will be given:

a. An explanation of the HIV test

b. The purpose and limitations of the test.

c. The meaning of the results.

d. Explanation about behaviors known to pose risks for transmission of HIV.

e. Opportunity to refuse testing.

B. Employee will sign informed consent form.

C. Employee will be given copy of informed consent form.

D. Copy of informed consent will be placed in employee's health record.

E. The Lab will be notified of authorization to perform HIV test on a number-coded specimen.

II. Source Patient

A member of the *Body Substance Exposure (BSE) Team will:

A. Obtain informed consent from the source patient who was involved in a blood/body fluid exposure.

B. The source patient will sign the informed consent form.

C. The source patient will be given a copy of the informed consent form.

D. A copy of the informed consent form will be placed in the respective employee's health record.

Back to Table of Contents

E. The Lab will be notified of authorization to perform HIV test, on a number-coded specimen.

III. Obtaining Informed Consent in Special Situations

A. If blood specimen is obtained and patient discharged before informed consent signed, then:

1. Staff member will notify patient of exposure by phone and provide explanation as required by Hobson Bill.

2. Patient will be requested to come in to the Employee Health Center to sign informed consent. Lab will be notified to perform HIV test.

3. If patient refuses or does not respond, the incident will be referred to the Infection Control Committee.

B. If blood specimen and consent not obtained before discharge, then:

1. Staff member will inform patient by phone of exposure.

2. Patient will be requested to come in to Employee Health Center and will be provided with explanation as required by Hobson Bill to have blood drawn and sign informed consent.

3. If patient refuses or does not respond the incident will be referred to the Infection Control Committee.

C. If patient is unable to give informed consent due to their condition, then:

1. Next of kin will be informed of incident and asked to provide informed consent.

D. Any other unusual circumstances will be individually considered by Hospital Team and Infection Control.

*Team shall include, but not be limited to, the Chairman of the Infection Control Committee or designee: Infection Control Practitioners or Employee Health Nurses.

Back to Table of Contents

SUBJECT: Health Care Worker or Emergency Medical Service Worker Request for Information and Notification of Test Results.

SOURCE: Ohio Law, Section 3701.248 of the Revised Code and Section 3701-3-022 of the Administrative Code. Effective date: 11/12/92.

POLICY:

I. Section 3701.2148 of the Revised Code allows an emergency medical services worker to ask a health care facility or coroner to notify them of the results of tests for certain diseases, if the worker believes that he or she has a significant exposure through contact with a patient. The diseases subject to this procedure are contagious or infectious diseases that the public health counsel, by rule, has specified as reasonably likely to be transmitted by air or blood during the normal course of an emergency medical services worker's duties. The diseases are listed on the "Ohio Administrative Code" attachment.

A. An employee or Emergency Medical Service worker may request, in writing, that he/she receive the written notification of the patient's test results associated with a significant exposure during handling or transport of an infected patient.

B. Notification of the test results is done by the Employee Health Center *(Use form "Notification to Employee/Emergency Medical Service Worker")*.

C. Oral notification of test results is given within two days after determining the presence of a contagious or infectious disease or after a confirmed positive test result.

D. Written notification of the test results to the employee or Emergency Medical Services worker and the Emergency Medical Services work's supervisor is given within three days of oral notification.

E. Written and oral notification of positive test results shall include the name of the disease, date of the exposure, the incubation period, the mode of transmission, the precautions necessary to prevent transmission to other persons and the appropriate prophylaxis, treatment and counseling for the disease. *(Information will be based on the current edition of Benenson's Control of Communicable Diseases in Man, recommendations as determined by the Infection Control Committee Chairperson.)* **The notification shall not include the name of the source patient.**

Back to Table of Contents

F. If the information is not available from the health care facility to which the request is made because the patient has been transferred from that health care facility, the facility shall assist the emergency medical services worker in locating the medical provider and securing the requested information from the health care facility that treated or is treating the patient. If the patient has died, the health care facility shall give the emergency medical services worker the name and address of the coroner who received the patient.

G. The request for notification is valid for ten (10) days after it is made. If at the end of the ten-day period no test has been performed to determine the presence of a contagious or infectious disease, **OR**, no diagnosis has been made, **OR**, the result of the test is negative, the Employee Health Center will notify the Requester accordingly. The request may be reviewed in accordance with the same procedures and requirements as the original request.

Back to Table of Contents

SUBJECT: Non Hospital Source Patient

POLICY: If a patient is an identified source in a Health Care Worker (HCW) or Emergency Medical Service (EMS) exposure and has left the original hospital where the exposure occurred and becomes a patient the original hospital can ask to obtain an HIV Test.

OBJECTIVE: To meet the requirements of the Ohio State Hobson Law to provide source patient information to the Health Care Worker or EMS Worker.

PROCEDURE:

I. Information regarding the above situation may come to the Emergency Department, Laboratory, Employee Health Service or Infection Prevention Control Department would assist with the procurement of the HIV Test.

   A. Appropriate interdepartmental communication will take place regarding the situation and its specifics

II. Infection Prevention and Control will:

   A. Alert Employee Health, Lab and other relevant departments.

   B. Obtain an HIV Consent.

   C. Arrange for the blood to be obtained.

   D. The Immunology Lab will be alerted to expect the specimen.

III. Employee Health will alert Infection Prevention and Control, Lab, other relevant departments.

   A. The specimen will be labeled according to the Employee Health Confidential Code for the Hospital.

IV. The Laboratory will:

   A. Alert Employee Health, Infection Prevention and Control, other relevant departments.

   B. The Lab will return the report to Infection Prevention and Control confidentially.

   C. Infection Prevention and Control will forward the report to the requesting hospital confidentially.

Back to Table of Contents

SUBJECT: Employee Exposure to Meningococcal Meningitis

PURPOSE: To provide protection to the employee that has had intimate contact with an infected patient *(i.e., pulmonary resuscitation)*. Those individuals that have had only the usual patient/employee contact do not need prophylactic treatment.

POLICY: It is the policy of Employee Health Center to provide protection to its employees that are exposed or possibly exposed to an infectious disease process.

CARE OF EXPOSED PERSONS: HEALTH CARE WORKERS are rarely at risk.

Nosocomial transmission of Neisseria meningitides to healthcare workers caring for patients with meningococcemia, meningococcal meningitides or lower respiratory infections is uncommon. In rare instances transmission has occurred through intensive direct contact with the infected person and direct contact with respiratory secretions without the use of proper precautions. The most likely mode of spread is by large droplet secretions. Risk to personnel from casual contact *(as usually occurs with housekeepers or with laboratory workers' contact with clinical specimens)* appears to be negligible.

Prophylaxis is not routinely recommended for healthcare personnel, except those with intimate exposure *(such as; occurs with mouth-to-mouth resuscitation, intubation or suctioning)* before antibiotic therapy.

Meningococcal lower respiratory infections may present a greater risk of transmission than meningococcemia or meningitis alone, especially if the patient has an active, productive cough. In this case, prophylaxis is recommended for workers with prolonged direct patient contact.

PROCEDURE:

I. Fill out the accident report and have it signed by your supervisor. Document the name, room number and attending physician of the patient.

II. If able to report to the Employee Health Center within eight (8) hours after the definite confirmation of the diagnosis, do so; if more than eight (8) hours would lapse before able to report to the Employee Health Center, report to the Emergency Department.

Back to Table of Contents

III. If it is documented that the employee has come in intimate contact *(i.e., pulmonary resuscitation)*, the Employee Health Center will:

A. Call the employee's attending physician and ask for an appropriate order for:

1. Rifampin 600 mg p.o. every twelve (12) hours for two (2) days

OR

2. Minocycline 200 mg p.o. followed by 100 mg every twelve (12) hours for five (5) doses.

OR

3. Ciprofloxacin 500 mg p.o. single oral dose to adults (>18 years).

B. If the employee does not have an attending physician or the physician is unavailable, the Employee Health Center will contact the Employee Health Physician or, in his absence, the hospital epidemiologist for an appropriate order.

C. The appropriate prescription will be dispensed from the hospital pharmacy.

NOTE: When prophylaxis is deemed necessary it is important to begin treatment.

The drug of choice in most instances is rifampin; sulfonamides should be used only if the organism has been found to be sulfonamide sensitive.

The recommended regimen for rifampin prophylaxis is 600 mg p.o. every 12 hours for a total of 4 doses during 2 days.

Ciprofloxacin, 500 mg, may also be given as a single oral dose to adults (>18 years).

Back to Table of Contents

REGIONAL EMS WORKER
PREHOSPITAL EXPOSURE
REQUEST FOR NOTIFICATION/DOCUMENTATION OF TREATMENT

I understand that Ohio Revised Code, 3701.248, sections A through E, require that when a written request for notification of infectious or contagious disease is made to a medical facility by an EMS worker who treated or transported a patient to that facility, then that facility **MUST** provide notification of the presence or absence of an infectious or contagious disease carried by that patient within 2 days of determination of disease.

If disease is present, written notification must follow verbal notification within 3 days. Verbal and written notification shall include the name of the disease and the counseling required by law to prevent transmission of the disease to other persons. Written notification shall **NOT** include the name of the source patient I was exposed to.

This is my written request for notification. Please notify me and the designated officer (DO) named below. Notify us both verbally and in writing, as prescribed by law.

Name of exposed EMS worker:_____
Address:_____
Phone:_____ Date/Time of Exposure:_____/_____
Name of source patient:_____
Name of this medical facility:_____

What part(s) of your body were exposed?_____
What were you exposed to?_____
How were you exposed? (inhaled, substance airborne, needlestick, blood on skin, etc.)
_____
Did you have any open wounds, cuts or scabs during this exposure?_____
I am employed by:_____
My Employer's Designated Infection Control Officer is:_____
24 hour phone number for the Designated Officer:_____
Designated Officer's Address:_____
_____
_____

I am also requesting treatment, testing, prophylaxis and counseling in accordance with the most current recommendations from the U.S. Public Health Service on this exposure.

_____ _____
My signature Date

Back to Table of Contents

REGIONAL EMS WORKER
PREHOSPITAL EXPOSURE
DOCUMENTATION OF TREATMENT AND FOLLOW UP

This exposure as noted on Part A of this form is being handled in accordance with the current available guidelines from the U.S. Public Health Service. Medical records of all treatment, testing and counseling of the below named EMS worker are on file at this facility and subject to certain confidentiality restrictions.

Name of this medical facility:_____

Name of exposed EMS workers:_____

Signed:_____ Title: _____

Additional Comments:_____

_____

_____

Date of this exposure:_____ Type of exposure:_____

P.P.D. (Mantoux)_____ Date:_____ Read:_____

Tetanus Toxoid administered?_____ Date:_____

Spinal fluid gram stain_____

Rifampin administered?_____ Date:_____

HBIG, Recombivax B administered? _____ Date:_____

Other: _____

Follow up/Due back/ Referred to? _____

_____

Back to Table of Contents

Interfacility patient transport guidelines

1. The transferring physician is ultimately responsible for the patient until received by the accepting physician or his/her agent, i.e., nurse or covering physician.

2. The prehospital health care provider will be responsible for carrying out the transferring physician's orders. The provider must check, be completely familiar with, and understand the transfer orders. Any questions or concerns, for example validity or specifics of DNR orders, medications or treatment(s), must be answered and clarified prior to departing the transferring hospital. If the provider does not understand or feel comfortable with the orders, then he/she must address these concerns with the physician or his/her agent, i.e., nurse or covering physician. If the concern(s) cannot be rectified, the provider should contact his/her supervisor and not proceed with the transfer until said concerns are rectified. The supervisor may need to directly, either by phone or in person, contact the physician or his/her agent to clarify or rectify any real or perceived concerns of the provider prior to initiating transfer. If the provider still has concerns, he/she should go up the chain of command until such concerns are adequately and appropriately rectified prior to proceeding with the transfer.

3. In order to avoid any attendant delays in care and transport, said review and clarification should and must occur prior to initiation of transfer. Thirty to sixty minutes prior to transport should usually be sufficient.

4. It should be documented in the transfer record that the receiving physician and hospital has been notified and has accepted the patient in transfer. Any equipment, airway management concerns, medication(s) or special needs must also be arranged for and available prior to the immediate transfer time.

5. Once en route if any problem(s) arises not previously considered or covered in the transfer orders, the provider(s) will immediately contact the transferring hospital, physician or his/her agent for direct online medical oversight. If the transferring hospital or the EMS department’s own medical control cannot be accessed due to vehicle location, communication difficulties or acts of nature, the provider will follow written protocols or standing orders until such a time that the transferring, receiving or other nearest appropriate medical facility can be contacted and act as online medical oversight for this particular concern. On occasion, for example due to patient care concerns, patient status deterioration not covered in the transfer orders, or equipment failure, the transfer may require diversion to the nearest appropriate medical facility.

Back to Table of Contents

6. It is imperative that the most appropriate route(s) of travel, the locations of appropriate possible diversion medical centers and their phone or radio call numbers are made available prior to initiation of the transfer. It is the duty of the provider(s) to familiarize themselves with this information prior to transport.

7. The immediate supervisor will review the above directives and ensure all is in place prior to initiation transfer.

The following is an Ohio Chapter ACEP Position Paper on patient transport between facilities:

OHIO CHAPTER ACEP
INTERFACILITY PATIENT TRANSPORT POSITION PAPER

The transportation of patients from one health care facility to another should be carried out in an orderly and expeditious manner. Regardless of origin or destination, patients remain the responsibility of the transferring physician until received by the accepting physician or his/her agent. The transfer papers and accompanying record must document the reason for transfer as well as the time of contact and the name of the receiving facility, physician and/or accepting agent in accordance with nationally recognized standards and federal regulations.

The decision regarding the level and scope of practice of the out-of-hospital transporting agency and the individual providers should be made in consultation with the receiving physician and must be appropriate to the stability of the patient and their medical equipment needs. The provider will be responsible for carrying out the orders of the transferring physician during the transfer unless acting as the agent of the receiving facility with superseding medical oversight, or if a physician accompanies the patient. Any questions or concerns regarding those orders, including but not limited to Do Not Resuscitate (DNR) orders, medications or treatments, must be answered or clarified prior to departure. The route(s) of travel, possible diversionary medical facilities and their phone or radio call numbers should also be determined.

If unanticipated problems or concerns arise during transport, direct, on-line medical oversight will be obtained. If for technical or logistical reasons this is not possible, the transporting agent should follow written protocols or standing orders until the transferring, receiving or nearest diversionary facility can be contacted on-line.

Back to Table of Contents

8. Guidelines for transfer from a non-hospital location to a non-hospital location: home to hospice; hospice to home

   a. On occasion, the prehospital provider(s) will be called upon to transport a patient from a non-hospital location to another non-hospital facility such as a hospice center or from a hospice center to home or a doctor's office. The provider(s) will follow the written or pre-existing orders of the patient's physician or physician approved hospice center orders for the transport. At times, a hospice nurse may arrive or already be at the scene. He/she should be able to help review orders and/or care directives such a DNR or "Support Care" orders to enable transport in accordance with the wishes of the patient and his/her family. A hospice patient by definition is DNR.

   b. Medical Oversight does not need to be contacted unless the DNR is revoked. However, if the provider(s) feels the need to contact Medical Oversight for advice or direction, the provider(s) will clearly advise Medical Oversight of the patient's terminal condition and DNR status.

   c. If medication(s) needs to be "wasted", e.g., morphine, Valium or Versed, then the receiving hospice supervisor, nurse or EMS supervisor may witness and document appropriate disposal of the said medication(s) and administration equipment, e.g., needle(s), syringe(s), IV catheter(s), heparin or saline lock(s) or IV lines and/or solutions.

   d. Medications or equipment should never be transported to an Emergency Department to be disposed of or wasted. Any and all waste materials will be disposed of into approved and appropriately labeled containers.

Back to Table of Contents

Media relations

EMS agencies and/or the physician medical director may be required to have interactions with local media. This typically occurs during high profile incidents such as motor vehicle crashes involving numerous patients, industrial accidents or other large-scale events. There are a few key points the physician medical director should remember when dealing with the media:

1. The Incident Command System (ICS) will typically designate a public information officer for coordinating all contacts with media and to ensure the correct flow of proper information to media outlets. The physician medical director should work in conjunction with their EMS agency and the public information officer when dealing with the media.

2. The media can serve as a valued resource for helping to transmit critical information to concerned members of the community. It may be appropriate for either the physician medical director, EMS official, or city official to serve as the key contact or official spokesperson to represent the interest of the EMS agency and the public's well being. It is important to realize that lacking a credible source of information within the EMS agency, or city administration, media may elect to use "non expert" spokespeople who are more willing to be interviewed. In this day of media saturation in many areas, it is important for the medical director to instruct all EMS personnel on the necessity for protecting patient modesty and patient confidentiality.

3. The media can be a valuable partner in helping educate the community on many injury and illness prevention issues. Examples include public access defibrillation, correct child safety seat usage, smoke and carbon monoxide detector usage, blood pressure screening, and many others. Inviting local media representatives to spend time observing on EMS runs may help establish a good working relationship for further community education projects.

EMS provides an invaluable service for the community that is frequently overlooked. Working with local media allows the public to have a greater sense of security and confidence in their prehospital providers.

Back to Table of Contents

REFERENCES

1. Mitchell, J.T., & Bray, G. *Emergency Services Stress: Guidelines For Preserving the Health and Careers of Emergency Services Personnel*. Englewood Cliffs, NJ: Brady Publishing, 1990.

2. Mitchell, J.T. & Everly Jr., G.S. *Critical Incident Stress Debriefing: An Operations Manual for the Prevention of Traumatic Stress Among Emergency Services and Disaster Workers.* Ellicott City, MD: Chevron Publishing, 1993.

3. Mitchell, J.T. & Everly Jr., G.S. *Human Elements Training For Emergency Services, Public Safety and Disaster Personnel: An Instructional Guide to Teaching Debriefing, Crisis Intervention and Stress Management Programs*. Ellicott City, MD: Chevron Publishing, 1994.

Back to Table of Contents

APPENDIX

Management of Occupational Blood Exposures

Provide immediate care to the exposure site.

- Wash wounds and skin with soap and water.
- Flush mucous membranes with water.

Determine risk associated with exposure by:

- Type of fluid (e.g., blood, visibly bloody fluid, other potentially infectious fluid or tissue, and concentrated virus) and
- Type of exposure (i.e., percutaneous injury, mucous membrane or nonintact skin exposure, and bites resulting in blood exposure).

Evaluate exposure source.

- Assess the risk of infection using available information.
- Test known sources for HbsAg, anti-HCV, and HIV antibody (consider using rapid testing).
- For unknown sources, assess risk of exposure to HBV, HCV or HIV infection.
- Do not test discarded needles or syringes for virus contamination.

Evaluate the exposed person.

- Assess immune status for HBV infections (i.e. by history of hepatitis B vaccination and vaccine response).

Give PEP for exposures posing risk of infection transmission.

- HBV: See Table 3
- HCV: PEP not recommended
- HIV: See Tables 4 and 5

—Initiate PEP as soon as possible, preferably within hours of exposure.

—Offer pregnancy testing to all women of childbearing age not known to be pregnant.

—Seek expert consultation if viral resistance is suspected.

—Administer PEP for 4 weeks if tolerated.

Back to Table of Contents

Perform follow-up testing and provide counseling.

- Advise exposed persons to seek medical evaluation for any acute illness occurring during follow-up.

HBV exposures

- Perform follow-up anti-HBV testing in persons who receive hepatitis B vaccine.

  —Test for anti-HBs 1-2 months after last dose of vaccine.

  —Anti-HBs response to vaccine cannot be ascertained if HBIG was received in the previous 3-4 months.

HCV exposures

- Perform baseline and follow-up testing for anti-HCV and alanine amino-transferase (ALT) 4-6 months after exposures.

- Perform HCV RNA at 4-6 weeks if earlier diagnosis of HCV infection desired.

- Confirm repeatedly reactive anti-HCV enzyme immunoassays (EIAs) with supplemental tests.

HIV exposures

- Perform HIV-antibody testing for at least 6 months postexposure (e.g., at baseline, 6 weeks, 3 months, and 6 months).

- Perform HIV antibody testing if illness compatible with an acute retroviral syndrome occurs.

- Advise exposed persons to use precautions to prevent secondary transmission during the follow-up period.

- Evaluate exposed persons taking PEP within 72 hours after exposure and monitor for drug toxicity for at least 2 weeks.

(Source: MMWR Vol. 50, No. RR-11 Appendix B, pages 45-46, June 29, 2001)

Back to Table of Contents

OCCUPATIONAL EXPOSURE MANAGEMENT RESOURCES

National Clinicians' Postexposure Prophylaxis Hotline (PEPline) Run by University of California, San Francisco/ San Francisco General Hospital staff; supported by the Health Resources and Services Administration Ryan White CARE Act, HIV/AIDS Bureau, AIDS Education and Training Centers, and CDC.	Phone: (888) 448-4911 Internet: http://www.ucsf.edu/hivcntr
Needlestick! A website to help clinicians manage and document occupational blood and body fluid exposures. Developed and maintained by the University of California, Los Angeles (UCLA), Emergency Medicine Center, UCLA School of Medicine, and funded in part by CDC and the Agency for Healthcare Research and Quality	Internet: http://www.needlestick.mednet.ucla.edu
Hepatitis Hotline.	Phone: (888) 443-7232 Internet: http://www.cdc.gov/hepatitis
Reporting to CDC: Occupationally-acquired HIV infections and failures of PEP.	Phone: (800) 893-0485
HIV Antiretroviral Pregnancy Registry	Phone: (800) 258-4263 Internet: www.apregistry.com
Food and Drug Administration Report unusual or severe toxicity to antiretroviral agents	Phone: (800) 332-1088 Internet: http://www.fda.gov/medwatch U.S. Food and Drug Administration MedWatch HFD-410 5600 Fishers Lane Rockville, MD 20857
HIV / AIDS Treatment Information Service A service of The U.S. Department of Health and Human Services	Internet: http://www.aidsinfo.nih.gov

(Source: MMWR Vol. 50, No. RR-11, June 29, 2001, pages 31-32)

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter VI Questions

1. Which of the following patients should be pronounced DOA?

   A. A 30-year-old with a decapitation
   B. A 17-year-old burned beyond recognition
   C. An 80-year-old found after unknown period of time with rigor mortis
   D. All of the above

2. A physician wishes to assume responsibility at the scene of an accident. What must the physician do to assume any responsibility?

   A. Instruct EMS on procedures not in their protocols
   B. Submit proof they are a physician in Ohio
   C. Assume responsibility only at the scene
   D. Instruct EMS on treatment that are not in their protocols

3. A highly intoxicated 19-year-old is involved in an MVC. He is refusing to be treated. Which of the following should be recommended?

   A. Leave him at the scene
   B. Allow his 16-year-old friend to drive him home
   C. Treat and transport to an appropriate facility
   D. Wait at the scene until he is sober

4. A patient wishes to refuse transport. Which of the following steps must be taken?

   A. Medical oversight should be contacted
   B. Patient must be advised of the benefits of treatment
   C. The patient must be able to state in their own words the risks and benefits
   D. All of the above

5. Which of the following infectious disease policies should an EMS agency have in place?

   A. Exposure to blood borne pathogens
   B. Exposure to meningococcal meningitis
   C. Obtaining informed consent before HIV testing following blood/bodily fluid exposure
   D. All of the above

Back to Table of Contents

CHAPTER VII: LEVELS OF PREHOSPITAL PROVIDERS

I. INTRODUCTION

There are four levels of prehospital providers in Ohio: First Responder and EMT Basic, Intermediate and Paramedic. Each of these has different levels of education and training and subsequently differing skill levels and responsibilities. The state of Ohio EMS Board has set up educational requirements, curricula and a scope of practice range for each level of provider. There are variations in these minimums, guidelines and scope of practice from state to state, which needs to be considered if a provider was trained or has been providing care outside of Ohio.

It is important as a medical director to be aware of the abilities of your providers as well as their educational training and requirements. Three year continuing education cycles are expected for each level of prehospital provider. The medical director may be called on to assist in this. It should be noted that 10% of each year's applicants for recertification will randomly be required to submit proof of approved CME. This chapter serves as an overview of the different levels of EMTs, their training, responsibilities and continuing education requirements. A summary of Ohio's scope of practice for EMS providers may be found on pages 4-7.

II. FIRST RESPONDER

First Responders are designated to help stabilize and treat many life-threatening conditions until advanced transporting providers arrive. They are usually Safety Officers or Firefighters. First Responders are most practical wherever they can consistently be on scene before ambulance personnel. This can be especially helpful in more rural communities where staffing a full-time ambulance is impractical.

First responders are trained to provide CPR, automatic defibrillation and basic airway management, including bag-valve-mask ventilation and the administration of oxygen. They are also trained for childbirth, spinal immobilization, splinting and assisting the patient in administering his or her auto-injector of Epinephrine. They are expected to obtain vital signs and record them in a patient care report (PCR), which should become part of the permanent medical record.

First Responders must complete an approved 40-hour class that follows the current National standard curricula as adopted by U.S. DOT of which six hours are preparatory, eight hours are devoted to airway management, eight hours to cardiac arrest and AED usage, five hours to patient assessment, four hours to pediatrics and childbirth and eight hours to medical illness, including Epinephrine administration assistance. They must also complete a 15-hour refresher course or obtain 15 hours of approved CME every three years or maintain current National Registry First Responder certification in order to continue to function as a First Responder.

Back to Table of Contents

III. EMT-BASIC (EMT-B)

The next level of pre-hospital provider is EMT-Basic (EMT-B). It is the most common certification level of EMT in the State of Ohio, with more than 20,000 Basics with active certifications. A significant number of these providers are volunteers in rural settings.

In addition to the skills of a First Responder, the EMT-B is also taught extrication and transport. In general, they have more airway skills and, if approved by the physician, are able to intubate. They are allowed to assist a patient in using his or her own Nitroglycerin, Epi-pen or inhalers. Additionally, they are trained to assist in setting up an IV, applying a cardiac monitor and in obtaining a glucose level by fingerstick when an EMT-I or Paramedic is involved in patient care. The complete curriculum may be viewed at ORC 4765-15-01.

Every three years an EMT-B must obtain 40 hours of continuing education, of which at least six hours must be in pediatrics, two hours in trauma triage, eight hours of trauma, and two hours in geriatrics. If two hours of trauma triage CME is obtained, completion of a 30-hour refresher course or maintaining National Registry Certification (and taking at least two hours of local trauma triage CME) is also an option. For refresher requirements, please see ORC 4765-15-01.

IV. EMT-INTERMEDIATE (EMT-I)

A prehospital provider must complete an EMT-Basic course in order to take an EMT-Intermediate (EMT-I) course. This 130-hour course teaches several procedures beyond those taught to EMT-Bs and includes administration of some medications outside of those that are prescribed for the patient and competencies that must be demonstrated during ED clinical or ambulance ride along time. The complete curriculum may be viewed at ORC 4765-16-01.

Following Federal guidelines, the EMS Board voted in 2003 to expand the EMT-I scope of practice. Trained EMT-Is, with the approval of the medical director, may start an IV and administer Dextrose, Diphenhydramine, Diazepam, Lorazepam, Naloxone, Glucagon, Nalbuphine, Morphine, Ketorolac and Meperidine. Additionally, they may administer Nitroglycerin and subQ Epinephrine, and nebulization treatment, even if the patient has not been prescribed them. They may also intubate a patient that is apneic, interpret a rhythm strip, manually defibrillate and perform needle chest decompression.

Sixty hours of continuing education are required every three years. Of this, eight must be in pediatrics, eight in trauma (including two in trauma triage), and four in geriatrics. As with the Basics, if two hours of local trauma triage CME are obtained, maintaining National Registry Certification or taking a 40-hour refresher course along with 20 hours of continuing education is an option. Currently, there are more than 3,000 certified EMT-Intermediates in Ohio.

Back to Table of Contents

V. PARAMEDIC (EMT-P)

EMT-Paramedic is currently the highest level of prehospital provider in Ohio. There are presently more than 10,000 paramedics certified in Ohio, and the majority are concentrated in the more urban settings.

Paramedics have the scope of practice of an EMT-I with additional skills and procedures. During their 600 to 800 hours of additional training (which includes 400 to 500 hours of clinical, didactic and field training) they are trained in the ACLS algorithms, including pacing and defibrillation, and administering drugs such as lidocaine and amiodarone. They are also taught to give IV medications by infusion, to perform a cricothyrotomy, to intubate nasally and to use Bi-PAP.

Currently, the state requires 80 hours of continuing education every three years. This must include 12 hours of pediatrics, eight hours of trauma (including two hours of local trauma triage), and four hours of geriatrics. Additionally, they must have either current ACLS certification or have completed the 12-hour cardiac refresher course. A 48-hour refresher with 32 hours of continuing education is an alternative as well as taking an exam or maintaining National Registry Certification.

The following medications and procedures are occasionally used in EMT-P programs; thrombolytics, isoproterenol, aminophylline, nalbuphine, promethazine, phenytoin, procainamide, dobutamine, mannitol, isoetharine, propranolol and glucocorticosteroids.

VI. SUMMARY

Medical directors must have a clear sense of the training and skill levels of their providers. This will determine what they can be reasonably allowed to do. In addition, the skill levels of the providers should be reflected in the protocols. An important function of any medical director is the direction and assisting in the maintenance of continuing education for the EMS providers.

Back to Table of Contents

Ohio Scope of Practice for EMS

Revised 2/11/04

Airway Management	FR	B	I	P
Open and maintain the airway	X	X	X	X
Oropharyngeal airway adjunct	X	X	X	X
Nasopharyngeal airway adjunct	X	X	X	X
Obstructed airway management	X	X	X	X
Oral suctioning	X	X	X	X
ET suctioning		X	X	X
Trach tube suctioning		X	X	X
Trach tube replacement				X
Pulse oximeter or $ETCO_2$ equipment application/reading		X	X	X
Oxygen administration				
a. Nasal cannula	X	X	X	X
b. Non-rebreather mask	X	X	X	X
c. Mouth-to-barrier devises	X	X	X	X
Ventilation management				
a. Bag valve mask	X	X	X	X
b. Ventilation with a flow-restricted O_2 powered device	X	X	X	X
Orotracheal intubation				X
a. Apneic patients			X	X
b. Pulseless AND apneic patients		X	X	X
Nasotracheal intubation				X
Cricothyrotomy, surgical				X
Cricothyrotomy, needle				X
Dual lumen airway				X
a. Apneic patients			X	X
b. Pulseless AND apneic patients		X	X	X
Laryngeal Mask Airway (LMA)				X
a. Apneic patients			X	X
b. Pulseless AND apneic patients		X	X	X
Ventilator management - 16 y/o or older				X
C-PAP and Bi-PAP administration and mgt.				X

Back to Table of Contents

Cardiac Management	FR	B	I	P
Automated External Defibrillator(AED)	X	X	X	X
Cardiac monitor strip interpretation			X	X
Manual defibrillation			X	X
Cardiopulmonary Resuscitation (CPR)	X	X	X	X
Transcutaneous Cardiac pacing				X
Baby Aspirin administration		X	X	X
Cardiac medication administration				X
Cardioversion				X
12-lead EKG performance & interpretation				X
Chest compression assist devices		X	X	X

Medical Management	FR	B	I	P
Glucose monitoring system use (with C.L.I.A. waiver)		X	X	X
Peripheral IV blood specimens			X	X
Oral glucose administration		X	X	X
Auto-injector Epinephrine (Pt. Assisted)	X	X	X	X
Epinephrine administration (Subcutaneous)			X	X
Activated Charcoal administration		X	X	X
Nitroglycerine administration (Pt. Assisted)		X	X	X
Nitroglycerine administration (Non pt. Assist)			O	X
Metered dose inhaler (Pt. Assisted)		X	X	X
Nebulized medications			O	X

Patient Assisted Definition:

1) May assist with patient's prescription upon patient request and with written protocol.

OR

2) May assist from EMS provided medications with on-line medical direction.

Pre-hospital ALS Assistance***	FR	B	I	P
Set up of IV administration kit		X		
Apply Cardiac monitor		X		
12-lead EKG application			X	

***** Set-up of equipment only; if appropriately certified EMT is not present, these procedures shall not be performed**

Back to Table of Contents

Trauma Management	FR	B	I	P
PASG		X	X	X
Long spine board	X	X	X	X
Short spine board	X	X	X	X
Splinting devices	X	X	X	X
Traction splint		X	X	X
Cervical Immobilization Device (CID)	X	X	X	X
Helmet removal		X	X	X
Rapid extrication procedures		X	X	X
Needle decompression of the chest			O	X
Soft tissue management	X	X	X	X
Management of suspected fractures	X	X	X	X

Preparatory / Basic Performances	FR	B	I	P
BSI precaution/administration	X	X	X	X
Taking and recording of vital signs	X	X	X	X
Patient Care Report (PCR) documentation	X	X	X	X
Emergency childbirth management	X	X	X	X
Trauma triage determination per ORC 4765-14-02	X	X	X	X

Other	FR	B	I	P
Medication administration (Protocol approved)			O	X
****** See page 4 for complete Intermediate listing***				
IV lifeline and fluid administration			X	X
Intraosseous infusion			X	X
Saline lock initiation			X	X
IV infusion pump				X

An EMT-Intermediate *may* perform these skills **only** upon completion of the following:
(1) **40-hour EMT-Intermediate Transition Course as outlined in 4765-16-02**,
and
(2) Medical Direction is established.

EMT-Intermediate Transition course must be completed for all current certified EMT-I's prior to July 1, 2005. Initial Intermediate courses taken after September 1, 2003 will include these skills.

Back to Table of Contents

Approved EMT-Intermediate Medications
Epinepherine 1:1000 (sub-q injection)
Sublingual nitroglycerin
Dextrose 50% in water (adult patients)
Dextrose 25% in water (pediatric patients)
Diphenhydramine
Diazepam
Lorazepam
Bronchodilators
Naloxone (including intranasal)
Glucagon
Nitrous oxide
Nalbuphine
Morphine Sulfate
Ketorolac, meperidine, or other analgesics for pain relief

The EMS provider (EMT-B, EMT-I, EMT-P) shall administer medications only via the route addressed in each respective curriculum, consistent with their level of training, and only after approval by the respective Medical Director. Regarding the EMT-P, parenteral routes of medication administration may include intranasal if approved by the respective Medical Director.

More information is available:

The Ohio Department of Public Safety
Division of EMS
1970 West Broad Street
P.O. Box 182073
Columbus, Ohio 43218-2073
(614) 466-9447, (800) 233-0785, www.state.oh.us/odps

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter VII Questions

1. Which of the following is true regarding EMT-Bs in Ohio?

   A. They may assist the patient with NTG
   B. They may provide spinal immobilization
   C. Their curriculum is assessment-based
   D. All of the above

2. Which of the following is true regarding continuing education for EMT-Bs?

   A. It occurs over a 3-year cycle
   B. Completion of a 36-hour refresher course is an option
   C. Maintaining National Registry is an option
   D. All of the above

3. The police officer has taken a 40-hour course in advanced first aid and no other training. He is most likely a:

   A. EMT-B
   B. First responder
   C. EMT-I
   D. EMT-P

4. Which is the most common certificate level in the state of Ohio?

   A. EMT-B
   B. EMT-I
   C. EMT-P
   D. EMD

5. Which of the following can a first responder do?

   A. CPR
   B. Spinal immobilization
   C. Deliver a baby
   D. Oxygen administration
   E. All of the above

Back to Table of Contents

CHAPTER VIII: EMS EDUCATION

I. INTRODUCTION

The Ohio State Board of Emergency Medical Services recognizes that the national standard curriculum, as adopted by the United States Department of Transportation, will be used as the template for all EMS training in the State of Ohio. These various curricula are routinely reviewed and updated. Medical directors need to be aware of modifications in the initial training programs for EMT-Basic, EMT-Intermediate and EMT-Paramedic training. The State Board of Emergency Medical Services also oversees the accreditation of all training programs. It is required that all training programs have a course medical director who is involved with evaluation of the curriculum, assuring adequate teaching standards, and participating in quality assurance or oversight of the training program.

II. EMT-BASIC

The EMT-Basic course was last modified and released in June 1995. This course contained seven modules with the prerequisite knowledge of Cardiopulmonary Resuscitation. The modules are the following

1. Preparatory

    - Introduction to emergency medical care
    - The well being of the EMT-Basic
    - Medical/legal and ethical issues
    - The human body
    - Baseline vitals and SAMPLE history
    - Lifting and moving

2. Airway

    - Airway
    - Advanced airway

3. Patient assessment

    - Scene size-up
    - Initial assessment
    - Focused history and physical exam: medical
    - Focused history and physical exam: trauma
    - Detailed physical exam
    - On-going assessment
    - Communications
    - Documentation

Back to Table of Contents

4. Medical/Behavioral Emergencies & OB/GYN

- General pharmacology
- Respiratory emergencies
- Cardiovascular emergencies
- Diabetic/Altered mental status
- Allergic reactions
- Poisonings/overdose emergencies
- Environmental emergencies
- Behavioral emergencies
- Obstetrical emergencies

5. Trauma

- Bleeding and shock
- Soft tissue injuries
- Musculoskeletal care
- Injuries to the head and spine
- Triage and destination

6. Infants and children

- Infants and children

7. Operations

- Ambulance operations
- Gaining access
- Overviews

The 1995 EMT-Basic curriculum stresses the importance of assessment-based format rather than a diagnosis-based format for all ages. Particular emphasis is placed on assuring that the primary skills of assessment and ABCs are established. The importance of clearly defined medical control is also emphasized in this curriculum.

The National Highway Traffic and Safety Administration EMT-Basic curriculum recommends a course length of 110 hours. The State Board of Emergency Medical Services is authorized to modify recommended course lengths. The current requirement for EMT-Basic within the State of Ohio is 130 hours.

III. EMT-INTERMEDIATE

The Emergency Medical Technician – Intermediate National Standard Curriculum was released in 1999. The prerequisite for EMT-Intermediate training includes EMT-Basic

Back to Table of Contents

training. The curricula include seven modules with additional clinical and field experiences.

1. Preparatory

    - Foundations of the EMT-Intermediate
    - Overview of human systems
    - Emergency pharmacology
    - Venous access and medication administration

2. Airway management and ventilation

3. Patient assessment

    - Respiratory emergencies
    - Cardiovascular emergencies
    - Diabetic emergencies
    - Allergic reactions
    - Poisoning/overdose emergencies
    - Neurological emergencies
    - Non-traumatic abdominal emergencies
    - Environmental emergencies
    - Behavioral emergencies
    - Gynecologic emergencies

4. Medical history taking

    - Techniques of physical examination
    - Patient assessment
    - Clinical decision-making
    - Documentation
    - Communications

5. Trauma

    - Trauma systems/mechanism of injury
    - Hemorrhage and shock
    - Burns
    - Thoracic trauma
    - Trauma practical laboratory

Back to Table of Contents

6. Special considerations

- Obstetric emergencies
- Neonatal resuscitation
- Pediatrics
- Geriatrics

7. Assessment-based management

Please see ORC 4765-16-01 for additional curriculum requirements.

IV. EMT-PARAMEDIC

The National Standard Curriculum EMT-Paramedic Program was released in 1998. This program recommends approximately 1200 hours of clinical and didactic training. Unique to the EMT-Paramedic Curriculum are required competencies in mathematics, reading and writing. These are to be demonstrated prior to initiation of the course. Additional pre- or co-requisites include EMT or EMT basic training with human anatomy and physiology.

There are eight modules included in the National Standard Curriculum.

1. Preparatory

- EMS Systems -The roles and the responsibilities of the paramedic
- The well-being of the paramedic
- Illness and injury prevention
- Medical/legal issues
- Ethics
- General principals of pathophysiology
- Pharmacology
- Venous access and medication administration
- Therapeutic communications
- Life span development

2. Airway management and ventilation

3. Patient assessment

- History taking
- Techniques of physical examination
- Patient assessment
- Clinical decision-making
- Communications
- Documentation

Back to Table of Contents

4. Medical

- Pulmonary
- Cardiology
- Neurology
- Endocrinology
- Allergies and anaphylaxis
- Gastroenterology
- Renal/urology
- Toxicology
- Hematology
- Environmental conditions
- Infectious and communicable diseases
- Behavioral and psychiatric disorders
- Gynecology
- Obstetrics

5. Trauma

- Trauma systems
- Mechanisms of injury
- Hemorrhage and shock
- Soft tissue trauma
- Burns
- Head and facial trauma
- Spinal trauma
- Thoracic trauma
- Abdominal trauma
- Musculoskeletal trauma

6. Special considerations

- Neonatology
- Pediatrics
- Geriatrics
- Abuse and assault
- Patients with special challenges
- Acute interventions for the chronic care patient

7. Assessment-based management

Back to Table of Contents

8. Operations

- Ambulance operations
- Medical incident command
- Rescue awareness and operations
- Hazardous material incidents
- Crime scene learning

In addition to these are required clinical and field experiences. Throughout the whole curriculum, the process of lifelong learning and continuing education is emphasized.

V. SKILLS REQUIREMENTS

The NHTSA National Standard Curricula contain specific “skill sheets” that assess the individual provider's ability to perform the necessary skills at the specific training level. In addition to reviewing the National Standard Curricula recommended training hours for each specific skill area, the medical director should also be familiar with specific training hours as set forth by the State of Ohio Board of Emergency Medical Services.

It is crucial for the medical director to be confident that the prehospital providers under his/her direction will be able to perform life-saving skills appropriately when called upon to do so. The opportunity to perform life-saving skills such as airway management is not a frequent occurrence. This is especially true for part-time and volunteer providers. When developing continuing education programs, emphasis should be placed on practical skills review that highlight life-saving procedures, infrequently used skills and kinesthetic teaching methods. When possible, clinical exposure also serves as an excellent teaching method for skill review and retention.

VI. CONTINUING EDUCATION

Lifelong learning

The National Standard Curricula emphasize the importance of lifelong learning. In addition to the NHTSA EMT, EMT-Intermediate and EMT-Paramedic refresher courses, there are numerous other courses that provide additional sources of continuing education. These include Basic Life Support (BLS), Basic Trauma Life Support (BTLS), Pediatric Basic Trauma Life Support (PBTLS), Prehospital Trauma Life Support (PHTLS), Advanced Cardiac Life Support (ACLS), Basic Disaster Life Support (BDLS), and Pediatric Education for Prehospital Professionals (PEPP). Additional on-going education opportunities are available via the Internet, CD-ROM Educational Courses, textbooks, and prehospital and Emergency Medicine journals and conferences.

Back to Table of Contents

Recertification Options

The Ohio Certified EMT-B, EMT-I, or EMT-P has numerous options in which to recertify. These are listed in the following table.
Accompanying the table is the Ohio Revised Code sections which contain related stipulations.

In summary, options for fulfilling continuing education requirements

OHIO CERTIFICATION REQUIREMENT OPTIONS WHEN RENEWING CERTIFICATIONS AFTER JANUARY 1, 1999:				
Certification Level	I. Exam In Lieu of C.E.	II. Continuing Education (1)	III. NREMT Recert (2)	IV. Refresher Course
EMT-Basic	Yes	40 Hours	Yes	30 Hour Course
EMT-Intermediate	Yes	60 Hours	Yes	40 Hour Course plus 20 Hours Continuing Education (1)
EMT-Paramedic	Yes	80 Hours & Current ACLS	Yes	48 Hour Course plus 32 Hours Continuing Education (1) Current ACLS
Firefighter	No Re-certification Required			
Fire Safety Inspector	No Re-certification Required			
Certified EMS Instructor	1. Meets requirements for a certificate to teach. 2. Has taught a minimum of 16 hours in an approved or accredited training program within the last two years. 3. Six hours of continuing education in instructional methods or techniques. 4. Attended any mandatory instructor meetings held by the Board.			
Certified Fire Instructor	1. Six hours of continuing education related to fire service or techniques annually. 2. Attend an annual instructor update meeting. 3. Taught in a fire course annually that is conducted through a fire chartered training program.			
(1) If continuing education is used for re-certification it must contain training in the following topics:				
Topic (Hours)	**EMT-Basic**	**EMT-Intermediate**	**EMT-Paramedic**	
Pediatric **Geriatric** **Trauma**	6 2 8	8 4 8	12 4 8	
(2) If you are renewing your EMS certification based upon your National Registry of EMT (NREMT) certification the following applies: **A. You may renew your Ohio certification only at the level of your NREMT certification.** **B. Your NREMT certification must be valid at the time of your Ohio EMS certification renewal.** **C. Must send in a copy of current NREMT certification with renewal application.**				

Back to Table of Contents

4765-8-11 EXEMPTIONS FROM CONTINUING EDUCATION

(A) Pursuant to Section 4765.31 of the Revised Code, the Board may grant an applicant for renewal of a Certificate to Practice an exemption from compliance with the continuing education requirement. The Board may grant a complete or a partial exemption from the continuing education requirement for reasons including, but not limited to, the following:

(1) The holder is on active military duty;

(2) Special hardship or unusual circumstances, as determined by the Board.

(B) A request for exemption from the continuing education requirements shall be made in writing and submitted to the Board at least one-hundred eighty days prior to the expiration of the Certificate to Practice and shall include the following:

(1) The specific continuing education requirements for which an exemption is sought;

(2) Justification for the exemption;

(3) Signature of the certificate holder.

(C) If a request for exemption is received fewer than sixty days prior to the expiration date of a Certificate to Practice, the Board may consider the request if it determines there are extenuating circumstances affecting either the submission of the request for exemption in a timely manner, or the ability of the certificate holder to comply with the continuing education requirement.

(D) The Board has full discretion in determining whether to grant a request for exemption from the continuing education requirement.

(E) The Board shall provide written notice to the person requesting the exemption no later than sixty days after receipt of the request. If the Board is unable to respond prior to the expiration date of an applicant's certificate to practice, it shall notify the certificate holder of whether, or to what extent, he may continue to engage in activities for which a Certificate to Practice is otherwise required.

(F) Also, see ORC 4765-15, 4765-16 and 4765-17.

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter VIII Questions

1. Which of the following is part of the EMT-B course instruction?

   A. Patient assessment
   B. Respiratory emergencies
   C. Trauma
   D. All of the above

2. Which of the following is currently present in EMT-I curriculum, but not EMT-B?

   A. Allergic reactions
   B. 50 hours of clinical experience and 75 hours of field experience
   C. Medical focused history and physical exam
   D. Cardiovascular emergencies

3. Which of the following is unique to EMT-P over EMT-I or EMT-B?

   A. Acute interventions for the chronic care patient
   B. Patient assessment
   C. Diabetic emergencies
   D. Ambulance operations

4. Which of the following is true for the National standard curricula?

   A. Emphasizes certification
   B. Emphasizes multiple written tests
   C. Emphasizes lifelong learning
   D. Emphasizes teaching methods focused on esoteric subjects

5. Which of the following level of provider requires 80 hours of continuing education and a current ACLS card?

   A. EMT-B
   B. EMD
   C. EMT-I
   D. EMT-P

Back to Table of Contents

CHAPTER IX: ADULT EDUCATION

I. CONCEPT

Although initial EMT-Basic, Intermediate, and Paramedic Training Programs are effective at preparing the providers to enter the practice of prehospital patient care, daily patient contact is often inadequate to assure maintenance of critical knowledge and key skills. The EMS medical director should have a solid understanding of not only the requirements of continuing education to maintain certification to practice, but also to maintain the proper ability to provide quality care.

The medical director must realize that in any education program there may be multiple levels of providers in the audience. Medical directors should be familiar with the scope of practice of each level of provider and specific educational needs of each provider level. Prehospital provider education must be tailored to include all levels of providers present, paying particular attention to avoid talking over the head" of the basic level providers. Learning objectives should include realistic expectations for all levels of providers, and educators should address critical knowledge needs for each level of provider. It is important to keep in mind that many EMT-Basics and EMT-Intermediates will continue to advance their education towards paramedic certification.

General principals of learning have shown that students remember approximately ten percent of what they read, twenty percent of what they hear, fifty percent of what they hear and see, seventy percent of what they say and ninety percent of what they say and do. This implies that teachers should develop programs that make every attempt to engage the students in an interactive format and include, when possible, a skill session to physically perform or apply the information that they have just been taught. The presenter should motivate the student to learn the information by showing "why" there is a need to know, how and when to apply it, and how to perform the skill based on individual patient requirements.

One type of learning is *cognitive* learning which involves the acquisition of facts, procedures, concepts and principles. While facts alone can be remembered by the use of diagrams and charts, procedures normally require *psychomotor* learning. The psychomotor skills are best learned by hands-on experience such as the application of oxygen or splinting techniques. *Affective* learning involves the conscious alteration of the prehospital providers' attitude. This is where the instructor must motivate the learner. Many times a multimedia presentation can be motivational.

Back to Table of Contents

II. EDUCATION PROGRAM FORMAT

The format for effective educational programs typically follows the following points

1. Objectives and goals of the program (introduction)

2. Body of the program. This can include an interactive group discussion, slide presentation, handouts, video presentation, overheads, or “blackboard chalk talks,” or any combination of the above

3. Summary of the topic

4. References and further information sources

Stated in another way, the goals of an effective educational program are

1. Tell them what you are going to tell them

2. Tell them

3. Tell them what you have told them

In contrast to the typical didactic lecture format that most EMT-Basics, EMT-Intermediates and EMT-Paramedics are accustomed to, another very effective educational tool is case presentations. Typically underutilized in EMS education, the case presentation actually closely represents the intense one-on-one patient interaction that the prehospital provider encounters during normal work activities.

Some students and instructors may benefit from conducting a pre-test and post-test evaluation of the educational content of the program. This may motivate students to pay particular attention to key areas and assist the instructor in identifying other areas in which to improve the provider's knowledge base.

All continuing education programs for EMTs must meet the requirements for continuing education programs by the State Board of EMS. In addition to format considerations, these CME classes must be held at a State-certified continuing education or training center, with a State-certified instructor. Training that does not follow the State-approved guidelines, is not held at State-approved locations or that is not with State-approved instructors may not qualify for formal continuing education hours.

The general, objectives of continuing education programs are to meet not only the CME requirements, but also bring pertinent up-to-date medical information to the providers. The presentation will also act as a resource to the various providers and keep them prepared for any level of recertification and testing that might be needed. Preparing handouts for the lecture as well as having a slide presentation that may be videotaped

Back to Table of Contents

allows for exposure of the topic to many individuals who either had to leave on a “run” or were unable to attend the presentation. Videotaped presentations can also be used for CME requirements.

III. EDUCATIONAL TOPICS

There are a multitude of topics available for continuing education lectures. These include current protocols, run review, new medical treatments for patient care issues, risk management, documentation and patient privacy, infectious disease and exposure prevention, tactical and technical EMS, personal wellness and all the typical medical, trauma, and pediatric areas.

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter IX Questions

1. Which of the following is important to consider when establishing a continuing education program?

   A. Levels of providers to be present at lectures
   B. Familiarity with the providers scope of practice
   C. Every attempt should be made to have the program interactive
   D. All of the above

2. Which of the following is <u>not</u> necessary when setting the format for an effective educational program?

   A. Objectives and goals of the program
   B. Summary of the topic
   C. Written testing
   D. Interactive group discussion

3. What are state requirements for formal CME for EMS?

   A. State-certified instructor
   B. Must be held at a state facility
   C. Must meet state topic mandates
   D. Must include a state representative present at the course

Back to Table of Contents

CHAPTER X: GRANTS AND FUNDING

I. INTRODUCTION

There are numerous ways to obtain funding or grants for your EMS department(s). This section is a brief overview of funding possibilities and contact resources. These should not be considered as primary funding sources. The search for external funding sources can be time consuming and tedious, but the reality is that often additional money is needed to enhance training programs and obtain sophisticated equipment.

Ohio EMS Grant Programs

The Ohio EMS grant program is overseen by the Ohio EMS Board and administered by the Division of EMS. This grant program was initiated in 1994 to provide supplementary funds to EMS and Fire agencies that provide primary EMS response. Funded through seat belt fines, the program distributes over $4 million dollars annually. There are currently four priority areas in which grants are awarded.

1. EMS Training and Equipment (includes prehospital research projects)

2. Injury prevention research or implementation and evaluation of injury prevention strategies

3. Research on procedures that promote the rehabilitation of trauma victims and social service support mechanisms for victims/families

4. Research on medical procedures for adult/pediatric trauma care

For more information regarding the Ohio EMS Grant Program, call the Division of EMS at 1-800-233-0785.

State Fire Marshal's Volunteer Fire Department Grant

This grant program is administered by the State Fire Marshal's office and distributes funds each year to departments that have at least 50% of their department members as volunteers. Grants under this program are awarded based on population, geographic size, budget, intended use of grants and number of fires. If you have questions regarding this program, call the Division of State Fire Marshal's Fire Prevention Bureau at (614) 752-7115.

Division of Forestry's Rural Community Fire Protection Grant

This grant is only for communities with populations under 10,000. Priority is given to organization of new departments, multi-community projects and individual equipment purchases. For more information, call the Division of Forestry at (614) 752-7182.

Back to Table of Contents

Community Services Block Grants

This program is administered through the Ohio Department of Development, Community Development Division. These grants are used for “community service and infrastructure.” This means the projects must benefit the entire community. Community and capital projects may be funded by this program. For more information, contact your local Community Action Agency. Its phone number can be found in your local phone book.

Foundations

There are over 2,000 charitable foundations in Ohio with grant programs. These foundations represent over $7 billion in assets and distribute over $500 million in awards each year. Unfortunately, very few EMS or Fire departments have approached these organizations for financial assistance with special projects or programs. Once you determine your project, identify the appropriate foundation by researching its history of support to other community agencies. Most foundations can be approached by a phone call or a simple 2-3 page proposal letter. Once you have identified a Foundation that may be interested in your project, it will provide you with applications and instructions. There are numerous books at your local library detailing the appropriate way to approach a Foundation and to obtain funding. If you need further information, contact the Attorney General’s Office, Charitable Trust Division at (614) 466-3180. They can provide you with a list of all Foundations in the State of Ohio.

Federal Grants

Federal grants can be a great source of funding, but are not usually designed for individual organizations. They are designed to impact as many individuals as possible. By involving numerous other EMS and Fire agencies, you will improve your chances for success. Federal grants are very time consuming, so you must be very committed to creating a truly outstanding proposal. Information on available federal grants can be found in the Federal Register, a publication available at most local libraries. A new website, http://www.grants.gov allows you to search for and obtain information on all federal grant opportunities electronically.

Ohio Office for the Farm Service Agency

This program is not a grant, but rather a loan program. Ohio Office for the Farm Service Agency will offer low interest loans to rural areas with a population under 20,000. These loans can be used for many different types of projects including buildings, fire and rescue vehicles, ambulances and communication equipment. This program can be of great assistance if a program is worthy of doing, yet funding is not fully available. Use your local Ohio Office for the Farm Service Agency representative to help complete the necessary paperwork. For more information, contact the Ohio Office for the Farm Service Agency at (614) 469-5400 or www.fsa.usda.gov/oh.

State/federal surplus programs

This program can be used to obtain vehicles, office furniture and equipment, clothing and blankets and other items targeted as surplus items. Most of the items sent to the surplus yard are in good shape. Only volunteer departments can be directly involved in the federal surplus program. If a volunteer organization would like to be involved with the state surplus program, it must be affiliated with a tax-producing entity. Both state and federal surplus programs are administered by the Ohio Department of Administrative Services. They can be reached at (614) 466-4485 or (614) 466-5052. Call the office to obtain more information or to obtain an “Application for Eligibility.”

Cooperative Purchasing Program

Although not a grant program, the office can help an organization save a significant amount of money. Any political subdivision can join the Cooperative Purchasing Program. Check with your city, township or county clerk to determine if you are already registered. Everything from blankets to cars, to first aid and hospital supplies are included. To receive more information or a complete list of items available, contact the Office of Procurement Services, Cooperative Purchasing Program at (614) 644-8493 or www.das.ohio.gov.

Steps to having a successful funding program

1. Do not depend on grants as your primary funding source.
2. Always try local sources first *(tax levies, mailings, run charges, etc.).*
3. Plan, plan, plan.
4. Be realistic in your goals.
5. Develop contacts; network with everyone.
6. Have a grants coordinator (or assign this function to someone on a part-time basis).
7. Be persistent.
8. Get on mailing lists of granting organizations.
9. Be able to prove organizational credibility and worthiness of projects/programs.
10. Keep trying!

Back to Table of Contents

II. Sources of Injury Prevention Funds

Ohio Department of Public Safety

Governor's Highway Safety Office – Traffic Safety
Ohio Public Safety
GHSO
1970 West Broad St., 4th Floor
Columbus, OH 43223
Phone: 614-466-3250
Website: http://www.highwaysafetyoffice.ohio.gov/ghsohome.html

The GHSO office administers the state's section 402 funds from the National Highway Traffic Safety Administration. This program provides funding to local agencies targeting traffic safety issues. Grants are awarded on an annual basis for specific, priority traffic safety issues which are determined each year from Ohio Traffic Crash records. Grant applications are available in late April and the grant deadline is July. This is a reimbursement grant.

Foundation Funding

Allstate Foundation – Personal Safety and Security
North Central Region, The Allstate Foundation
PO Box 9227
Farmington Hills, MI 48333
Phone: (248) 994-9386
Website: www.allstate.com

Limited funding is available for groups focusing on safety education with a special emphasis on youth. Areas of interest include: fire safety, child safety, advocacy and structured after-school programs with initiatives to safeguard against gangs and delinquency. Other areas of support include automobile passenger safety and anti-drinking and driving programs.

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter X Questions

1. Grant funds come from _____?

   A. ETOH related crimes
   B. Seatbelt fines
   C. Child abuse
   D. Sexual assaults

2. Grants may be obtained through the state of Ohio EMS Board for which of the following areas?

   A. Personnel training
   B. Training equipment
   C. Research projects
   D. All of the above

3. Which of the following may serve as a potential source of funding for an EMS activity?

   A. Ohio EMS grant program
   B. Community service block grants
   C. Foundations
   D. All of the above

Back to Table of Contents

CHAPTER XI: EMS QUALITY AND PERFORMANCE IMPROVEMENT

I. INTRODUCTION

It is assumed that all health care providers want to give the best and most efficient care they can to their patients. The question is, how can we be sure that this is actually happening, and how can we improve it? The goal of the quality improvement process is to ensure that the patient is getting the best possible care, delivered in the most efficient manner. It does not matter whether this process is called “Total Quality Improvement” (TQI), Continuous Quality Improvement (CQI) or more recently “Performance Improvement” (PI), as the idea and principles are the same.

II. CHALLENGES

There are several challenges. The first is how to measure quality in health care, especially in the prehospital setting. Using an outcome such as death is not meaningful. Most patients survive regardless of care rendered. Similarly, many of those that die would have, irrespective of any interventions! Secondly, some interventions require the treatment of large numbers of people before a detectable change in outcomes is found. A new drug may show an improvement in one or two out of a hundred people treated. Many systems lack a sufficient number of transports to experience a change in their individual statistics. Rather then looking at a final outcome, most experts advocate evaluation of the process of delivering care. The assumption is that if appropriate care is delivered in a timely fashion, patient outcome will be improved.

The second challenge is that the process often proceeds in small incremental steps and rarely results in major revolutionary changes. Thus, the process needs to be continually applied and revisited. Positive feedback is important, lest people become discouraged because of a perceived lack of progress. Finally, it should be emphasized that the quality of care is dependent on the entire system and not just the provider, therefore, the whole system and process needs to be scrutinized, not just individual providers. Thus, performance improvement is a joint effort between the field EMT, the medical director, operations, communications and administration. The approach should be to emphasize what has been done well rather then simply point out what was done poorly. The Performance Improvement process should be as objective as possible and avoid punitive implications. Although there are instances in which EMT actions may warrant disciplinary measures, there should be a clear policy on the purpose of Performance Improvement and the relationship between information gathered during PI and the disciplinary process.

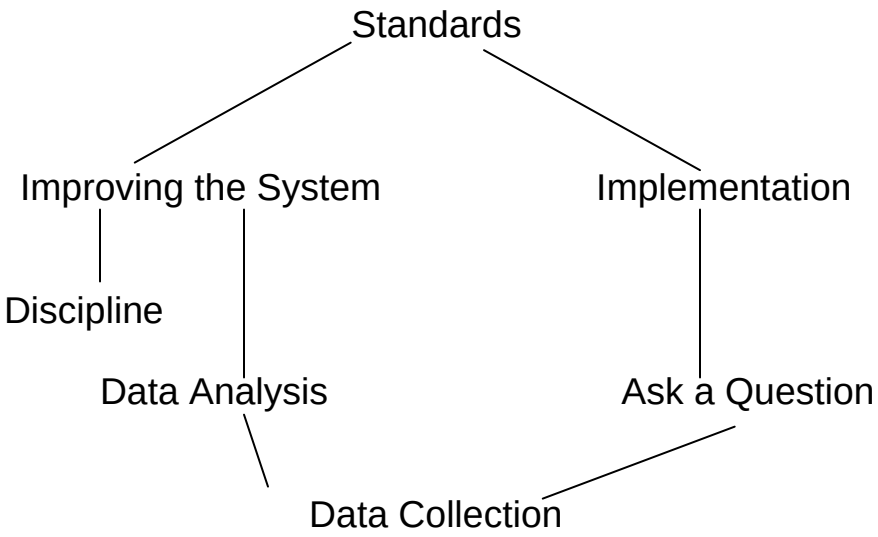
Another challenge is to recognize that most errors and problems stem from system problems rather than individual issues and errors and that people generally want to do a good job. However, an individual asked to perform the impossible, in impossible situations and conditions, without adequate preparation and training, is doomed to fail. These then, are areas that need to be reviewed as described below and everything must be done to allow the individual to do the best job he/she can.

Back to Table of Contents

III. THE QUALITY IMPROVEMENT LOOP

The quality improvement process forms a loop. The loop generally starts with setting standards that will establish a uniform practice pattern. These include protocols and policies, as well as equipment, personnel, time and training standards. Once the standards are set, an educational process is needed so the expectations are clear to everyone involved in the process. The next step is to see if the standards are being met, and if not, why? Finally, one needs to determine how to correct the problem or redefine the standard. The process will be described in detail and examples used to illustrate it.

THE QUALITY IMPROVEMENT LOOP



IV. SETTING STANDARDS

One key step in prospective quality improvement is setting and implementing standards. It is what we want to do and how we want it done, and it must be clear and unambiguous. Merely stating we will do better is doomed to failure.

To set or review standards there are three important steps

1. Determine if the standard is medically or operationally correct.
2. Determine if the standard is achievable and if it can be implemented.
3. Determine if the standard is worth implementing.

Let's use thrombolytic therapy for acute myocardial infarction in the field as an example of this process. The first question is: If thrombolytic therapy for acute MI is medically correct. Clearly, it is an appropriate intervention for properly selected cases, then again so is angioplasty.

The second question is: Can it be implemented in the field? Again the answer is that in

Back to Table of Contents

certain cases, thrombolytics can and are. Implementation requires EMS training in the recognition of myocardial infarction, recording, interpreting and possibly transmitting ECGs and the use of thrombolytics including indications and contraindications. It also requires stocking of thrombolytics, ECG reception equipment at the base hospital and cooperation of the base hospital and physicians in interpreting the ECGs and ordering the treatment. Although this is clearly complex and cumbersome, it can be done. However, if your system lacks the resources to buy the equipment and training necessary and/or is made up of all EMT-Basics, it will not be a reasonable standard and will, in fact, not be achievable.

Assuming that you have the necessary resources, the third question is: Is it worth implementing? This becomes the crucial question. This requires an assessment of the risks, costs benefits and liability of not doing the procedure. It is expensive to provide adequate time, training and equipment. If you are operating an ALS system with a large number of myocardial infarctions and long transport times to a hospital, it may be worth implementing. If there are few myocardial infarctions and short transport times, it is probably not worth the investment in resources. The procedure is also not without some risk as well. Are you and the system willing and able to assume this?

After analyzing all of the data, a decision is made not to implement the use of thrombolytics in the prehospital environment, but to require all patients with chest pain to have an ECG performed and to receive aspirin. Because the EMS agency is located in a community with a significant number of chest pain runs and a large retirement community, the service agrees to invest in an ECG-capable defibrillator.

V. PROTOCOLS AND STANDING ORDERS

Protocols are the guidelines or templates that guide the EMT's actions during certain situations, usually in the treatment of a patient. They should include those aspects of the history, physical examination and treatment that should be documented and provided by the prehospital personnel. Standing orders are specific instructions to the EMT that allow treatment to be given without a physician being present either in person or by radio communication. Examples are the immediate defibrillation of a patient in ventricular fibrillation, or the intubation of a patient in severe respiratory distress. These are discussed more in Chapter 13, Protocols and Standing Orders.

Having decided to include ECG and ASA in the treatment of chest pain, this needs to be inserted in the protocol. It would certainly be appropriate to include this as a standing order. You set the standard criteria for those who will receive an ECG and ASA as patients over 40 years of age with chest pain.

VI. TREATMENT STANDARDS

Having placed ASA and ECG in the protocol for chest pain, this now becomes the new standard. The providers need to be educated and trained to include this as part of their assessment and treatment of the chest pain patient. The new objectives will be included in any run review where the aspects of the new protocol applies.

VII. TIME STANDARDS

Time standards include time-to-dispatch, response times, on-scene times, time to patient and return-to-service times. These are frequently dictated by law or by contract, and also need to take into account the community and location of the service. Appropriate times may differ significantly from a rural community with long response and transport distances, to a suburban community with shorter distances. Similarly, in an urban area with many high-rise buildings, although actual distances traveled on city streets may be very short, patients may be difficult to reach. Analysis of these times can help determine whether the EMS system is providing the service needed by the community. Inadequate response times dictate a need to change the system. As part of your overall revision of the care provided to chest pain patients, you decide to look at the on-scene times, and in your training sessions you emphasize to your EMTs the importance of time and delays to treatment in the chest pain patient.

You set a goal of on-scene time of less than 15 minutes.

VIII. EDUCATION, TRAINING AND TESTING STANDARDS

Having established what the new standards are, you need to educate the EMTs. You decide to emphasize several topics and points.

1. Develop a better understanding of acute coronary syndrome and how aspirin effects clot formation and propagation.

2. Recognition of the signs and symptoms of acute coronary syndrome, as well as risk factors for coronary artery disease.

3. Introduce 12-lead ECGs and define when they should be obtained.

Skill standards must include the correct methods for their performance. The time allotted to accomplish the skill, the number of attempts permitted and the circumstances where skills should be provided must also be set as a system standard. Demonstration of EMS skills can be accomplished both in the field and in the classroom. The frequency that each skill must be demonstrated should be determined and documented. In the PI review, a simple checklist for indications and obtaining an ECG is developed and every EMT is required to demonstrate the skill and complete a short test.

IX. EQUIPMENT STANDARDS

Equipment standards are also important. The medical director and EMS system must determine both what equipment is appropriate and necessary. It is important to correlate the quality of equipment to be acquired with the expense and the need for the equipment. Maintenance and repair must be considered. To accomplish this, it is important to get a consensus from field EMTs, administration and medical direction.

Because of the decision to perform 12-lead ECGs in the field, your system needs to acquire a monitor/defibrillator capable of doing this. You discover that you have an old

defibrillator that is in need of replacement, so you purchase a new model capable of doing 12-leads, and introduce your squad to it during training.

Aspirin is added to the drug boxes and to the list of medications kept on file with the Board of Pharmacy.

X. IMPLEMENTING STANDARDS

Once these standards are set, they must be implemented. Education and training programs must teach the standards that have been set. Equipment must be purchased and maintained. It is unfair for a system to expect compliance with its standards unless all personnel have been taught those standards.

At this point you have held several training and teaching sessions, including a few quizzes and spot-testing. All of your providers, including the EMT-Basics, understand the need for aspirin and your paramedics have been trained in how to do a 12-lead ECG. You decide that a six-month period is necessary before you reevaluate your standards, but you start preparing your questions.

XI. ASK A QUESTION

It is best to start with simple questions. In our example you decide to look at the following

1. Is aspirin being given to patients per protocol?

2. Are all patients getting 12-lead ECGs per protocol?

3. Are on-scene times less than 15 minutes?

XII. TESTING THE STANDARDS

Data collection and analysis

The question asked determines the data that needs to be collected. If the standards are not being met, one must determine if the problem is with the standard, the system, implementation of the standard, the measurement of the standard or the individual EMT. Let's continue with our example and work through the data collection and analysis and improving the system. We will consider some possible discoveries stemming from your data collection, and we will discuss their significance. You collect 50 charts over a 6-month period where the chief complaint was chest pain.

1. Is aspirin being given?

   Out of 50 patients with chest pain, 35 received it. Five of these were responded to by EMT-Bs, all of whom gave ASA. More troubling were the 15 patients who were transported by EMT-Ps who did not receive ASA, one of whom was having an acute event. This patient eventually went to cath lab from the ED, but only after a significant delay. Closer scrutiny reveals that five of these patients did not meet age criteria greater then 40 years. If

Back to Table of Contents

these were patients that truly had a coronary event, this would suggest a system problem. Either the age criterion has to be redefined or perhaps the EMTs are not good at identifying younger patients at risk for coronary events. This can be remedied by education. The same two paramedics transported the remaining 10 patients. This suggests an individual problem.

2. Are all patients getting 12-lead ECGs per protocol?

   Out of 50 patients, five were responded to and transported by EMT-Basics. They did not get ECGs because it was not part of their protocol. Of the remaining 45, the same patients that received ASA also got a 12-lead ECG. The patient who experienced significant delays getting to the cath lab had not received an ECG by the paramedics who transported him. In this case a prehospital ECG, if obtained, might have accelerated the ED response to the patient. More troubling was that the same two paramedics that didn't administer ASA also didn't obtain an ECG. This is a problem with individual medics rather then a system problem.

3. Are on-scene times less than 15 minutes?

   Almost all the runs had on-scene times greater then 20 minutes. However, there was a trend towards shorter times in the later runs. After talking to a few of the medics you realize that it was part of the learning curve and as they did more they got more comfortable and faster with them. At the next night of run review, you praise the squads for their efforts, note that the on-scene times showed a steady decline and remind them of the importance of rapid management to minimize the loss of myocardial tissue.

Following data collection, an analysis should be performed. It is immediately clear that the EMT-Basics are giving ASA per protocol and doing it well. They should be commended on this. However, if none or only some of the Basic squads had been found to administer ASA this would suggest a system failure, especially if a knowledge deficit is discovered when talking to the individual medics. An educational deficit was discovered when the age criterion was reviewed. Education was provided on the selective identification of patients under the age of 40 with chest pain and risk factors for ischemic heart disease, which should place these individuals into the category of ECG and ASA administration. You may also discover in other run reviews that several abdominal pain patients turned out to be acute coronary events. You note that all of these were diabetics and when you speak with individual squad members, you discover that many didn't know that diabetics might present with atypical symptoms. Educating the group can fill this knowledge deficit. The global data analysis is concerning; a significant number of patients with chest pain are being responded to and transported by EMT-Basics, and not paramedics. This indicates a system problem. There may simply not be enough paramedics in the system, or dispatch may be inappropriately dispatching the units. If the system cannot be modified to increase

Back to Table of Contents

paramedic coverage or change dispatch, then the decision may be made to train EMT-Basics in the procedure of obtaining an ECG. As no interpretation is being asked of them, there is consensus from the others and the EMT-Basics agree to participate. It gets written into the protocol and then becomes the new standard. This standard will then be reviewed in the next round of QI/PI run reviews.

On occasion, the problem is with the EMT and requires more than education and training. If discipline is required, it must be appropriate to the offense, consistently applied, and linked to a grievance process. In our example, the same two paramedics did not obtain an ECG or administer ASA in the appropriate situation as defined by the protocols. Further review revealed that neither had been to the training sessions that covered the new material. One had had an illness and otherwise was a conscientious medic; the other, however, frequently missed scheduled continuing education sessions. The first individual was offered remedial training and accepted it. The other went through a series of meetings, and following due process, was terminated from his position.

When reviewing scene times, recognize that extended response times usually indicate system problems such as inadequacy of personnel and equipment. You may find that while the population of your service area has doubled in the last seven years, the size of your department has not changed!

Long scene times may suggest problems with training or a lack of appreciation for the importance of expedient and efficient care to maximize cardiac survival. This is a system-wide educational challenge and opportunity.

XIII. REDEFINING THE STANDARD

You have dealt with the “problem” medic through a disciplinary process. Most of the providers know the protocol for chest pain in those older then 40, so no change is needed there. However, several atypical presentations were missed *(mostly in diabetics)* and a couple of younger patients were missed as well, mostly those with significant risk factors. Based on these findings, you develop an educational session dealing with atypical presentations, especially in diabetics. You modify the protocol slightly so that it draws attention to risk factors and alerts the providers to obtain an ECG in those younger patients with chest pain and risk factors as well as those older patients with significant risk factors and presenting with abdominal discomfort.

XIV. ADDITIONAL QUESTIONS

Additional questions that can be asked as part of this quality assessment, or in the next series of evaluations, might deal with the timing of the interventions.

Other questions that can be asked

1. Are all patients receiving nitroglycerin per protocol standards?

Back to Table of Contents

2. When are the interventions being performed?

3. Are vital signs being taken in a timely fashion?

4. Are vital signs being repeated at scheduled intervals and especially after interventions?

5. Did every patient with chest pain receive an IV?

6. How many attempts were made by the medics to start an IV?

You might determine that the ASA was administered just before arrival in the ED, a full 20-25 minutes into the patient encounter. So although the standard of giving the drug to all patients was strictly met, this was probably not optimal. It is probably a system error and may require some reeducation. A time-to-drug goal may need to be specified in the protocol and would have to be checked in the next quality improvement process. This is an example of redefining the standard in response to the answer to a question worked through the QI Loop.

XV. OTHER QI/PI QUESTIONS

Other questions might be

1. Did every seizure patient have his or her blood sugar determined by the squad?

2. Did every patient with a loss of consciousness get his or her glucose checked?

3. Are patients with extremity fractures getting pain medication?

XVI. SUMMARY

Quality improvement is a continual process. It requires a commitment from the medical director, the EMTs and EMS administration. The focus is on what is done well and how to improve what is not. Ninety percent of the problems will be system based with only 10% personnel based. Discipline and loss-of-job are rare, but at times are necessary components. The quality improvement loop starts with setting system standards. These standards must be implemented, often through education. Specific questions must be asked to determine if the highest quality care is being provided. These questions suggest what data must be collected. The data is analyzed and the system changed to improve care. Once the changes are implemented, the question must be re-examined to assure that the system changes were effective. This completes the quality improvement loop.

Back to Table of Contents

REFERENCES

1. Swor, Robert, Chief Editor, *NAEMSP Quality Management in Prehospital Care*. Mosby Lifeline, 1993.

2. Polsky, Scott and Johnson, John, *Continuous Quality Improvement in EMS Principles of EMS Systems* 2nd edition. Roush, William, editor. ACEP 1994.

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter XI Questions

1. Which of the following is true regarding implementation of an EMS Performance Improvement program?

   A. The only outcome to measure is mortality
   B. It is easy to determine interventions which alter outcomes
   C. The quality of CME is only dependent on the provider
   D. The process usually proceeds in small incremental steps

2. Which of the following is key to prospective Performance Improvement?

   A. Planning to do better
   B. Setting and implementing standards
   C. Selecting standards outside the scope of practice of the providers
   D. Selecting expensive programs

3. Following implementation of a new standard, the EMS medical directors should?

   A. Institute appropriate educational opportunities
   B. Ask a question related to the standard
   C. Collect appropriate data
   D. All of the above

4. After the institution of a new procedure, you reassess on-scene times and find initially they were longer, but now they are decreasing. You should:

   A. Compliment EMS and emphasize importance of short on-scene times
   B. Eliminate the procedure
   C. Change the standard
   D. Penalize any EMS unit who took longer than 15 minutes

5. You have instituted a new ECG protocol. The equipment is purchased. On your review of 50 runs where an ECG should have been performed by protocol, only 20 were done. You should:

   A. Discipline EMS who didn't comply
   B. Not allow use of the ECG machine
   C. Provide an educational in-service and reevaluate
   D. Purchase a new ECG machine

Back to Table of Contents

CHAPTER XII: REMEDIATION, DUE PROCESS AND GRIEVANCE

I. GOALS OF QUALITY IMPROVEMENT

The ultimate goal of quality or performance improvement in EMS is to assure high quality, appropriate and efficient patient care by identifying and correcting those areas in which improvement can be made. Recognizing that many quality concerns arise from system problems, the medical director should consider these areas first (see preceding chapter). Nonetheless, occasional individual or group issues may be discovered. Remediation is the planned, structured process by which identified weaknesses or sub-standard levels of performance are rectified and/or improved, through the use of various educational and training techniques. The remediation process may encompass a wide range of goals and objectives ranging from simple improvement of clinical assessment and procedural skills to disciplinary action for improper behavior and practice. Therefore, once areas of deficiency are identified, it becomes essential to use this information to construct a program of remediation which will improve the quality of care given by the individual, squad or system.

Remediation

Remediation programs and options may be pre-planned as an integral part of the entire quality assurance process or may be "tailor made" to cope with those problems identified in the retrospective, concurrent and prospective analysis process. Examples of remediation are discussed below and might include additional reading assignments or courses, as well as time spent with the medical director in the ED seeing patients under his or her supervision. This is particularly helpful when knowledge and skill deficits are more global. Sometimes outside counseling is needed, especially with issues involving emotional or drug and alcohol related problems.

During remediation, the legal rights of the individual need to be considered. Careful attention must be paid to the concept of due process and the right of the individual(s) to file a grievance. The due process component of the quality assurance plan and grievance procedures should be in place before issues arise. At times, however, some component may need to be negotiated during the formulation of the plan with those personnel who will be the object of, or involved in, the quality assurance loop.

Although seemingly cumbersome and often unnecessary, the remediation program needs to be documented in all cases. Even in the simplest cases it is worth having some notes or record of the case. Unfortunately, issues will arise with individuals where all attempts at remediation eventually fail. In the event of further necessary disciplinary actions, especially job termination, having documentation of attempts at remediation can be extremely helpful.

Back to Table of Contents

Due process

The 14th Amendment to the U.S. Constitution guarantees that “no person may be deprived of life, liberty, or property without due process of law.” Also, no person may be denied “the equal protection of the law.” A public servant’s job *(police, firefighters, teachers)* has become legally considered as that individual’s property; therefore any action against it is protected under the due process clause of the 14th Amendment.

Due process may be defined as “notification of the alleged problem and an opportunity to respond.” Other procedural rights, such as the opportunity to cross-examine witnesses and to be represented by counsel are also associated with the concept of “due process.” The equal protection clause further protects against “arbitrary and unreasonable actions of ... employing boards...”

It behooves the physician medical director or EMT involved in remediating or terminating prehospital care providers to be familiar with the above ideas in general and how they apply to a specific remediation, disciplinary or termination problem. It is best for the medical director to have no involvement in the actual firing process. It is sufficient to exercise authority over which prehospital personnel may care for patients. In dealing with employees under contract, one should consider whether the individual in question is employed under a limited contract *(a contract for a specified period of time, {i.e., 1, 2, 3, or 5 years})* or is under tenure. Laws governing procedure for non-renewal, termination or remediation may vary accordingly.

Grievance

Essentially, medical directors may be called upon to deal with situations involving non-renewal of a prehospital provider’s contract, grievances, remediation or termination. The procedures to be followed in nonrenewal or contract termination may be established by statute and during contract negotiation. Similarly, grievance procedures should be well planned to be in accordance with statutory requirements, provide for thorough documentation and allow the individual due process.

A grievance is defined as any question or controversy between any staff member *(employee, prehospital care provider)* and the administration or overseeing entity concerned with the interpretation, application, compliance or non-compliance with the provisions as stated in the standards of care or contract in force. A grievance may be brought by an individual or as a “Class Action Grievance.”

Hopefully an atmosphere would prevail whereby any squad member having a complaint or problem could discuss the matter with any member of the command/medical direction structure, allowing for resolution prior to a formal grievance procedure. A staff member should enjoy the right to present any problem without fear of coercion, interference, discrimination, restraint or reprisal. A clearly defined and formal policy needs to exist which describes the procedure for addressing any concerns or complaints. While a grievance policy should allow and even encourage discussions related to potential issues and problems, it should not permit the union or individual to prevent a necessary change from occurring. For problems that cannot be so

Back to Table of Contents

easily and internally resolved, grievance procedure should exist. Such a procedure should entail certain important aspects. A time frame for the process to be initiated and acted upon should be stated and a grievance report should be formally submitted. A hearing or meeting should be undertaken including the parties in question. A sequential process of fact finding, investigation, conclusion and appeal should occur. Finally, independent arbitration may be needed. Forms for each step should be developed and documented. In some instances, a grievance committee can be formed from various members inside and outside of the organization to assist in the process.

Planning remediation

Pre-planning the quality assurance analysis and remediation phases must include a negotiated contract with those who will participate in the process. Those who will be evaluated must “buy in” to the plan, or even the most well developed program will be useless. This negotiated provision for due process must ensure the ethical, statutory and contractual rights of the individual during remediation or disciplinary process. The remediation cycle must be acceptable to all parties involved. Resistance or refusal to participate by squad members will disrupt the quality assurance program and be detrimental to the provision of quality care. In Ohio, the Collective Bargaining Act (April 1, 1984) provides for statutory negotiation of remediation and disciplinary action for those individuals represented by collective bargaining agreements. Therefore, a good working relationship and pre-negotiated QA programs are prerequisites in these instances, which may also be guided by additional statutory and legal precedents. There may be state, federal and local legislation provisions which would need to be considered before a formal QA program can be instituted. Indeed, a union contract may require detailed guidelines for remediation and disciplinary actions that would have to be negotiated from the onset. For volunteers, inclusion in the QA process and remediation options may be a prerequisite for participation in the EMS service.

Remediation profile

The initiation of the remediation process is the creation of a profile of the individual, squad or system. The profile consists of the identifiable deficiencies which fail to meet the pre-set standard of care. These should be specific problems which can be directly related to an area of the protocols, standing orders or general practice of prehospital care in the community.

In the development of the profile, several questions should be asked which are reflections of the basic philosophy of quality assurance. Can the individual (or squad or system) accurately and efficiently gather the data needed to formulate a decision through historical and physical examination? Can this data then be applied to arrive at a logical, useful impression or isolation of the most important clinical problem? Once the impression is derived, are the “hands on” treatment skills applied reasonably, efficiently, appropriately and performed in a timely manner? A profile may also include, or consist entirely of, issues which involve deviation from standards of practice, gross negligence or problems of behavior within the context of the EMS system.

Interview

The remediation then proceeds with an interview session with the individual or squad whose profile has been developed. The EMS director, the Medical Director physician or his/her delegate must oversee this interview. This interview in some instances may be viewed as the initiation of a legally mandated process. The interview must be conducted in a professional, confidential, “to-the-point” manner. It is not a time for emotional airing of grievances. The items in the profile should be clearly presented and substantiated. In some instances, union or legal representation may be presented as specifically called for by negotiated contract. A “paper trail” of the process should begin here with the entire process being recorded. A copy of the paper trail should be provided to the individual(s) in question and kept on file.

Remediation plan

During the interview, a remediation plan should be agreed upon and openly discussed in detail, including the time spans involved, remediation options and an agreement for the time of a follow-up interview. This should all be clearly documented. Goals for improvement should be clearly established and a time for completion set. Completion of the options for re-education, skills training or disciplinary action is then accomplished and documented.

The agreed upon follow-up meeting must then be held to evaluate effectiveness of remediation to date and provide an opportunity for individual input. Discussions of effectiveness of the re-education program and changes in the practice profile of the individuals during remediation with respect to those areas under scrutiny should occur at this point. Testing to ascertain retention and/or development of skills or knowledge may be considered or administered at this time.

Further remediation, discipline or review may be indicated and must be agreed upon. Again all aspects of this follow-up meeting must be clearly documented and made available to the person undergoing the process. The remediation cycle may be terminated here and the individual squad member placed back into the ongoing QA plan or steps for removing the member from participation in prehospital care may be started if unreconcilable deficiencies persist in accordance with legal and statutory guidelines.

II. REMEDIATION OPTIONS

1. A preceptorship emphasizing certain identified areas for improvement for a specified period of time with either an EMS member, nurse, physician or prehospital care provider may be undertaken.

2. Clinical time spent reviewing different areas may be done under the overview of a physician, nurse or EMS provider in the Emergency Department. Documentation of the experience and education is essential.

3. Specific run reviews can be performed to isolate problems, review assessment and treatment strategies and modes of improvement.

4. Selected reading coupled with written reports may be useful.

5. Repeating or auditing courses or sections of courses *(such as ACLS or BTLS)* are options. Retesting may be done involving written examination, perhaps in conjunction with skills testing.

6. A program of after-run critiquing in the Emergency Department by the physician, if done in a positive and encouraging manner with particular attention to those items of deficiency, can be most rewarding.

7. Disciplinary actions may include cancellation of certain practice options or procedures, performance in the field only under direct preceptorship, supervision, suspension or decertification.

REMEDIATION OPTIONS CHART

Testing
Procedure & skills testing
Equipment testing
preceptorship
Clinical scenario testing
Written tests on specific subjects
Protocol tests

Observation
Field preceptorship
Emergency Department (clinical)

Riding with squad by ED personnel

Education
Run review *(topic specific, procedural, pathophysiology)*
Selected reading
Written review
Slide, tape review
Course repetition
Course auditing
Run critiquing
Literature review
New product educational in-service

Discipline
Performance of assessment or skill/ procedure only with preceptor
Field suspension of delineated procedure(s)
Suspension
Decertification

Back to Table of Contents

If it is determined that a problem exists with communications or equipment, a program may be developed to study alternative equipment purchases, updated equipment or evaluate new technology which may be instituted to correct the deficiency.

Progress through remediation options

1. The progress made by the individual or squad during the remediation process must be carefully monitored by the squad EMS director or physician Medical Director. The entire process should be meticulously documented.

2. The goal is the improvement of care by the members of the EMS system and ongoing analysis of the entire system and its component parties.

3. Documentation of all aspects of the remediation of disciplinary process must be complete, timely, non-biased and part of a complete “paper trail.”

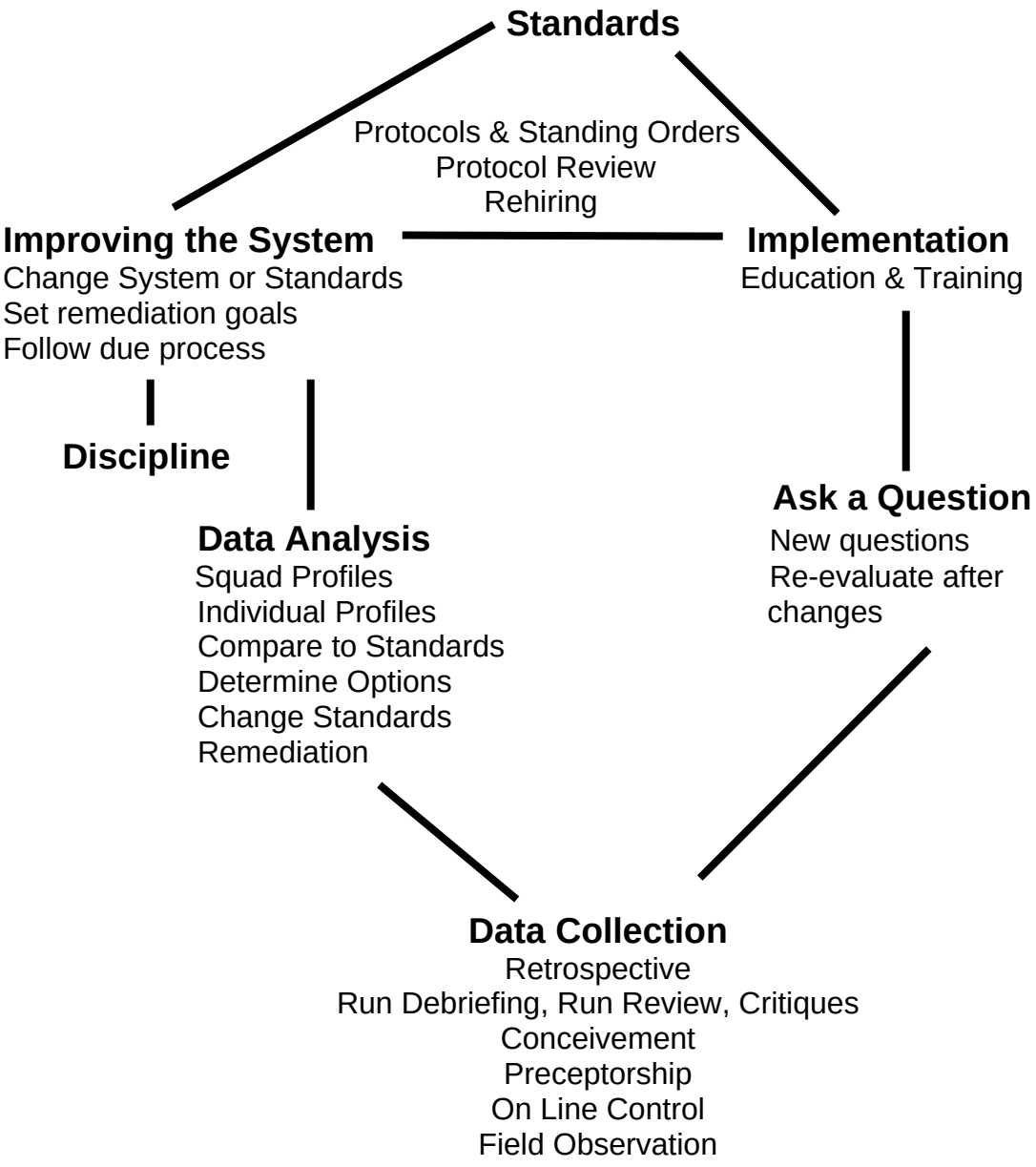
4. Due process must be ensured with allowances for input of the individual and options for appeal.

5. The goal is to ensure the highest quality and most efficient provision of prehospital emergency medical care as defined by agreed upon standards.

6. The improvement of valuable personnel will improve the entire delivery system.

Back to Table of Contents

The Quality Improvement Loop



Back to Table of Contents

III. MODEL GRIEVANCE PROCEDURE

Definitions

1. A “grievance” is defined as any question or controversy between any member of the health care provider team with the Administration concerning the interpretation, application of compliance with, or noncompliance with the provisions of the standing orders or protocols or the operational service of prehospital health care.

2. If specific administrative agency relief of a quasi-judicial nature is provided for by the Statutes of the State of Ohio or the United States for review or redress of a specific matter *(such as Worker’s Compensation, Unemployment Compensation, EEOC, Civil Rights Commission but specifically excluding SERB)* such matter may not be made the subject of a grievance and may not be processed as such.

3. The judgment decision of the Administration to non-renew or terminate a contract is not subject to the grievance procedure; however, procedural matters related to termination and non-renewal are grievable under this procedure.

4. If a specific Section of this Agreement limits the parameters and use of this grievance procedure, such limitation shall be followed.

The Grievance Committee of the EMS System will be identified as the Grievance Committee.

1. The Aggrieved may be one or more processional staff members having a grievance or it may be the Grievance Committee as the Committee of Interest.

2. A Class Action Grievance may be filed by the Grievance Committee as the Committee of Interest, representing the membership, if the grievance affects a group of professional staff members and may be filed at Level III, if Level I and II are not appropriate. *(See next page.)*

3. Time limits specified herein may be altered by mutual agreement, in writing, of the parties.

Grievance Process

1. The grievance process is characterized by a series of steps, sometimes reffered to as levels, any of which may serve to resolve the issue. Failure to resolve the problem moves it up to a higher level or to the next step. With each step, more and usually higher-ranking individuals are recruited to help resolve the dispute. At

Back to Table of Contents

some point help is also sought from outside the organization, most often in the form of arbitration.

2. At each step, the individuals involved and their responsibilities are clearly spelled out and a time frame is established for resolving the issue. Customarily, union representation is allowed when the individual is part of a union.

3. An example

Step 1
A grievance must be reported orally within 5 days of the occurrence to the immediate supervisor (which may be the Fire Chief or his designee in a smaller service). That individually has 3–5 days to respond orally. If it is not resolved at this point it shall move to step 2.

Step 2
The grievance is written and presented to the next higher ranking officer or resubmitted to the same individual (esp. in smaller services) and again this person has a set time within which to respond. However this time the response is in writing and again it must be offered within a specified time, usually in 3–5 days.

Step 3
At this point the grievance is appealed in writing to the Chief, Board of Trustees, Mayors Advisor's or some similar group of people or their designees. This must be done within a prescribed time. These individuals have the authority to affirm or override the disciplinary measures proposed to this point; however, they usually cannot increase them.

Step 4
At this point in most organizations the grievance is being presented to outside arbitration. A grievance policy and procedure recognizes the right of a person to bring up issues of concern and provides a formal mechanism for resolving them. While it protects the legal rights of the individual, it also provides a means by which an organization can defend and justify its actions.

Back to Table of Contents

Records

1. Forms for filing and processing grievances shall be designated by the Medical Director and the Grievance Committee and shall be given appropriate distribution so as to facilitate the operation of the Grievance Procedure.

2. Copies of all documents, communication or records dealing with a grievance shall be furnished to all parties to the grievance as the grievance proceeds. In addition, one copy of each shall be retained in a grievance file. No records, documents or communications concerning a grievance shall be placed in the personnel file of any participants.

Back to Table of Contents

GRIEVANCE REPORT

_____ (Indicate Level II or III, whichever is appropriate)

I. Name of the Aggrieved_____

II. Name of the Party in Interest_____

III. Date the Aggrieved become aware of the grievance_____

IV. Grievance

A. Statement of Grievance:

B. Relief Sought:

C. Reason, Explanation or Comments:

V. Representative chosen by Aggrieved_____

VI. Signature of Aggrieved Date _____

VII. Date copy sent to the Party in Interest and filed with the Grievance Committee_____

VIII. Date received by the Party in Interest_____
or the Grievance Committee_____

Back to Table of Contents

FILED BY GRIEVANCE COMMITTEE REPRESENTATIVE AT RESOLUTION OR WITHDRAWAL OF GRIEVANCE

1. Name of Aggrieved_____

2. Name of the Party in Interest_____

3. Date of Grievance_____

4. Date Grievance Filed_____

5. A. Statement of Grievance

   B. Relief Sought

TO BE FILLED OUT WHEN GRIEVANCE HAS BEEN COMPLETED

1. Signature of Medical Director_____

   Date_____

2. Signature of EMS Supervisor_____

   Date_____

3. Date Filed_____

4. Signature of Department Chief_____

   Date_____

Back to Table of Contents

CASE SCENARIOS

Grievance

A full-time, nationally-registered EMT-P files a grievance with medical control. The prehospital care provider states that on a recent run, a severe asthmatic patient began to exhibit increasing ventricular ectopy while being given a Metaprel inhaler en route to a neighboring emergency facility.

The paramedic states he made appropriate contact with medical control, where, after three attempts and five minutes, he spoke with a department nurse. The nurse "ordered" continued inhaler therapy, whereby the EMT-P requested direct contact with the ED Physician. The nurse denied request, stating over the radio the (2) physicians on duty were "too busy." Despite several requests for direct physician contact, the paramedic was unable to accomplish this and terminated radio contact four minutes from the receiving hospital.

The paramedic terminated the Metaprel treatment and the patient required intubation five minutes after arrival for respiratory failure, also experiencing a short run of ventricular tachycardia, which resolved with suppressant treatment. The patient recovered after an eight-day hospital stay.

The EMT-P states the inability to speak with the ED Physician endangered his patient, and caused the squad members attending the patient frustration and anxiety. He contends the radio should not be answered by a nurse or any other personnel other than the ED physicians.

QUESTIONS

1. Is this grievance justified?

2. How would you gather objective data as to the circumstances surrounding this problem?

3. How can a formal grievance procedure help in this case?

4. Who should serve on a "grievance committee"?

5. How would you handle this case in your department? What recommendations would you make?

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter XII Questions

1. Which of the following is true regarding a remediation process?

   A. It is a planned, structured process
   B. The process may encompass a wide range of goals
   C. Its goal is the improvement in the quality of care
   D. All of the above

2. Which of the following is part of "due process?"

   A. No person may be denied equal protection of the law
   B. Two violations of any rule must occur before a discipline process can be started
   C. No counsel representation is allowed in EMS proceedings
   D. The EMS personnel should not be given the details of the infraction which resulted in their dismissal

3. What is a remediation profile?

   A. Any run having a fatal outcome
   B. Profile of identifiable deficiencies which fail to meet pre-set standards of care
   C. Any complaint from a receiving hospital
   D. Failure to comply with a medical control physician order

4. An EMS provider shows a recurrent problem with treatment of patients with chest pain. Which of the following may be remediation options?

   A. A preceptorship in the ED with the EMS medical director
   B. Specific run review with a review of assessment and treatment strategies
   C. Selected reading coupled with a written report
   D. All of the above

5. A grievance which cannot be resolved informally is referred to as:

   A. Level I
   B. Level II
   C. Level III
   D. Level IV

Back to Table of Contents

CHAPTER XIII: PROTOCOLS AND STANDING ORDERS

I. INTRODUCTION

Protocols are the guidelines or templates that guide an EMT's actions during certain predetermined situations. Standing orders are that part of the protocol which can and should be done quickly and independently by the EMT without on-line medical control or direct physician order. Protocols are a form of medical direction and help set the tone for the entire service. They are an indispensable part of any EMS system and are also important educational tools and quality improvement instruments as well. Thus, one of the roles of a medical director is to periodically review them and ensure that they are up to date and appropriate.

II. PROTOCOLS

Most protocols address patient care issues. They act as the standards for patient care and direct the EMT's actions during the assessment and treatment of certain complaints such as chest pain, trauma or seizure. The protocols should include those aspects of the history, physical examination and treatment that need to be acquired and documented by the prehospital personnel. Ideally, they should be developed in a presenting complaint oriented fashion rather than a diagnosis-based format. This allows the EMT to follow the protocol as the patient presents rather than first determining the diagnosis and then deciding which protocol to use. Additionally, protocols detailing procedures and individual medications are also useful and serve as excellent educational and reference tools.

It is imperative that the protocols accurately reflect the abilities of the providers and the resources available to them. For instance, a service made up of all basic EMTs does not need a protocol for defibrillation, unless it happens to purchase an AED. A paramedic service with older defibrillators does not need a protocol regarding 12-lead ECG, as older models cannot perform this function. That having been said, it is imperative that in services that include different levels of providers, the protocols clearly specify different actions appropriate for each provider level. One such way is to color-code the actions according to provider level.

It is desirable to have the protocols current in order to provide the highest degree of medical care to the community. As newer defibrillators are purchased with 12-lead ECG capabilities, protocol changes or a new protocol, which addresses the indications and use of the new modality should be strongly considered. As national organizations such as the NAEMSP come out with position statements supporting end-tidal CO_2 detection post-intubation, and other specialties, such as Anesthesiology, utilize them as a standard of care, it is worth considering the position for your service if it performs any intubations. It is also worth considering such alternate methods of ventilation as non-invasive Bi-PAP or C-PAP.

Back to Table of Contents

Protocols need to take into account regional differences and requirements as well. For instance, in remote areas the protocols might include reduction of a shoulder dislocation if extrication and long transports are the rule. In an area where several hospitals are located within a confined area, protocols need to reflect the hospitals' capabilities. It is desirable to transport patients to the most appropriate facility. An example of this is the trauma destination protocols recently developed in the state of Ohio. Other situations in which a specific facility may be optimal include patients with burns, strokes or pediatric patients.

Protocols may also be written to address certain specific issues. Usually, these include special situations such as patient refusal, DOAs, "physician on scene" or DNR ("do not resuscitate"). With the recently publicized deaths of several people in custody, it is important to have a policy and protocol dealing with use of mechanical and chemical restraints. As these situations can arise at any time, it is useful to have protocols in place so that they are understood by all prior to the need arising.

Uniform protocols allow improved communication with the hospital or medical control. However, the protocols must be clearly understood by all parties. All hospitals serving as base stations need to have a copy of the protocols. If they serve as base station for more then one service, copies of all the protocols must be kept if they differ. All hospitals that receive a particular EMS services' patient transports should have a copy of the latest protocols for the EMS service, regardless of whether they serve as its medical control.

III. STANDING ORDERS

Standing orders are that part of the protocol which can be done independently and without delay by the medic without on-line medical control or direct physician order. Examples are the immediate defibrillation of a patient in ventricular fibrillation, or the intubation of a patient in severe respiratory distress. Another example is the administration of benzodiazepines to a patient who is actively seizing or glucose to an unresponsive hypoglycemic patient. These situations are time sensitive and the delay associated with obtaining on-line medical control may be detrimental to the patient. Similarly, it would be appropriate that a chest pain patient receive oxygen, aspirin, nitroglycerin and be placed on a monitor before communication is established with the base hospital.

Certain interventions, however, may be left to the discretion of medical control even though they are part of the protocol. Thus, a chest pain protocol might indicate morphine as appropriate for the chest pain patient, but specify it as a medical control order. For example, one Ohio region's protocols allow a choice of either lidocaine or amiodarone for cardiac arrest involving ventricular fibrillation; if a second dose of amiodarone is needed, this requires a medical control order.

Back to Table of Contents

As a sign of increased acceptance of EMTs and recognition of their ability to function independently in many instances, some areas are moving to allow their squads to operate strictly under protocol without having to check with the base station. This effectively makes the entire protocol a standing order. Medical control must be available to function in a consulting capacity and squads typically notify the hospitals of their transports and the status of the patient to allow the facility adequate time to prepare. This has the added advantage of freeing up the base station hospital personnel.

IV. QUALITY IMPROVEMENT

The goal of all EMS units is to provide the best possible patient care. Clearly, written protocols should have clear expectations. By describing a stepwise approach to problems, protocols help insure a uniform approach. This helps identify deviations more easily and facilitates the QI process. In addition, the QI process can use protocol deviations as an educational opportunity and tool for standardization of delivery of care. For instance, the chest pain protocol should include the administration of aspirin to appropriate patients with this complaint. Run review may reveal that this is not being done, or that there are tremendous delays. Further analysis should indicate if this is an individual problem or a widespread system problem. Then intervention can begin.

Standardized protocols allow for testing of knowledge and competency by setting the minimum knowledge necessary to function effectively. They also form a useful framework around which to design a continuing education (CE) program. An effective tool is to build CE around the protocols and incorporate protocol testing into the educational process. One method is to develop a rotating 2–3 year curriculum that incorporates the appropriate protocols and includes periodic tests covering these protocols. The alternative is to have a periodic test that covers the entire protocol at one time. This helps ensure that the EMTs are not only knowledgeable but also familiar with the actions expected of them.

V. SUMMARY

Protocols are the guidelines or templates that guide the EMT’s actions during certain situations and help facilitate their communication with the base station. Standing orders are that part of the protocol that can be done independently by the EMT without on-line medical control or direct physician order. Because protocols are a form of medical direction, one of the roles of a medical director is to ensure that they are up to date and appropriate. Lastly, they are an important educational tool and a quality improvement instrument as well.

Back to Table of Contents

VI. EXAMPLES OF PROTOCOLS

Table 1 Medical Protocols
Abdominal pain
Burns
Chest pain
Heat exposure
Near drowning
Respiratory distress
Seizure
Poisoning

Table 2 Administrative Protocols
Aeromedical transport
Do not resuscitate/Comfort care
Interfacility-transports
Patient refusals
Physicians on scene
Restraint
Heavy patient

Table 3 Procedure Protocols
Chest decompression
Cricothyrotomy
Intraosseous Infusion
Pulse Oximetry

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter XIII Questions

1. Which of the following are true regarding protocols?

   A. Most protocols address patient care issues
   B. Protocols act as the standard of care
   C. Ideally, they should be developed by presenting complaint
   D. All of the above

2. Which of the following factors do not affect protocol development?

   A. On-scene times
   B. Level of provider
   C. Transport times
   D. Equipment available

3. Which of the following situations do not require a change in protocol?

   A. New ECG machine
   B. New receiving hospital
   C. New national guidelines
   D. New medication

4. Which of the following is an advantage to standing orders?

   A. Deviation from protocol
   B. Addition of medications to a patient on chronic medications
   C. The procedure can be done independently and without delay
   D. Discussion with medical control

Back to Table of Contents

CHAPTER XIV: PROTOCOL DEVELOPMENT AND IMPLEMENTATION

I. INTRODUCTION

Protocols are the templates that guide the EMT's approach to a particular problem. They are useful as training tools as well as instruments to assess quality of care. They are an indispensable component of an EMS system.

The majority of EMS agencies have protocols. The problem frequently encountered by a new medical director is one of outdated protocols needing revision and new protocols needing to be written because of new approaches or technologies. Additionally, if the skill level in the EMS unit changes, new protocols or revisions may be needed.

The developmental process requires several steps. Assuming the intervention is valid, then establishing the need for a new or revised protocol is the first step. Next, one needs to consider what resources are available. This includes labor as well as financial considerations. Finally, one needs to check the protocol, through the QI (Quality Improvement) or PI (Performance Improvement) process and identify areas that require attention. The easiest approach to protocol development is to borrow established protocols, i.e. those available through the EMS board, which have already been extensively reviewed, and then modify them to address specific local requirements.[1]

II. IDENTIFYING NEED

The first step is identifying the need for a new protocol and this may arise for several reasons; a problem discovered in a QI analysis, a bad outcome or new leadership within the EMS agency. Sometimes it will occur because of stakeholder demands. A new technology or approach is "discovered" and either the EMTs are asking to do it, or the city council and community demands it. There may be pressure from professional organizations, such as the recent American Heart Association push for improved stroke recognition by the EMS community. Alternatively, the push may come from the legislative arena. An example of this is the State-mandated trauma system with designated trauma centers.

Variations in the skill level of providers employed by an EMS agency may also require modifications to the protocols. If all of the rescuers are Basic EMTs and Intermediates and Paramedics are added, the protocols may require modification. Finally, as a physician, an awareness of issues and trends may identify a need.

[1] Ohio maintains a copy of Region VIII protocols as an example of minimum state guidelines. They can be found at: http://www.ems.ohio.gov/rpab/RPABGuidelines.pdf

Back to Table of Contents

III. ESTABLISHING VALIDITY

As medical director, the first priority is to establish that an approach or intervention is valid, appropriate and truly needed. This is frequently self-evident, such as the case with improved stroke recognition or the use of ASA in chest pain. Examples of more challenging issues are the use of C-Pap or Bi-Pap in the field, the performance of 12-lead ECGs, the use of prehospital thrombolytics, the use of muscle relaxants to facilitate intubation or allowing basic level providers to perform intubations. The introduction of new devices for IV access or cricothyrotomy will also require discussion and a decision of their appropriate place in the EMS environment. Prehospital termination of resuscitations and/or patient pronouncement are also challenging issues.

Establishing validity may require some literature research, discussion with colleagues and community leaders, and last but not least the EMTs and chief. There is a move to make EMS more of an evidence-based practice. Good examples of this are contained in the following web site, http://www.gov.ns.ca/health/ehs, which includes the protocols for the province of Nova Scotia, Canada. The unique feature of these protocols is that they are linked to evidenced based reports. Unfortunately, the process is hampered by the scant amount of good prehospital research.

The fact that the approach or intervention is valid in one setting may not mean that it is appropriate nor needed in your system. For instance, it may be appropriate to teach your responders how to reduce joint dislocations if you practice in remote wilderness areas but not in an urban area. It is generally a good idea to know the number and types of runs that your service makes. If there are only two runs a year that would require the use of a new piece of equipment or intervention then it probably is not needed. This is especially true if it is expensive and does not prevent significant morbidity or mortality. If transport times are brief, many prehospital interventions are also probably not justified.

IV. AVAILABLE RESOURCES

Providers

While emergency catheterization and angioplasty may be the optimal treatment for many heart attacks, it is clearly beyond the scope of practice of any prehospital provider. The administration of aspirin is not. More challenging are issues such as the administration of thrombolytics in the field, for which there is some literature support. This is a moot point if your providers are EMT-Basics and EMT-Intermediates. However, it may also be moot if your transport times are under 10-20 minutes and you transport to a center that performs emergency angioplasty. Many other interventions fall into the scope of practice for paramedics but would be deemed inappropriate for EMT-Intermediates and EMT-Basics.

Back to Table of Contents

Next, assess the need for additional training, testing and supervision for the use of any new medication or intervention. This is especially true for complex concepts and interventions. It is relatively easy to teach a medic how to use a pulse oximetry unit but somewhat harder for him or her to understand some of its limitations. A little more advanced and difficult is the use of capnography and its correct interpretation and the introduction of a 12-lead ECG program into the assessment of chest pain patients.

One must also consider whether those interventions and equipment are used frequently enough. If not, it may be very difficult to maintain skill level and enthusiasm and interest will tend to wane rapidly. If your providers are primarily volunteers, it may be difficult to get them to participate in any additional training.

Medical Director

Also, consider yourself. You are a resource as well. Consider the investment in time, energy and money that you will need to make for the intervention to be successful. The more complex the intervention or protocol, the more demanding it will be for you. Inability to commit the necessary time and energy may doom the entire project and any future ones to failure. Beware of the desire to make so many changes that in the end none get done! Perhaps some of the responsibility can be shared with others in your service.

Equipment

In addition to the cost of training and retraining, there are material and equipment costs. This has recently been an issue with amiodarone, which costs considerably more then lidocaine. It is certainly a consideration if you are planning on doing prehospital thrombolytics.

Cost is also an issue with many of the newer defibrillators that can perform a 12-lead ECG. Although expensive, between $12,000-17,000 per unit, if your EMS agency transports many patients with chest pain, this may be a worthwhile investment. In addition, if you have long transport times during which the care provided might potentially impact subsequent ECGs obtained in the ED, it may be a very desirable purchase.

An emerging intervention is the use of Bi-PAP or C-PAP in the field by EMTs for pulmonary edema and respiratory distress. Use of these technologies requires additional equipment and training. Nonetheless if you have a large nursing home or elderly population it may be a good investment, especially if you have longer transports during which the patient may derive benefit from the treatment.

Buy-in and implementation

This process is easiest if there has been input from all of the participants *(EMS, financial representation and leadership)* prior to implementation. By instituting a partnership early in the process, the likelihood of success increases because of the ownership and vested interests of the participants. Implementation requires educating the EMS personnel to the new intervention or approach. The protocol needs to be clearly understood and any skills need to be reviewed and tested before the new protocol is implemented.

V. REVISION OF A PROTOCOL

As stated earlier, it would be unusual to arrive in a situation where there are no existing protocols. While most of the above discussion revolves around new protocols or the introduction of new technology and medications requiring significant protocol changes, often the job is one of fine-tuning the existing protocols. A current and controversial issue in the EMS community is the replacement of lidocaine with amiodarone for the treatment of out-of-hospital arrest due to ventricular fibrillation. The ARREST trial out of Seattle and the ALIVE trial out of Toronto, show that the use of amiodarone results in a higher percentage of patients arriving to the emergency department with a pulse and a blood pressure. Less clear is whether or not there is any difference in survival to discharge. Complicating the matter is the fact that although lidocaine has been the gold standard for years, the evidence for its use is very weak. In addition, amiodarone is significantly more expensive then lidocaine. Similarly, there are questions about the replacement of epinephrine with vasopressin in cardiac arrest. Hopefully, further research in the near future will help resolve this issue. One region's solution is to incorporate both into the protocol allowing the EMS agency's individual medical director to make the decision on the use of these medications.

Another area in which an EMS agency's protocols may be deficient is prehospital pain control. Recently, attention has been focused on the management of pain in the emergency department. EMS has not been spared this scrutiny either, and recently several articles have appeared in the literature emphasizing the need for prehospital pain control. Many areas are now adding or emphasizing better pain control in their protocols.

VI. DISCONTINUATION OF A PROTOCOL

Periodically as interventions come under scrutiny, and research attempts to determine efficacy, a protocol may be deemed incorrect or actually potentially dangerous. This requires immediate attention by the medical director. Recent examples of this include the discontinuation of use of Procardia (nifedipine) to reduce blood pressure as well as the use of MAST trousers. The overuse of lights and sirens for emergency transports is another example.

Discontinuing an intervention is often more difficult than implementing a new protocol. In place of the enthusiasm that one might encounter with something new, there are often

Back to Table of Contents

resentment and lots of questions. The discontinuation process should be the same as the implementation process with emphasis on education and QI.

VII. SUMMARY

Protocols are an indispensable component of an EMS system. They are templates that guide the EMT's approach to a particular problem. Useful in training, they also serve as an instrument to assess quality of care. As new technology and medications become available, new protocols need to be written and old ones revised. This requires determining the validity as well as the utility of the intervention for your system. Consideration of local needs as well as local resources is an important part of the procedure. Finally, the new protocol sets a new standard that needs to be tested through the QI or PI process.

Resources
Ohio Department of Public Safety EMS Division
Regional Physicians Advisory Board (RPAB)
Ohio Chapter ACEP
National ACEP
National Association of EMS Physicians (NAEMSP)
Other Medical Directors
Emergency Medicine Physicians
Pediatric Emergency Medicine Physicians
EMTs
JEMS Magazine
EMS Magazine

Examples of New or Revised Protocols
Stroke recognition
Trauma destination protocols
ET tube verification
Use of end-tidal CO_2 monitoring
Amiodarone in Pulseless V-Fib
Analgesia for fractures
12-lead ECG for Chest pain
Sedation and paralysis to facilitate paramedic intubation

Back to Table of Contents

Addresses:

Ohio Department of Public Safety
Emergency Medical Services Division
P.O. Box 182073
1970 West Broad Street
Columbus, OH 43218-2073
(800) 233-0785 (614) 466-9447
www.ems.ohio.gov

American College of Emergency Physicians
P.O. Box 619911
Dallas, TX 75261-9911
(800) 798-1822 or (972) 550-0911
www.acep.org

Ohio Chapter ACEP
3510 Snouffer Road, Suite 100
Columbus, OH 43235
(888) 642-2374 or (614) 792-6506
www.ohacep.org

National Association of EMS Physicians (NAEMSP)
P.O. Box 15945-281
Lenexa, KS 66285-5945
(913) 492-5858
www.naemsp.org

EMS Magazine
7626 Densmore Ave.
Van Nuys, CA 91406-2042
(800) 224-4367
www.emsmagazine.com

JEMS Communications
525 B Street, Suite 1900
San Diego, CA 92101
(619) 687-3272
www.jems.com

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter XIV Questions

1. Which of the following may lead to a protocol change?

   A. Problems discovered during PI process
   B. A bad outcome
   C. New equipment or medication
   D. All of the above

2. A medic suggests the EMS agency purchase continuous end-tidal CO_2 monitoring equipment. The EMS agency is urban. Which of the following factors will be most important?

   A. Transport times
   B. On-scene times
   C. Intubation success rates
   D. Mix of providers

3. A pulse oximetry machine is purchased. After a literature search and cost analysis ($150 per use) you recommend that:

   A. Pulse oximetry should be used on every patient
   B. Pulse oximetry should be used on select patients and education is necessary
   C. Pulse oximetry should be used on patients requiring CPR
   D. Pulse oximetry should only be used on intubated patients

4. Which of the following are ways to establish the validity of a new approach or intervention?

   A. Literature research
   B. Discussion with colleagues
   C. Discussion with appropriate subspecialists
   D. All of the above

5. Which of the following EMS characteristics would support the agency's use of C-PAP?

   A. Infrequent respiratory chief complaints
   B. Volunteer agency
   C. Large elderly population
   D. Short transport time

Back to Table of Contents

CHAPTER XV: DISASTER PLANNING

I. INTRODUCTION

A medical disaster occurs when the destructive effects of natural or man-made forces overwhelm the ability of a given area or community to meet the demand for health care. In the United States, we have been fortunate that large-scale disasters are relatively rare by world standards; however, several hurricanes, tornadoes and the recent events in New York City and Washington, D.C. have changed our awareness. The number of casualties is less important than is the surge in medical needs which overwhelms local resources and is the focus of disaster planning.

Disaster planning is a multidisciplinary systems task that should involve the local Emergency Management Agency, fire, EMS and law enforcement as well as several state and federal agencies, depending on the incident. An all-hazards disaster planning approach is a tremendously complex yet absolutely necessary process. Plan flexibility must be maximized to address the many facets of hazards and casualties which can be anticipated. Threat assessments should be undertaken by region, categorizing the most likely types of disasters to occur for a given area. Response plans should be tailored to those most likely scenarios. Secondary, less probable threats can be addressed as a next-order plan once the more probable disasters have been addressed. A key element of planning for disasters is the understanding of human, logistic and technical assets available within the regional infrastructure, and a sound understanding of the incident command system which is implemented to effectively deploy those assets in time of crisis. Additionally, regular familiarization with and training in disaster plan and response is critical; studies consistently demonstrate the value of emergency preparedness, a priori planning and exercise of disaster plans with continuous feedback and revision of the basic plans to ensure optimal response. Multi-agency training and coordination should be stressed, and funding for such cross-discipline exercises must be appropriated.

II. CLASSIFICATION

Disasters are often classified by the resultant necessary response.

1. Level I – local emergency response personnel and organizations are able to contain and deal effectively with the disaster and the recovery phase

2. Level II – requires a regional efforts from surrounding communities

3. Level III – local and regional resources are overwhelmed requiring state and/or federal assistance[i]

[i] Disaster Planning, Mothershead, Jerry L, MD, eMedicine.com, July 2, 2001

Back to Table of Contents

Mass casualty incident (MCI) versus disaster

Mass casualty incidents involve injury and death to people. Disasters involve both human morbidity and mortality and critical infrastructure damage or devastation, including building collapse, housing or transportation loss, food or water supply contamination or destruction, etc. By definition, disasters also overwhelm responding agencies and disrupt public and private operations and activities of daily living for a prolonged period of time. Most incidents in the U.S. are probably more technically MCI's as opposed to true disasters; however the planning and principles of response overlap significantly.

III. PHASES OF DISASTER RESPONSE

Mitigation

Pre-planning is the most important component of any effective disaster response. The destructive effects of many disasters can be mitigated before the actual event through effective forethought and preparation. Construction of earthquake resistant buildings, early warning systems for tornados and evacuation plans for hurricane-prone areas are examples where the reduction in overall risk of injury and destruction would be considered a part of the community's disaster plan.

Planning

Pre-planning is crucial to any effective disaster response. The plan should be agreed upon by all participating response agencies and must address common goals and the specific duties of each agency. The plan must also include a description of how, when and by whom the plan can be activated. Key considerations in pre-planning include identifying hazards in the community, such as manufacturing, storage and transportation of hazardous material; fire threats, and population base at various times of the day. The plan should include an inventory of resources that may be needed, including

1. Medical equipment and reserve supplies
2. Patient movement: ground, air, water
3. Heavy equipment, power generators and lighting
4. Communications and backup resources
5. Law enforcement
6. Specialized rescue services

Back to Table of Contents

7. State and federal agencies[ii]

8. Mutual aid agreements with neighboring resources

Response

The response phase of disaster management can be broken down into activation and implementation phases.

Notification

During the early response to a disaster, various organizations will need to be alerted to the event. Frequently it is advisable to place a number of agencies on “stand-by” in the event they are actually needed. This early warning may decrease their response time to the scene. For some weather-related disasters (hurricanes) relief agencies can be alerted hours in advance thus making them available almost immediately after the incident. In addition to notifying potential agencies, the plan should include a structure for notification of the general public and methods to direct individuals to areas of safety. It is critical to incorporate a public information strategy and to pre-plan media notification strategies to convey a clear, concise, and consistent public message to allay fear, direct and organize the populace, and provide timely and accurate updates on rescue and relief efforts.

Scene assessment and Incident Command System

All major incident responses should follow the Incident Command System (ICS) concept (see below). Once the decision has been made to implement the plan, the prearranged command structure should be established and lines of communications opened. A rapid, initial scene survey is performed to determine what equipment and resources will be needed. Staging areas should be established and all incoming units directed to that location. The command center will then dispatch resources to the scene as needed. Incoming units should limit their communication with the command center until called upon so as to allow the command center to focus on the overall response. The Incident Commander must balance often competing priorities of preservation of life, scene safety, minimizing further damage or destruction, and above all, ensuring optimal safety for rescue personnel.

Triage and stabilization

Triage involves categorizing patients based on their immediate and anticipated medical needs and estimating survival probabilities. The fundamental precept of triage is that the needs of the many outweigh the needs of the few. One person should be assigned the job of Triage Officer, responsible for rapidly sorting patients. Depending on the size of the disaster, numbers of potential patients and geographical location, it may be necessary to divide this task among several individuals, all working under the oversight

[ii] Major Incident Response, Paramedic Textbook, Mick J Sanders, ed. Mosby Inc. 1994

Back to Table of Contents

of the Triage Officer. All emergency rescue personnel should be trained in the principles of triage, so that regardless of who the first arriving units are, they will understand and initiate this process. Triage does not have to be performed by the rescuer with the highest level of training, and in fact it may be best to keep the more advanced level practitioners available to treat individual, critical patients. Triage must be a dynamic operation, repeated at every level, with patients receiving multiple evaluations during the response. The most reliable and reproducible method currently taught is the Standard Triage and Rapid Treatment (START) method.

Transport and Communications

The overall responsibility of moving patients from the scene to the hospital is the responsibility of the Transportation Officer. This person needs to be aware from the beginning of the number of potential patients there will be, the triage categories and receiving facilities' capabilities. Communication between the Transportation Officer, Triage Officer and on-scene treatment unit supervisors is vital, and should be facilitated by a designated Communications Officer. The Communications Officer is also charged with the responsibility of notifying all potential receiving facilities of the incident type and expected duration of operations, ascertaining their immediate and anticipated medical support capabilities, and updating these facilities and the Incident Commander periodically as conditions change. Dynamic, bidirectional communication between receiving medical facilities and the Communications Officer allow periodic re-evaluation of available assets and helps to ensure that no single medical facility is overwhelmed. When prioritizing transports, the Transportation Officer must remain flexible, sometimes assigning a critical with a non-critical patient in the same ambulance. It is not uncommon for the closest hospital to be overwhelmed with low acuity patients who self-evacuated prior to the arrival of EMS. It may be necessary, therefore, to bypass the closest hospital with critical patients.

Recovery

The recovery phase involves the returning of not only the rescuers to their usual state of readiness, but also the community to some semblance of normalcy. Utilities are restored, families reunited, clean-up operations are initiated and the infrastructure begins to operate effectively. Operations at a disaster scene can be very stressful and for this reason Critical Incident Stress Management (CISM) teams or other psychological support systems should be activated early on in the response. For operations that will take a prolonged period of time, it may be necessary to bring CISM members to the disaster site to monitor for signs of a stress reaction in the rescuers. In addition, CISM members must be available afterwards to handle delayed reactions that may manifest themselves months and years after such a critical incident.

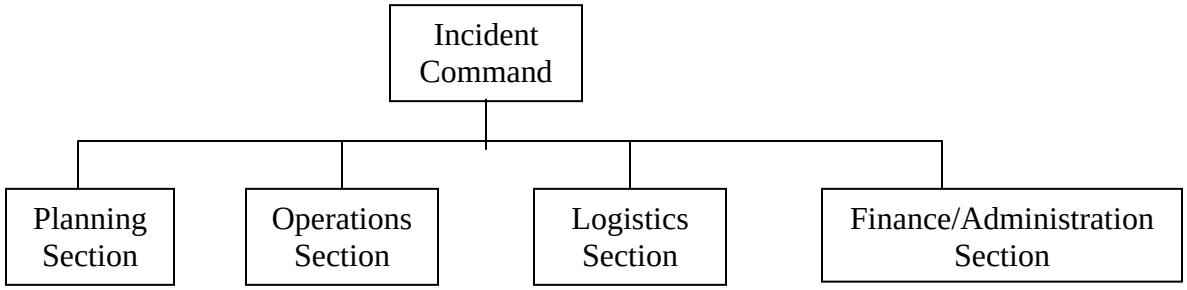
IV. INCIDENT COMMAND SYSTEM

The Incident Command System (ICS) is a model system for command, control and coordination of a response involving multiple agencies as they work toward a common

Back to Table of Contents

goal. ICS was developed in the 1970's in response to a series of wildfires in Southern California. At the time, multiple authorities from local, municipal, state and Federal agencies were attempting to work together, but numerous problems were noted. These included ineffective communications, lack of a common command structure, lack of accountability and the inability to coordinate the available resources.[iii] As a result of these problems, the Fire Resources of Southern California Organized for Potential Emergencies (FIRESCOPE) was developed. This was the first ICS and set the groundwork for current ICS structure. Despite the national success and acceptance of ICS, OSHA only requires its implementation for use at a hazardous materials incident. The National Fire Protection Agency (NFPA) requires all departments to establish written procedures for ICS and that all departmental members shall be trained in and familiar with the system (Standard 1500).[iv]

The Incident Command System has five major components: Command, Planning, Operations, Logistics and Finance/Administration.



Incident Command

The Incident Commander is the person who has overall responsibility of the scene. The most senior first arriving responder will usually fill this position until a previously determined commander arrives. Depending on the size of the event, the Incident Commander may need to delegate authority for specific responsibilities to other members of the command staff. Among the responsibilities of the commander include: establishing command, ensuring responder safety, assessing incident priorities, developing operational objectives, managing resources, coordinating outside agencies and authorizing the release of information.

[iii] Introduction to Incident Command System, FEMA, www.fema.gov/EMI/is1951st.htm
[iv] The Incident Command System, an Introduction, Chief Bill Miller, Gaines Township Fire Department, www.area-ham.org/tngdocs.icsdocs.icsman.htm

Back to Table of Contents

Planning Section

The Planning Section is responsible for collecting and evaluating information that is needed for the preparation and implementation of the action plan. They are also responsible for ensuring that all mutual aid agreements are activated. For smaller events the Incident Commander is responsible for planning.

Operations Section

This section participates in planning, carries out the tactical objectives, modifies the plan as dictated by the conditions of the incident *(human, structural, weather, etc.)*, and accounts for personnel. Operations may actually have several branches depending on the nature of the event including: EMS, fire, law enforcement, hazmat teams, specialized rescue, governmental entities, rescue and charitable organizations, etc.

Logistics Section

This section's main responsibility is to support the incident responders by providing supplies and equipment, facilities and services as needed. This section must anticipate the needs of the responders. For events with extended operations, this section is vital to supply food, water, lighting, on-field communications and health care for responders.

Finance/Administration Section

The tracking of costs for reimbursement is the main responsibility of the Finance Section. For large-scale events, especially where there is the possibility of a presidential declaration of a disaster area, proper and accurate tracking of costs is vital for appropriate reimbursement from federal sources; such cost accounting is also necessary for state reimbursement to local entities.

Through a well-defined and organized command structure, the ICS has proven to be very effective. Using common terminology, a modular organization, integrated communications, a manageable span of control and comprehensive resource management, the ICS can be applied to any type of disaster/mass casualty incident. The basic tenets of the command structure can be applied at smaller mass casualty events up to the largest natural disasters. Its dynamic structure can expand as the incident unfolds.

V. TRIAGE

Triage is the process of sorting patients based on injury severity and the survival probability with fixed resources. Since this is one of the first actions taken at the scene of a disaster/MCI, all personnel must be trained in the principles of triage. Physicians, nurses and other health care professionals should be discouraged from responding to the scene unless they have trained with field personnel and understand the local plan, ICS and their roles. The person in charge of triage does not necessarily need to be the

Back to Table of Contents

person with the highest level of training on the scene as they may be better utilized treating patients. The triage person, however, must have a strong medical background and understand the EMS system's limitations and the general survivability of injuries. In some systems, there may be the opportunity to activate a physician triage team from a local hospital, but once again, this may drain the local hospital of much needed resources. If this type of system is in place, initial triage should not wait until the arrival of this team.

A major component of triage is to label patients to assist in determining who receives care and in what order. Common triage categories include

1. Red - immediate care and removal
2. Yellow - delayed care until "reds" cleared
3. Green - "walking wounded" lowest priority
4. Black - dead at the scene or not survivable injuries

The most widely used triage system is the **START** system, which stands for **S**imple **T**riage **a**nd **R**apid **T**reatment system. This system focuses on

1. Ability to walk
2. Respiratory effort
3. Pulses/perfusion
4. Neurological status

The initial step is to get those individuals who need immediate care to the high acuity area where life-saving intervention can be rapidly deployed. These patients are typically the "red" category. These patients will also be the first to be evacuated to tertiary care centers or closest most appropriate facility. Walking wounded patients are able to move on their own to the low acuity holding area. Typically, these patients (among those who have not already self-extricated or left to get help) will be given a "green" tag signifying "low priority" or "hold." Patients are assessed initially on ability to breathe. If they are not breathing, open the airway. If respirations resume, they will be labeled "red" as a high priority. If they do not resume breathing, they are labeled "black" and are set aside. Any patient with a respiratory rate over 30 should get a "red" tag. Patients with a respiratory rate less than 30 need to have their circulation assessed. If there is no radial pulse or if the capillary refill is greater than 2-3 seconds, they will be assigned to the red category. For those patients with a respiratory rate less then 30 with a palpable pulse, the next step involves a brief mental status and motor exam, having them squeeze the examiner's hands. If they can do this, they are labeled "yellow" for delayed transport,

but if they are unable to, they should be labeled “red.” Obvious significant bleeding should be controlled during any step in the triage process.[v]

As patients are categorized, they should be moved to the appropriate holding/treatment area to begin treatment and await transportation to the hospital. Upon arrival in the holding area, each patient should be re-evaluated and his or her status changed, either upgraded or downgraded, as needed. Each treatment area should have a unit officer overseeing their respective area. This officer needs to be in communication with the Incident Commander and Transport Officer to ensure adequate supplies, personnel and transportation is available.

Triage is a very demanding position where time is of the essence. For incidents where the casualty count is high, several responders may be needed to initiate triaging; however, there should always be one person who is recognized as the Triage Officer to whom everyone reports. In addition, numerous commercial tag systems are available to assist in labeling patients and keeping track of the number of patients treated. How patients are positioned in the holding area is also important. One effective method for placing patients is the CORE method (Casualty Orientation for Rapid Exam). This places the patients in a semi-circle with their head and torso toward the center of the circle. This method allows a single rescuer to evaluate a patient’s airway and breathing rapidly and then move to the next patient in an efficient manner. It also allows prevents having to step over one patient in order to effect treatment or transport, as is the case when patients are usually stacked like dominoes.

VI. NATIONAL DISASTER MEDICAL SYSTEM

The National Disaster Medical System was developed in the early 1980’s to provide the nation with a federal response to disasters here in the United States. The system is a collaborative effort involving the Departments of Health and Human Services, Defense and Veteran Affairs, plus the Federal Emergency Management Agency, state and local governments and the private sector. There are three major components to this system

1. Medical assistance to a disaster area in the form of Medical Support Units (MSUs), Disaster Medical Assistance Teams (DMAT), Special Teams and medical supplies and equipment

2. Evacuate patients to designated locations throughout the U.S.

3. Hospitalization of victims in a national network of non-federal medical facilities

The System was designed to care for as many as 110,000 victims, in more then 1,800 hospitals, during and after any incident that exceeds the medical care capability of an

[v] Medical Incident Command, Paramedic Care: Principles and Practice, Bledsoe, BE, Porter, RS, Cherry, RA. Prentice-Hall pg 340-365, 2001

Back to Table of Contents

affected state, region or Federal health care system. Its intent is to respond to natural disasters, refugee influx or military casualties evacuated to the U.S. There are currently over 2,500 acute care hospital beds available in over 100 metropolitan areas.[vi]

Disaster Medical Assistance Teams (DMAT)

A DMAT team is a group of medical personnel and support staff including administrative personnel designed to respond to the site of a disaster. They are meant to be a rapid response team to assist local medical care until the situation is resolved or other contracted resources are mobilized. Each team has a sponsoring organization, such as a major medical center or public safety agency, that organizes the team, recruits and arranges training and coordinates the dispatch of the team. When a team is dispatched to a site, they are expected to sustain themselves for 72 hours while providing care. Their responsibilities vary depending on the nature of the disaster. Responsibilities include: triaging patients, providing limited, on-scene medical care and preparing patients for evacuation. In addition, they may be needed to provide primary care or augment local overloaded health facilities or to meet the on-site medical needs of the disaster/MCI responders.

In addition to DMAT teams, NDMS developed specialized teams to respond to specific types of disasters. Examples include: Disaster Mortuary Operational Response Team (DMORT), Veterinary Medical Assistance Teams (VMAT) and teams specifically trained to deal with burns, crush injuries, search and rescue, etc.

VII. MILITARY

The National Guard is a state asset that may be called into action in the event of a disaster, especially one that entails or involves Weapons of Mass Destruction (WMD's). The Governor of the State of Ohio has the ability to activate these forces and use their assets for the betterment of the state. Soft assets such as personnel can include medical technicians, paramedics, nurses and physician and surgeons. Hardened assets such as shelters, portable operating theaters, decontamination equipment, military ambulances and even air transportation can be utilized if needed.

VIII. DISASTER DRILLS AND EXERCISES

Having a disaster plan and knowing who to call for help is essential in disaster preparedness. Equally important are periodic drills that allow you to test the system and the plan. Frequently this will identify problems before a real disaster does, and gives responders a chance to drill together. Disaster exercises can and should take place at several different levels, ranging from tabletop exercises, to real drills involving the individual EMS service, to regional drills involving hospitals. Hospitals are required by JCAHO to have 2 drills a year and at least one of these must involve an inflow of victims into the ED. If the community holds any EMS disaster drills the hospital must participate

[vi] NDMS web site, www.ndms.dhhs.gov

Back to Table of Contents

in at least one a year as well. This is a wonderful opportunity to drill multiple units, and the interface with the hospital. The FAA mandates that airports have periodic disaster drills, which is a great chance to work with different public safety agencies such as the police or FBI.

Such drills are most useful when they are realistic. Drills need to take place outdoors and in an environment similar to that in which responders will be working in a real disaster. As much as possible real bodies should be physically moved, equipment used and communications trialed. Moulaged victims are better then uninjured victims with cards around their neck describing their injuries, Different EMS responders should be periodically rotated through different roles within the incident command system previously described. This familiarizes them with the responsibilities of that position allowing them to serve in that role as needed, and to interact with that position when serving in another.

The responsibility of the Medical director is to encourage drills and practice and to help create a convincing scenario and patients with appropriate injuries. Ideally the medical director is present during the drill to observe the individual assessments and treatments as well as to observe the triage of victims. He or she can then provide meaningful feedback to the responders and get a better idea of the capabilities of their EMS responders and squads.

IX. SUMMARY

The most important part of a disaster or MCI is the preparation, planning and practice for it. The next most important part is the debriefing or after-action report, which looks at lessons learned in the best model of process improvement. Once a plan is developed, there must be full cooperation from everyone involved, from the first responders to the hospitals involved in receiving patients to state and federal authorities. This cooperation must be bidirectional, and must continue even after the incident is declared “over” to facilitate analysis, future planning and reimbursement for costs incurred in rescue and cleanup. The plan must be practiced frequently so that not only are the plan developers familiar with it, but also the responders. A careful drill and exercise of planned elements along with a commitment to process improvement will identify and rectify apparent flaws in the plan. The Appendix on the following page has a listing of a variety of resources available to assist in developing and implementing a disaster response plan. As the medical director for an EMS agency in the State of Ohio, you should be familiar with your EMS unit’s disaster plan, the county disaster plan and the state disaster plan. You should know who your unit has mutual aid contracts with and be familiar with industry and high-risk or high-profile companies in your area (nuclear power plant, chemical plants, etc.)

Back to Table of Contents

OHIO CHAPTER ACEP

POSITION PAPER

State of Ohio Emergency Preparedness - A Resource "Best Practices" Model for Our Times

James J. Augustine, MD, FACEP

William M. Rogers, MD, FACEP

The recent domestic terrorist tragedies in our nation have sparked a resurgence of interest in providing not only adequate but "best practices" emergency preparedness in our state. The Ohio Hospital Association, Ohio Chapter ACEP, Ohio State Medical Association, and many state governmental agencies are examining concepts and resources which would prepare Ohio for mass casualty incidents. Renewed interest in funding for such crises should produce a system that the State of Ohio can utilize for weapons of mass destruction.

The state must invest in two program areas urgently - programs that serve an immediate need for disaster preparedness, and those that provide for the long-term needs for community emergency preparedness. Long term, the communities in Ohio will have the occasion to deal with floods, ice storms, tornadoes, major fires, transportation accidents and hazardous material incidents. The current preparedness investments will need to prepare emergency forces for those incidents. We recommend that all program suggestions made to the state delineate investments which will serve both short and long term needs, and that the state invest in organizations that are part of the Ohio community.

There are public safety and public health needs within the state. These two disciplines have some overlap, but have many elements that require unique knowledge. Public safety services are those that respond to immediate and "visible" crises to preserve life and property. Generally this is fire, EMS, law enforcement and acute care hospitals. Many relief agencies fit their services behind public safety to assist the public in reorganizing after an emergency event.

Public health services are those that identify health risk areas for segments of the community, locate and track health sentinel events, provide inspection services, nonemergency treatment, and oversee a broad program of public education. They work with other agencies to promote confidence within a community.

The State should be interested in promoting the following activities within the two disciplines.

Back to Table of Contents

Public Safety

- Identification of high risk areas for major events and likely scenarios
- A rapid and time-efficient access system (911)
- Rapid and efficient response
- Evaluation and subsequent isolation of the emergency condition, to minimize loss of life and property
- Organization of an effective management system (Incident Command System)
- Provision of initial emergency health care
- Transportation systems to appropriate health care centers
- Communication systems which link public safety providers
- Communication systems with the general public and community decision-makers
- Documentation that enhances recovery, law enforcement, and future prevention activities

Public Health

- Identification of risk areas in and around the service community
- Systems that identify sentinel cases, health trends, and areas for health promotion
- Investigatory epidemiology which tracks outbreaks and provides bidirectional information flow to Federal and local public health workers, other appropriate governmental agencies, hospitals, emergency departments, and the practicing physicians who are likely to see and treat these cases
- Educational programs for medical care workers, public safety forces, community leaders, and the general public
- Nonemergency treatment services that complement acute care services, providing friendly and effective care
- Inspection programs that identify and then manage health risk areas in the community
- Documentation systems that enhance community reporting, outbreak investigation, and future prevention activities

A Resource Wish List for public safety services will provide dollars for programs, equipment, and personnel that will promote an effective response to a major crisis like that of September 11, 2001 and will also have application to ongoing emergency preparedness in the community. The state's investment in the 9-1-1 system in Ohio is an example of successful contribution to preparedness programs.

The following areas identify current and future needs for state investment.

(1) A communication system which links public safety personnel, governmental leaders and acute care hospitals in a flexible manner. The 800 radio systems installed in some Ohio communities are examples of this flexible and effective communication system. They allow a day to day communication program for public safety forces which can be switched to serve the needs of a major community incident. In some communities, the system links the emergency departments with EMS and the entire hospital radio network with all other public safety agencies. This is a model of efficiency. The state should invest dollars to develop a statewide blanket of these radio systems, and most importantly, ensure they can link to and communicate with each other.

(2) Public Information / Electronic Media. The events of September 11, 2001 point to the critical role the electronic media plays in public notification, including live visual imaging of the emergency, interview of key emergency leaders who can communicate an effective message, and a general public that has been educated to turn to those sources for reliable information. The state should work with regional cable councils and media sources to promote this form of emergency community broadcasting. In remote areas of the state, broadcast methods must be expanded to include a variety of radio systems. In crisis incidents, it is critical for public safety personnel to have a reliable and effective system for communicating accurate information to the general public that is needed for the members of the public to make good decisions.

(3) Implement Incident Command and Mutual Aid Systems Statewide. There has been extraordinary effort by fire and EMS personnel to implement an incident command system that provides leadership models for any type of emergency situation. Essentially all larger agencies in the state providing fire service have implemented this model, and use it on a daily basis. Some smaller agencies, and some EMS agencies providing 911 response services, have not incorporated any form of incident command system. Some agencies do not have cooperative agreements with contiguous emergency service providers, and some insist on working in isolation from each other. This should not be tolerated. A state mandate should require all 911 response agencies to demonstrate programs of leadership training, and patterns of emergency response with each other. Mutual aid agreements should be in place for all 911 service agencies.

(4) HAZMAT Operations/Training/Equipment Purchase & Stockpiling. One of the weakest links in the public safety system is management of hazardous materials incidents. Several key areas need augmentation.

First, detection technology needs to be continually updated. Rapid identification of a hazardous substance release is a priority for research and development. There have already been hundreds of releases of irritant gas sprays (pepper spray, mace or tear gas) in Ohio which have resulted in hundreds of victim transports, and scarce dollars

Back to Table of Contents

expended in wasted cleanup, often because we do not have a detector which will rapidly analyze and identify the offending substance. As we proceed through the next phase of concerns about terrorism, and prepare for the risk of release of toxic nerve gases or other substances, the lack of easily deployable detection systems will become ever more costly. Already we have seen thousands of emergency responses for “white powders.” If we expand this to the community's fear of invisible gases we will increase the workload exponentially. The critical missing piece is an accurate detector that can be deployed rapidly to the incident site, and the training of appropriate personnel to utilize the device. The military has these units available, but the state will need to coordinate their availability and activation.

The second missing piece is the concept of a “unified approach” for individuals contaminated with hazardous substances, including biologic and nuclear agents. Currently, we lack a unified approach by industry or first responders, then Emergency Medical Service units, then Emergency Departments to manage the decontamination of victims. Ohio should provide leadership in hazardous material victim management approaches, which would involve building a body of knowledge, implementing a unified program, and working with equipment manufacturers to provide appropriate equipment for patient management. This system of unified care needs to be initiated at the worksite, then carried through in the ambulance, and in the ED, thereby organizing the process for all emergency providers and utilizing best practices to approach this issue. This is an opportunity to save money for chemical manufacturers and handlers, and the spectrum of emergency providers by using a uniform approach and specifically designed equipment for this operation, thereby reducing waste and inefficiency. Ohio has very large and active manufacturers, like Ferno Washington in Wilmington, which could assist in this design process.

There are some barriers to a uniform and consistent approach to victims who have been contaminated, either in the industrial setting, through interpersonal violence, or in a potential terrorist incident.

- There are individual bodies of knowledge utilized within industry, within fire and emergency medical services, and within the Emergency Department to manage patients contaminated with hazardous materials. Not all of these guidelines are consistent with each other, and that results in some gaps in care for the individual patient. Hopefully, any individual contaminated with hazardous material still receives excellent medical care, but there are clearly opportunities to improve and to make more uniform that care.

- There is fortunately less occurrence of hazardous materials contamination taking place now than in prior years. This is a result of excellent safety programs and prevention activities at all levels. Nonetheless, episodes of chemical contamination still occur on an everyday basis, and these incidents are very public, very dangerous and very costly for industry. EMS/Fire and Emergency Department personnel must be prepared for these incidents on an everyday basis. Much money and educational time are spent keeping updated and prepared for these incidents by EMS, fire and Emergency Department organizations.

- We do not currently have equipment that is designed specifically to manage hazardous materials victims. We would benefit by working in a uniform manner towards multiple use cots, collection equipment, containment beds and disposal processes.

- Information about chemical contamination incidents is not easily shared, even in this electronic age. Many of the components of hazardous material management are still shared by hand, voice and paper. We would be well served by a uniform data collection and usage process.

- The decontamination methods are unorganized and currently unfocused. A single set of guidelines that would carry the contaminated patient from the worksite through the ED could save lives, time and money.

- A uniform body of knowledge regarding decontamination methods dates back to the radiation emergency days of the 1950's; a modernized concept relating to today's hazards would be advantageous. Both the military and the chemical industry's input to improve the general knowledge of cleaning techniques for contaminated patients would be invaluable.

(5) Acute Medical Care Capabilities. Certain major incidents will overwhelm the care capabilities of Ohio's hospitals. The tightest bed situation on a day to day basis is for burn patients. Ohio should support the availability of burn beds, and develop a communication system that links the state's burn centers to each other and to those in contiguous states. A state mutual aid program for burn victims should be developed, and coordinated with centers of excellence that exist in Ohio, such as the Shriner's Burn Center in Cincinnati.

Incidents with widespread chemical contamination would rapidly produce large numbers of patients and would likely overwhelm local hospitals and EDs. The state should facilitate the investment hospitals would need to make to prepare for such an occurrence, and simultaneously allow those investments to serve the day to day operations of the ED. The state should also provide a system for tracking stocks of critical supplies, such as medical ventilators, for major incidents, and develop a logistical program to rapidly deploy these assets regionally throughout the state.

The acute care hospitals need state investment for preparedness. These facilities are the final common denominator in victim care for all emergency situations, from routine to overwhelming. In a very challenging financial climate, hospitals have done an admirable job in major incident preparedness. By financial mandates from the government and the business community, hospitals have reduced their capacities for inpatient care. Managed care pressures have forced hospitals to downsize, and most have not had the opportunity to invest capital in the emergency department, which functions as the intake, evaluation, stabilization and principal initial treatment area for the sickest patients arriving at the hospital.

Emergency departments need functional advanced information systems to enhance patient management, disease reporting and surveillance, and rapid epidemiologic pattern recognition. There is an excellent opportunity to use an ED information system as a surveillance mechanism for diseases, disasters and capacity constraints. A system that would “hardwire” together all 140 some acute care EDs in the state could monitor the intake system for acute problems in the community, and have the ability to pinpoint problems immediately. Each ED needs an information system that tracks and facilitates patient care, and provides direct and intelligible patient aftercare instructions. This system should operate both passively and actively within the ED. The ED system needs multiple levels of information on patient encounters to facilitate care by the patients' personal physicians as well as state agencies charged with epidemiologic and health monitoring. The state should fund the implementation of such an information system for each of the state's emergency departments.

The state's emergency departments need functional patient intake areas where patients who are potentially contaminated with any substance could be safely processed. The state should encourage investment in multipurpose intake rooms for EDs, used to manage daily intake and major incident victims with potential contamination. The state could support the expense of stockpiling personnel protective suits and respirator systems for ED and EMS personnel. These should be stored in or about the ED, and available for field emergency operations when needed. State coordinated purchases would save significant dollars and assure availability in all communities. The state could organize those purchases through local Emergency Management Agencies.

Two additional emergency preparedness issues challenge emergency medical care in the state. First, a brewing medical professional liability crisis is discouraging all specialty physician providers from providing emergency care and assuming ethical and hospital-based on-call responsibilities. Ohio needs tort reform which must be narrowly focused, constitutionally valid, and specific to medical care to prevent a worsening crisis in malpractice insurance coverage, extraordinary expenses for care providers, and flight of physicians to other states or to retirement.

Secondly, there is a large, lengthy and unwieldy hospital credentialing process for physicians which works against rapid deployment of physician resources in disaster settings. Ohio should develop a statewide emergency management plan which incorporates emergency notification, credentialing and privileging procedures at all Ohio hospitals for licensed healthcare providers, to include physicians, nurses, advanced practice nurses and physician assistants for local, regional or statewide disasters or terrorist incidents. Likewise, Ohio should develop and maintain a database repository of physicians and healthcare professionals willing to be deployed statewide during major incidents.

(6) Education, Guarantee Fund, Support. Both financially and educationally, the state should support the work of personnel in the emergency system. Ohio should provide excellent educational programs in Major Incident Management, and pay emergency providers to attend. This would be a sign of support for a beleaguered industry, and a source of encouragement for others to join that industry. Finally, nearly all emergency workers have concerns for their own health in the event of chemical or biohazard

Back to Table of Contents

incidents. The state should provide its own insurance guarantees for any emergency worker injured or killed in such an incident.

The state of Ohio can become a leader in emergency preparedness and domestic response by assessing and implementing these ideas as both short and long-term planning and systems goals to benefit all Ohioans. Now is the time for leadership, vision and exemplary coordinated action in public/private partnerships for the benefit of all.

PASSED BOD
12/26/01

Back to Table of Contents

APPENDIX

Community Medical Disaster Planning and Evaluation Guide. Erik Auf der Heide, MD, American College of Emergency Medicine, 1995

Excellent resource to assist in developing and reviewing an established plan. Interrogatory format assists in identifying problems or tasks faced by EMS and hospitals may face, however does not provide solutions. The solutions will depend on the individual needs of your community. Also has an excellent resource section, some of which is provided below.

Disaster Medical Services, ACEP policy Statement, March 1997

Agency for Toxic Substances and Disease Registry, (ATSDR)
U.S. Public Health Service
(404) 498-0110 or (888) 422-8737

24-hour telephone assistance for personnel dealing with a Hazmat incident

Chemical Transportation Emergency Center (CHEMTREC)
(800) 424-9300

24-hour emergency chemical information hotline sponsored by the Chemical Manufacture's Association

National Pesticide Information Center (NPIC)
(800) 858-7378

24-hour hotline for assistance dealing with pesticide exposures and accidents

Nuclear Regulatory Commission (NRC)
(301) 951-0550

24-hour assistance for radiation related accidents

REAC/TS, Oak Ridge Associates Universities
(865) 576-3131 emergency number

24-hour assistance for radiation related accidents

CDC, U. S. Public Health Service
(404) 633-5313

24-hour assistance for dealing with accidents involving packages containing biologic hazards

Emergency Preparedness and Response Branch (EPRB)
(770) 488-7100

24-hour CDC Emergency hotline

Back to Table of Contents

Community Alert Network
301 Nott Street
Schenectady, NY 12305
(800) 992-2331

Emergency computer notification and telephone message service. One phone call can activate a telephone message delivery services up to 5,000 calls per hour. Excellent way to issue warnings and recall staff.

The NFPA Catalog
National Fire Protection Association
1 Batterymarch Park
Quincy, Mass 02269-9101
(800) 344-3555

Ohio Department of Public Health
246 North High Street
Columbus, OH 43216-0118
Laboratory - (614) 466-2278

National Disaster Medical System
12300 Twinbrook Parkway
Suite 360
Rockville, Maryland 20852
(800) USA- NDMS
NDMS Region V (Ohio) team leader
Frank Saul
(419) 213-3908

Federal Emergency Management Agency
www.FEMA.gov

Access to numerous articles on disaster response and recovery topics.

American Red Cross
(800) HELP-NOW

Back to Table of Contents

Ohio Chapter ACEP EMS Medical Directors' Manual
Chapter XV Questions

1. Which of the following are phases of disaster management?

   A. Mitigation
   B. Planning
   C. Response
   D. All of the above

2. Which of the following is part of the incident command system?

   A. Planning section
   B. Operations section
   C. Logistics
   D. All of the above

3. A multiple victim disaster occurs. A 70-year-old man is found in full arrest with 90% BSA burns. His triage category is:

   A. Red
   B. Yellow
   C. Green
   D. Black

4. A 30-year-old is found at a disaster scene not breathing. Upon opening the airway, the patient resumes respiration. The triage category is?

   A. Red
   B. Yellow
   C. Green
   D. Black

Back to Table of Contents