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Emergency Medical Communications for Public Safety Communicators

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Answering the Call

EMERGENCY MEDICAL COMMUNICATIONS

FOR PUBLIC SAFETY COMMUNICATORS

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FOR PUBLIC SAFETY COMMUNICATORS

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Chapter 1: History of Emergency Medical Dispatch

A Short History

The earliest days of emergency medical service were geared more to the "scoop and run" philosophy than that of patient care. Ambulance transportation was run by funeral homes, with call taking and dispatching done by clerical staff with no medical training. Pre-hospital care was minimal, and the service itself was very costly to the user and community.

As time went on, *Basic Life Support Skills* were introduced to the industry, followed by *Advanced Life Support Skills* and local medical control. There were minimal standards of dispatch protocol or practice, and few cost controls.

Emergency Medical Dispatch (EMD) today is a much more complex and far-reaching service. It includes the use of First Responders, Basic Life Support, Advanced Life Support, Infant Transport Teams, and Dispatch Life Support. Provincial and federal medical statutes affect all disciplines. Non-medical issues considered by the industry include system status management, financial and legal control, quality assurance and medical licensing.

Services to the community may be regulated and run by a private company, hospital or service, or may fall under provincial or federal jurisdictions.

At Confederation, the Constitution Act of 1867 made little reference to government obligation to its citizens' health. At that time, the federal government oversaw marine hospitals and quarantine issues. Each province was responsible for the establishment and management of

asylums, hospitals and charitable organizations. Between 1867 and 1919, the Department of Agriculture was responsible for related health issues.

In the years prior to the establishment in 1933 of a reconstituted health department, federal responsibility has grown to include health services for First Nations and Inuit people, Yukon residents, federal government employees, immigrants and civil aviation personnel.

Federal responsibility also covers public health investigations, regulations of food and drugs, administration of medical devices, and general information service related to health care and its practices.

The provinces set the standards for licensing of hospitals, and of doctors, nurses and other health care professionals. Provincial medical insurance plans, the financing of health care facilities and the management of certain public health services fall under the umbrella of Provincial Health Care management.

Each province has over the past ten years conducted a massive inquiry, or Royal Commission, into its public health system. All were in agreement that the fundamental principles of the Canada Health Act – universality, comprehensives, portability, accessibility and public funding from taxation – were solid, and that current resources were sufficient. However, all agreed that the management of these resources was inadequate. One of the recommendations was to make a shift from institution-based care to community-based care with individuals assuming more responsibility for decisions about their own health in conjunction with health care professionals.

Canadian Chronology

1867 The Constitution Act

Assigned control and management over quarantine and marine hospitals to the federal government.

Assigned control and management of asylums, charities and hospitals to provincial government.

1948 The Health Grants Program

First stage in the development of national health insurance program.

1957 Hospital Insurance and Diagnostic Services Act

Establishment of National Hospital Insurance.

1964 Royal Commission on Health Services

Established the need for a publicly administered national health service that was accessible to all.

1966 Medical Care Act

Provided federal funding for insured medical services

1984 The Canada Health Act

Consolidated previous health legislation and established the principles of public health care: accessible, portable, universal, comprehensive and publicly funded.

British Columbia Chronology

1862 The First Hospital

The first hospital was built in New Westminster, designed for thirty patients, located on the corner of Clement (now 4th Street) and Agnes Street was opened on October 7, 1862 to care for men only. Women, children, and "the incurable and the insane" were excluded from care. The Royal Engineers planned and helped build the hospital. The cost was $3,396.

1886 Vancouver General Hospital built

Vancouver Hospital was just a nine-bed tent used to treat injured railway workers.

1898 BC's First ambulance

British Columbia's first organized ambulance was established at Vancouver General Hospital. This horse drawn buggy was used as both a devise to transport injured people and also doubled as a Hurst.

1920 Vancouver Police Department

The Ambulance service in Vancouver was operated by the Vancouver Police Department until 1930

1930-1974 Private, Volunteer and Fire Department based Ambulance Providers

Prior to 1974 and the inception of BCAS, ambulance service in BC was chaotic. Standards, such as they were, were not uniformly enforced and permitted a wide range in service delivery. Ambulance service was delivered in a number of ways. In some areas, commercial operators were funded by municipalities; a model favoured in communities such as Vancouver and Victoria.

1974 The British Columbia Ambulance Service

July 1, 1974 that government legislation was enacted to create the BCAS. It was formed in response to growing concerns about the conditions then present in the ambulance industry of the day.

1974 Emergency Medical Dispatch

The occupation of an Emergency Medical Dispatcher was given formal recognition by the BC Government

1974 The Health Emergency Act

The Health Emergency Act was passed into Law by the provincial Government.

1990 The first Emergency Medical Dispatch Class

The first EMD program was taught at the Justice Institute of British Columbia.

1996 Medical Priority Dispatch System

The Medical Priority Dispatch System was introduced in British Columbia

2000 Medical Priority Dispatch System Version 11

British Columbia was chosen as one of only six test sites world wide to help develop and test MPDS Version 11.

North American Emergency Medical Dispatch (EMD) History

The early 1960s, emergency medical telephone instructions were introduced into the field of *Emergency Medical Dispatch*. The use of *pre-arrival instructions* followed in 1975 and were first implemented in Phoenix, Arizona. In 1981, Aurora, Colorado, and Seattle, Washington, introduced scripted call assessment as a standard in the industry. This standard was upheld by the Legal Landmark Opinion of EMD issued by James O. Page in the U.S. in 1981.

The state of Utah pioneered a number of programs related to EMD, including the first state-wide EMD training and certification program in 1983, and the design and implementation of the Medical Priority Dispatch System (MPDS). The first EMD quality assurance program was introduced at Salt Lake City in 1984.

The National Academy of Emergency Medical Dispatch was established in 1988 and formally recognized as an integral component of EMS in 1989 by the American College of Emergency Physicians in 1989.

Medical Dispatching constitutes the last major area in the pre-hospital emergency medical services chain of care to be identified and developed. The effectiveness of the EMS system can be measured by the appropriateness of training, protocols, and medical control and direction of dispatchers. Involvement by pre-hospital EMS physicians is essential to monitoring this process The National Association of EMS Physicians (NAEMSP) issued a position paper defining Dispatch Life Support (DLS). The tenth edition of MPDS issued in 1990 set out the standards for EMD management, instructor qualifications and certification eligibility for EMDs.

They go on to state:

> *The trained Emergency Medical Dispatcher (EMD) is an essential part of a prehospital EMS system. Medical direction and control for the EMD and the dispatch center*

> *also constitutes part of the prescribed responsibilities of the Medical Director of the EMS system. The functions of emergency medical dispatching must include the use of predetermined questions, pre-arrival telephone instructions, and pre-assigned response levels and modes. The EMD must understand the philosophy and psychology of interrogation and telephone interventions, basic emergency medical priorities and interventions, and be expert in dispatch life support. Minimum training levels must be established, standardized, and all EMDs must be certified by governmental authority.*
>
> *National Association of EMS Physicians (NAEMSP).*

Position of the EMD

Until recently, EMDs have not been viewed as medical professionals and historically have been considered the weak link in the EMS *chain of survival (*as defined by the Heart and Stroke Foundation of Canada and the American Heart Association: early access to the pre-hospital care system, early CPR, early defibrillation, and early advanced care). However, considering that medical assistance actually begins at the initial phone call, EMDs are the first responders in the *chain of survival*.

The EMD is able to provide access to emergency care within seconds of receiving the call for help. The call taker's role is that of evaluator and care provider. EMDs must be able to evaluate the medical emergency and provide direction and support until EMS arrives. This occurs through *remote interrogation* or *non-visual contact* patient assessment. Decisions and actions taken by EMDs take into consideration a number of components and may include any or all of the following:

- patient evaluation
- patient maintenance
- patient safety
- critical intervention/treatment
- responder knowledge
- responder safety

- EMS resource allocation

Responsibilities

EMDs need accurate information for call assessment. If the caller is upset/irrational/ injured, the call taker must utilize appropriate call processing techniques to acquire the necessary information. Because callers are usually not medically trained, it is difficult for them to answer questions about patient condition, symptoms or injuries. The EMD will take positive control of the call and ask questions in a format the caller can understand. Prioritizing is one of the essential elements of EMD. The person taking the call must be the one to decide which level of response is required.

EMDs need to consider these elements each time they answer the phone. The primary reasons for these considerations and questions are to:

- determine appropriate response mode (routine or urgent),
- provide Dispatch Life Support,
- prepare and inform responders,
- ensure scene safety,
- coordinate with other public safety emergency services,
- determine the nature and severity of the medical incident type, and,
- coordinate and dispatch of medical resources

Emergency Medical Dispatch falls under the direct responsibility of the Medical Director of the EMS system. It is essential that EMDs be trained in basic telecommunications skills in order to be effective in their job.

Pre-arrival instructions are a mandatory function for EMDs and they must fully understand the philosophy of medical interrogation in their training. In order to provide an appropriate level of care for the public, EMDs must be able to prioritize calls, and provide standard telephone instructions to callers as required by training. They are morally obligated to uphold the EMS system.

EMDs must be fully trained in both telecommunications and emergency medical procedures, taught by trained instructors from the field.

Geographical Knowledge

EMDs must have complete and current knowledge about their agencies' geographical area, and about surrounding and bordering areas; field units may be asking for directions to a scene.

This knowledge is necessary for a number of reasons. First, it is the EMDs responsibility to assign the closest appropriate unit to each call. When a call comes in to the centre regarding a specific response area, the EMD will be able to pre-alert the appropriate car simply by having heard a familiar location.

The EMD must be proficient not only in street names, landmarks, and geographical hazards, but must also keep current on street closures, diversions or maintenance to traffic patterns and flow. The EMD must dispatch the closest *appropriate* response to each call that comes into the center. For example, it is fruitless to dispatch a unit to a call just across the river from the unit if the bridge across the river is closed for repairs. The EMD must know what is going on within the agency's geographical area and how it may affect their ability to dispatch a response to incoming situations.

Resource Management/Service Management

EMDs must have current knowledge of the resources and services (in both manpower and equipment) available within the agency, the community and from surrounding communities, and must be prepared for situations that may require them all to be utilized. Preparation is the key to the appropriate allocation of resources. The last thing EMDs want to say on the radio or on the phone is, "I don't know." Effective EMDs anticipate questions or situations that may come their way, and work to get the answers and correct responses to questions and situations they are unsure of.

The EMD may be the public's only contact with that agency, and may also be the initial contact with support services or other resource

agencies or departments. Employees of these other services, such as police, fire or hospital, may base their impression of an industry or agency solely on their impression of the EMD. EMDs conduct themselves professionally, courteously and calmly when dealing with these contacts, and extend the same high standards to outside agencies as to the general public.

Communications Equipment

The competent EMD is completely familiar with the equipment within his/her center and to some extent, the equipment utilized by the field units of the agency. Paramedics often ask the EMD for direction when they experience problems with their radio or computer equipment. At the very least, the EMD should be able to get the crew in touch with the appropriate person to assist them with their equipment problems.

The EMD must be completely informed of the basic troubleshooting technique used with each piece of equipment in the center. This includes telephones, radio equipment and computers used by the agency. An awareness of all the emergency procedures regarding power and equipment failures in the center is necessary, as is the knowledge of whom to contact when those systems fail. The EMD should be familiar with the procedures and contact names before needing to use them. If a resource or contact list is kept within the agency, know where it is kept and who is in charge of implementing emergency procedures or contacting the appropriate people. Ensure the information is current and kept up to date.

Dispatch Life Support (DLS)

DLS is the knowledge, procedures and skills used by emergency medical dispatchers in providing patient care through *Pre-Arrival Instructions (PAI)* or *Emergency Medical Telephone Instructions (EMTI).*

Call Assessment

The EMD is responsible for obtaining the necessary and most accurate information available in order to dispatch the appropriate EMS resource(s).

Call Dispatching

The EMD must have the knowledge to dispatch appropriate resources and coordinate a layered/multi-agency response.

Pre-Arrival Instructions

The EMD must have the ability and knowledge to provide appropriate pre-arrival instructions or emergency medical telephone instructions.

Call Tracking

The EMD is responsible for ensuring crews maintain contact and that events are properly documented.

Accountability

The EMD is accountable for his/her actions and response.

Summary

The professional EMD will:

- be completely familiar with the policies and procedures of their department,
- follow those policies and procedures for every call they are involved with,
- be completely familiar and current with the geographical concerns of their agency and surrounding areas,
- have a good understanding of resource and service management systems within their agency,
- be completely familiar with the equipment used within their center and by their field units and able to trouble-shoot or contact technicians when required for each piece of equipment,
- be professional and courteous to all callers or contacts received within the center,
- be completely knowledgeable and proficient in the medical knowledge necessary to assess, prioritize and dispense the appropriate response to each call received,
- be able to dispense correct pre-arrival instructions if necessary,

- be able to dispense correct medical approved instructions prior to crew arrival, if agency dictates,
- utilize a variety of communication skills to extract information and details from all types of callers in order to facilitate the appropriate response to the call,
- keep their training current and up to date, and
- work as part of a professional team with patient care, customer satisfaction and crew safety identified as paramount issues and concerns.

Misconceptions about EMD

There is some controversy regarding the role of EMD with some reasons for not having this service given as:

Callers are too upset

Callers would not be able to provide information

Medical knowledge is not important for the EMD

All EMS calls must be lights and sirens

The EMD is too busy to be asking all the questions

Medical advice over the telephone cannot help and would be dangerous

Using a call assessment model adds time to call assessment

Attributes and Professionalism of EMDs

The successful EMD is both helpful and compassionate. They must demonstrate effective working relationships with other team members. Team members can include other EMDs, field paramedics, and other agencies (police, fire etc.). They affectively handle the emotional stress involved in caller / patient crisis situation and are able to guide the caller in these situations.

The successful EMD must have knowledge of field crew protocols and procedures.

The successful EMD has the ability to gather all pertinent information and relay that information to responders in an informative, useful and timely manner.

The successful EMD determines the nature of the medical emergency without diagnosing the medical problem or condition. Diagnosis is a function performed by the paramedics on scene.

The successful EMD assists EMS personnel on the scene as required.

The successful EMD reacts passively to hostile callers, making no judgments based on the callers' demeanour or past experience with the caller.

The successful EMD maintains confidentiality.

The Emergency Medical Dispatcher provides an all-important professional link in the overall EMS chain of care and survival.

Chapter 2: Legal Issues Regarding Emergency Medical Dispatch

Legal Terms for Emergency Medical Dispatch

Reasonable Person

A reasonable person is defined as a person who possesses and uses the qualities of carefulness, intelligence and judgment that society requires of its members for the protection of the person's own interests and the interests of others.

Patient Confidentiality

Patients have the legal and ethical right to expect that any information they give you will remain confidential. Under confidentiality guidelines, you cannot give out a patient's name or medical condition to anyone except the responders. Third party callers often call back to ask how the patient is doing, or about what happened.

- Can you tell an employer to which hospital his employee was taken?
- Can you tell a third party caller the patient's name so they can send flowers to the hospital?
- Can you tell the responding unit that the patient has AIDS?

You must maintain patient confidentiality to protect yourself and your agency from legal repercussions.

Standard of Care

The *standard of care* for an area can be defined at any level of government. The standard used in court is usually that of the local area. It is important to ensure that an agency's policies and procedures complement or enhance this standard. Compare your agency's standards to those of similar services supplied to neighboring areas.

The court uses four measures to determine the local standard of care. The EMDs behavior and conduct will be compared to:

1. others with similar training and certification,
2. locally approved protocols and guidelines,

3. local legal opinion, by-laws, acts, etc., and
4. accepted standards of similar services.

Consent

In an emergency medical situation, *consent* refers to the permission to treat. Implied consent applies to situations in which the patient is unconscious and cannot respond, or when a conscious patient is unable to respond verbally, but is making actions that indicate that help is wanted. Actual consent is a direct verbal or written communication to someone attempting to provide care.

Note: Law of consent has changed from age to mental maturity.

Abandonment

Abandonment in EMD is the action of leaving a patient known to be in a life-threatening condition. This encompasses starting treatment and failing to complete the treatment to wait until a person with equal or higher qualifications takes over, resulting in further injury or decline in the patient's condition.

Good Samaritan Act

The Good Samaritan laws provides protection to persons:

Acting in emergencies

Acting in good faith

Acting without regard to financial compensation or reward

Not guilty of gross negligence or malicious misconduct toward the victim

The Good Samaritan laws do not apply to the EMD while on the job if they follow the protocols of the agency.

Forseeabilty

The EMD can only be responsible for information given to them by the caller or what could reasonably been foreseen or predicted given the circumstances. The EMD must rely solely on the facts and information that is given to them since they cannot actually see what is happening on the scene. Appropriate questioning will assist the EMD to accurately assess the situation and send the appropriate response.

Policies and Procedures

EMDs should always follow the appropriate policies and procedures of their agencies, and should not ad-lib telephone instructions. Follow medically approved Pre-Arrival Instructions (PAI) and/or Emergency Medical Telephone Instructions (EMTI). Maintain a professional manner on the phone and with outside agencies, co-workers and supervisors. EMDs should ensure their training, skills and knowledge are current to the industry. Reliance on *local* standard of care in dispatch is becoming an invalid defense.

Negligence

Negligence is the failure to exercise the degree of care which a person of ordinary, reasonable prudence with the same or similar training would exercise in the same or similar circumstances. Conduct that falls below the standard of care established for the protection of others against unreasonable risk or harm is considered negligent conduct.

The best defense against negligence is a good offense. To avoid negligence, one needs to consider the four factors that must be present to prove negligence (see Standard of Care).

Duty

Duty is the responsibility to act or perform according to established standards of care. To prove negligence, the court must find that some duty to act existed in the situation and that it was not met. A communicator's duty begins on answering the phone.

Breach of Duty

The court must show that there was a *breach of duty*. Breach of duty can be shown if you did not perform your duty according to established standards of care, policies and or procedures.

Injury/Damage

The court must show that damage or injury was done to the patient. The type and amount of injury determines the amount of damages awarded to the victim.

Proximate Cause/Causation

The court must show there is a direct relationship between the action taken by the EMD and the injury to the patient.

Note that intent to harm is not required to prove negligence. Completed forms should show by listing the actions taken that you took the steps a reasonable, trained person would take in a similar situation. Forms should be filled out using professional and accurate terminology without making value judgments.

Chapter 3: Liability

Liability Concerns

In the field of EMD, liability is an obligation to take, or refrain from taking, any actions affecting patient / crew / public safety or care. Liability also involves the duty that must be performed regarding patient / crew / public safety or care.

Avoiding Liability

Agency Methods

Each agency should have defined hiring and screening processes for EMD candidates.

Each agency should have a well-organized, structured training program that includes practical and written applications and assessments.

Each agency should supply probationary employees with regular and objective reports.

Each agency should have defined job descriptions and agency and employee expectations.

Each agency should conduct a regular review of its policies and procedures including:

- continuous education and certification,
- EMD program management,
- medical control in EMD program, and
- quality assurance and improvement program.

Individual Methods

In order to protect themselves from issues of liability, competent and professional EMDs will avoid inappropriate behavior and will actively participate in quality assurance and improvement programs offered by their agencies or others. Always follow the agency's standards of care, and policies and procedures, and report any problems in writing to the appropriate supervisor or department as soon as possible after any incident.

Chapter 4: Emergency Medical Dispatchers

Training Objectives

The aim of training is to prepare EMDs with the key medical background and the information about local and agency protocols and resources needed to receive, prioritize and dispatch the appropriate level of response to each call. Appropriate and in-depth EMD training will also ensure they have the skills and knowledge to provide appropriate pre-arrival instructions (PAIs) and/or emergency medical instructions to the caller or patient requesting assistance.

Dispatchers should have:

- a basic understanding of medical and legal considerations,
- the ability to receive, prioritize and dispatch appropriate EMS responses,
- a basic understanding of emergency medical dispatching and its responsibilities to agency and patient,
- an understanding of their agencies' systems, response codes, available resources and protocols,
- the ability, if agency appropriate, to correctly offer basic emergency medical telephone instructions to callers,
- a basic understanding of the human body, physiology and common symptoms and complaints associated with medical problems, and
- the ability to execute the appropriate pre-arrival instructions and agency guidelines.

Priorities of Emergency Medical Dispatcher

The priorities of EMDs *are patient care, customer service, crew safety,* and *professionalism*.

Patient care is the highest priority in emergency medical dispatching. Optimum patient care is the ultimate primary goal, which means performing your duties above and beyond the minimum requirements of your agency. The best EMDs are those who are knowledgeable in medical interrogation, in prioritizing, in supplying appropriate pre-

arrival instructions and unit response, and who understand that their attitude, tone of voice and extra effort play a large role in assisting the callers and patients they come in contact with.

Emergency medical dispatch involves *customer service and satisfaction* as well as patient care. Effective EMDs recognize that each caller is a customer requiring the agency's unique services, and treats each caller with consideration, professionalism, and in a timely manner. The EMD must meet the time requirements of appropriate response for their agency, not because they are mandated to do so, but because it is an important part of patient care and customer satisfaction. Meeting clients' needs in this manner also meets your agency's – and the industry's – high standards.

Crew safety is also a paramount concern of the EMD, who is the field unit's first link with their assigned call. Field units depend on, and respond according to, the information passed on to them by the EMD, who is, in essence, their eyes and ears to the situation they are attending. The EMD is responsible for supplying the appropriate medical information, site hazard information, and back-up and support for the field units. The dispatcher is also responsible for assigning the correct priority to the call, for allocating resources, and for ensuring those resources are applied appropriately to the call. Field units or crew must be confident that the dispatcher is doing his/her job correctly in order to do theirs most effectively. The confident tone of voice used by the dispatcher in supplying the correct and necessary information to field units can have a major effect on the units' attitude and response to the situations they are in some ways going into blindly.

The EMD industry in one of high-stress, shift work and strong personalities, with potential for internal conflicts. The EMD is responsible for maintaining as *stress-free and professional an environment* within the communication centre as possible. The effective EMD has knowledge of the entire centre and resource deployment, and using that knowledge, works hard to maintain an atmosphere of cooperation and of high morale. Effective EMDs perform their functions in a professional manner, and are aware of the impact of their attitudes (both positive and negative) on the system as a

whole. When all members of the team, both in the centre and in the field, work as a unit to maintain good morale and do not permit personality differences, personal frustrations or problems to interfere, the result is better patient care, more customer satisfaction, and a higher degree of job satisfaction.

Function

Emergency Medical Dispatcher functions are:

- to receive and process requests for medical assistance,
- to dispatch and coordinate EMS response,
- to provide medical instructions to the caller, and
- to coordinate response to calls with other public safety agencies as required.

The coordination of multiple units from EMS and/or other agencies is known as providing a *layered* or *tiered response*.

Policies and Procedures

One of an EMDs responsibilities is to be completely knowledgeable and current on industry and agency policy and procedures. This includes the protocols specific to dispatch and call taking, and those involving field units. The EMD must be familiar with the hierarchy of the department and the management system, administrative system and mission statement adopted by the department.

Dispatch Danger Zones

The dispatch dangers zones are actions or inaction by the EMD that potentially places the dispatcher or agency in a liability situation. They include:

- No verification of address or telephone number
- "No Dispatch Clause" of EMS
- Delay in responding EMS resources (CCB, RDC, Hospital Waits
- Multiple calls for the same incident without further assessment
- No standards or call assessment protocols

- Not compliant with standards for call assessment
- Insufficient caller instructions (no EMTI)
- EMD attitude problems
- Dispatch diagnosis
- Pre-conceptions or prejudice of the caller or the situation

Critical Care Bypass (CCB) (BC Ambulance Service)

This refers to the condition of a hospital's emergency room (ER) and its ability to handle a critical patient. It indicates to the EMD that critical patient care would be severely compromised and that the crew and patient must be diverted to alternate facilities. CCB is a process designed to give certain hospitals a 30-minute period in which to regain control within an extremely challenged Emergency Department (ED). In order to be on CCB, the Emergency Department must be in the midst of caring for two patients requiring resuscitation and incapable of adding another resuscitation patient, although they could receive sub acute type patients (i.e. CCB deals only with the inability of a hospital ED to immediately provide resuscitation to a patient brought in by ambulance to the hospital ED).

Redirect (RDC) (BC Ambulance Service)

It is the joint desire of BCAS and the hospitals administered through the Vancouver Coastal and Fraser Health Authorities to direct ambulances to the most appropriate facility at the time of an incident. BCAS may be able to provide assistance to an overwhelmed hospital emergency department by assisting in redirect policies. BCAS ability to do this is subject to operational constraints that include avoidance of any policies for diversion of ambulances that would result in:

1. Unacceptably prolonged transport time intervals
2. Prolonged out of hospital care when definitive hospital resources are needed, especially for unstable or critically ill patients
3. Inappropriate attempts by field personnel to predict the specific diagnostic and therapeutic resources needed by individual patients

4. Delays in, or lack of, ambulance availability to the community because of diversion of units to distant hospitals

Trauma Patient Protocols

When treating a major trauma patient the first instinct may be to rush the patient to the closest hospital. The closest hospital is not always the best choice for major trauma patients. In many urban centres in North America research has concluded that death and disability is significantly reduced if the major trauma patient is treated within the "golden hour" at a hospital that has all the necessary facilities to deliver optimal trauma care. Unfortunately, the majority of hospitals do not have all the specialized facilities that may be required to deliver definitive care to major trauma patients.

Canadian Triage and Acuity Score (CTAS)

The Canadian Triage and Acuity Scale has received widespread acceptance in Canada as a reliable and valid tool for emergency department triage. The importance of accurate triage becomes more apparent as emergency department volumes increase, and resources shrink. The need to ensure that those patients requiring more urgent care receive care first is the basis for all triage scales. Through the Canadian Triage and Acuity Scale National Working Group, the scale became the recommended triage tool for Canadian emergency departments. Work has been done on the interrater reliability of Canadian Triage and Acuity Scale among health care providers. There is a need to further assess the validity of the scale. This scale has now been applied in the out of hospital setting by paramedics and is being used in measurements of emergency physician workload. The future may see an electronic triage tool develop for emergency department use to reduce variability in its application. The Canadian Triage and Acuity Scale has become an integral component of Canadian emergency departments.

CTAS Assessment Levels

Patients should have an initial triage assessment within 10 minutes of arrival

Level 1- Resuscitation

Time to Nurse Assessment – Immediate
Time to Physician Assessment – Immediate

- Conditions that are threats to life or limb (Or at imminent risk of deterioration)
- Requires immediate aggressive interventions.
- Cardiac / Respiratory Arrest Major Trauma with unstable vital Signs
- Post Arrest / Pre Arrest Severe Burns > 25% surface area
- Unconscious – GCS < 10 Seizures – Status Epilepticus
- Acute M.I. with unstable vital signs Major Head Injury - Unconscious
- Acute M.I with Complications - CHF Acute Aortic Aneurysm
- Severe Respiratory Distress Status Asthmaticus
- Facial Burns with Airway Compromise Overdose with hypotension / unconscious

Level 2- Emergent

Time to Nurse Assessment – Immediate
Time to Physician Assessment – 15 minutes

- Conditions that are a potential threat to life limb or function,
- Requires rapid medical intervention or delegated acts.
- Head Injury – LOC > 5 minutes and / or GCS < 13 Major Trauma with Stable Vital Signs
- Seizure – Post-ictal period Severe Allergic Reaction - Anaphylaxis
- Chemical Exposure to Eyes Cardiac Chest Pain

- Overdose / Drug Withdrawal Abd. Pain > 50 yrs – visceral symptoms*
- GI Bleed with Abnormal Vital Signs CVA with major deficit
- Moderate / Severe Shortness of Breath Vomiting and / or Diarrhea with dehydration
- Acute severe Testicular Pain Signs of Severe Infection
- Vaginal Bleed – pain > 5/10, abnormal vital signs Chemotherapy or immunocompromised
- Toxic or Lethargic Child Fever – age < 3 months with temp > 38 c
- Neonate - < 7 days old Acute psychotic episode / severe agitation
- Active Labour – contractions every 2 minutes Headache – pain scale 8/10 to10/10

Level 3- Urgent

Time to Nurse Assessment – 30 Minutes
Time to Physician Assessment – 30 minutes

- Conditions that could potentially progress to a serious problem requiring emergency intervention.
- May be associated with significant discomfort or affecting ability to function at work or activities of daily living.
- Head injury – alert, vomiting Moderate Trauma – tibia/fibula fracture
- Vomiting and / or Diarrhea - < 2 years of age Dialysis Problems
- Signs of Infection Mild / Moderate Asthma
- Mild / Moderate Shortness of Breath Chest Pain – non visceral *, no cardiac history
- G.I. Bleed with normal vital signs Acute Vaginal Bleeding with normal vital signs

- Seizure Episode – alert on arrival to hospital Acute Psychosis – suicidal ideation
- Pain – 8/10 to 10/10 with minor injuries Pain - Back, Head – 4/10 to 10/10

Level 4- Less Urgent

Time to Nurse Assessment – 60 Minutes
Time to Physician Assessment – 60 minutes

- Conditions that related to patient age, distress or potential for deterioration
- Complications would benefit from intervention or reassurance within 1-2 hours).
- Acute head, chest, abdominal pain- 1/10 to 3/10 Head Injury – Alert, no Vomiting
- Back Pain - Chronic Vomiting & Diarrhea (>2 years, no dehydration)
- Allergic Reaction - Minor Corneal Foreign Body
- Minor Trauma - sprains Allergic reaction - Minor
- Earache Upper Respiratory Infections (URI)
- Pain Scale – 4/10 to 7/10 Headache – non migraine / not sudden

Level 5- Non Urgent

Time to Nurse Assessment – 120 Minutes
Time to Physician Assessment – 120 minutes

- Conditions that may be acute but non-urgent as well as conditions which may be part of a chronic problem with or without evidence of deterioration.
- Minor Trauma – not necessarily acute Sore Throat – no respiratory symptoms
- Diarrhea alone – no dehydration Vomiting alone – no dehydration
- Normal Vaginal Bleeding with normal vital signs Psychiatric – chronic or reoccurring (stable)

- Chronic or Recurring Pain – 1/10 to 3/10, normal V/S Pain Scale < 4/10

SECTION 2: ELEMENTS OF EMERGENCY MEDICAL COMMUNICATIONS

Chapter 1: Emergency Medical Dispatch Terms and Definitions

Note: Terms and definitions may change from agency to agency, or province to province. The following are examples of terms commonly used within the British Columbia Ambulance Service.

First Responders (FR)

First Responders can come from Fire Dept's, Police Dept's, SAR teams, Security Services, Lifeguards or Ski Patrols**.** Their skill levels are usually limited to correcting and maintaining life-threatening emergencies.

Skills include:

a) Airway Management

b) Breathing Assistance – Oxygen Therapy

c) Circulation Assistance – CPR & Automatic External Defibrillation

d) Haemorrhage control

Basic Life Support (BLS) Paramedic

BLS providers are first line EMS operators. They have all the skills of a First Responder plus:

a) Paramedic Anatomy & Physiology – extensive, in-depth systems based knowledge of the human body.

b) Paramedic Operational Skills – lifting & transferring patients, driving skills, basic rescue orientation, patient assessment skills

c) Drug Therapy – Shortness of Breath, Drug OD, Diabetic problems, Allergic Reactions

d) Intravenous Therapy – Diabetic problems and trauma

Advanced Life Support (ALS) Paramedic

ALS providers are the advanced EMS operators. They have all the skills of First Responders & BLS plus:

a) Advanced Patient Assesment abilities

b) Intubation for cardiac/respiratory arrest

c) Advanced Cardiac Arrest Procedures

d) Advanced IV and Drug Therapies

e) PALS (Paediatric Advanced Life Support)

Critical Care Teams

To have an effective EMS system, certain specialized teams must be present. These groups take care of specific patient types.

Infant (Pediatric)Transport Team

These are paramedics with specialized training in advanced paediatric / neo-natal/obstetrical care. Teams like this tend to operate as a wide area resource. For example, in British Columbia, the Infant Transport Team is a provincial resource. They are also responsible for transports outside of the province for special care. Transport of team and patients can be done either by ground ambulance, helicopter or fixed wing aircraft.

Critical Care Transport Team

The Critical Care Transport teams are comprised of ALS Paramedics with specialized care in Critical Care transportation of adult patients. Use of ventilators and other specialized equipment is common practise. Transport of teams and patients can be done either by ground ambulance, helicopter of fixed wing aircraft.

Special EMS Teams

Search & Rescue Paramedics

Wilderness – these paramedics are integral parts of volunteer and career Wilderness SAR teams across North America. An example would be the Reach and Treat Team in Oregon from American Medical Response.

Urban - These teams are comprised of both BLS & ALS paramedics, along with teams of Critical Care doctors, providing medical care during Urban SAR operations. Urban SAR operations are defined as disaster relief, building collapse, and post earthquake rescue.

Military – since most national military forces have some role in SAR operations, paramedic training for SAR personnel has become an important training area.

Hazmat Paramedics

These teams are comprised of both BLS & ALS paramedics providing medical care during HAZMAT operations. Teams of these paramedics are in place in Canada in cities like Calgary and Vancouver.

Tactical Paramedics

Paramedics trained as an integral part of police special operations units. Teams of these specialists are active in large cities like Toronto and Calgary.

Bike Paramedics

This team is comprised of both BLS & ALS paramedics trained so they can use bicycles to gain quick access to patients in crowded or vehicle-restricted area and events. In British Columbia, the only bike team in daily service is at the Vancouver International Airport. All other teams are used on an as needed basis for special events.

Chapter 2:
Medical Call Answering and Dispatch Process

Call Answering Process

The EMD who answers the telephone in the communications center is the first contact the caller has with the Emergency Medical Service. The call forms the basis for the caller's first (and probably lasting) impression of the agency's ability to serve the public. It is important that the EMD always answers the phone in a calm, controlled and professional manner.

Calls for help and medical assistance may come from a variety of sources. They may include the public, the business community, hospitals, physicians, other health care professionals, as well as other emergency service agencies such as police or fire. The EMDs job is to establish effective communications with the caller, to extract the necessary information to determine an effective response, and to select the appropriate units and co-responders to the medical emergency.

The EMD is the caller's initial contact with the agency and is responsible for supplying the caller with emergency care instructions as they await the arrival of the EMS personnel. These instructions are given to prevent or reduce further injury to the patient and to intervene in any life threatening situation that may exist.

The EMD is also responsible for ensuring the appropriate medical information is relayed to the responding units and to hospital staff. The EMD must also relay any pertinent information to other responders, such as police and fire that may assist those agencies in determining their own level of response.

Dispatch Process

Another function of the EMD is the selection of the appropriate units and personnel to the medical emergency, and to dispatch those units in the least amount of time. Each agency or system has its own standards of acceptable response time to each emergency. Provincial guidelines may vary. While one set of guidelines may require the EMD to dispatch no fewer than ninety percent of emergency responses in under sixty

seconds, another province may demand an emergency response under sixty seconds in one hundred percent of the calls.

The EMD is also responsible for coordinating the movements of EMS units attending the scene, and their assignment and deployment of services. This requires the EMD to have a thorough and current knowledge of the geography of their area, and of the status of the resources available within that area.

The call taker and dispatcher are responsible for ensuring additional information is relayed to the appropriate unit or agencies, and that status changes and information are recorded accurately and according to agency policy and protocols.

EMDs also have the role of maintaining communications between and among all public safety services personnel involved in the medical emergency. These duties may include coordination with agencies doing traffic control, fire suppression, and rapid transport of patients or personnel to the scene.

Telephone Triage and Remote Intervention

Telephone triage is the process of asking pre-planned, structured questions of the caller and deducing from the answer the needs of the patient and/or caller. Once those needs have been established, the dispatcher can then begin to assign a priority to the call.

Priority dispatching is the method the properly trained EMD uses to determine, through telephone triage techniques and assessment, the appropriate unit response and instructions to the medical problem identified during the call. The aim of priority dispatching is to send the minimum amount of qualified personnel in the safest response mode to provide the optimum in patient care and customer satisfaction. Once priority dispatching has been implemented, the process of remote intervention can begin, if applicable.

Remote intervention is the procedure of trained EMDs supplying callers with medical directions or instructions over the phone until help arrives at the scene. These instructions serve a number of purposes, which may include:

- in critical illness or trauma, providing life-saving instructions that may slow down or prevent death,
- preventing further injury or harm to the patient,
- ensuring the caller's safety,
- shortening the time gap between the initial call and the arrival of the care givers to the scene, and
- taking away the caller's feeling of helplessness by empowering him/her with knowledge or duties, thereby lessening any psychological impact on the caller following the end of the incident.

Chapter 3: Chief Complaint

The chief complaint in an emergency medical call refers to the actual evidence that there is a problem. This evidence may be the symptoms being experienced by the patient, as in chest pain; how the patient looks or acts to others (unconscious or pale, cold and clammy); or an incident type (motor vehicle accident).

A chief complaint is not a diagnosis of the problem. There can be a number of causes for a chief complaint such as chest pain, therefore it is not medically appropriate or legally defensible for a dispatcher not trained in medicine to *diagnose* the caller's request. The dispatcher should also not depend on a diagnosis from the caller on the scene. They should instead obtain appropriate information and activate the appropriate chief complaint protocol.

32 Standard Chief Complaints of the Priority Medical Dispatch System

Priority medical dispatch systems consist of a "case entry" protocol and 32 standard "chief complaint" protocols. The case entry protocol can be compared to an paramedic's primary survey, and is intended to acquire critically important information and to identify immediately life threatening conditions. Similarly, the 32 chief complaint protocols is the equivalent of the paramedic's secondary survey, and is intended to acquire information specific to the patient's needs and the appropriate response.

The case entry protocol consists of the following prioritized questions:

- Location
- Call back number

1. Patient's age and gender
2. State of consciousness
3. Breathing status
4. Chief complaint

Answers to the case entry questions should be rapidly acquired for every request for medical assistance. The final four questions are so

important that they have been referred to as the "Four Commandments of EMD". When patients are examined by paramedics, all the answers can be obtained visually, except for chief complaint. For calls that come in on 911 or other phone lines, the answers must be acquired by rapid and focused interrogation of the caller. One terminology standard is that the term "pain" will be used in medical conditions that do not result from an injury, and the term injury will apply to traumatic incidents. Thus a patient whose back is hurting, but has not been involved in any recent injury would have a chief complaint of "back pain". On the other hand, some one who was involved in a fall and now is complaining of pain and stiffness in their back would have a chief complaint of "back injury". Another standard is that the term "head injury" applies to someone who has had a blow to the head that resulted in a loss of consciousness, either temporary or continuing. A child who has fallen and cut their head on the corner of a coffee table, but never lost consciousness has a "scalp laceration" as a chief complaint.

Chapter 4: Call Types

The EMD will handle a variety of calls during a shift, with each requiring a specific or specialized response or set of actions. The standard chief complaints are organized into three groups: medical conditions, trauma incidents, and critical time sensitive situations. Calls may also include any or all of the following:

- Assistance (Public/Agency)
- Others

  a) inter-hospital transfers (non-urgent, urgent and emergency)

  b) air medical evacuation

  c) multi-casualty incidents

Medical Calls

Medical calls refer to any incident in which the patient is suffering an illness or other biological deficiency. Often the specific disease process that generates the complaint can be difficult to identify, even in the hospital. Two key points are that there is no recent traumatic event that might be causing the complaint, and each complaint could potentially be caused by many underlying problems. It is important to focus on the actual complaint and select the most suitable chief complaint.

- Abdominal pain
- Abnormal behavior (suicide)
- Altered mental status (confused, trouble talking, poor coordination)
- Pain (non-trauma related discomfort in a specific body part, ie "back pain". Abdominal pain and Chest Pain are very specific entities and deserve their own listing)
- Chest Pain (Any unusual sensation or feeling in the chest. The patient may not perceive the sensation as true pain.)
- Diabetic problem (applies if a known diabetic who measures their blood sugar at home has a documented blood sugar problem. Every call for a diabetic is not a diabetic problem.)

- Fever (only applies if isolated problem, otherwise use "sick person")
- Head ache
- Sick Person (should be used if there are no specific complaints that apply)
- Reaction to medication, sting, or food
- Overdose / Poisoning / Ingestion (covers any problem resulting from medication or drug use, including alcohol).
- Seizures (often described as "convulsions" by the public)

Traumatic Calls

Traumatic calls refer to any incident in which an external force caused the injury. A very important part of understanding traumatic injuries is to understand the concept of mechanism of injury (MOI). Mechanism of injury involves making judgments about the kinds of forces and the probable type and extent of injury based on the type of injury (fall, MVA, gunshot wound, etc.). Examples of the trauma incident chief complaints are:

- Amputation (a body part that is completely or mostly severed from the body)
- Animal bites / attacks
- Assault (includes sexual assault)
- Burns or explosions
- Cold exposure / Heat exposure
- Gunshot wound / stabbing / impalement (penetrating injury)
- Fall injury (applies to all falls, including trip or slip and falls)
- Eye injuries (including welding burns and snow blindness)
- Laceration (all cuts and tears, include body part, i.e. "hand laceration", or "scalp laceration").
- Injury (applies to trauma to an isolated part of the body, i.e. chest injury)

- Multiple trauma (applies to patients with several to many injuries)
- Industrial / machinery accidents
- Traffic accidents

Critical Time Sensitive Calls

Critical time sensitive calls refer to situations that must be dealt with in a time sensitive manner so as not to delay appropriate care. The critical time sensitive situations group includes:

- Childbirth / miscarriage
- Choking
- Drowning
- Trouble breathing (any difficulty breathing or shortness of breath)
- Electrocution / lightning
- Carbon Monoxide / inhalation / HAZMAT
- Unconsciousness / fainting / near fainting
- Person down (applies when more specific information is not immediately available)

Public Assistance Calls

- Public Assistance calls may include non-injury calls that require assistance, such as:
- falls, non-injury

a) out of bed

b) off the toilet

c) out of the tub

d) into the house

- oxygen equipment trouble/empty

Agency Assistance Calls

Agency Assistance calls are calls from other agencies that may need emergency medical assistance and can include any or all of the following:

Police Standby

- for the Emergency Response Team (ERT)
- take-downs
- riot/crowd control

Specialty/ Special Event Standby

- sport/entertainment events, e.g., Vancouver Indy
- political events, e.g., dignitary visits or conferences

Fire Standby

- structure fire where injury is suspected
- HazMat (hazardous materials)

Inter-Hospital Transfers (IHT)

IHT are the movement of patients from one facility to another for reasons that may include:

- urgent transfers to a higher level of care
- appointments at other facilities – usually involves treat and return (T & R)
- admittance to other facilities
- hospitals for treatment (surgery)
- long term care homes / ECUs (Extended Care Units)

Multi-Casualty Incidents

These would include:

a) aircraft crash

b) train derailment

c) bus crash

d) ferry accident

Other Incidents

Other Incidents may include any or all of the following:

- Search and Rescue calls
- emergency aircraft landing standbys
- air medical evacuation

SECTION 3: EMERGENCY MEDICAL CALL ASSESSMENT

Chapter 1: Medical Call Assessment Model

Call Assessment

Emergency medical dispatchers and call takers are the public's initial contact with a medical agency in both emergency and non-emergency incidents, and therefore must act in a professional manner, maintain conversational control and be empathic. They also must obtain the correct address and other incident information in a timely manner so that EMS response units can be dispatched appropriately.

Medical Call Assessment Model

The *call assessment model* is a system of nine principal steps to follow when answering emergency calls. To increase speed and accuracy by using the *call assessment model* in medical emergency call answering takes time. It depends on preparation, repetition and experience, and combines a multitude of skills.

- Answer all emergency telephone lines, as soon as possible identifying your agency.
- Ask the caller for the address or location of the incident.
- Ask the caller for a call back telephone number.
- Determine from the caller what is happening.
- Implement the Key Question / Pre-Alert Process.
- Tell the caller that an ambulance is responding and to remain on the line.
- Ask the caller for other information necessary to deal with the medical complaint.
- Give Pre-Arrival instructions.
- Reassure the caller.

Call Answering Techniques

EMDs' telephone demeanor establishes a public image of their agency, and their attitude and professionalism on the radio will strongly influence their relationship with colleagues and other care givers in the field. Excellence within the medical agency communication centre will be easier to obtain if the atmosphere within the centre supportive and cooperative, rather than adversarial. Today's EMDs take an active role in patient care, but their primary function is still to provide resources, information and support to those colleagues in the field. By aspiring to excellence in their field and job parameters, they play a part in ensuring field personnel do the same. This in turn will result in a greater level of patient care to the citizens of the community. Every communications transmission and every call should reflect this ultimate goal of professionalism.

Each time the telephone rings, the EMD must answer the call properly according to the standards set within their agency. For example, "Kwantlen Ambulance. What is your emergency?

At the first ring, the EMD will remember the first key questions to get the three critical pieces of information required to dispatch a call:

- the address
- a call back number
- the nature of the emergency/medical problem

Emergency Calls

Obtain from the caller the exact address or location where the medical assistance is required. Be specific and verify the location. (i.e. is the address the same as the ANI/ALI display?)

The exact address: numbers, street name (correct spelling if needed,) direction (i.e. Marine Drive West), type (street, avenue, place, etc.)

If an exact address unavailable, get the appropriate intersecting streets, including direction of travel (e.g., northbound Highway 99 east of Highway 17, or the southeast corner of Maple Street and Highland Avenue).

Is the location a private residence, an apartment or business?

For an apartment, obtain the unit number, the name of the complex, the building number or, if applicable, the exact location of the incident within the building (e.g., in the lobby between units 202 and 207 of building number four, and the entry code to the building or unit.

For business address, obtain the name of the business, building or unit number, floor or other location identifier, and which entrance the units are to use. For example, an identifier may be the door where the building logo is located, the yellow gate by the pool area, etc.

If the caller cannot be specific, ask the caller to have someone meet the responder outside so they can direct them to the patient. Multi-unit response calls require a person to direct each responding unit as it arrives.

Non-Emergency Calls

For non-emergency calls, different information may be required:

- Obtain caller's full particulars including name, telephone number and extension number.
- Determine what the appointment is for. (e.g. tests that may be critical for patient care or that may require special transportation considerations)
- Determine the scheduled appointment time and when the patient will be ready.
- Determine from the caller any conditions that may affect the patient during transport.
- Follow medical prioritization protocols exactly and each time.

For hospitals, for transfers or pickups: Obtain building name, room number, specific department (e.g. x-ray, palliative care, etc.)

For nursing home or seniors centres: Obtain station or hall designation (e.g. Station Two, reception desk, etc.) as well as the room number.

For transports to a residence**:** Correct spelling of street name, and entire address.

For transports to hospital: Find out if patient is to go to emergency, or to a specific ward or room for direct admission. If patient is being admitted directly, determine from caller if they know to which room patient will be admitted.

For transport to a physician's office: Obtain the doctor's name, name of the building (e.g. Citywide Family Clinic), the address, and the suite or office number.

For transports to an extended **care facility:** Obtain name of facility, correct address.

Chapter 2: Call Assessment Applications

Initial Contact

The EMD who answers the phone in the communications center may be the first – and only – contact the caller has with the service and the agency. The call forms the basis for the caller's impression of the agency, the industry, and the field units or responders to their call. This initial contact can greatly impact the outcome of the call, the field unit's ability to supply the necessary assistance at the scene, and subsequently how the agency is judged by the public, the media and the legal community. Because customer satisfaction and needs play a part in the allocation of funds to your agency or community, this first impression may have far-reaching consequences. Professional, supportive, calm and knowledgeable EMDs, who maintain the highest possible standards during initial and all future contact, show the agency and the EMD industry in the best possible light.

Key Questions

The most accurate call assessment will be obtained by asking and analyzing the answers to the ***key questions***. These questions must be asked at ***each*** request for medical help.

- What is the problem? What has happened?
- Where is the patient/incident located? Where did the incident occur? Where should the emergency personnel attend? Where is the closest entrance/route to get to the patient?
- What is the caller's telephone number? What is the number where the patient is located? How can we get a hold of the caller if we need to call back?
- Who is calling? Who is the person who needs help? Is the caller with the patient? Is the caller's knowledge direct or third party information?
- How old is the patient?
- Is the patient awake and talking?
- Is the patient breathing?

- When did the incident happen? Is it still going on? If the incident involved violence, shooting, stabbing, a fight, etc., is the other person involved still on the scene?

The caller's response to key questions will provide the vital information necessary to assign the appropriate priority to the medical emergency. Keep the questions short, ask only one question at a time and listen for the caller's answer. Multiple questions or questions asked too quickly may confuse the caller and result in inaccurate information being obtained.

In medical cases, the key or critical questions are based on symptoms.

- Is the patient awake and talking?
- Is the patient breathing okay?
- What is the age of the patient?
- Is the patient experiencing any chest pain or uncontrolled bleeding?

In most cases, the caller is either with the patient or is familiar with the patient's problem or distress. Apply the protocols of prioritization for the specific and applicable medical conditions indicated.

In traumatic incidents, critical questions are usually based on the type of incident or the *mechanism of the injury* rather than the patient's symptoms, because in these circumstances the caller is usually supplying third party information and is not with the patient.

- Is the patient awake and talking?
- Is the patient breathing okay
- How old is the patient?
- Where has the patient been shot? How far did the patient fall?

Always refer to the protocols of prioritization for the specific condition indicated.

Other Considerations

Other information may include any or all of the following:

- previous medical history
- presence/absence of *priority symptoms*

  a) chest pain

  b) breathing difficulty

  c) change in level of consciousness
     severe hemorrhage

- medications

This system of asking critical questions during medical interrogation is based on the somewhat unrealistic concept that each caller knows all the correct information. The reality is that, in many instances, the caller may be unable to supply all the necessary information. EMDs must be able to alter their questions and the technique used in their application as appropriate to the specific situation. In situations where not enough information is available to reduce response levels, most agencies will err on the side of caution and dispatch the maximum response for the situation.

Response Priority

Response priority protocols vary from agency to agency, from area to area. Some agencies may assign up to nine priorities, while others may use only three. Agencies that use the three response priority system may divide their calls into the following:

CODE 2 Routine, non-life or limb threatening incidents.

CODE 3 Emergency, life or limb threatening incidents.

STANDBY Routine, agency assistance or cross coverage incidents or calls.

During initial call assessment, information should be prioritized as quickly as possible. As soon as information comes forward that indicates the priority of the call, enter the call immediately. Record the information, send the call to dispatch and assign and dispatch the appropriate unit and responders. When the level of response has been determined during the initial assessment, it is imperative the call is generated. Do not delay the dispatch of the call by gathering additional

information that can be relayed during the unit's response to the scene. Do not delay the dispatch of the call by giving pre-arrival instructions. Give pre-arrival instructions to the caller after the call has been sent to dispatch, prior to the attendance of the EMS units.

EMDs prioritize calls, but they do not screen them. Prioritizing is the process of sending the minimum amount of personnel via the safest response mode to meet the patient's needs. Screening of calls implies sending non-critical or undesirable calls to other agencies or not sending an ambulance at all, even though one has been requested. **Never refuse service when requested**.

While you are entering the call and sending it to dispatch, reassure the caller that help is on the way. Explain to the caller that you are sending the call to dispatch, that a unit is on the way, and that you are now going to give the caller some pre-arrival instructions.

Pre-Arrival Instructions

Pre-arrival instructions (PAIs) are instructions given to assist the patient prior to EMS arrival. Instructions may be given to assist in the management of life threatening medical problems concerning:

- airway
- breathing
- circulation
- bleeding
- unconscious patient(s)
- seizures – febrile/other
- childbirth – active labour
- choking – with some air movement
- conscious diabetics
- drug/alcohol abuse
- epistaxis
- falls – with possible fractures.

Pre-arrival instructions also include reassuring the caller that help is coming. Pre-arrival instructions may vary from agency to agency, but may include:

- Have lights on and the door open.
- Secure or restrain pets.
- Give no food or drink to the patient.
- Keep patient in a position of comfort.
- Leave cell phone on in the event a call back is required.
- Advise caller to call back if patient's condition changes or worsens prior to ambulance arrival.

When the priority has been established, the call has been sent to dispatch, and actions and intentions have been explained to the caller, intervention instructions as required can begin, following the agency's medical protocols or standard of care exactly. The EMD can obtain any pertinent medical history or special information that may assist the scene responders, and will relay all necessary information to the dispatcher, medical units or other emergency service agencies that may be attending.

Chapter 3: Critical Information for Dispatch

Critical Information includes any or all of the following:

Patient/Location Particulars

Patient's location/address

- house or apartment
- townhouse/motel/hotel
- room or apartment number
- entry code
- basement suite
- location of entrance/door
- business
- name/unit number
- exaction location in building/incident site, i.e. north side of vacant lot/foot of rear alley stairs
- location phone number/call back number

Third Party Information

- callers name/phone number/call back number (if not at the patient's location).
- patient's name/phone number (if caller not at patient's location)

Assessment Entry Point

All of the following:

- What is the medical problem? WHAT HAPPENED?
- Who is the patient (if not the caller)?
- Chief complaint (this information may have been given in response to the first question).
- Patient's age and sex.
- Level of consciousness (if not obvious).
- Status of breathing (if not obvious).

- Status of circulation (if not obvious).
- Any bleeding.

Chief Complaint

What the patient says is wrong with him/her, for example:

- "My chest hurts"
- "I can't breathe."

Or, what the caller describes about the medical emergency, for example:

- "Two cars just crashed."
- "This guy just passed out."

Patient Age / Sex

Patients may be categorized into *adult*, *child* or *infant*, with instructions/treatment varying according to these classifications. General guidelines for the categories follow, though physical maturity and body mass will affect decisions about instructions/treatment:

1. Adult – age 8 and over
2. Child – age 1 to 7
3. Infant – age 1 and under

Level of Consciousness

- Is the patient awake?
- Can you wake the patient?
- Does the patient respond if you apply pain?

Status of Breathing

- Is the patient breathing okay?
- Is the patient able to talk?

Status of Circulation

- Does the patient have a pulse?

Any Bleeding

- Is bleeding visible/Is it oozing or spurting?

Dispatch Decision Point

This is the last step in the assessment entry. The EMD must decide, based on the information gathered so far, whether to continue with the call assessment or to dispatch an immediate response and begin *emergency medical telephone instructions* (EMTI). The EMD may only be able to determine that the patient is in full cardiac arrest, and therefore initiate CPR instruction.

Can the Report be Dispatched?

The communicator's responsibility is to ensure that the information gathered is *complete*, *concise*, *clear*, and *correct* (four Cs). A report must be self-explanatory, since it is often directed to a person removed from the incident. The recipient depends on the thoroughness and accuracy of the report to obtain the facts he or she needs. If any part of the communication requires further explanation, the report has failed to serve its purpose.

To evaluate the report, ask the following questions:

Is the Report Complete?

Does it contain all the information necessary to accomplish its purpose?

Does it answer all the questions the reader may have?

Does it answer the questions where, when, who, what, why, and how?

The report must incorporate all the available facts and information that pertain to the problem or the case. Partially stated facts should not be incorporated in a report as they are misleading and may cause the reader to make wrong decisions.

Is the Report Concise?

Keep the report as short and concise as possible to save the reader time and effort.

Is The Report Clear?

The first objective of any written communication is to convey ideas so that they cannot be misunderstood. The choice of words will affect how effective the report is. Words should be simple and unambiguous. A barrier to quick understanding is the unnecessary use of complex or unusual words.

Is the Report Correct?

Reports must be factual. Errors reflect badly upon the ability and, at times, the integrity of the writer. The content must consist of a true representation of the facts.

The *information* in a report depends on the *purpose* of the report. The purpose of the report is to inform the recipient about certain activities and their outcome. In an investigation, the object is to secure the information that explains an occurrence. Therefore, in processing an incident, a call taker should always bear in mind that the primary purpose in processing the incident is to *inform*.

Communicators relate the circumstances of a reported incident to responder personnel. In preparing the account of the circumstances surrounding an incident, call takers cannot assume that the recipient will have any knowledge of the incident. They cannot expect that the recipient will be able to fill in the details. They must assume that the recipient's only information about the incident will come from the report itself.

Reports that demonstrate the four Cs reflect positively on the call taker's ability and attitude, and on the communication center's efficiency. It is not enough to ask the right questions; the call taker must also record the information accurately and process it expeditiously.

Summary

The following steps will help to ensure accuracy.

- Document the call manually or on CAD.
- Relate the circumstances of a reported incident to responder personnel via the dispatcher.
- Ensure that the information you gather is **Complete, Concise, Clear**, and **Correct**.

Dispatch Information Procedures

- In a manual system, calls entering an agency may be recorded on a dispatch form or ticket, in an occurrence report, as well as in an incident log book.
- The form is generally filled out for the dispatcher and contains all the necessary information to assign a field unit to the call; it also indicates any support or specialty sections that may be required at the scene.
- Most agencies record caller information, telephone conversations and radio broadcasts on audiotapes. Always be aware that your communications are recorded and may become part of a transcript, trial or evidence.
- Being professional at all times in conversations, interoffice communications and while broadcasting, even if on a scrambled or protected channel, will prevent possibly embarrassing or awkward situations for call takers.

SECTION 4: EMERGENCY MEDICAL DISPATCH

Chapter 1: Medical Dispatch Systems

Criteria-Based Dispatch System

Criteria-based dispatching is a system of call assessment by the dispatcher based on his/her own medical knowledge and training. The dispatcher is responsible for determining the response to the medical emergency based on his/her interrogation of the caller requesting assistance.

This system of call assessment is more flexible than the medical card system and allows the dispatcher or call taker to utilize their medical knowledge and experience as a basis for questioning the caller. On the down side, responses from the caller are open to personal interpretation, follow no set standards, and therefore are open to scrutiny from the public and the legal community.

Medical Card Dispatch System

The *medical card dispatch* system generally consists of a flip-card file containing sets of cards, filed alphabetically according to symptom or incident type. Cards are indexed according to incident or symptom rather than diagnosis. This releases the dispatcher/call taker from having to make a diagnosis, or from relying on the self-diagnosis of the patient or caller in order to select the appropriate card. It is only one system in use, and systems vary from agency to agency, and from area to area.

In the Province of British Columbia, for example, EMDs are trained paramedics. However, in other areas and agencies, dispatchers perform the same duties without the benefits of basic emergency training or practical experience. This has led to development of the Emergency

Medical Dispatch Priority concept and card system, which has been adopted by some – but not all – agencies within the industry.

With a wider range of education, experience and training, EMDs are able to extract the most accurate and important information from the caller, and to make responsible decisions about patient needs and the appropriate response required from their agency. For the patient, this results in better care, and for the agency, safer responses with the proper deployment of appropriate units.

The medical card dispatch system has set standards that, in most cases, have been proven and can withstand scrutiny from public inquiry and the legal community. No personal interruptions are made using this system as the questions and answers are scripted for call assessment. On the negative side, this system is difficult to use without a medical background, is quite inflexible, and as mentioned before, different standards may be used or set for each system of cards.

Medical Reference Cards

Cards may be divided into four areas: *key questions*, *pre-arrival instructions (PAIs)*, *dispatch* priorities and *emergency medical telephone instructions* (*EMTI)*. These areas may be color coded and/or divided into subheadings.

Key Questions

Key questions are the minimum number of questions that need to be asked to determine the appropriate level of response. (e.g. ALS vs. BLS, additional responders or equipment, etc.)

Pre-Arrival Instructions

Pre-arrival instructions (PAIs) are given in all situations and help the responders to most easily locate the situation. This may include directions to turn on lights and/or unlock the door. PAIs can also prepare the patient for the arrival of EMS. Instructions could include to keep the patient comfortable, to give nothing by mouth, to not move the patient unnecessarily, to collect any current medications the patient is using, etc.

Emergency Medical Telephone Instruction (EMTI)

Emergency medical telephone instruction (EMTI) are given to assist the caller in preventing further injury to the patient, and may enable the caller to help or resuscitate the victim. EMTIs may range from basic airway maintenance to phone instructed CPR. They may also include instructions on the use of direct pressure to control bleeding, eye flushing or pre-hospital obstetrical preparations.

Some callers, due to circumstance or age (youth or elderly callers), may be unable to follow and perform intervention instructions from the call taker or dispatcher. In such situations the call taker can assist in keeping the caller calm and collected by suggesting simpler activities. These may include: collecting the patient's medications, unlocking the door, ensuring the exterior light is on, putting the dogs away, etc. This enables the caller to participate in assisting the patient and keeps him/her focused on something positive instead of concentrating on not being able to offer the patient more concrete help.

Dispatch Priorities

Key questions and pre-arrival instructions for most medical emergencies are relatively consistent among agencies; however, the priority section of the card will differ according to each agency's resources and ability to deploy those resources. Metropolitan areas will undoubtedly have more multi-level responders available than a single-unit volunteer agency in a rural setting. Dispatch priorities rise in complexity with more sophisticated systems.

In agencies utilizing the Medical Card System, subheadings on the cards usually indicate the different levels of response to the incident. Each dispatch priority system will have unique instructions on response based on the resources available to each agency, and on the patient's proximity to those resources.

Chief Complaints and the Dispatch Process

It is important to relay standard chief complaints to responding emergency medical resources.

The EMD must acquire the information in the case entry protocol:

- Location of the emergency
- Call back number (if request is received by phone)
- Age and gender of the patient
- The patient's state of consciousness
- Whether the patient is breathing or not

Note: Any unconscious or unconscious / not breathing report should trigger an immediate dispatch of an ambulance and rescue company.

- Chief complaint

Once a chief complaint has been identified, the EMD must dispatch resources to the scene.

The proper sequence of radio transmissions is as follows:

- Issue a tone alert,
- Assign a specific unit to the call (i.e. 249A1),
- Give the location (specific number address preferred, followed by business name, etc.),
- Give the age, gender, consciousness and breathing status and chief complaint,
- Identify the assigned crew.

[TONE] … "249A1 respond to Guildford Shopping Mall, in the WalMart parking lot for a 60 year old female, conscious collapse. R#543655 MPDS code 31C1."

There should be a brief pause to allow for any reply. If acknowledgment is not received within 10 – 15 seconds (which will usually be the case), the entire transmission should be repeated.

Once the assigned unit(s) have gone into service, any additional information can be relayed at that time.

For example:

"Dispatch-49A1".

"Ambulance- 49A1 we are at 140st and 98 ave."

"Dispatch- 10-4 use the 152 St. entrance"

"Ambulance 49A1, copy we are 10-8

Dispatch Reminders

1. Remember that the fire service does not use 10-codes. Use of any codes by the dispatcher will probably not be understood by the Fire department, so effective communication is hindered rather than facilitated.
2. Radio transmissions should be as concise and professional as possible. Give the message using as few words as possible. Descriptive adjectives, such as "extreme" or "severe" should always be avoided. Likewise, there is no need to say "please respond", or "thank you for your assistance". Although the intent is to be polite, it is not professional and many responders regard it as degrading.
3. Remain professional. If the tone of your radio voice is firm, businesslike, and to-the-point, it can help responders shift into their emergency response frame of mind, and foster confidence in the system by all those folks out their listening to the radio.

Chapter 2: EMD Radio Terminology and Codes

NOTE: Radio terminology and codes vary from agency to agency, and from area to area. The following is an example of the many variations used within the industry and is the model to be used for training purposes within this text. EMDs are responsible for determining the appropriate and correct terms and codes for the agency they are employed with. It is important for EMDs to realize that the variation in definitions within codes can dramatically alter the instructions, the response and the priority assigned to a call.

The following in an example for training purposes only, and not to be taken as a national or provincial industry standard.

Code 2

Code 2 is an ambulance response mode that DOES NOT use emergency lights and sirens. Calls designated "Code 2" may be pre-empted for higher priority calls.

e.g. "Attend Kwantlen Rest Home code two for a fall."

Code 3

Code 3 is an ambulance response mode that DOES use emergency lights and sirens. Code 3 calls are not usually pre-empted, but rather de-layered.

e.g. "Attend 4th and Burrard code three for a MVA."

Code 4

Code 4 refers to a dead body.

e.g. "Attend Skid Road Rooms for a possible code four."

Code 5

Code 5 refers to a police officer.

e.g. "We need a code five at the rooming house."

Code 6

Code 6 refers to a firefighter.

e.g. "The code six are at scene."

Code 9

Code 9 refers to a patient with AIDS.

e.g. “49a1, your patient is Code 9.”

10-4

Transmission acknowledged.

10-7

Unit has arrived.

10-8

Unit en route to scene, hospital or clear (available for call).

10-9

Repeat last transmission.

10-20

Refers to location.

Code 30

Crew and/or patient in life-threatening situation (3rd party assailant).

Code 1

Unauthorized party listening to radio traffic.

Brevity, Accuracy, Timing, Secrecy (BATS)

Radio communication protocols are designed to maintain on air discipline. Field personnel may communicate over the air numerous times during a duty shift but a radio dispatcher provides notification of every emergency and non-emergency incident, acknowledges each transmission, advises and communicates with a host of different personnel or resources continually through their shift. Effective, concise radio communication between the operator and field units is an essential element of the overall ability of your agency to perform duties in an effective, professional manner.

The acronym *BATS* provides an easy method to remember the principles associated with effective, professional radio communications.

B – Brevity

It is essential to limit on air radio communications. The reason for using *brevity* is obvious. Efficient radio transmissions are the essential communication link between the person requiring emergency assistance and the responding agency providing the assistance. If a message or information can be relayed effectively in three, there is no need to use more than three words.

A – Accuracy

Be *accurate* in radio transmissions. One word or phrase can change the entire meaning of a transmission. Certain phrases are unique to one industry or one agency within that industry. Be sure what you are saying is understood. Relay your information in such a way that the receiver will understand exactly what you are saying. If an operator is vague in relaying information, the receiver will need to ask for more details or clarification, thereby wasting valuable air time.

T – Timing

Before transmitting, pause, listen and ensure you are not about to interrupt or interfere with on-going communications or those of a higher priority. Use "breaks" or "stop checks" as needed in long transmissions. If you do need to interrupt a transmission already in progress, wait for a natural break to do so and be certain that what you are about to say is actually more important than what is already being communicated.

S – Secrecy

Every radio transmission is equivalent to a public broadcast. Radio transmissions can be and are monitored by people with scanners, including the media. Be cautious and maintain a sense of confidentiality in all medical incidents. If information of a confidential or sensitive nature needs to be communicated, follow departmental policy or request the receiver to contact you by telephone if possible.

Radio System and Frequencies

Medical radio systems have several frequencies assigned for use by specific units in specific zones or areas. There are usually operational frequencies and general use frequencies. Some are designated for active

dispatch, some are designated for hospital or other transfers, and others may be used specifically for conversation between units.

Main Channels

Main channels are for dispatching the regular everyday operational occurrences. If the operation services a large metropolitan area, the system will be zoned. There may be a north zone channel, a south zone channel, or some other method of dividing up the various areas. If the operation serves a large geographic area, channels may be assigned to communications districts. The system may be divided up according to communities, divisions, etc.

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Other Channels

Other channels are used by large organizations for other services such as hospital transfers.

Transmitter/Repeater System

A *transmitter/repeater* system is a system of interconnected radio equipment designed to extend the coverage of a radio system. Repeaters are erected in various positions throughout the jurisdictional area to provide full radio coverage for the department.

Chapter 3: Call Dispatching

Emergency medical dispatchers (EMDs) literally set the tone for the shift, the work force, and the service area with their tone of voice. A professional demeanor on the radio includes a clear, evenly modulated voice, at a level easily heard without being too loud. EMDs must continue to maintain their own professional demeanor even if a field unit responds to a transmission in a less than professional manner. Problems with a crew's on air conduct should be addressed through the proper chain of command, not on the radio. Inappropriate radio conduct by an EMD may result in disciplinary action and will not be tolerated in any system.

The dispatcher must transmit in a calm, controlled voice at all times. If stress is evident in the dispatcher's voice, stress levels in the field may elevate to the same level. Stress in the field or at the scene may impair the ability to assist the patient or jeopardize crew safety. EMDs strive to maintain their composure at all times.

Comparison between Fire and EMS Call Dispatching

Fire

A report of fire begins at the point of the wedge. The initial role of the dispatcher is simple and straightforward – get the location and what is burning, then send the right assignment based on these two factors. Varied interrogation sequences are not necessary. However, once the first arriving unit visualizes an active scene, the process often escalates- the wedge expands as scene command relays specifics of the fire (exact location and extent) and makes requests for additional responses or "alarms". The dispatcher gets busier with information relay as multiple command sectors are established and additional units stage. Move-ups and mutual aid are often necessary and other agencies such as police and EMS are notifies as needed.

The small point at the beginning of the fire dispatch wedge is based on the absolute necessity to get suppression units on the road quickly. A fire is assumed to be spreading. The extent of it can rarely be seen initially. It gets worse each second. Seconds *do* count here. This set of facts for fires cannot be simply extrapolated to medical dispatching.

EMD

The greatest responsibility of the EMD is up front, at the *beginning* of each call. The wedge is therefore *reversed* in EMS calls. Like the fire dispatcher, the EMD initially starts at the same place in the interrogation process. The location and callback number is, of course, identically essential. At this point the medical equivalent to the "What is burning?" question is asked---"What is the problem?" This query should elicit a chief complaint if one is not readily apparent at the moment the phone is answered.

The EMD must understand an important point here. At times the caller will offer the EMD information such as "He's dying!" or "Send the paramedics quick!" While these are complaints, they aren't *chief complaints* containing categorizable medical information such as signs, symptoms, or incident types. By asking, "Why do you think he's dying?" you may elicit a response of, "Because he's got a really bad pain in his chest and he's just pouring sweat." Age (approximate if not exact) is also determined, as well as the two most important medical questions we ask: Is he *conscious?* Is he *breathing?* You are looking for only yes and no answers at this point. Of course the answer may also be "I don't know" or "I'm not sure."

In situations where, through this initial brief generic questions sequence, the victim is determined to be not breathing, or is unconscious but breathing cannot be verified, cardiac arrest is assumed and pre arrival Instruction are initiated over the phone right away before the arrival of any first responders or paramedic units.

Pass Information to Dispatcher

Information needs to be handed over to the dispatcher in a timely manner, either manually or electronically. In many cases, this will mean sending the information as soon as you are aware that this is a high priority call, but before you have all the details. Supplementary information can be passed on to update field units responding to an incident.

Support Dispatcher / Field Units

Other personnel, such as the support dispatchers and field units, are also part of the dispatching equation. All team members must cooperate in passing information and otherwise support the dispatcher and supervisor.

The communication team consists of call takers, dispatchers, and supervisors within the centre. Each team member has unique knowledge, skills, and abilities required for effective communication.

Team members count on each other during heavy workloads, during times of stress or with difficult calls or callers. Because the consequences of incorrect actions in emergency call taking can have tragic results, it is important for team members to be able to ask each other for help in difficult situations, and to help each other out. Pride or ignorance ought not stand in the way of asking for assistance.

Pre-Alerting Field Units

Pre-alerting field units, in some agencies, is the practice of letting a crew know they have an incoming call before the call is actually dispatched. This can be accomplished in a number of ways. Sometimes the dispatcher listens in on the emergency line to identify:

- the address or location of where help is needed, and
- the nature of the problem.

The dispatcher may then advise the crew to stand by for a call.

Dispatch

When the call taker has assigned a priority to the call, the dispatcher assigns the closest unit to the call and dispatches it. The closest unit may not be the best qualified unit to deal with the specific medical emergency; a layered or tiered response may be required with a second unit being sent regardless of distance from the incident. All units dispatched to an incident rely on getting very specific information about patient or incident location.

When the unit has been dispatched, the dispatcher is responsible for ensuring all radio transmissions and unit status changes are

acknowledged and recorded. If an agency uses manual dispatch cards, the status changes should be time stamped. If using an automated system, the dispatcher should monitor all screens to ensure all status changes are received, acknowledged and logged.

Each time a unit transmits a status change, the dispatcher should acknowledge the information being relayed. Some agencies require the dispatcher also to state the time of the change, each time.

As soon as a unit has been pre-alerted to a call, the dispatcher must take steps to ensure the service area is still covered. This practice may be called a unit deployment plan, post move-up or the Balanced Emergency Coverage (BEC) principle. Regardless of what the plan is called, it should be implemented as soon as possible after a pre-alert or dispatch to ensure area coverage is maintained to the standard of your agency.

Crew Safety

The dispatcher and crews need to be aware of factors affecting crew safety. Different situations require different responses. The following are a few examples.

Emergency Vehicle Collisions

Each time an emergency vehicle attends to a scene or patient in emergency mode, there is potential for a vehicle collision and a risk to crew and public safety. Ambulances are often required to travel at high speeds in areas of high vehicle and pedestrian traffic, or in areas that present environmental or geographical hazards. In an emergency situation, more than one emergency service may be attending at the same high rate of speed and facing the same risks to crew and public safety. Emergency vehicles may cross paths or intersections heading to different calls. The EMD must keep these factors in mind when dispatching emergency calls. EMDs are responsible for their decisions and responses regarding calls for attendance. Incident routing and advisories relayed by the EMD can assist the units to respond quickly and safely.

Communicable Diseases

Each agency will have a policy regarding communicable diseases and their effect or hazard to workers within the industry. Some guidelines to recording risks associated with communicable diseases may include:

- flagging an address as a known scene hazard,
- flagging an address as having premise history,
- advising field unit or responders, if en route to a flagged address, over the radio (using appropriate radio language) to take the necessary precautions.

Premise history or hazardous scene locations files should be rigorously maintained and kept up to date. They should be stored or located in an area accessible by all personnel who may need them, and all personnel should be aware of these records.

Different agencies will adopt different protocols on what information can be contained within premise history or hazardous scene files. Some agencies will not list the specific disease associated with a premise on file, and others may. If specific policy is in place regarding communicable disease contact, personnel will know to protect themselves and it may not be necessary to broadcast the specific disease they risk exposure to.

Hazardous scenes are usually easy to document. Information about a fire hazard, or a radiation or chemical risk, can usually be transmitted over the radio if the information is factual. Field units and responders would be given the location and nature of the hazard.

When the hazard presents itself in the form of a person, care must be taken in what information is recorded and broadcast. If a crew member was threatened at an address by the resident, that address will be flagged for any future responses. Record the date and time of the original occurrence, the names of the parties involved, the exact form of the threat, and any other pertinent information. Record only the facts. Do not make and document assumptions about the individual or premise.

Chapter 4: Resource Assignment

The EMD is responsible for assigning the appropriate resource(s) to each incident or call. The objectives of resource assignment are:

- to send the right type of help, such as First Responders, BLS, ALS, and others;
- to send help in the appropriate response mode, e.g., routine (Code 2) vs. emergency (Code 3);
- to send help at the right time, e.g., immediate response to dying patients;
- to provide assistance on the telephone, e.g., *pre-arrival* and *emergency medical telephone instructions* simultaneously with the other three objectives.

All ambulance crews are trained to the minimum standard of Basic Life Support (BLS), and therefore all ambulance crews are considered BLS units UNTIL a higher level of qualifications is required. This means that the closest ambulance should be assigned to the call regardless of the crew's qualifications. (Specific agency policies and procedures may supersede this. EMDs must be familiar with their own agency's policies.)

First responders should be sent on all emergency calls when it is expected they will arrive prior to the EMS units. Fire departments are usually the designated first responders; however, in many areas the police are also trained as first responders. The EMD must have complete knowledge of first responder resources and policies and procedures.

Layered or tiered resources may be required when the initial responding units do not meet the minimum requirements to deal with the medical emergency. For example, using the ***closest car concept***, the closest available ambulance is sent to the medical emergency regardless of their qualifications. If the medical emergency was designated as an Advanced Life Support call, and the initial responding unit was qualified as Basic Life Support, the EMD would then have to assign an ALS unit to meet the service requirements. The EMD would initiate a

duplicate call and assign the response to the ALS unit informing them that they will be attending with the other unit and/or first responders.

The EMD must have complete knowledge of operational policies and procedures regarding the layering or tiered response of EMS units. Policies and procedures may dictate that a call is only layered when the initial responding unit does not meet the requirements for service. The EMD must also consider the current call volume and the ability of the service to maintain an acceptable response time to emergency calls. There will be times when limited resources will affect the ability to layer more than one unit on any call.

Requests for service are not always true life and death emergencies. Usually EMS services have policies and procedures that outline acceptable response modes to specific call types. Routine ambulance calls are usually non-life- or limb-threatening and do not warrant an emergency ambulance; however, the EMD must always remember that the condition of a patient may deteriorate in a short time. Routine calls may become emergency calls if the patient is not attended to as soon as possible. This is one reason EMS units are dispatched using the closest car concept.

Emergency calls are life- or limb-threatening. It is the responsibility of the EMD to do a complete call assessment prior to assigning a priority to a medical call. If all calls were responded to as emergency calls, most EMS services would not have the resources needed to maintain a reasonable average response time.

Allocate Resources

The EMD must:

- determine, on an incident by incident basis, what information is *primary* or necessary in-order to categorize the incident for dispatch. Do this quickly to minimize the delay in the initial dispatch of field units.
- initiate the *Incident for Dispatch* by categorizing the incident by the appropriate incident priority code to ensure sufficient response is sent.

- What needs to be taken care of right away?
- Where is the problem?
- What is the severity?
- What is the best use of resources?

Routine (Code 2) Calls

BLS (Basic Life Support)

First responders if ambulance arrival delayed.

Emergency (Code 3) Calls

BLS and/or ALS (Advanced Life Support)/

The EMD must also decide what additional resources, if any, may be required to attend a medical call. These resources may not be under the control of the EMS service, and may include services such as police, fire, search and rescue, or air ambulance. Protocols regarding tiered or layered responses with other resources or agencies will vary from agency to agency, from area to area. In some areas, the air ambulance is deployed identically to land ambulances as the air ambulance is under direct control of the EMS. In other agencies, the air ambulance may only be deployed under specific circumstances or within certain criteria. When the EMD has completed the call assessment, a decision must be made about the assignment of these services. When requesting resources from other agencies, the EMD must explain exactly what resource is required, why the resource is required, and explain if that resource is required on a routine or emergency basis. The EMD should not dictate how the resource should respond, but rather emphasize the need for an immediate response if required.

Additional resources, such as the police, may be required to attend some or all of the following types of calls:

- violent patients or bystanders
- mental health arrests
- drug or alcohol abuse calls
- assaults

- dog bites
- suspicious incidents
- suicide attempts
- children left at scene
- entry problems
- motor vehicle accidents
- incidents involving some type of negligence

Additional resources, such as the fire department, may be required to attend some or all of the following types of calls:

- as first responders
- to assist with patient lift
- motor vehicle accidents (Jaws of Life)
- burns (fire out/electrical hazard)
- HazMat calls (inhalation, exposure, burns)
- entry problems

Other resources may include:

- search and rescue for:

a) injured hikers

b) isolated patient locations (helicopters required)

- Coast Guard for:

c) boating accidents

d) diving accidents

e) cruise ship/freighter patients

- SPCA

f) animal control

g) injured animal calls

- Air Ambulance (helicopter)

h) isolated patients

i) multiple casualty incidents

j) long distance critical patient transfers

k) emergency aircraft landings

NOTE: Some agencies may define search and rescue and air ambulance as distinctly separate resources, while others put the two resources under the same umbrella of response and duties. Most agencies have protocols and guidelines in place that set out the criteria for response of these services that must be met. These guidelines may vary from agency to agency, from area to area.

Prioritize Multiple Medical Incidents

Two incidents (different, same, changing priority)

- **Different priorities in two calls** – An EMD must determine how to best use resources in assigning calls. He or she may need to get more information from the caller to make that determination, or may assign an available unit to attend to gather more information.
- **Same priority** – If two field units are available, the EMD may send one to each call. If not, he or she may have to draw from other zones for assistance. For example, if there are two calls in the east end and all units are tied up, request a west end unit to take a call if it is urgent.
- **Changing priorities** – Some calls may change as more information is received. For example, an MVA with minor injuries may turn into a major situation by the time field units have arrived on the scene. The EMD may be faced with having to commit more resources to the call than had been sent originally.
  Note: The priority of the incident dictates which resources to deploy.

Three incidents (different, same, changing priority)

This follows much the same format as above. The EMD is required to juggle the field units in order to assign the appropriate level of response to any given call. It is important for the EMD to know the different priorities of the calls in progress to best determine which field units may be diverted if necessary.

Multiple incidents (different, same, changing priority)

Managing multiple incidents takes more time and skill. The EMD will respond to the calls of greatest priority according to the agency's SOPs, and get to the lower priority calls as resources allow. Extra resources may be drawn from different areas as required with the permission of the Watch or Station Commander.

Use Discretion in Determining Priority Level

- **Acquire sufficient information** – This may require ongoing monitoring of the call and changing priority as necessary.
- **Apply personal knowledge to situation** – The more experience EMDs have, the better they are able to apply what they already know about a situation to an incident. The EMTI system also gives specific actions to take.
- **Confer with experienced communicators as appropriate** – Seeking advice about how to prioritize an incident from more experienced EMDs serves several purposes: The call gets prioritized correctly, co-workers become aware of the situation, and it could give the EMD some important connections later in the shift.

Chapter 5: Continued Assessment

The EMD is responsible to continue assessment over the telephone in some situations while assistance is on the way. After the EMD has assessed the incident the patient, the EMD will keep the caller on the phone until the EMS crew arrives for:

- choking
- childbirth
- CPR

Pre-empting Calls

Pre-empting calls is the practice of re-assigning a resource to another call for a valid reason. A valid reason may be a call of a higher priority or removing a unit from a layered response to attend another emergency call to which that unit is the closest. Policies and procedures should clearly outline this practice.

If a call is pre-empted by a call of a higher priority, the EMD will call back to check on the patient's status, advise the caller of the delay, and request him/her to call back if the patient's condition worsens. (This applies to all calls, not just to pre-empted calls.) The pre-empted call will be dispatched to the next available unit without delay. The EMD must inform responding units when a layered unit is pre-empted.

SECTION 5: DOCUMENTATION

Chapter 1: Complete and Accurate Documentation

As the duties and responsibilities of the EMD grow in volume and complexity, so do the requirements for complete and accurate documentation of those duties and the calls involved. In earlier years much of the documentation was done using a simple twenty-four hour log system. Today, given the EMDs accountability to patient, employer, the public, and media and legal considerations, the need for proper documentation cannot be stressed enough.

Complete and accurate documentation is a vital function of any professional communications center. It establishes the facts of the incident, what was done on the call, who was responsible for each aspect of the call, and the time during which each step was taken. In the event of litigation, it may protect both the EMD and the agency from civil or criminal liability.

Good documentation enables a department and its employees to defend or justify their actions on a particular incident. The accurate reporting and recording of calls also reflect positively on the professionalism of the entire emergency medical dispatch industry.

Documentation is often the key to adjusting budget needs by compiling statistics for industry and government, and to planning future personnel and equipment requirements.

Accurate reporting of calls and call processing also enables your department, and the industry as a whole, to identify elements, resources and services that may require improvement in order to best meet the needs of the patient and the public.

Documentation Methods

Written and Audio

In the field, most documentation is in written form. Within the communications centre, written documentation is often accompanied by audio recordings. Audiotapes run twenty-four hours a day, recording telephone lines, radio channels and patient reports relayed over radio channels. These tapes assist in training for both the EMD and field personnel. Tape reviews assist in audits of calls, charts and employee skills. In the event of a media or legal investigation into an incident or of an employee, they offer a tangible defense of proof of actions.

A variety of recording systems are available to, and in use at, EMD communication centers. Many systems include the following:

- Voice activated cassette units mounted in each radio or dispatch console (offer immediate playback).
- A master recorder (with reel-to-reel or digital audiotapes) that records all radio and telephone transmissions 24 hour a day; contains back-up and fail-safe features. Tapes are usually kept for an agency-designated period of time, and then re-used.
- A separate playback unit with digital time readout.

In these systems, all telephone lines and radio channels are connected to designated channels within the master recorder and recorded for twenty-four hours. After the twenty-four hour period, finished tapes are rewound, recorded and stored according to agency policy and procedures. Each tape is numbered, referenced and filed for an agency-designated period of time. Tapes are usually re-recorded after this period of time unless they are required for court, agency use, training, or by law enforcement personnel. Up to date systems use digital audio tapes (DAT), which are much smaller than reel-to-reel tapes, and can hold several days worth of recordings (up to 320 hours) on multiple tracks. These only record when there are communication signals to record, but play back in *real time*.

When an EMD is called to testify about an incident in a criminal trial or proceeding, the tapes must be secured as evidence. Each agency or

department will have its own protocols in place for such instances. Some agencies immediately hand over the tape to a law enforcement officer or a supervisor within their agency. Supervisors must be sufficiently informed and aware of their duties and responsibilities in handling evidence for court or civil proceedings, as continuity of evidence is crucial in criminal trials.

In situations where the EMDs job performance or actions are under investigation (criminal, civil, or in-house), audio recordings are evidence to prove the EMD has performed to the agency's standards. This applies to the EMDs who perform their duties and responsibilities according to the agency's standards of care, are competently trained, and act professionally and in good faith. For those EMDs who do not perform their duties appropriately and accurately, the audio recordings may be the proof that leads to disciplinary action, dismissal, criminal charges or civil liability.

Dispatch Time Stamping and Status Changes

Many EMD centers use automated systems, such as computer aided dispatch (CAD), which automatically record the time of the incident, responses to the incident, and any change in unit status by the push of a button or a few keystrokes. The use of a CAD system is the most accurate, consistent and time-effective method of recording pertinent times on a call. However, some agencies do not have these resources available to them and utilize a simple manual system. A manual system also requires accuracy and a credible and accepted method of recording times associated with an incident or event.

Some manual systems consist of a locking time clock similar to that used in many payroll departments. Dispatch cards are inserted into the mechanical clock each time a status change occurs, and the apparatus stamps or punches the card. The advantage of this system over a hand written system from a legal perspective is that it is usually given more credibility; it is harder to alter a machine-stamped time than to change a hand written one. Manually recorded times may be verified by comparison with audio recordings and time stamps.

For a time clock to be viewed as accurate and reliable, it must be secured in such a way or place as not to be readily altered by employees. If adjustments need to be made to the clock, most are done by the communications supervisor during a time when daily recording will not be affected.

Even if a communications center uses an automated system, each EMD should be aware, and completely proficient in, the application of a manual system. In the event of a computer failure or disaster that knocks out electrical power, incident and status changes still need to be recorded in an accurate fashion. Each agency with an automated system will have a back-up system in place for such events, and employees must be knowledgeable about and adept at using such back-up systems.

Chapter 2: Call Tracking

Call Recording

EMDs follow their agencies' protocols for call assessment and prioritize calls each and every time for the specific patient condition indicated by the caller or the information available. All the pertinent information must be recorded, either manually or through the automated system available. They record everything including identifiers at the scene, and additional patient information either in the narrative section of the CAD or as written notes. Note that all recorded information becomes part of a legal document and may be used in court, in a Coroner's Inquest or in a public inquiry. EMDs use appropriate professional language in all written comments, include all pertinent details, and do not rely on memory. Medical communicators often go to court and have to defend or explain their actions or notes. Being poorly prepared for such events can be personally and professionally embarrassing and reflects poorly on the profession.

Chapter 3: Documentation Requirements

The documentation needs of the emergency medical dispatch industry generally include medical data, preservation of patient care and safety, legal safeguards, and information gathered for billing, planning and administrative purposes. This documentation must be recorded in a form that is both readily available and easy to understand. The information may include some or all of the following: written dispatch logs, audio recordings, computer printouts, computers, patient encounter forms.

Medical Information

Most information on a patient comes from documentation recorded at the scene by the field personnel. This information is usually hand written at the scene. Each response by field personnel is also documented at the communications centre, even though much of the information is duplicated. The duplication of information allows personnel to double-check and validate actions and responses. Regardless of which system an agency uses for recording information (dispatch card or computer mask or screen), pertinent information must be stored and recorded in a logical order. The medical information components that must be recorded for each response by field personnel, by the EMD, or both, may include some or all of the following:

- incident location
- response priority (e.g., Code 3)
- type of incident/patient condition
- age, sex and weight of patient
- chief complaint
- nature of injury or illness
- history of illness or injury
- signs and symptoms at scene, initial contact, during transport and on destination arrival
- vital signs

- results of physical examination
- care or intervention given by people at the scene prior to crew arrival
- care or intervention given by crew
- medications taken, prior to and during incident
- medications administered by crew
- changes in patient condition
- patients name, if applicable
- name of caller, if applicable
- notifying agency
- special patient requirements
- special conditions at scene
- reference number attached to call (may be labelled call number or incident number – differs from agency to agency)
- date and time of call
- transport destination
- transport priority

Legal Documentation

To meet the need for sufficient legal documentation, a wide range of recorded data is usually required. This information may be needed to justify billing or actions, or to demonstrate the sequence in which resources were allocated at a particular incident. During an inquiry or criminal proceeding, this recorded information will enable you to provide an accurate recounting of an incident of series of events.

Audio recordings often include details and information that may lead to the laying of criminal charges or assist in an investigation into a violent or criminal act. Audio recordings may also record confessions or dying statements. As the EMD becomes more and more a vital participant in patient care and more widely recognized by the media and public, it is

inevitable the EMD will be called upon more and more to testify in civil and criminal litigation.

Components of a Legal Document

Components that contribute to a recorded legal document attached to an incident response may include any or all of the following:

- date and time of request for service
- date and time of response
- name and particulars of caller
- pick-up time of patient
- incident location/address of incident
- type of incident
- patient condition/special patient requirements
- time of unit's dispatch
- ID of responding units and resources
- time first responders were requested
- time of arrival of first responders at scene
- time of arrival of ambulance first at scene
- time patient transport begins
- transport destination
- priority (initial and changes to)
- notifying agency
- call back numbers
- patient's name and particulars
- special conditions at scene
- reference number (of incident)
- name/ID of dispatcher/call processor
- location from which unit responded

- time of request of additional resources (e.g. police response)
- time additional resources arrive at scene
- time medical information relayed to hospital
- time of priority changes/status changes
- reasons of priority/destination changes
- time of destination arrival
- any unusual occurrence during incident or transport
- time of unit/additional resource cancellation
- name/agency requesting service cancellation
- reason for cancellation
- time unit available for emergency response/becomes mobile
- total response time (time of initial call to time of first ambulance arrival)
- all applicable times for any resources allocated

Once a record has been created, it should not be changed unless incorrect information was previously recorded. The appropriate way to change a manually produced legal document is to put a single line through the incorrect information, add the correct information, and date and initial the change.

Other Documentation

Unit Cancellations/No Transports

If an ambulance request has been initiated but no patient is carried, the EMD must document the non-transport. In most instances where charges or complaints are levied against an ambulance service, it involves someone charging that the ambulance did not attend or that the patient was not attended to. Different agencies attach different names to these instances, such as dry-runs, no runs, cancelled runs. A variety of circumstances may result in a cancelled run: the first responders to the scene may recognize the ambulance is not required, the patient may have left the scene prior to the arrival of the crew, the request may have

been made by a third party where there was no actual need for attendance, or the patient may refuse treatment.

Each department or agency will have its own system in place for dealing with cancelled runs. It is up to each EMD to ensure completely familiarity with the protocols involving such incidents and the documentation required by their agency. Examples of reason for non-transport of patient may include any or all of the following:

- closer unit attended
- a higher priority call
- caller/patient cancelled
- unit/crew cancelled
- other agency cancelled (police/fire)
- transported by other means (police/fire/third party)
- duplicate call
- patient refused
- no patient at scene – Gone On Arrival (GOA)
- patient dead on scene
- unable to locate incident/patient – unfounded call
- vehicle failure/equipment failure

The specific reason for non-transport must be documented on the appropriate form. Written documentation should correspond with audio-recorded verbal instructions, whether from field personnel or dispatch personnel.

Patient Refusals

Most departments have their field personnel carry an agency-approved standardized patient refusal form. Many agencies also require additional documentation.

When any patient refuses treatment or transport by ambulance, the circumstances of refusal and the patient's condition should be recorded in as much detail as possible. This information should be recorded both

in written form and on the audio equipment available to the agency. If the crew is not comfortable with the patient's refusal of care, they may document the refusal (or may ask the EMD to document it), including details about the patient's condition, vital signs, physical examination, extent or history of injury, symptoms or any unusual factors that may have contributed to the patient's refusal, and the time of refusal. Most agencies also require the patient to sign a form indicating they refuse care (often called an AMA form – *against medical advice*). Most agencies are also required to advise the patient of the possible negative consequences of refusing care.

Unusual Incident Reporting

In the event of unusual circumstances or situations, or a complaint regarding field personnel or an EMD, those involved in the incident or complaint should ensure the appropriate documentation in completed and forwarded to the appropriate supervisor. These circumstances or complaints may involve any number of instances including any or all of the following:

- communication errors
- crew sent to the wrong location
- problems among attending agencies (jurisdictions, resources)
- wrong unit sent
- complaints about telephone protocol, patient care
- complaints about response time or crew attitude
- complaints about level of care

A form specific to unusual events or circumstances may be available within the communication center. If available, all appropriate dates, time, details and names of all involved must be recorded accurately and according to agency policy and procedures.

Chapter 4: Interagency Cooperation

Protocol Needs

When two or more agencies are involved with an incident, how they communicate with each other is of paramount importance. The primary purpose of communication is to establish a common understanding between the sender and receiver. True communication can only be achieved if both parties understand the information or messages being sent. This is extremely important when dealing with emergency situations. In an emergency situation, radio communications play a vital and active role in relaying information which may ultimately save a life, or lives. Clear, concise instruction and the relay of accurate information enable each agency to respond to the incident in a timely and efficient manner. Using plain language transmission can assist in this relay of information.

During the early stages of an emergency response, a large amount of air time is used. The communications center is busy gathering and relaying information, and notifying appropriate personnel and agencies. This is followed by additional air traffic from field units for the purposes of:

- acknowledging duties or information,
- communicating between themselves or with supervisors and the communications center, and
- relaying updates between the scene and the center to keep all involved personnel informed about the status of the emergency.

Unless correct radio discipline is maintained, critical information may get lost in the rush of on air transmissions. ***It is the radio operator's / dispatcher's job to maintain radio control.***

During most emergencies, each personnel's adrenaline and stress levels elevate. Each person with a radio believes the information they have to relay is more important than what the next person has to say. If everyone tries to talk at once, messages may not get acknowledged, transmissions may be cut off, and vital information may not be relayed to the person who requires it. When that happens, the problem compounds with the anger and frustration of personnel unable to

perform their job because they can't get on the radio or use it properly. Proper radio discipline is a vital component to ensure communication problems are kept to a minimum and do not interfere with the successful conclusion of an emergency situation. Established radio communication protocols ensure that messages are received and understood and promote:

- Personnel and public safety
- Cooperation between agencies
- Effective use of outside resources
- Professionalism and pride.

Personnel and Public Safety

The greatest responsibility of the communication operator is the safety of the field unit personnel and the general public. Effective radio communications allow the operator to know a field unit's location at all times. Personnel can then be quickly advised of any updated information regarding the need for additional services, safety hazards and medical attention or requirements. Relaying of new information assists agency personnel in making decisions or taking actions to ensure their own safety and the safety of the victim(s) or general public.

Cooperation Between Agencies

Effective radio communications make it easier for agencies to understand each other's departmental requirements. Standardized radio protocols help to eliminate costly and timely duplication of services among agencies attending the same emergency or situation. The use of plain language, clear text transmissions helps to eliminate confusion and relays the intended message to other agency personnel.

Effective Use of Outside Resources

Standardized radio protocols simplify communication with outside agencies in requesting their assistance, attendance or cooperation at a scene or situation. All emergency service agencies or resources are equally busy and appreciate receiving as much information as possible, in the briefest manner possible, to relay to their own personnel. Always acknowledge and confirm requests for attendance by outside resources

with an ETA if possible for the arrival, and extend the same courtesy to an outside resource requesting your assistance.

Professionalism

Using established radio protocols and discipline demonstrate your agency's commitment to a professional code of conduct within your industry. Every time you transmit over the air, you are, in essence, making a public broadcast. Conducting yourself in a professional manner may assist in developing a better rapport between your agency and the public. The manner in which you and agency personnel communicate on the air may be the basis for how you are judged by the public and other industries. ALWAYS act in a professional manner.

SECTION 6: SPECIAL INCIDENTS

Chapter 1:
Multiple-Casualty/Mass Casualty Incidents (MCI)

Multiple / Mass casualty incidents (MCI) is an event in which the resources available are insufficient to manage the number of casualties or the nature of the emergency. They can run the gamut from multiple car motor vehicle accidents to massive disasters involving hundreds of injured people. A number of general steps are taken by most agencies regarding multiple or mass casualty events. It is not uncommon for EMS to have more than one patient at a trauma scene. However, most day-to-day operational procedures are designed for the single trauma or medical patient.

Identify the Incident

Multiple casualty incidents are usually defined as events involving a large number of patients (over six) whose care and control of the scene and resources will put a hardship on the medical system routinely in place. The number of casualties and the circumstances surrounding the incident that caused their injuries may call for more resources than those normally available to an agency. All agencies should have a plan in place to deal with such events.

Mass casualty events usually involve a huge demand on the services, personnel and resources of all agencies in the area to care for and transport many patients, usually numbering in the hundreds. An incident of this scale may be a train derailment, an airplane crash, or a natural disaster such as an earthquake, flood or hurricane.

Multiple casualty incidents are handled the same as mass casualty incidents, but on a smaller scale. Both situations require additional resources, personnel and equipment. Incidents of this nature usually attract large crowds and the news media, and require resources to deal with the special circumstances that accompany multiple or mass

casualty events. Circumstances of either event may require the calling out off-duty personnel. This is known as a *fan-out*.

Some incidents are easily identified as multiple or mass casualty, such as the 1993 Oklahoma bombing. Other incidents will not be identified until the first responders arrive at the scene. The EMD will have to make a decision about patient and transportation needs compared to the resources currently accessible within their agency. Any decision to implement an MCI plan will usually be made with the approval of a supervisor or within the protocols of agency policy.

Initial Dispatch

After the type of incident has been identified, help must be sent to the incident location. This must be done immediately and should not be delayed due to emergency notification procedures. Dispatch a unit at once, advising them of the incident type and potential for multiple injuries. Advise the crew to provide a patient count and pertinent scene and resource information as soon as possible. Dispatch a second unit to the scene and bring a third unit into the area to ensure non-related requests for service can still be met.

Non-emergency service calls, such as patient transport, may be suspended while the incident is ongoing or until the exact effects on agency resources can be determined. This decision will probably be dictated by agency policy or procedure.

Radio Channel Assignment

When an incident is confirmed as multiple or mass casualty, all radio traffic involved in the incident must be moved to a separate, dedicated channel. One EMD is generally assigned to work on the dedicated channel. In order to ensure this transition runs smoothly, auxiliary or off-duty communicators may be called in at this time to assist.

Notification of the Incident

In a *multiple casualty incident(MCI)*, a number of individuals, groups and agencies must be notified.

Management

As soon as the MCI has been confirmed, management within your agency should be notified. Management may be notified while the units are en route to the scene or prior to attendance for possible MCIs. Many communication centers utilize a voicemail or paging system to notify the appropriate managers or commanders. Notifying them by telephone is more time consuming and may take communicators away from more pressing tasks. Whichever system is used, one EMD or staff member should be assigned the job of notification and recording the appropriate documentation of notification. Messages can be prioritized so that each contacted staff member will have an immediate understanding of the situation they may be walking into.

Hospitals and Medical Institutions

Notifying hospitals and medical institutions can be done is a similar manner as for management personnel. A resource check should be started prior to incident confirmation to establish the hospitals' and institutions' capacities to deal with incoming patients. This information must be passed on the field units. Hospitals or institutions will be able to prepare for the patients and instigate their own in-house protocols for dealing with an MCI. An early warning to medical facilities is crucial in today's environment of overcrowding and bed or staff shortages. Call the hospital or institution closest to the incident first to alert them, as they may receive a great number of walk-in injured in addition to the patients dropped off by medical and other emergency services, and by members of the general public.

Identify and Mobilize Other Resources

One EMD should be assigned the task of alerting emergency medical, fire, police and other appropriate agencies of the MCI. This assignment may consist of a simple notification of the incident or may involve a request for a specific service or resource. If helicopter services are required, alert the appropriate agencies so they may postpone non-emergency flights if required.

Advise Police and Fire

Police and fire agencies may not be aware of the MCI or have the same information EMS agencies have. Communication among all these agencies will be constant during a multiple or mass casualty incident to ensure that all are sharing information and supplying each other with updates from field crews. This communication aids in ensuring the incident is dealt with in the most professional and effective manner, and ensures field personnel safety.

Adjusting Coverage

All available units must be made are aware of the incident. Personnel should be instructed to remain in radio contact and advised which channel has been dedicated to the MCI. They should also be instructed to maintain appropriate radio protocol and restrict non-emergency radio traffic. Area coverage can be adjusted by utilizing on-duty, or off-duty personnel if applicable, to cover other requests for service that may come in during the incident.

Field Units

Each communications center will have an MCI plan in place. However, some field personnel may not be aware of the entire plan or the policies and procedures they are expected to follow. No amount of training can completely prepare crews for what they may find at a mass casualty incident. They may arrive at the scene and be so emotionally impacted by what they see that they do not react in the anticipated way. The EMD can be very helpful by not making assumptions about the crew, but by maintaining a professional manner and being in control. A calm, collected voice on the radio will have a positive impact on the on-site personnel dealing with multiple tragedy and chaos. Anticipate the needs of the on-site care givers: What resources or information will they require next? Will they need food, dry clothing, liquids or relief? Will they need more supplies, oxygen, fuel, new batteries for their radio?

Incident Command System and MCI

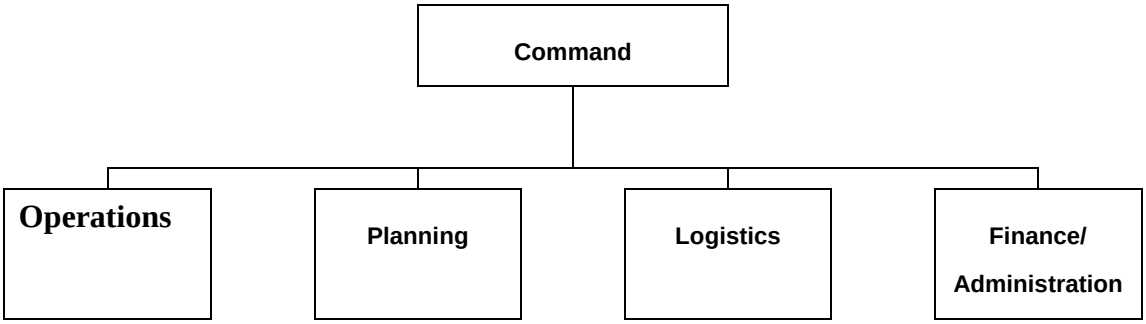
The Incident Command System (ICS) was developed in Southern California in the early 1970's. The components of an ICS include

Command, Fire Suppression, Rescue/Extrication, Law Enforcement, and Medical Services.

The flexibility of an ICS enables it to be adapted to all types of emergencies including fire, rescue, law enforcement, Medical Services and MCI's. An ICS can be expanded or compressed depending on the current condition of the incident.

The purpose of the ICS is to prevent independent actions and chaos at the scene of the incident. If an ICS is not established immediately, other rescuers may take independent actions, which will often be in conflict. Without organization and accountability, chaos will occur and too many people will attempt to command the incident. If you do not control the situation, the situation will control you.

Five Primary Management Functions of ICS



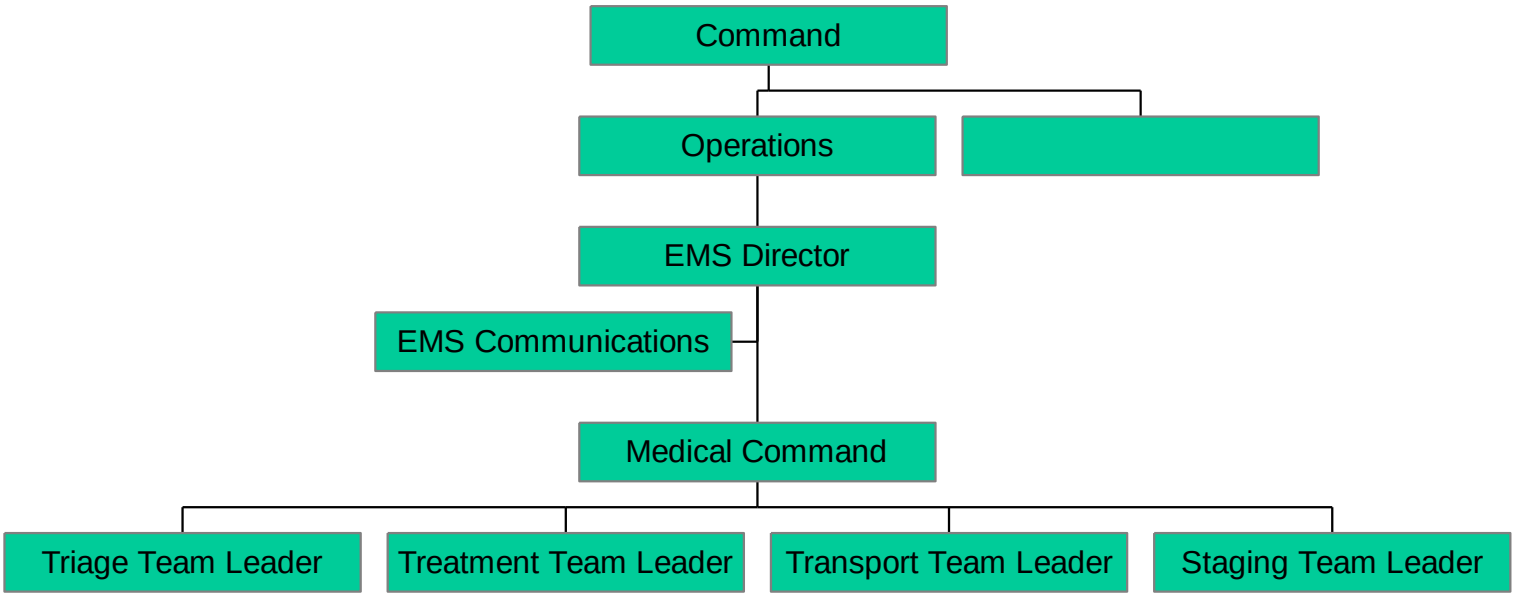
Medical Incident Command

One component of the ICS is the Medical sector. Under the Operations chain in the ICS model, the Medical Sector includes Medical Command, Triage, Treatment, Transport and Staging.

Each component does not have to have one person exclusively assigned. However, it is necessary to ensure that the function of each position is executed.

All participants of an ICS need to know their responsibilities. The following paragraphs explain the roles of the officers of an ICS.

Medical Incident Command



Medical Command

The responsibility of command should belong to one individual who has the ability to coordinate a variety of emergency activities. This is the cornerstone of the ICS structure.

The first on-scene unit assumes the role of command and directs all initial efforts. The person assuming the role of command must be familiar with the ICS structure and the operating procedures of other responding rescue vehicles. The command officer does not have to be the individual with the most medical training but must be able to manage the emergency scene.

The command officer must be clearly identified immediately, and all others at the scene must be aware that only one individual is in command. As more qualified personnel arrive the role of command may be transferred.

Once established, medical command should do the following:

- Assume an effective command mode and position.
- Transmit a brief radio report to the communication center.
- Ensure that proper rescue/extrication services are activated.
- Ensure law enforcement involvement as required.

- Ensure that helicopter landing zone operations are coordinated if
- required.
- Determine the amount and type of additional medical resources and supplies.
- Ensure that area hospitals and Medical Direction are aware of the situation.
- Designate assistant officers and their locations.
- Maintain an appropriate scan of the scene and control.
- Work as a conduit of communications between subordinates and the Incident Commander.

EMS Staging Team Leader

Staging sectors are required for large incidents to prevent vehicle congestion and response delays. All emergency vehicles (fire, police, EMS) should report to this sector for direction.

The Staging Team Leader also controls other agencies such as disaster relief and the media.

The roles of the EMS staging team leader include the following:

- Maintain a log of available units and medical supplies.
- Coordinate location of incoming resources (i.e. ambulances and helicopters).
- Coordinate incoming personnel who wish to aid at the scene.
- Provide updates to Medical Command as required.

Triage Team Leader

The third officer of the medical sector is the Triage Team Leader. The duties of the triage team leader are:

- Ensure proper utilization of the Initial Assessment triage system or other local protocol for patient assessment. Some services permit opening the airway and controlling obvious bleeding.

- Ensure that the triage tags or other visual identification techniques are properly completed and secured to the patient.
- Make requests for additional resources through Medical Command.
- Provide updates to Medical Command as necessary.

Treatment Team Leader

The roles of the treatment Team Leader include:

- Establishing suitable treatment areas.
- Communicating resource needs to Medical Control.
- Assigning, supervising, and coordinating treatment of patients.
- Providing updates to Medical Command as required.

EMS personnel assigned to the treatment sector are responsible for advanced care and initial stabilization until patients can be transported to a medical facility.

Transport Team Leader

The final component of the medical sector is the transport Team Leader. The duties of the transport Team Leader are as follows:

- Ensure the organized transport of patients' off-scene.
- Ensure an appropriate distribution to all hospitals to prevent hospital overloading.
- Complete a transportation log.
- Contact receiving hospitals to advise them of the number of patients and condition (may be delegated to a communication officer).
- Provide updates to Medical Command as required.

Triage

Triage is a system of sorting patients to determine the order in which they will receive treatment and transport to a medical facility. In an MCI, the triage goal is to meet the needs of the most individuals possible by delaying treatment of selected patients.

The triage officer should spend less than one minute doing an initial assessment to determine the priority of a patient. The triage officer ***does not*** render any treatment to a patient.

The treatment of patients is to be performed by the treatment officer. If the triage officer allows himself to provide treatment to victims the function of the triage must be reassigned.

The Basic Trauma Life Support decision tree assists in determining medical priority. Once medical priority is determined the triage officer should affix a completed triage tag or other visual identification technique to the victim and then move to the next victim.

Triage Categories

Priority 1: Red Tag

This indicates critical condition, unstable but salvageable with timely and appropriate intervention. Patients normally categorized as ***critical*** include those with airway problems or respiratory distress (Tension pneumothorax, upper airway obstruction, flail chest, open chest wound), possible cardiac injury (tamponade, severe contusion), uncontrolled hemorrhage (including internal), and altered mental or neurological status (concussion, skull fracture, spinal cord injury).

Priority 2: Yellow Tag

This indicates serious condition/potentially unstable. These patients require timely transport, but only after critical patients are attended to. These patients may tolerate a one-hour delay in transport. Patients in this category include those with major extremity or soft tissue injury, burns without an airway compromise, burns, electrical injuries and blunt abdominal or thoracic trauma.

Priority 3: Green Tag

This indicates stable condition/minor injuries. These patients are often referred to as the "walking wounded" and are transported after red and yellow-tagged patients. Patients with simple fractures, lacerations, small burns and sprains fall into this category. An ambulance may not be required to transport these patients. For example, they may be transported in a bus.

Priority 4: Black Tag

This indicates dead or alive but non-salvageable. These patients require excessive manpower and resources to survive. Most patients in cardiac arrest are considered low priority in MCI situations.

Initial Assessment

During an MCI there is a tendency to over triage and this must be avoided. Over triage has a detrimental impact on available EMS resources. The triage assessment needs to be accurate.

The following three basic human systems need to be quickly evaluated to determine the patient's medical priority:

1. Respiratory system
2. Circulatory system
3. Neurological system

***BTLS International recommends using the BTLS Initial Assessment during the triage phase and the Rapid Trauma Assessment or the Focused Assessment in the treatment phase will enable EMS providers to complete accurate assessments.

The use of these assessment tools will provide the greatest amount of good to the greatest number of patients. Some EMS systems use other assessment protocols but the goal is the same:

- To rapidly assess
- Treat and transport patients.

The components of the initial assessment are general impression, level of consciousness, airway, breathing and circulation.

General Impression (Patient Overview)

- What is the victim’s approximate age?
- What position are they in?
- What is their activity (aware of surroundings, anxious, in distress)?
- Are they perfusing (skin color)?

- Are there any major injuries or bleeding?

Level Of Consciousness (AVPU)

Is classified as:

- Alert
- Responds to verbal stimuli
- Responds to painful stimuli
- Unresponsive

Airway

- Is it open and self-maintained?
- Is it compromised?

Breathing

- Is the victim breathing?
- What is the rate and quality?

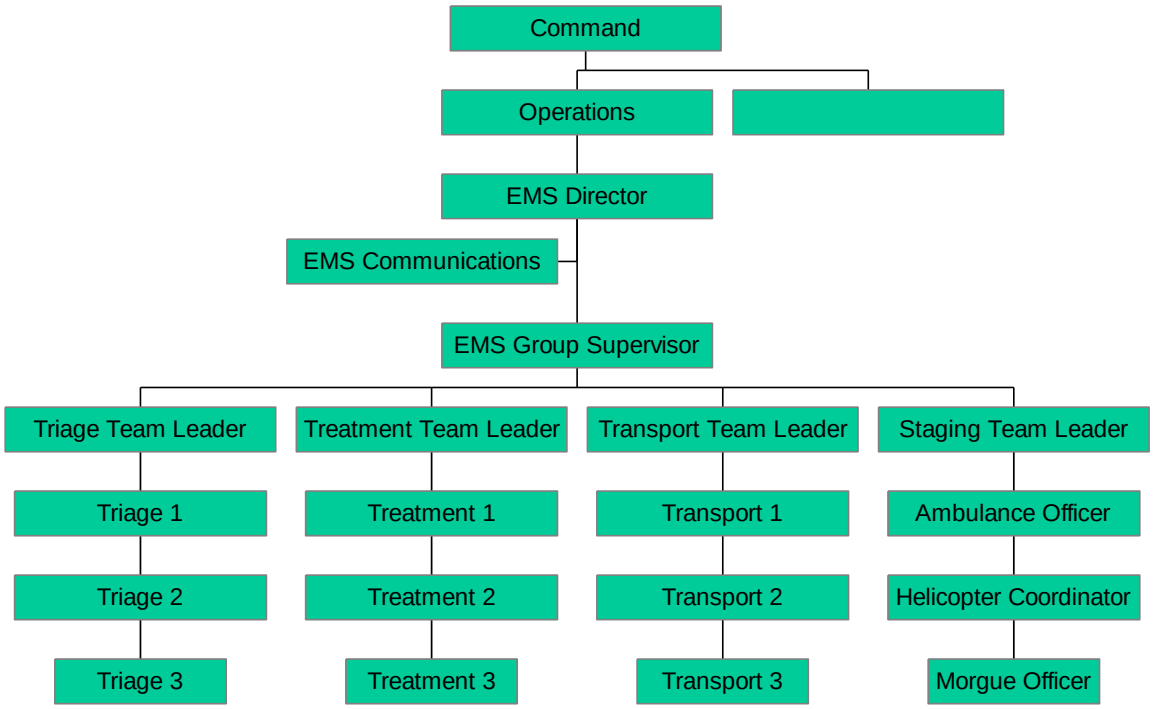
Circulation

- Is there a pulse?
- What is the rate and quality?

Following the Initial Assessment, a survivability factor will be determined and the patient will be prioritized accordingly. An example of applying the survivability factor would be the situation when you are presented with a pediatric patient and a geriatric patient with similar injuries.

You have enough resources to care for only one patient. Which patient do you choose and why? This decision is based on an objective evaluation rather than on emotions.

MCI Organizational Chart



Standard of Care

Reviewing the care that patients receive during an MCI is important because it reinforces the principles of an MCI. The adverse circumstances that EMS was operating under must be taken into consideration.

During normal day-to-day operations, patients are treated according to standard protocols, thus many patients are over treated in anticipation of deterioration. However, during an MCI or disaster, this inefficient use of manpower and resources may be catastrophic.

The primary principle in triage and treatment of victims of an MCI is to do the greatest good for the greatest number of patients with the least depletion of available resources.

EMS Communications

Communications may be the single most important aspect of an emergency response system. The best-trained paramedics, driving the newest ambulances with the most sophisticated equipment, are

ineffective during an incident if they cannot adequately communicate with each other, their dispatch center and other responding agencies.

Despite the critical nature of this system element, significant communications failures continue to occur in systems everywhere during MCI events. Communication is widely identified as a weakness in virtually every after-action review of an MCI or disaster.

In fact, it is the single largest point of failure noted. Problems like radio frequency incompatibilities, lack of common terminology and the traditional isolation of emergency services agencies have existed for more than 35 years. Despite the historical knowledge about these problems, however, little has been done to correct them.

Routine versus Incident Communications

In order to correct the problems inherent with communications today, we must first differentiate between routine communications and those that take place during incidents. The same procedures should be followed for all incidents, from the smallest to the largest.

As an incident occurs, the first and most important task is to implement and use the Incident Command System (ICS). Command is established by the first arriving unit and given a unique name based on the location of the incident.

The incident commander then transmits an accurate size-up of the incident as soon as possible, including basic information regarding the type of incident (MVA, fire, etc.), approximate patient count (is the incident stable or escalating?), location of command, what additional resources will be needed, and where those resources should stage. Giving this information to the dispatcher and other units accurately and early prevents having inadequate resources during the incident or incoming units from staging poorly, which complicates scene management.

Tactical Radio Channels

Local communications systems have many different configurations. Some systems have dedicated EMS channels, some share channels with

fire or police operations, and others have special channels for on-scene communications.

It is at times, beneficial to share communications with local agencies on small incidents. When fire and EMS agencies are both operating at a small MVA, for example, it may be helpful to have all operations on one channel. However, as incident complexity increases, it becomes necessary to move communications for different types of operations onto tactical or on-scene channels. This prevents incident communications from overloading the primary EMS channel and prevents interference between agencies with different primary functions. However, it is beneficial to have the ability for command officers from different agencies to communicate on a common channel when needed. In the Lower Mainland of BC, E-Comm Corporation and all the participating agencies have this communications ability.

Depending on the complexity of the incident, you will need to decide when to move operations onto a tactical or on-scene channel. If you share a channel with other agencies, this point will be reached when you begin to expand the incident management system.

Agencies with a dedicated tactical channel should move operations onto tactical channels as soon as an MCI is declared.

All responding units, as well as the units already on scene, should move any further communications for the incident to the secondary channel. This allows units communicating about the incident to speak without interfering with other emergency operations and places all primary incident communications on one channel.

It is very important that dispatchers monitor this channel closely and that units are not required to change channels to speak with the dispatcher.

There is significant potential for missed messages if units have to change channels back and forth, and it may result in poor operations or compromised responder safety.

Because most early on-scene communications take place on portable radios, the tactical radio channel used for incident communications should be repeated.

Rebroadcasting transmissions at a higher power used by a repeater system allow the portable radios to reach greater distances and prevents missed messages. However, it is more important to move communications to a secondary channel available in portable radios than to have this channel repeated.

On repeated channels, the capability exists for radios to transmit in talk-around, or direct mode, bypassing the repeater. This allows units to communicate if the repeater fails or if a local message is desired but it has drawbacks.

Generally, the dispatcher transmits over direct messages, resulting in missed communications. Direct mode is also at lower power and may not reach all points of a widespread incident scene.

There are two important points to remember about portable radios. First, make sure all the frequencies you will need for incident management are available in the portable radios you carry every day. These are the radios that you will use in the initial phases of an incident, and command officers will be using them extensively. Secondly, be sure to have an adequate supply of spare batteries ready to be deployed, or you may find the radios useless a few hours into the incident.

Staging

In the event of an incident of extremely large magnitude, geographic size or ongoing time, other channels can be used if available. Incidents separated by distance can be segregated onto secondary tactical channels, as can staging for extremely large numbers of incoming units. In fact, it is essential that all agencies that may respond to an incident have the capability of communicating on the same tactical channels.

It may be very difficult to develop the capability for all responding units to communicate on one tactical channel.

Different agencies usually have separate channels and sometimes use different frequency bands requiring different radios. However, it is essential to share resources and put aside political differences as regional coordination channels are developed.

Additional channels add complexity to an already unstable situation. Like the Incident Communications System toolbox theory, they should only be used when necessary. Ideally, the communications system for an incident should be kept as simple as possible—the dispatcher, the incident commander, ICS officers and ambulances can communicate on one channel.

When the volume of ambulances required necessitate a Staging Team Leader, a staging channel should be considered. Incoming ambulances need only communicate with the Staging Team Leader, keeping the primary tactical channel clear for on-scene communications.

Hospital Communications

Another channel will be necessary for hospital notification. Most areas already have a dedicated channel for this purpose during everyday operations. During incidents, this channel has two important uses.

1. In the initial phases of an incident, it can be used by the dispatcher to notify potential receiving hospitals of the mass casualty incident and request a capability assessment. Based on the estimated number and condition of patients in the size-up, hospitals can consider activating their disaster plan and take an immediate count of the number of critical, non-critical and ambulatory patients they can accept. Once disaster notification has been made, hospitals should keep the channel open and monitored at all times.
2. The Transport Team Leader or EMS Communications Officer will keep inventory of the receiving hospitals' capabilities and the patients prepared for transportation.

Once a patient leaves the scene in an ambulance, the receiving hospital should be notified of the patient's triage color (red, yellow or green), age, sex, major injury and estimated time of arrival (ETA). This relieves ambulances of having to notify hospitals of incoming patients,

which is especially important when the ambulance may not be familiar with the local hospitals.

Having this channel available in the portable radio used by the Transport or EMS Com Officer saves being restricted to a vehicle.

Command and Control

On an incident scene, communications have the potential to become overwhelming. Radio communications should be kept to a minimum, with only those people authorized to talk using radios.

One of the biggest pitfalls in incident management is personnel freelancing, which can be controlled by limiting radio use. Lines of communication should essentially follow the lines on the ICS organizational chart, talking upward or downward through branches, divisions or groups to the managers in charge of these areas.

Communications should generally not flow between sectors, and people not authorized to transmit should stay off the radio, with the exception of emergency messages. Again, as the incident becomes more complex, it may be necessary to move incident functions or geographic divisions onto separate channels.

Field communications (FieldCom) units offer additional capabilities for incident communications. The FieldCom unit can act as the dispatch centre on the scene of an incident, allowing dispatchers to concentrate on regular operations and have a single point of contact for the incident.

Messages flow between the FieldCom unit and persons on the

incident scene. When necessary, the FieldCom unit can contact the agency dispatch center. FieldCom units can also provide a means for all agencies on an incident to communicate through one central point.

One of the most common points noted after major incidents is different agencies' lack of ability to communicate with each other on scene.

The common expectation of messages to flow to a dispatcher via radio, be relayed by telephone to another agency dispatcher, then back to another unit is unrealistic. The dispatchers will probably be overwhelmed, and the telephone system may not be operational. An

interagency coordination channel between EMS, fire and police units is essential for major incidents.

Command officers should operate on the command channel while another person (command aide, scribe or communications officer) monitors the tactical channel.

Including dispatchers in all MCI and incident management training. Dispatchers set the tone for an incident. Those who remain calm have better control over field operations, and field crews will take cues from the tone and mannerisms of dispatchers.

While involving communications center personnel in planning for high-impact events, consider using dispatchers to staff the FieldCom unit. Remember that the dispatch center itself will probably be overwhelmed with radio and telephone messages, so additional dispatchers will be needed in that area.

Consider how to recall people who are off duty and how they will integrate into the dispatch center. Are there enough chairs and telephones?

Medical Control Communications

Depending on the structure of your EMS system, online medical control may be necessary before beginning some or all ALS procedures.

If your system operates under a comprehensive set of Standard Operating Procedures (SOP), you will rarely need online medical control during an MCI; however, if your system requires physician or nurse contact, someone in the treatment area will have to contact a base station for the required orders.

It is strongly recommended that all systems develop a set of protocols for use in mass casualty situations, where radio or telephone contacts for orders may be difficult or impossible.

Radio Procedures

Because virtually every paramedic, firefighter and police officer carries a portable radio, it is very important that everyone practice good radio discipline.

First, and most important, think before you speak. Do you really need to transmit this message over the radio? What exactly are you trying to say? Try to eliminate words or phrases that have no meaning, such as "be advised" and "at this time. " Remember to key your radio for one second before speaking to ensure the beginning of your message is not missed. If you do this every time you use a radio, the procedure will be ingrained in your behavior during high-stress periods.

Another essential radio procedure is to use plain text communication rather than radio codes. Radio codes can cause massive confusion or danger on major events. Neighboring agencies may use codes with vastly different meanings from yours. Every version of the Incident Management System requires the use of plain English radio traffic.

When faced with a dangerous situation, transmit the keyword Emergency. This message takes precedence over all other actions, and all radio traffic should cease until the emergency condition is corrected.

When conducting an MCI drill, make sure that everyone knows the keyword for a real illness or injury on the drill scene. Messages for actual emergencies that occur at an exercise are often confused with those of the drill itself.

One last note on radio traffic: Never say something over the radio that you wouldn't want everyone to hear. A good way to measure a department's professionalism is to monitor its routine radio traffic. What do the dispatchers and field units say, and how do they say it? The media probably monitor everything you say and have tapes of your radio traffic. Would you want your radio traffic played on the network news?

Contingency Planning

Although most agencies have implemented plans for major incidents, most of those plans don't consider what happens during a disaster.

Imagine an incident that is so massive it overwhelms all of your resources--not just your jurisdiction's resources, but those of your entire community. What would happen if the incident affected the infrastructure of your community? Consider your department's mass casualty or disaster plan, and try to imagine utilizing that plan without a radio system.

On virtually every disaster, available channels are overwhelmed with radio traffic. During many natural disasters, the infrastructure is damaged, resulting in a loss of transmitter sites, the dispatch center or power.

During explosive incidents, devices that transmit RF energy cannot be used within 1,000 feet of the site. These are only some of the ways that your primary radio system can suddenly be rendered inoperable.

It is essential to develop backup radio communications capabilities to prevent losing your primary radio system. Place secondary radios base independent of the primary system and connect them to a secondary dispatch center. Both of these systems should have independent backup power supplies, and everything should be as hardened and secure as possible. Hold regular drills where communications are shifted to the secondary system so dispatchers and field personnel will become familiar with the process.

Alternative Communications

Even the best contingency plans may not keep you from losing radio communications during a disaster. If you have not already done so, begin to explore some alternative means of communication.

Mobile data terminals, one possible secondary communications pathway, have the advantages of allowing two-way communications and decreasing voice communications, and they are difficult to monitor. However, there is a major expense involved in installing them in units, they cannot be used outside a vehicle, and they are vulnerable to loss of radio frequencies in the same way as voice channels.

Alphanumeric pagers can be used as an alternative to MDTs, and offer some significant advantages. Due to the relatively low cost, they can be

issued to every member of your department and carried at all times. They are also difficult to monitor, decrease voice communications, can be used on explosive incidents, and allow personnel recall during major incidents.

The pagers can also be configured with most computer-aided dispatch systems to transmit dispatch information and call times to crews, significantly decreasing the amount of voice traffic into the dispatch center. However, pagers do not offer two-way communication, and there is a monthly leasing cost.

Cellular telephone service has expanded significantly over the last several years. Cell phones offer an alternative means of two-way voice communications, but can only be used from one individual to another. They can be mounted in most emergency vehicles, providing a secondary means of communication if the radio system fails; however, monthly lease rates and usage costs can be expensive.

The media also present several problems with cellular phones. Not only can they monitor your messages, on major incidents, the media will occupy most of the available cells in the area, so you may have a difficult time getting service. Work with your local cellular provider to overcome this problem.

The local cellular or telephone company may be able to provide several other services to you during a disaster. Local telephone providers can set up landlines directly into a command post for long-term operations, but a mechanism for payment should be worked out in advance.

Landlines can provide a link between the command post and your community's Emergency Operations Center, reducing the need for radio communication.

Cellular phone providers often have mobile cellular sites for use on disasters. They can set up a van with a cellular tower and issue cell phones that are keyed directly to that tower. Both of these alternatives are for long-term incident use, and obtaining access to them should be preplanned.

Digital cellular phones have begun to develop service in major metropolitan centers, but the service is not reliable outside cities and interstate highways. This will improve as the service expands over time, and digital phones offer the privacy that traditional (analog) cellular phones do not.

One important note regarding an all-inclusive communications system: Having separate radio, paging and telephone capabilities prevents a single point of failure in your communication system.

In the event that all of your communications systems have failed, there is one method that always works--sending runners with messages from one officer to another. Although this method is slow and can only be used over a limited area, there are advantages.

The messages are guaranteed delivery, and are absolutely secure. Practice using runners in the event of communications failure so this method can be implemented quickly on an incident scene.

Conclusion for EMS Communications

Following are key points to remember:

- Preplan! Finding a way for police, fire and EMS units to communicate on scene. Make sure you can communicate with all of the EMS units near you, and practice doing it.
- Think about what would happen if your primary radio system died.
- Use alternative channels for incident communications, preferably repeated channels.
- Practice radio discipline. Think before you speak, and key your radio for one second before speaking. Use plain English rather than radio codes, and make sure everyone knows the procedure for emergency radio traffic.
- Using the right radios. It is preferable to have all the channels you will need in your portable radios, and make sure you have extra radio batteries available.

- The dispatcher sets the tone for the incident. Dispatchers who remain calm and keep control over system operations will make an incident run smoothly.
- Always remember that everyone is listening to what you say on the radio and how you say it, including the media.

Critique and Debriefing of the Incident

Whether an MCI response was real or a practice, it is imperative that all involved meet and talk about the incident afterward.

The primary focus of the critique is on what worked what did not work, and what could be better. All personnel should be honest and learn from the experience. A MCI/Disaster Plan is a dynamic document and should be modified when a problem is identified. Discussion leaders achieve the best results by encouraging both openness and constructive attitudes. The goal of the critique session is to learn, not to place blame.

Critical Incident Stress Debriefing

To a casual observer, the victims of an MCI are the people who were injured. However, the rescuers themselves can often become victims as well. The tragedy, the suffering, the extensive injuries and the unfairness of the situation may be replayed on the minds of the rescuers long after the disaster is over.

The resolution of emotional trauma may be more complex than the healing of physical injuries.

Critical incidents are extraordinary events that interfere, or have the potential to interfere with an individual's psychological ability to cope with stress. The concept of critical incident stress is often associated with large-scale disasters or MCI's. However, most critical events involve only one patient. A critical incident is defined as an event that exceeds the rescuer's ability to cope psychologically.

Certain events are classified as critical incidents automatically. These include:

- Death or serious injury of an emergency co-worker in the line of duty

- MCI resulting in serious injury or death
- Suicide of an emergency worker
- Death of a civilian as a result of emergency service or law enforcement operations.

The reactions of rescuers may range from simple anxiety, short-term depression, significant depression or even suicide. Rescuers may question their own actions and feel responsible for injuries or death that were beyond their control.

A formal system must be established immediately following the disaster to identify those responders with stress-related problems. This system must provide access to professional help. This system is referred to as a Critical Incident Stress Management System (CISM).

CISM is a structured group meeting that allows emergency and rescue personnel the opportunity to discuss their feelings and other reactions after the incident.

This is not psychotherapy or psychological treatment. CISM meetings are designed to reduce the impact of a critical event and to accelerate the normal recovery of normal people. This is not an operational debriefing. It is normal to suffer painful reactions following an abnormal event. An abnormal reaction occurs when such feelings are not shared.

Every EMS service should offer CISM or similar programs to personnel who encounter a critical incident. Many communities have formal debriefing programs with volunteers trained in CISM. In the event of an MCI or other critical incident these individuals are often mobilized quickly.

APPENDIX I – GUIDE TO EMS QUALIFICATIONS (BCAS)

Guide to EMS Qualifications

Patient Care Skills	**FR**	**BLS**	**ALS**	**ITT**	**AE**
Airevac Operational Skills				■	■
PEEP				■	■
Mechanical Ventilation				■	■
Nasopharyngeal Airway					■
Cardioversion					■
External Jugular Vein Cannulation					■
External Pacing					■
Intermittent Infusion Device (Saline Lock)					■
Needle Cricothyotomy					■
Needle Thoracentesis					■
Manual Defibrillation			■	■	■
Dysrhythmia Recognition			■	■	■
Drug Admin - ET, IO, Rectal			■	■	■
Endotracheal Intubation			■	■	■
FB Removal with Laryngoscope			■	■	■
Infusion Pumps			■	■	■
Drug Admin - IV, IM, SC, SL, Nebulized		■	■	■	■
Peripheral IV		■	■	■	■
Chest Auscultation		■	■	■	■
Glucometer		■	■	■	■
IV Maintenance		■	■	■	■
Traction Splint		■	■	■	■
Automatic Extenal Defibrillation *	■	■	■	■	■
Pulse Oximetry *	■	■	■	■	■
General Patient Treatments	■	■	■	■	■
Patient Assessment	■	■	■	■	■
* Not all FR agencies have Pulse Oximetry & AED skills available.					

APPENDIX II – GUIDE TO EMS DRUG DELIVERY (BCAS)

Guide to EMS Drug Delivery

Drug Name	FR	BLS	ALS	ITT	AE
Demerol					
IV Nitroglycerin					
Nitroglycerin Paste					
Pavulon					
Adenosine					
Atrovent					
Calcium					
Destrose 50%					
Heparin Infusion					
Lasix					
Morphine					
Procainamide					
Acetominophen					
Atropine					
Gravol					
Lidocaine					
Magnesium Sulphate					
Midazolam					
Racemic Epinephrine					
Sodium Bicarbonate					
Valium					
Glucogon					
Benadryl					
Dextrose 10%					
Thiamine					
Epinephrine					
Narcan					
Ventolin					
Nitroglycerin Spray					
Nitrous Oxide					
Dextrose Oral					
Oxygen					

GLOSSARY OF MEDICAL TERMS AND PHRASES

Abrasion	A scraping away of a portion of skin due to injury.
Acute	Sharp, severe or having rapid onset and short course, not chronic.
Alimentary Canal	The passage through which food passes, is digested in and from which it is absorbed into circulation by lymphatics and blood vessels. Consists of the mouth, throat, esophagus, stomach, small intestine and large intestine.
ALS	Advanced Life Support.
AMS	Altered Mental State (see mental status).
Anaphylactic Shock	State of collapse resulting from injection of or exposure to a substance to which a person is severely allergic.
Angina	Spasmodic, choking or suffocating pain. Almost exclusively used to denote angina pectoris, which refers to the heat.
Anoxia	Lack of oxygen.
Anterior	Describes or relates to the front part of the body, limbs or organs.
Anxiety	A state of mental or emotional disturbance.
Aorta	The large vessel which opens out of the left ventricle of the heart and carries blood to all of the body.
Appendicitis	Inflammation of the appendix resulting in abdominal pain, nausea and fever.

Arrhythmia	Any variation from the normal regular rhythm of the heart beat.
Artery	Blood vessels which carry oxygenated blood away from the heart to the tissues of the body, limbs and internal organs.
Arterial Hemorrhage	Bleeding from an artery. This blood is bright red and ordinarily flows in waves or spurts. The flow may be steady if the torn artery is deep or buried.
Asthma	A disease characterized by a spasm of the bronchial tubes, causing shortness of breath and wheezing.
Bacteria	In the strictest sense, refers to small micro-organisms exhibiting both plant and animal characteristics. Generally this term refers or is equal to "germs".
Benign	Not recurrent or progressive, not life threatening.
Bronchial Tube	Also called the *bronchus*, this term refers to the tubes into which the windpipes divide as well as to the divisions of these tubes throughout the lungs, the smallest being the bronchioles.
Cardiac Arrest	Sudden cessation of heart functions.
Cerebral	Pertaining to the brain (cerebrum).
Chronic	A recurring condition. Opposite of acute.
C.O. (Carbon Monoxide)	Colorless, odorless, poisonous gas found mainly in exhaust fumes of gasoline-powered motors.
COPD (Chronic Obstructive Pulmonary Disease)	A chronic breathing disorder characterized by barreled chest, pursed lips and continuous breathing difficulties.
Coma/Comatose	Profound unconsciousness.
Congestive Heart Failure	Heart fails to pump blood adequately; fluid backs up into the lungs and body organs. Often associated with arrhythmia, heart attacks and various other conditions causing deterioration of the heart muscle. Patient experiences shortness of breath, often has swollen ankles.

Consciousness	A person's state of wakefulness or responsiveness. Altered level of consciousness, any change from this normal state (anywhere from a little sleepy to comatose).
Contusions	Bruise or other traumatic injury in which the skin is not broken.
Convulsions	Involuntary contractions and relaxations of the voluntary muscles; are often violent and accompanied by unconsciousness.
CPR (Cardio-Pulmonary Resuscitation)	The act of attempting to bring the patient back to full consciousness through manual heart massage and lung inflation.
Cranial	Pertaining to the skull.
Croup	Viral disease characterized by swelling of the trachea below the area of the epiglottis, resulting in sudden difficulty breathing and a barking cough.
Crowning	In childbirth, the stage in which the baby's head can be seen.
C.V.A.	Cerebrovascular accident (see stroke).
Cyanosis	Lack of oxygen in the blood which causes the lips, bases of nails and skin to turn blue (gray or purple).
Dehydration	The loss of or deprivation of water from the body.
Delirium	A state of altered consciousness accompanied by disorientation, incoherent talk, hallucination and delusions.
Diabetic Ketoacidosis	Pre-coma state resulting from insufficient insulin. Unable to use sugar, the body burns its own tissue (fat, muscle, etc.) The ketoacids produced (acetones) are poisonous to the patient, making him increasingly ill.
Diaphoretic	Increased, excessive perspiration.
Diaphragm	The muscular wall that separates the abdominal cavity from the chest; the "midriff".

Dilate/Dilation	Swollen or expanded; made wider or larger.
Disease	Abnormality of body function or structure; not as a result of trauma or physical injury.
Disoriented	Confused; mixed up; usually involving loss of sense of time, perspective, relation to environment or others.
Distal	Remote from the body's center; opposite of proximal.
Dyspnea	Labored or difficult breathing.
Ectopic Pregnancy	Implantation and growth of the ovum outside the uterine cavity, commonly referred to as a tubal pregnancy.
Epiglottitis	Bacterial inflammation of the epiglottis, causing sore throat, croup cough, drooling, possible cyanosis and coma; may require establishment of airway by tracheotomy in severe cases.
Epileptic Seizures	Disorder of brain function. Abnormal firing of brain cells where a wave of cellular electrical activity results in simultaneous stimulation of multiple body activities, producing a seizure. **Focal** – convulsions tend to focus on one area or group of muscles, but may spread to other areas. **Grand Mal** – most severe type; convulsions are generalized and accompanied by cyanosis, frothing at the mouth, limited period of unconsciousness and disorientation. **Jacksonian** – convulsions that tend to be restricted to a certain area of the body, but move from a distal extremity to more central. **Petit Mal** – seizure consists of momentary unconsciousness, often appearing to be only a momentary blank stare. **Psychomotor** – seizure manifested by bizarre behavior often violent loud speech.
Esophagitis	Inflammation of the esophagus (the canal extending from the throat to the stomach.)

Expiration (Air)	The act of breathing air out of the lungs; exhalation.
Extremity	An appendage or limb of the body; especially the end parts such as the hands or feet.
Femur	The upper leg bone or thigh bone.
Fracture	A broken bone **Compound** or **open** – protruding through skin (usually with severe bleeding) **Simple** or **closed** – skin is not broken
Gangrene	Death or rotting of tissue on part of the body; caused by a failure of blood circulation due to injury, disease, infection.
Gastritis	Inflammation of the stomach. The patient can exhibit abdominal pain, chest pain, nausea and vomiting.
Gastroenteritis	Inflammation of the stomach and intestinal tract usually caused by a virus (called the stomach flu by lay persons).
GSW	Gunshot wound.
Head Tilt/Chin Lift	Maneuver for opening the airway of an unconscious victim.
Heimlich Maneuver	Technique for removing a foreign body from the trachea.
Hematoma	A swelling caused by a pocket or collection of blood outside of the blood vessel.
Hemoglobin	The iron-containing pigment of the red blood cells.
Hemorrhage	Abnormal internal or external discharge of blood.
Hiatal Hernia	Protrusion of a portion of the stomach through the diaphragm.
Hives	Swollen eruptions of very itchy spots on the skin, usually caused by allergies.

Hormone	Internal secretions carried by the blood stream or body fluids to parts of the body resulting in a physiological effects. Hormone production occurs in the main organs: pituitary, pancreas, ovary, testes, thyroid and adrenal.
Hyperbaric Chamber	Sometimes referred to as a "Decompression Chamber" or a "Pressure Chamber," this is a chamber in which oxygen is maintained at greater than normal atmospheric pressure. This device is used to treat carbon monoxide poisoning. (Carbon monoxide has an affinity for hemoglobin which is 200 times greater than that of oxygen. When the carbon monoxide enters the blood stream, it displaces the oxygen, causing damage to tissues and organs through the body. Pressurized oxygen is used to displace the carbon monoxide.) Also used to treat gangrene, decompression sickness (bends, and other conditions).
Hyperventilation	Increased inspiration and expiration of air as a result of increase in rate and or depth of respiration. Usually accompanied by marked anxiety. The syndrome may also produce numbness in both hands, lips and earlobes, chest pain, sense of impending doom; is benign.
Hyphema	Blood in the anterior chamber of the eye in front of the iris.
Hypoglycemia	Deficiency of sugar in the blood. Patient can exhibit restlessness, fatigue, irritability, combativeness and weakness. In more severe cases, alteration in mental state; coma and death may occur.
Hypothermia	Low body temperature.
Hypovolemia	Diminished blood volume, usually caused by hemorrhage or severe dehydration.
Inflammation	Tissue's reaction to an injury; characterized by four symptoms: redness, swelling, heat and pain.
Inspiration	Inhalation; the act of drawing a breath.

Insulin	A hormone which regulates the amount of sugar in the blood by assisting in its processing in the body.
Intestine	The entire of the alimentary canal located below the stomach. Divided into the small intestine and the large intestine.
Jaw Thrust	A maneuver used to open airway when head/neck/spine injury is suspected.
Laceration	A tear or cut through the skin into the flesh.
Lethargy	Loss of energy; may have a physical or psychological cause.
Lymph	The fluid that circulates in the lymphatic vessels of the body.
Membrane	A thin, pliable layer of tissue that covers or lines an organ or body part; connects adjoining parts or structures; separates adjoining cavities of the body.
Meningitis	Inflammation of the spinal cord or the brain causing – among other things – intense headache, intolerance to light and sound and followed by delirium, convulsions and coma.
Mental Status (State)	A person's mental functioning; level of contact with reality regarding orientation, attention, memory, emotions, perception and judgment. AMS (Altered Mental State): confusion, lethargy, disorientation, depression, irritability, hallucination, paranoia, delusions.
MI (Myocardial Infarction)	Death of an area of heart muscle due to obstruction in blood flow to that area; a heart attack or coronary.
Migraine	Severe headache, usually beginning with disordered vision and followed by vomiting.
Motor Functions	Related to the movement of muscles; the sending of impulses from nerve centers to muscles.
Ocular Trauma	Injury to the eyeball (globe).

Paralysis	The loss or impairment of motor function in a part of the body.
PID (Pelvic Inflammatory Disease)	Inflammation of the tubes and ovaries. Causes fever and pain.
Pericarditis	Inflammation of the thin sac which surrounds the heart (pericardium). It can cause chest pain and fever. The sac may fill with fluid, preventing the heart from pumping properly. In advanced stages, it can lead to shock.
Perineum	The genital area.
Pleurisy	Inflammation of the membrane covering the lungs causing sharp pain, increased on inspiration of breath; is benign.
Pneumothorax	An accumulation of air in the chest cavity usually due to a wound penetrating the chest wall or a laceration of the lung. (Collapsed lung).
Postictal	A condition of limited disorientation which follows a seizure or convulsion.
Proximal	Near to the central part of the body; opposite of distal.
Psychomotor	Physical activity caused by mental processes.
Pulmonary Edema	Effusion of fluid into the lungs.
Pulmonary Embolus	A blood clot in the blood vessels feeding the lung; an infection of the lung.
Pyelonephritis	Bacterial inflammation of a kidney causing chills, fever, dull flank pain, frequency of urination.
Radius	The thicker and short bone of the forearm.
Recovery Position	Position used for an unconscious, breathing victim with no evidence of head/neck/spine injury.
Respiratory Arrest	Cessation of breathing.
Retina	The inner membrane at the rear of the eyeball; contains the light-sensitive rods and cones that transmit images back to the optic nerve.

Retinal Detachment	Complete or partial separation of the retina from the eyeball.
Ruptured Abdominal Aneurysm	Dilation of the abdominal aortic blood vessel to the point that it breaks or tears.
Seizure	Abnormal firing of brain cells. One cell triggers another cell, creating a wave of cellular electrical activity resulting in simultaneous stimulation of multiple body activities and functions: a *seizure*.
Shock	A depression of all body functions, especially blood pressure caused by lack of adequate blood circulation. Trauma nearly always produces some degree of shock, but it can also be caused by disease or illness.
SOB	Shortness of breath.
Spasm	An involuntary convulsive muscle contraction.
Spontaneous	Occurring unaided or without apparent cause.
Sternum	The chest bone in front to which the ribs attach; breast bone.
Stool	Waste matter discharged from the bowels.
Stroke (CVA)	Rupture of one or more blood vessels in the brain or a clot in the brain. It often results in partial or total paralysis.
Subarachnoid	The area below the middle membrane which encases the brain and spinal cord.
Subdural Hematoma	A blood clot between the outer membrane (dura mater) and the middle membrane (arachnoid) covering the brain and spinal cord, often depressing mental and motor functions.
Substernal	Beneath the sternum or breast bone.
Supine	Lying on the back.
Syncope	A fainting spell, loss of consciousness.
Tibia	The lower leg bone, shin bone.

Thoracic Aortic Aneurysm	Dilation of a main aortic blood vessel in the chest cavity.
Tourniquet	A bandage wrapped tightly around an extremity to arrest bleeding.
Toxic	Poisonous.
Trachea	The windpipe.
Tracheotomy	The operation in which the windpipe is opened from the front of the neck so that air may enter directly into the lower air passages.
Trauma	An injury (physical, emotional or psychological) inflicted by some violence or external force.
Unconscious	Temporarily deprived of consciousness; a condition usually dependent on some disorder of the brain; may be of various degrees.
Venous	Pertaining to the veins.
Viral	Caused by or pertaining to the nature of a virus.

DEFINITION OF EMD TERMS

From the National Association of EMS Physicians (NAEMSP), 1989

Emergency Medical Dispatching	The receipt and management of requests for emergency medical assistance in an EMS system.
Emergency Medical Dispatcher (EMD)	A specially trained public safety telecommunicator with the specific emergency medical knowledge essential for the appropriate and efficient functioning of emergency medical dispatching.
Medical Dispatch Center	An agency that routinely accepts calls for EMD assistance from the public and/or that dispatches pre-hospital emergency medical personnel pursuant to such requests.
Public Safety Telecommunicator	An individual trained to communicate by electronic means with persons seeking emergency assistance and with agencies and individuals providing such assistance.
Basic Telecommunications Skills	The generic body of knowledge and skills necessary to function as a Public Safety Telecommunicator whether performing specifically in the role of medical, fire, law enforcement, aeromedical park service dispatcher, or in any combination of these roles.
Medical Direction	The management and accountability for the medical care aspects for the medical care aspects of an EMD program including: 1) the direction and oversight of the training of the EMD; 2) development and monitoring of both the operational and the emergency medical priority dispatch protocol systems; 3) participation in EMD system evaluation; and 4) directing the medical care rendered by the EMDs.

Medical Control	The EMS physician(s) responsible for the provision of education, training, protocols, critiques, leadership, testing, certification, decertification, standards, advice, and quality control through an official authoritative position within the pre-hospital EMS system.
Medical Priority Dispatch System	A medically approved system used by a medical dispatch center to dispatch appropriate aid to medical emergencies, which include: 1) systematized caller interrogation; 2) systematized Pre-Arrival Instructions; and 3) protocols which match the dispatcher's evaluation of the injury or illness type and severity with vehicle response mode and configuration.
Pre-Arrival Instructions	Telephone-rendered, medically approved, written instructions given by trained EMDs through callers which help to provide aid to the victim and control of the situation prior to arrival of pre-hospital personnel.
Dispatch Life Support	The knowledge, procedures, and skills used by trained EMDs in providing care through Pre-Arrival Instructions to callers. It consists of those BLS and ALS principles that are appropriate to application by medical dispatchers.
Quality Assurance	The comprehensive program of setting standards and monitoring the performance of the clinical, operational, and personnel components of the medical dispatch center in relation to these accepted standards.
Risk Management	A sub-component of the Quality Assurance program designed to identify problematic situations and to assist EMS Medical Directors, dispatch supervisors, and EMDs in modifying practice behaviors found to be deficient by quality assessment procedures; to protect the public against incompetent practitioners; and to modify structural, resource, and protocol deficiencies

	that may exist in the emergency medical dispatch system.
Vehicle Response Configuration	The specific set of vehicle(s) in terms of type, capabilities, and numbers responding as the direct result of actions taken by the emergency medical dispatch system.
Vehicle Response Mode	The manner of response used by the personnel and vehicles dispatched which reflects the level of urgency of a particular required treatment or transport (e.g., use of emergency driving techniques such as red-lights-and-siren vs. routine driving).