GCC-EMT Program

Module One:
“WHAT IS A COMMUNITY FIRST RESPONDER”

(C-F-R) 48 Hours Basic Training

C-F-R MODULE 1

UNIT ONE

An Introduction to Prehospital Care

What are the Emergency Medical Services?

“Uniformed, professional prehospital care delivered to the sick and injured to secure public health and safety.”

The Hippocratic Oath

1. **The Hippocratic Oath is an oath historically taken by physicians.**
2. It is one of the most widely known of Greek medical texts.
3. In its original form, ***it requires a new physician to swear, by a number of healing gods, to uphold specific ethical standards.***
4. Of historic and traditional value, the oath is considered a rite of passage for practitioners of medicine in many countries, although nowadays various modernized versions are often used; the message delivered is still the same:
5. **Do No Harm permanently**.

DO NO HARM

Components of the Oath

- I will respect my teachers and the scientists, healers and physicians who brought us this craft of medicine.
- I will use my medical knowledge to help any and all who are sick or injured.
- I will spread of medical knowledge to any who wish to learn it.
- I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding outweigh the surgeon's knife or the chemist's drug.

Components of the Oath

- I will not be ashamed to say "I know not," nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.
- I will treat all patients regardless of their identity or income.
- I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know.
- Most especially must I tread with care in matters of life and death.
- Above all, we must not play God.

History of EMS: The Levant

- Emergency care on the battlefield has been rendered in different forms **since the beginning of recorded history.**
- During the period known as the Crusades both the Christians and Muslim armies developed methods to treat the wounded on the battlefield.
- Since that time leading up to the French Revolution in 1789

Dominique Jean, Baron Larrey (French; 8 July 1766 – 25 July 1842) was a French surgeon and military doctor, who distinguished himself in the French Revolutionary Wars and the Napoleonic Wars. An important innovator in battlefield medicine and triage, he is often considered the first modern military surgeon.

History of EMS: French Revolution

- The first use of “the ambulance” as a specialized vehicle, in battle came about with the ***ambulances volantes*** **designed by Dominique Jean Larrey** (1766–1842), Napoleon Bonaparte's chief surgeon.

- Larrey's projects for **'flying ambulances'** were first approved by the Committee of Public Safety in 1794.

- This was the first known use of horse carriage based medical extraction and care in the field.

- Napolean’s Armies eventually went on to invade virtually every nation in Europe as well as Egypt, the Levant and Russia.

History: Hospital based Ambulances

The first known hospital-based ambulance service operated out of Commercial Hospital, Cincinnati, Ohio (now the Cincinnati General) by 1865.

This was soon followed by other services, notably the New York service provided out of Bellevue Hospital which started in 1869 with ambulances carrying medical equipment, such as splints, a stomach pump, morphine, and brandy, reflecting contemporary medicine.

Bundesarchiv, Bild 102-11536
Foto: o.Ang. | April 1931

History of Emergency Medical Services

- Emergency Medical care developed during the **Napoleonic Wars**.
- Dr. Larrey was able to greatly reduce casualties and decrease recovery times of soldiers by transporting wounded soldiers from the battlefield by use of horse and carriage.
- Every subsequent major war added new components of what is now known as “Emergency Medical Services,” most notably those conceptualized during the **Vietnam War related to medical evacuation by helicopter.**
- **Over the 50’s and 60’s a rise in roadway accidents** lead to increased public health advocacy of developing a pre-hospital care system.


AMBULANCE ATTENDANT
TRAINEE
AMBULANCE ATTENDANT
TRAINEE

History of Emergency Medical Services

- It may seem like a given that when Americans call for an ambulance, a trained paramedic will be on board the truck to begin administering emergency care. But as recently as 50 years ago, this was not the case — ambulances were more like taxis to the nearest hospital.

- That all changed thanks to an ambulance crew recruited from a poverty-stricken black neighborhood in Pittsburgh, Pennsylvania, that operated between 1967 and 1975. They became the very first ambulance workers in the U.S. trained in advanced life support, setting the bar for generations of emergency medical technicians (EMTs).

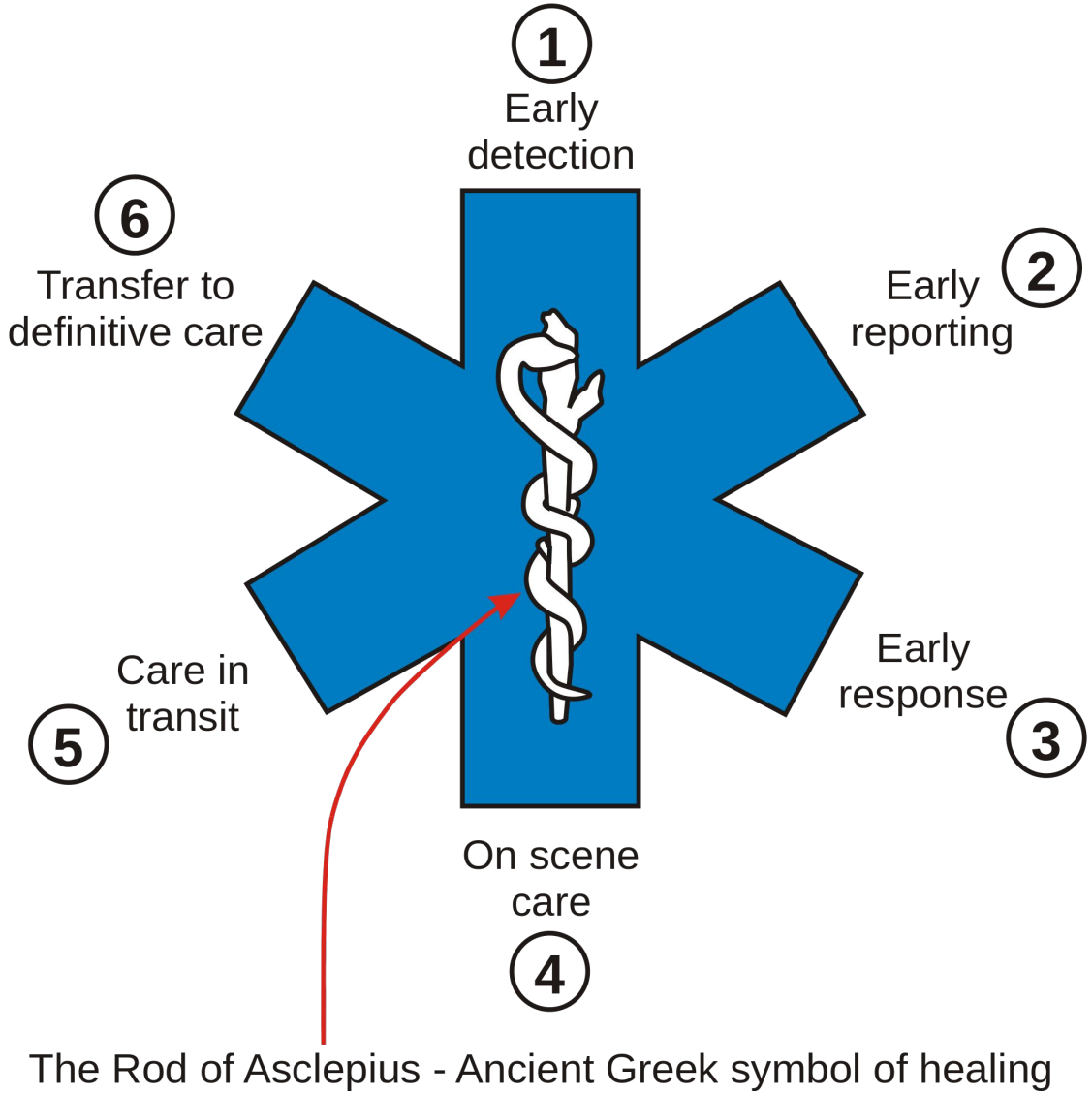
- **In 1967 in Pittsburgh 26 African Americans were trained by Dr. Peter Safar to become the first Paramedics in the United States of America.**

- By the late 1960's Modern EMS as we currently understand it began to take solid form built by physicians from **Pittsburgh, Dublin, Baltimore, New York & Seattle**.


EMERGENCY
NEW YORK CITY EMS
Paramedic Class 2
Jacobi Hospital 1977

History of Emergency Medical Services

- Most countries today have ‘ambulances’ of some form.
- **Less than 46 of 206 countries/ national entities have ‘prehospital care systems’ with functional, multi-tiered emergency medical services.**
- Most international prehospital care systems can be classified as **Anglo-American, Franco German, Military based or Mobile Integrated Care** in their configuration.
- Prehospital care is managed in varying configurations of private, public, hospital based and community volunteer agencies contributing staffing and ambulances.



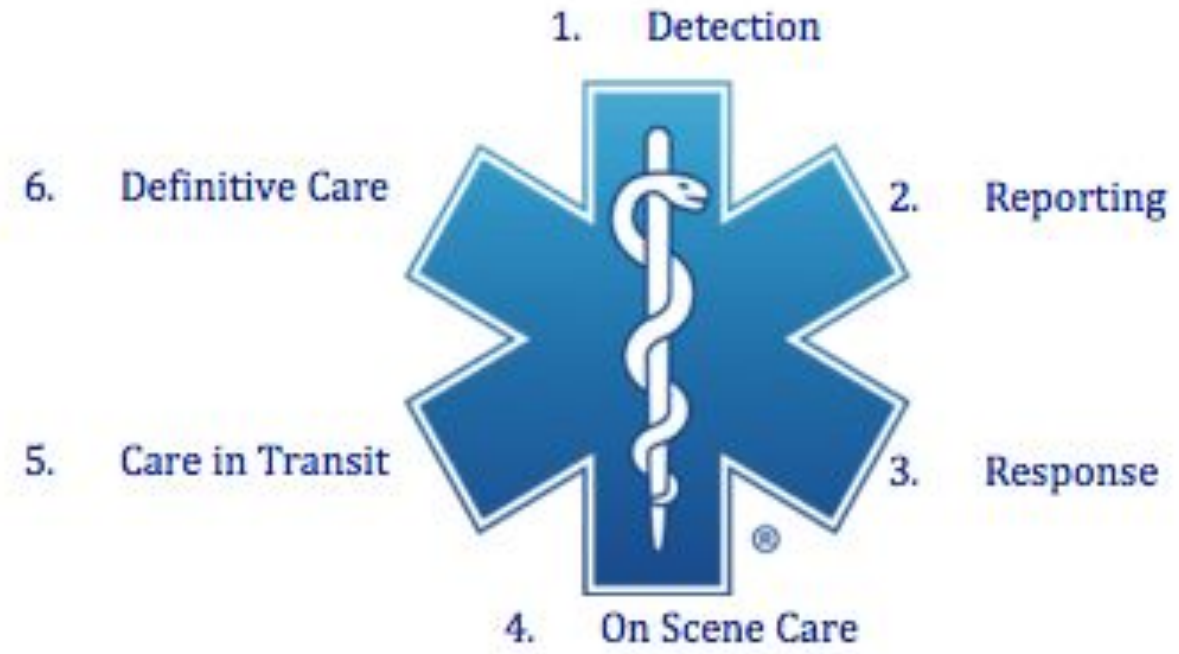
Star of Life: the International Symbol of EMS

What does the Star of Life symbolize?

1. Early Detection: *Public Awareness*
2. Early Reporting: *Effective Dispatch*
3. Early Response: *Timely Response*
4. On Scene Care: *Extending ER to field*
5. Care in Transit: *Extending ER to transport*
6. Transfer to Definitive Care: *Hospital*

What does the Star of Life symbolize?

1. Early Detection
2. Early Reporting
3. Early Response
4. On Scene Care
5. Care in Transit
6. Transfer to Definitive Care



What does the Staff with the Snake mean?

- Known as the **Rod of Asclepius**, it was taken from Greek mythology.
- Asclepius was the God of healing and medicinal arts.
- Snakes were commonly used in healing rituals.
- While the staff is a representation of the walking staffs used by physicians of the time.
- This symbol is easily confused with the **Caduceus.**

What is the Caduceus?

- The **Caduceus**, is also taken fro**m Greek mythology; it is associated with the God Hermes and is recognized as asymbol of** commerce and negotiation.
- **Although the Rod of Asclepius, which has only one snake and is never depicted with wings**, is the traditional and more widely used symbol of medicine, the Caduceus is sometimes used by healthcare organizations.
- Given that the caduceus is primarily a symbol of commerce and other non-medical symbology, **many healthcare professionals disapprove of this usage.**

Levels of Medical Training

- First Aid Providers (like a lifeguard)
- Certified First Responder (FF-CFR)
- Community Health Workers
- EMT-Basic
- EMT-Intermediate
- WEMT- Wilderness EMT
- EMT-HAZTAC (Hazardous Materials)
- EMT-Advanced (Military)
- EMT-Paramedic
- Community Paramedic
- Tactical Paramedic (normally PD-based)
- Rescue Paramedic (normally FD-based)
- EMT-P Critical Care Paramedic
- FP-C Flight Paramedic
- Paramedic Practitioner MS (Ireland, Canada, South Africa, UK)

IN HOSPITAL:

- **Residents**
- **CNAs, LPNs, MAs**
- **RTs**
- **RNs, NPs, Dr. RNs (Phd RN)**
- **PA – Physician Assistants**
- **MDs/DOs- (Physician Attending)**
- **MDs- Specialists**


COMMUNITY
FIRE & RESCUE

Table 1. **Leading causes of deaths and disability-adjusted life-years (DALYs) in middle-income and low-income countries**

Causes of deaths[a]	% of total deaths	Causes of DALYs	% of total DALYs
1. Ischaemic heart disease	11.5	1. Lower respiratory infections	6.8
2. Cerebrovascular disease	8.9	2. Perinatal conditions	6.7
3. Lower respiratory infections	7.3	3. HIV/AIDS	6.6
4. HIV/AIDS	6.1	4. Meningitis	4.6
5. Perinatal conditions	5.1	5. Diarrhoeal diseases	4.6
6. Chronic obstructive pulmonary disease	4.7	6. Unipolar depressive disorders	4.0
7. Diarrhoeal diseases	4.4	7. Ischaemic heart disease	3.5
8. Tuberculosis	3.4	8. Malaria	3.0
9. Road traffic accidents	2.4	9. Cerebrovascular disease	2.9
10. Malaria	2.3	10. Road traffic accidents	2.8
11. Hypertensive heart disease	1.7	11. Tuberculosis	2.6
12. Measles	1.6	12. Congenital anomalies	2.3
13. Trachea, bronchus, lung cancers	1.6	13. Chronic obstructive pulmonary disease	2.3
14. Self-inflicted injuries	1.5	14. Measles	2.0
15. Cirrhosis of the liver	1.4	15. Cirrhosis of the liver	2.0

[a] The causes of death for which evidence for saving lives with early intervention is available are shown with dark green background.

What is First Aid?

Any assistance given to any person suffering a sudden illness or injury, *with care provided to preserve life, prevent the condition from worsening, and/or promote recovery.*

What is First Aid?

- **The initial intervention of a serious condition prior to professional medical help being available**, such as, performing CPR while awaiting an ambulance. Also, the complete treatment of minor conditions, such as applying a bandage to a cut.
- **First Aid** is generally performed by the layperson, with many people trained in providing basic levels of first aid, and others willing to do so from acquired knowledge.


Ranger

Certified First Responders (CFRs)

- CFRs are the first line of response to emergencies providing the most basic of life support skills i.e.
- **Oxygen administration, Bleeding control, spinal immobilization, splinting and recording of baseline vital signs.**
- Traditionally performed by firefighters or civilian volunteers, CFRs stabilize patients until more advanced levels of care arrive.
- FF expansion into this medical service has been a result of the total national decrease in structural fires.

What are Community Health Worker?

- Typically Community Health Workers have **5 days to 4 weeks** of primary care focused medical training. This definition is HIGHLY VARIABLE across developing nations.
- Much of that training is in public health, distribution of needed primary care medications, and disease surveillance with little emphasis on basic life support.
- Community Health Workers typically do not advance further in their respective national health hierarchy. **They are product of a severe shortage of RNs and MDs, pushed out as a system by the WHO and NGOs to stop gap collapsing health systems.**
- Integration of Community Health workers with primary care is subjective to country and organization. In Iran, Cuba and China they are an important part of the existing state medical system; in most of Africa they are irregularly trained by NGOS.
- **Community Health Workers scope of practice is highly variable.**

What is an EMT?

- Emergency Medical Technician (EMT)
- An Emergency Medical Technician is a frontline provider of pre-hospital system in most of the the developed world. Typically and EMT has **three months of didactic medical training via 324 classroom and practical skill hours.**
- Most ambulances in the **Anglo-American system** are staffed with either 2 EMT-B or 1 EMT-B and 1 EMT-P.
- EMTs can upgrade to EMT-Paramedic **via an addition 1-2 years of classroom and field training.**


MISERICORDIA SERAVEZZA
ORION
In memoria di GUIDO D'ANGIOLO,
ANGELICA TOGNOCCHI e ALESSANDRO FORTINI
1 Dipartimento
1 Emergenza
8 Urgenza
DIESEL
INFERMIERE

What is a Paramedic?

Paramedics (EMT-Ps) have 1-4 years of training

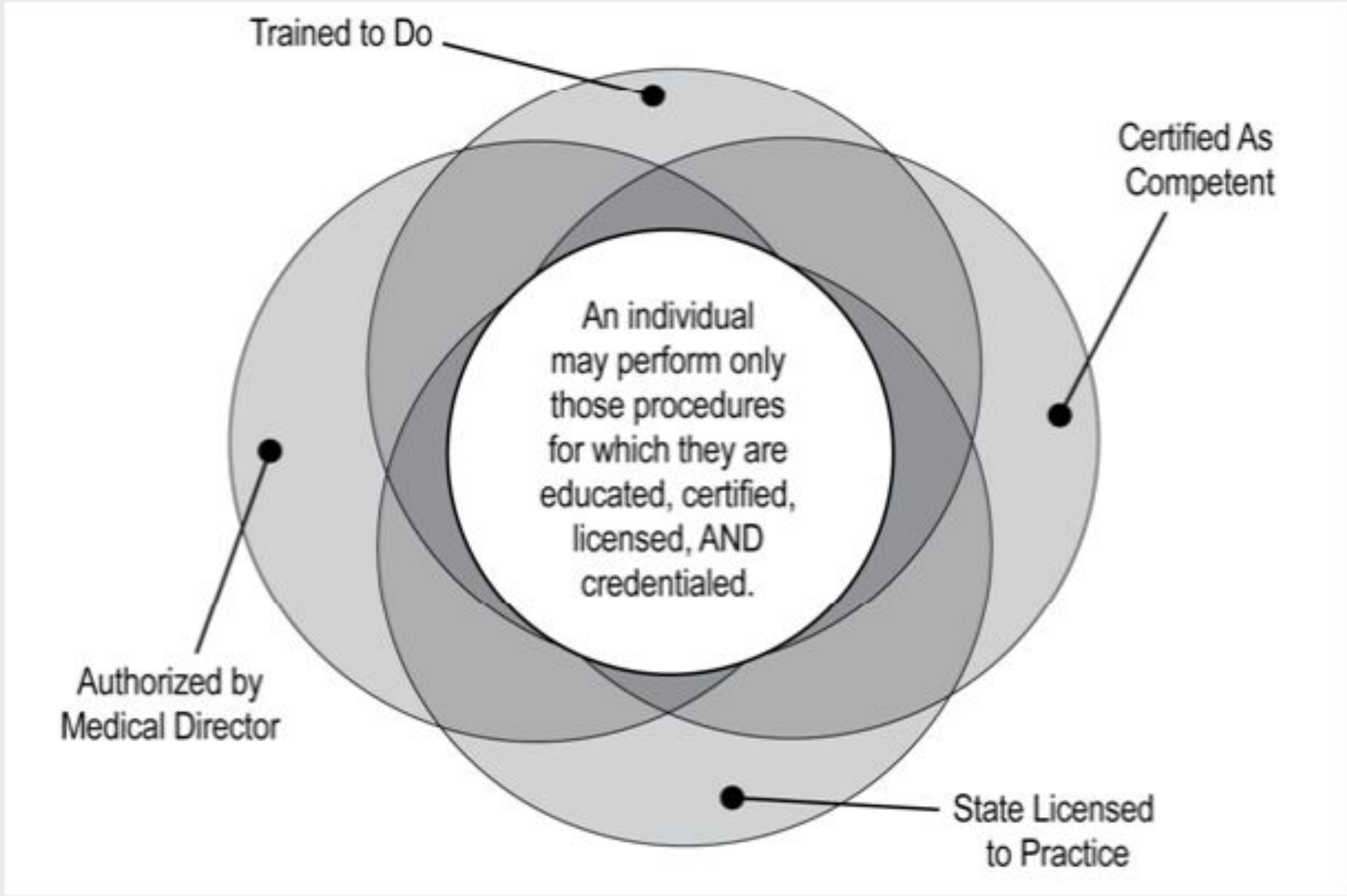
Also called Advanced Life Support (ALS)

Paramedics administer up to 200 types of medications via various routes, perform advanced airway management (ET intubation), synchronized cardioversion, packing and cardiac monitoring.

They are able to render treatments based on **STANDING ORDERS** & **MEDICAL CONTROL OPTIONS.**

Professional Attributes

- We have a **duty to act to care for others who are sick or injured**
- We **put the patient's needs as a priority without endangering self**
- We **maintain professional appearance and manner**
- We **perform well under pressure**
- We **treat patients and families with understanding, empathy, respect and compassion**
- We **respects patient confidentiality**
- We **contribute to public health and safety**


Trained to Do
Certified As Competent
An individual may perform only those procedures for which they are educated, certified, licensed, AND credentialed.
Authorized by Medical Director
State Licensed to Practice

Roles & Responsibilitie

- **Personal safety**
  - Safety of crew, patient, and bystanders
- **Care of sick & injured patients**
- **Patient assessment**
  - Patient care based on assessment findings

Roles & Responsibilities:

- Lifting and moving patients safely
- Administering medications and performing life saving interventions
- Transport and transfer of care
- Record keeping/data collection
- Patient advocacy/confidentiality

“Load & Go” vs. “Stay & Play”

7 Systems of EMS delivery

- **ANGLO-AMERICAN (10%)**
- **FRANCO-GERMAN (10%)**
- **FULLY INTEGRATED (0.1%)**
- **PUBLIC-PRIVATE HYBRID (20%)**
- **INFORMAL (2.9%)**
- **VOLUNTEER (57%)**
- **NOT HAVING ONE IN PLACE**

(MOST NATIONS)

The Global Situation

- **Countries that have a conventional/ modern medical hierarchy normally DO NOT use community health workers.**
- Most developing nations **do no**t have formalized EMS systems.
- Most developing nations **do not** have prehospital care systems at all, or they have limited pre-hospital care outside of major cities. Or provide ambulance services only to the wealthy via the private sector.
- Combinations of private, public and ngo health services with a large NGO sector deteriorate centralized regulated health systems.
- Often transport to a medical facility is completely unavailable or accomplished with little to no ambulance support.
- Ambulances rarely have trained medical personnel.

Informal/Irregular

- Countries that have a two dimensional medical hierarchy normally use community health workers, nurses and doctors. This type of system does not have a sophisticated EMS system or EMS system at all.
- **Most developing nations do not have a prehospital care system at all and if they do, it is very limited outside of major cities.**
- Combinations of private, public and NGO health services with a large NGO sector deteriorate centralized regulated health systems.
- Often transport to a medical facility is completely unavailable or accomplished with little to no ambulance support.
- “Ambulances” rarely have trained medical personnel.


AMBULANC

Volunteers

- Commonly used in remote or rural areas
- Civilians gain first aid and EMT training to respond to emergencies in their personal vehicles and pre-positioned ambulances (normally at Firehouses)
- Volunteers support the EMS system where need is great and resources are stretched thin
- Volunteers are critical to mass casualty/ disaster incidents when system is overwhelmed
- Volunteers are usually compensated with tax credits, free access to training or non-monetary perks.


MANGO
חובש
חובש

Traditional Outlook:

Civilians gain first aid and EMT training to respond to emergencies in their personal vehicles and pre-positioned ambulances (normally at Firehouses)

Volunteers support the EMS system where the need is great and resources are stretched thin

Volunteers are critical to mass casualty/ disaster incidents when system is overwhelmed

Volunteers are usually compensated with tax credits, free access to training or non-monetary perks.


101
۱۲۵
آتش نشان داوطلب
سازمان آتش نشانی و خدمات ایمنی
شهرداری تهران
(C) Martin Yhlén

Public-Private Hybrid

- Due to **Privatization** (contracting social service to the private sector), governments often pay private companies to deliver EMS services, particularly in smaller towns and cities.
- 911 dispatch in most large urban cities is coordinated by a municipal authority. In large urban systems public (tax funded), private (corporate financed), hospital based (NGO, private or charity) and volunteer ambulances participate as Voluntary Units. But all participate together.
- That means that even though different arrangements are being used to fund the ambulances; they are united in their protocols and 911 dispatch system.


BRANFORD
FIRE
1644
DEPARTMENT
CONN.

Franco-German

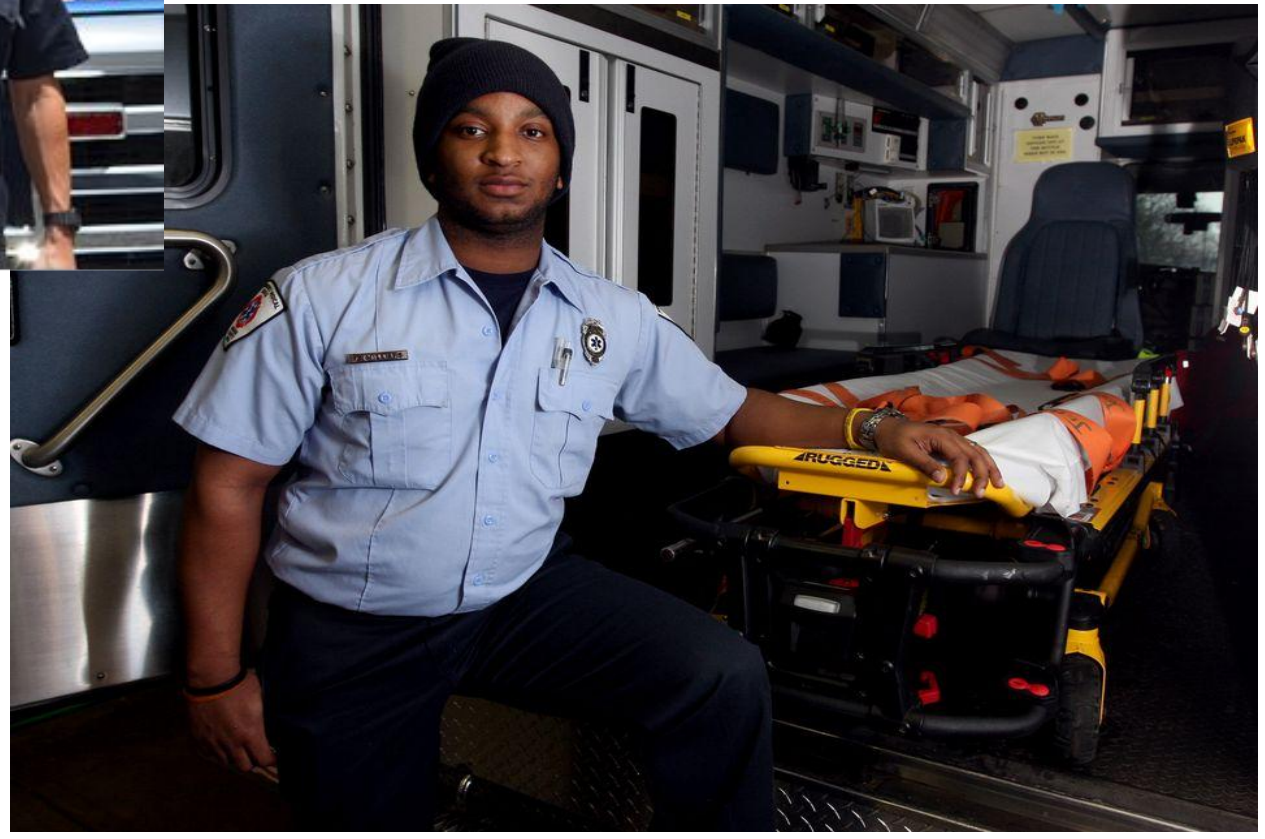
- Utilizes ambulances staffed by nurses and doctors
- Supported by nurses specialized as paramedics
- Medical Control by a MD in the field
- Nurses training 4-6 years
- Physicians training 6-10 years
- Places emphasis on field stabilization
- Bringing the ER to the patient


EMS

Anglo-American

- Utilizes ambulances staffed by Basic Life Support level EMT-B or Advanced Life Support level Paramedics.
- Supported by firefighter CFRs.
- Medical Control by a physician in a hospital.
- Basic Life Support training 3 months.
- Advanced Life Support training 1-2 years.
- Places emphasis on rapid transport.


COUNTY
EMS
AMBULANCE


RUGGED

Integrated (Israeli)

- **Utilizes ambulances staffed on all levels of medical hierarchy as appropriate to situation.**
- Medical Control by either a physician in the field or via medical control. Relies on high levels of community training and preparedness.
- CRF, CERT, EMT-B, EMT-I, EMT-A, EMT-P and CC Paramedic
- Nurses (RN) training 2-6 years. Physicians training 6-12 years.
- Fully integrated progression throughout hierarchy.
- Places emphasis on non-silo response, appropriate resource alignment and full integration of the health service and the military .

Coordinated Continuum of Care

1st Phase - Activation of an EMS system

2nd Phase - Arrival of Prehospital care

3rd Phase - Delivery to Facility

4th Phase - Transfer to Definitive care

5th Phase - Rehabilitation & Supported Recovery Services

EMS System Components

- **Access**
  - A number or alert system to call for aid/ assistance
- **Administration and Policy**
  - Government support and regulation to legalize the system
- **Protocols**
  - Advance directives under the supervision of medical control to assure high quality care consistent with modern medical practices.

EMS System Components

- **Medical Direction and Control**

  - Each EMS system must have a medical director. The Medical director is in charge of overseeing the wellbeing of the entire system.

  - Medical control may take place online via telemetry (call or radio to a physician) or offline via written protocols.

- **Quality Control and Improvement (QC-QI)**

  - Process used to ensure patient care meets accepted standards by reviewing all serious calls with crew.


E-ONE
E-ONE

EMS System Components

- **Outside physician consultation**
  - Urban, rural, and international specialists provide guidance to adjust the system to fit local needs.

- **State-specific statutes and regulations**
  - All EMS systems are subject to state regulations.

- **Appropriate Equipment**
  - Properly maintained equipment is essential.

EMS System Components

- **Ambulance Fleet**
  - EMTs must be familiar with the types of ambulances utilized and their functions.
- **Specialty Centers**
  - Focusing on specific and appropriate care for certain types of patients who need definitive care.
- **Inter-facility Transports**
  - Transportation of patients from one care facility to another.

EMS System Components

- **Community Paramedicine**
  - EMS as part of the whole continuum of care extending the resources of the ER to the field for follow up, re-hab and physician extension.
- **Working with Public Safety Agencies**
  - EMTs should understand the role of each agency specifically the police and fire services.

Additional EMS functions:

- **Disaster Response**
  - Readiness to aid in serious humanitarian crises at home or abroad.
- **Ongoing Training**
  - Quality of care depends on practicing, further training and investment in continuing medical education. EMTs should aspire to become paramedics, nurses and physicians.

Continuing Education

- Continuing education is required to renew certification
- Keep up-to-date on new procedures and issues on local, state, and international levels.
  - “Rapidly changing field.”
- Maintain knowledge and skills
  - **“If you don’t use them; you will lose them.”**

Coordinated Continuum of Care

1st Phase - Activation of an EMS system

2nd Phase - Arrival of Prehospital care

3rd Phase - Delivery to Emergency Department care

4th Phase - Transfer to Definitive care

5th Phase - Rehabilitation & Supported Recovery


SFFD

EMS System Components

- **Access**
  - A number or alert system to call for aid/ assistance
- **Administration and Policy**
  - Government support and regulation to legalize the system
- **Protocols**
  - Advance directives under the supervision of medical control to assure high quality care consistent with modern medical practices.


AEV
ARLINGTON
EMS SYSTEM
ARLINGTON
EMS SYSTEM

EMS System Components

- **Medical Direction and Control**
  - Each EMS system must have a medical director.
  - Medical control may take place online via telemetry (call or radio to a physician) or offline via written protocols.
- **Quality Control and Improvement (QC-QI)**
  - Process used to ensure patient care meets accepted standards by reviewing all serious calls with crew.


Oxygen
© Bould

EMS System Components

- **Outside physician consultation**
  - Urban, rural, and international specialists provide guidance to adjust the system to fit local needs.
- **State-specific statutes and regulations**
  - All EMS systems are subject to state regulations.
- **Appropriate Equipment**
  - Properly maintained equipment is essential.

EMS System Components

- **Ambulance Fleet**
  - EMT-Bs must be familiar with the ambulances utilized and their functions.
- **Specialty Centers**
  - Focusing on specific and appropriate care for certain types of patients.
- **Inter-facility Transports**
  - Transportation of patients from one care facility to another.

EMS System Components

- **Community Paramedicine**
  - EMS as part of the whole continuum of care extending the resources of the ER to the field for follow up, re-hab and physician extension.
- **Working with Public Safety Agencies**
  - EMTs should understand the role of each agency specifically the police and fire services.

EMS System Components

- **Disaster Response**
  - Readiness to aid in serious humanitarian crises at home or abroad.
- **Ongoing Training**
  - Quality of care depends on drills, further training and investment in continuing medical education. EMTs should aspire to become paramedics, nurses and physicians.

Continuing Education

- Continuing Education is required to renew certification
- Keep up-to-date on new procedures and issues on local, state, and international levels. Rapidly changing field.
- Maintain knowledge and skills

  - “If you don’t use them; you will lose them.”