



Basic Emergency Vehicle Operators Course

Ambulances / EMS Vehicles





Ambulance / EMS Vehicles

Objectives:

By the end of the module students:

Identify what a “safe” transport is

Will be able to identify inspection and maintenance procedures

Will be able to identify factors associated with the all phases of the call for service from: dispatch – arrival – transport.

Will be able to identify some of the unique handling characteristics of the vehicle.

Will describe what PPE and associated duties are required.





Ambulance / EMS Vehicles

Guidelines:

OPNAVINST 11320.27 (January 2008)

Navy Installation Emergency Medical Service (EMS) Program

OPNAVINST 11320.23F





Ambulance / EMS Vehicles

Goal

- **An ambulance operator's primary responsibility is the safe transport and arrival of the patient to the primary care facility.**
- **No medical emergency, however severe, justifies driving in a manner that risks loss of control of the vehicle or that relies on the operators of other vehicles or pedestrians to react ideally.**





Ambulance / EMS Vehicles

Safe Means:

Not risking a crash

Smooth Driving

Driving that will not stress the patient

Driving that will permit the crew to provide medical care to the patient.





Ambulance / EMS Vehicles

Inspection & Maintenance

The vehicle inspection and maintenance program should follow the manufactures guidelines

Additionally the driver should inspect the vehicle at the beginning and end of each shift

The ambulance crew should also conduct an inventory of the vehicles medical supplies, and ensure proper working order of any life-support equipment daily.





Ambulance / EMS Vehicles

Inspection & Maintenance

A local command or unit checklist should be developed and used to ensure the inspection process is completed daily.



EQUIPMENT CHECKLIST							
	OK	LOW	REPLACED		OK	LOW	REPLACED
Medical							
Pillows	_____	_____	_____	Soft roller self-adhering bandages	_____	_____	_____
Blanks & Sheets	_____	_____	_____	Aluminum foil, sterile & wrapped	_____	_____	_____
Portable suction apparatus	_____	_____	_____	Adhesive tape	_____	_____	_____
Bag-mask ventilation unit	_____	_____	_____	Burn sheets	_____	_____	_____
a. Adult mask	_____	_____	_____	Traction splint, limb-support slings, ankle hitch and traction strap	_____	_____	_____
b. Child mask	_____	_____	_____	Inflatable splints	_____	_____	_____
c. Infant mask	_____	_____	_____	Spine boards with accessories	_____	_____	_____
Oropharyngeal airways	_____	_____	_____	a. Short	_____	_____	_____
a. Adult	_____	_____	_____	b. Long	_____	_____	_____
b. Child	_____	_____	_____	Triangular bandages	_____	_____	_____
c. Infant	_____	_____	_____	Large-size safety pins	_____	_____	_____
Mouth to mouth airways	_____	_____	_____	Shears for bandages	_____	_____	_____
a. Adult	_____	_____	_____	Sterile obstetrical kit	_____	_____	_____
b. Child	_____	_____	_____	Poison kit	_____	_____	_____
c. Infant	_____	_____	_____	Blood pressure manometer, cuff, and stethoscope	_____	_____	_____
Oxygen equipment, tubing & masks	_____	_____	_____	Compartmentalized pneumatic trousers with inflation equipment	_____	_____	_____
a. Adult	_____	_____	_____				
b. Child	_____	_____	_____				
c. Infant	_____	_____	_____				
Mouth gags and tongue blades	_____	_____	_____				
Universal dressings	_____	_____	_____				
Sterile gauze pads	_____	_____	_____				
Other							
Fire extinguishing equipment	_____	_____	_____	Fire Axe	_____	_____	_____
Two-way radio for direct hospital communication	_____	_____	_____	Wrecking bar	_____	_____	_____
Warning devices	_____	_____	_____	Crowbar	_____	_____	_____
-triangular reflectors	_____	_____	_____	Bolt cutter	_____	_____	_____
-battery operated flares	_____	_____	_____	Power jack & spreader tool	_____	_____	_____
Telemetry equipment	_____	_____	_____	Shovel	_____	_____	_____
Extraction equipment	_____	_____	_____	Tin snip	_____	_____	_____
Wrench	_____	_____	_____	Two 50' manila ropes -	_____	_____	_____
Screwdriver	_____	_____	_____	3/4" diameter	_____	_____	_____
Screwdriver - Phillips	_____	_____	_____	Hard hat	_____	_____	_____
Hacksaw - (carbide) blades	_____	_____	_____	Safety goggles	_____	_____	_____
Pliers	_____	_____	_____	15' Rated chain with grab hook & running hook	_____	_____	_____
Hammer	_____	_____	_____				
Remarks:	_____						
Driver:	_____			Date:	_____		
Supervisor:	_____			Date:	_____		





Ambulance / EMS Vehicles

Calls for Service / Dispatched

Obtain all relevant information.

Description of the emergency

Address or other identifiers

Indication of priority / response code

Law Enforcement on scene, or enroute?





Ambulance / EMS Vehicles

Calls for Service / Responding to the Patient

Responding to the Patient

Obey rules of the road

Speed consistent to ensure safe arrival

Proper use of lights/siren consistent with host nation/state/local laws

Never drive the vehicle beyond your skills.





Ambulance / EMS Vehicles

Responding

Vehicle Handling Characteristics

Larger Vehicle

Heavier Vehicle (greater stopping distances)

Center of gravity (turns or evasive maneuvers)

Blind Spots

Following distance





Ambulance / EMS Vehicles

Responding (rollover potential)

Ambulance design makes them have a higher center of gravity than your normal passenger vehicle making them especially susceptible to rolling over.





Ambulance / EMS Vehicles

Responding

Exemptions vs. Policy

Signal Lights (required to stop or slow down)

R/R Crossings

Posted Speed vs. Response Speed

Return Trip





At The Scene:

Parking Considerations

Ambulances should be positioned for the most convenient access to patient/victim

Larger, heavier vehicles have a greater stopping distance than sedans

Following distances should be increased

Due to vehicle's higher Center of Gravity be particularly aware of any turns or sudden evasive maneuvers.





Ambulance / EMS Vehicles

At the scene

Ambulance should be positioned to minimize disruption to any traffic and be protected from damage.

Other Parking Considerations

- Always set the parking brake
- Be aware of the terrain: inclines, declines, potholes
- Stretchers have wheel to





Ambulance / EMS Vehicles

At the scene

Parking Considerations

If more than one ambulance is at the scene, they should be parked in the head and tail position.

Be aware of where the FD will lay hose.





Ambulance / EMS Vehicles

Departing the scene

The ambulance should not leave the scene until:

The patient is secured

All doors and compartments are closed and secured

The crew checks off with each other

Use assistance when available to get into traffic.





Ambulance / EMS Vehicles

Driving with a patient onboard

Avoid excess speed

Avoid sudden starts and stops

It can frighten the patient

Place a stabilized patient into shock

Disrupt ongoing medical treatment





Ambulance / EMS Vehicles

Driving with a patient onboard

In almost all cases, the transport should be conducted:

At speeds below the legal limit

With emergency lights activated and headlights on

With limited use of the siren





Ambulance / EMS Vehicles

Driving with a patient onboard

In almost all cases, the transport should be conducted:

Obey all stop signs and signal lights

Coming to a Full Stop at all railroad crossings

Using “Due Regard”





Ambulance / EMS Vehicles

Driving with a patient onboard

There are certain medical conditions that may require “emergency mode” transport.

Stop breathing

Heart failure

Uncontrolled excessive bleeding

Complicated impending child birth

These only constitute about 5 – 7 percent of the total.





Ambulance / EMS Vehicles

Driving with a patient onboard

In any of these cases, the ambulance should proceed to the hospital as quickly and safely as possible.





Ambulance / EMS Vehicles

NHTSA Guidelines

Transporting Children

Always check with manufactures guidelines

Departmental Policy

DOT recommendations

Parent in the back may calm the child

THE DO'S AND DON'TS OF TRANSPORTING CHILDREN IN AN AMBULANCE



Approximately six million children are transported by emergency medical services (EMS) vehicles each year in the United States. There are risks of injury associated with transport that can be minimized. An ambulance is NOT a standard passenger vehicle. Unlike the well-developed and publicized child passenger safety standards and guidelines, specifications for the safe transport of ill and injured children in ambulances are still under development. Standard automotive safety practices and techniques cannot be applied directly to EMS vehicle environments due to biomechanical and practical differences. Caution is encouraged in the application of passenger vehicle principles to ambulances and in the utilization of new and unproven products.

The Emergency Medical Services for Children (EMSC) Program supports efforts to improve the safety of pediatric patients being transported in EMS vehicles. Through an EMSC grant, the Division of Pediatric Emergency Medicine at Johns Hopkins Children's Center is working to fill critical knowledge gaps and developing standards for pediatric EMS transport safety. Project results should be available in the year 2000.

A national consensus committee, sponsored by the EMSC Program, is reviewing current EMS child transportation safety practices. The group, which includes representatives from EMS national organizations, Federal government agencies, and transportation safety engineers, is developing preliminary recommendations for EMS providers until scientific research is completed.

There are certain practices that can significantly decrease the likelihood of a crash, and in the event of a crash or near collision, can

significantly decrease the potential for injury. These practices are listed below. Importantly, as is mandated in several states, the NHTSA Emergency Vehicle Operating Course (EVOC), National Standard Curriculum or its equivalent is an integral part of this transport safety enhancement.

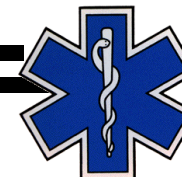
Pending research and consensus outcomes, the following guidelines for good practice should be observed when transporting children in EMS vehicles.

DO'S

- ✓ **DO** drive cautiously at safe speeds observing traffic laws.
- ✓ **DO** tightly secure all monitoring devices and other equipment.
- ✓ **DO** ensure available restraint systems are used by EMTs and other occupants, including the patient.
- ✓ **DO** transport children who are not patients, properly restrained, in an alternate passenger vehicle, whenever possible.
- ✓ **DO** encourage utilization of the DOT NHTSA Emergency Vehicle Operating Course (EVOC), National Standard Curriculum.

DON'TS

- ✗ **DO NOT** drive at unsafe high speeds with rapid acceleration, decelerations, and turns.
- ✗ **DO NOT** leave monitoring devices and other equipment unsecured in moving EMS vehicles.
- ✗ **DO NOT** allow parents, caregivers, EMTs or other passengers to be unrestrained during transport.
- ✗ **DO NOT** have the child/infant held in the parent, caregiver, or EMT's arms or lap during transport.
- ✗ **DO NOT** allow emergency vehicles to be operated by persons who have not completed the DOT EVOC or equivalent.





Ambulance / EMS Vehicles

Other Transportation Needs

Transporting Non-Patients

Departmental Policy

Not in the rear with the patient

Always buckled

Transporting the dead





Ambulance / EMS Vehicles

At the scene

Directing Traffic

This is a primary police function

Use cones to funnel traffic when ever possible

DO NOT turn your back on traffic





Ambulance / EMS Vehicles

At the scene

PPE

Personnel working closely or in the path of oncoming traffic shall wear approved reflective vest in accordance with Navy & Marine Corps directives.





REVIEW QUESTIONS

1) Because of their high center of gravity ambulance are more susceptible to this type of crash?

2) How should an ambulance be positioned when two or more are on scene?

3) Why does an EV driver/operator want to avoid sudden stops when transporting a patient?

4) In most cases, how should patients be transported?

