OBJECTIVES

- Using national data, examine the frequency and significance of ambulance collisions.
- Learn what contributes to the injuries and fatalities caused by an ambulance collision.
- Examine UMC EMS’ policies regarding driving and patient transport. If you volunteer or are employed by another service, can some of these policies benefit your service or do your service’s current policies offer more protection?
- Explore some of the state regulations regarding ambulance operations.

INTRODUCTION

Ambulances. They weigh thousands of pounds, have a massive passenger compartment blocking your view while driving, and rumor has it, are crash magnets for the general public.

The topic of ambulance safety is about as exciting as “Principles of Watching Paint Dry”, but a necessary one to increase your odds of making it home in one piece after shift. The most important concept to remember: Don’t make the patient’s emergency your own, especially while driving.
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Note regarding images: Some images are graphic and could not be properly credited without revealing the source/EMS service involved in the collision. Due to the high likelihood of a fatality during the incident, the identifying marks on the ambulance have been digitally removed. These images are presented in this CE for the sole purpose of education: The real potential for causing harm and death is out there and not just a reason for yet another ambulance operation policy.
“This won’t happen to me.” A look at the real numbers

In the United States and between 1992 and 2011, an average of about 4,500 motor vehicle collisions (MVCs) involved an ambulance in one way or another EVERY year. To put this number in perspective:

MORE THAN THIS LOT... EVERY WEEK!

According to the law enforcement incident reports:

- **65%** resulted in property damage only.
- **34%** resulted in one or more injuries.
- **1%** resulted in a fatality. But, this small percentage still accounts for **45 deaths every year!**
  - 25% of those deaths occurred inside of the ambulance.¹

Years ago, we didn’t track ambulance safety. With fewer than 6000 new ambulances sold every year compared to 60 million passenger vehicles,² why bother? Today, there are several organizations that collect data, educate, and improve safety for EMS providers and first responders. Instead of EMS personnel suffering serious injuries, dying, or even causing death --- completely against our profession’s purpose --- we now have the data and governmental push to improve ambulance safety and reduce risk while responding to calls, such as priority dispatch.

*So, what do these various agencies do?*
## Role of Federal Agencies Involved in EMS Safety

<table>
<thead>
<tr>
<th>Agency or Program</th>
<th>Role in Ambulance Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Highway Traffic Safety Administration (NHTSA)</strong></td>
<td>Collects, reports, and analyzes data on the characteristics of a crash involving an ambulance. Other functions of particular interest to EMS:</td>
</tr>
<tr>
<td></td>
<td>• Monitors ambulance defects that cause crashes.</td>
</tr>
<tr>
<td></td>
<td>• Promotes implementation of the National Strategy for EMS Culture of Safety.</td>
</tr>
<tr>
<td></td>
<td>• Works towards improving ground ambulance manufacturing standards.</td>
</tr>
<tr>
<td><strong>NHTSA’s Office of EMS in partnership with NHTSA’s Special Crash Investigations Program</strong></td>
<td>Cooperatively conducts more in-depth analyses of ambulance crash data to find one or more common threads in these incidents.</td>
</tr>
<tr>
<td></td>
<td>This data can be used for future recommendations and decisions.</td>
</tr>
<tr>
<td><strong>Model Minimum Uniform Crash Criteria (MMUCC)</strong></td>
<td>In 1998, the NHTSA and the Governors Highway Safety Association (GHSA) cooperatively developed a set of criteria for voluntary data collection involving crashes. It now involves multiple agencies from local to federal.</td>
</tr>
<tr>
<td></td>
<td>The purpose the MMUCC is to provide a standard reporting guideline so uniform, accurate data can be disseminated to the states and general public.</td>
</tr>
<tr>
<td></td>
<td>The most current version is the 5th edition (2017), which can be downloaded from the NHTSA site here. It’ll give you an idea of the reporting criteria and the amount of detail requested about an incident.</td>
</tr>
<tr>
<td><strong>National Strategy for EMS Culture of Safety</strong></td>
<td>A project funded by an NHTSA grant to promote safety, with a landmark publication by the same name distributed in 2013, outlining needs and strategies to promote a culture of safety in EMS. It is multi-faceted project, ranging from “just culture” practices to data reporting, along with recommendations to reduce harm and risk to EMS providers and their patients.</td>
</tr>
<tr>
<td></td>
<td>The National EMS Safety Council was established in 2015 to help educate and implement these recommendations across the nation.</td>
</tr>
<tr>
<td></td>
<td>The document can be downloaded from the ems.gov site.</td>
</tr>
</tbody>
</table>
What causes the injuries and deaths in an ambulance crash?

For 11 years (2001 to 2012), the National Highway Traffic Safety Administration conducted 32 investigations involving ambulance crashes that resulted in serious or fatal injuries to ambulance occupants. This does not include fatalities in other vehicles involved in the collision or pedestrians. The National Institute for Occupational Safety and Health (NIOSH) also conducted six additional investigations; The NHTSA analyzed all 38 reports total.¹

What they learned:¹

- Unrestrained ambulance occupants are at greater risk of sustaining severe or fatal injuries in serious crashes. The only thing that keeps you from launching through a windshield or bouncing around inside of a patient compartment is a seatbelt.
  - EMS providers did NOT use safety restraints in 80% of the investigated crashes. This includes both inside of the cab and patient compartment.

- In 71% of investigated crashes, the patients were not restrained by both a shoulder and lap restraint during transport.
  - Patients were EJECTED from cots in 44% of investigated crashes.

  Securing the patient with a shoulder belt on the stretcher adds more time and yet another annoying device to maneuver around. The fact is: You are the person responsible for their safety, and you’ll fail them in this regard by not securing all available safety belts.

  Would you allow someone to transport your son, daughter, or other young relative with just one shoulder strap secured in a car seat? So why would you do the same with your patient?

- Patients ejected from the cot are at greater risk of sustaining severe or fatal injuries than those who remain restrained to the cot. This is particularly true with the more secure stretcher restraint systems and patient compartment airbags integrated in new ambulances.
## Fatality Analysis Reporting System/NHTSA Ambulance Crash Data

### Year: 2011

<table>
<thead>
<tr>
<th>Fatality occurred:</th>
<th>Collision Type:</th>
<th>Total fatalities by ambulance:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single vehicle (example: Hit a tree, ditch, person)</td>
<td>Multiple vehicle (example: Car versus ambulance)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>Subset: Using lights &amp; sirens</td>
</tr>
<tr>
<td>Killed in the ambulance:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driver of unit</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Attendant, passenger, or patient in unit</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Fatality involving the other vehicle in the collision</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pedestrian killed by ambulance</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total fatalities in 2011:</strong></td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>


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### THE EASY PATH: HOW TO AVOID COLLISIONS IN THE FIRST PLACE

Not all collisions are avoidable. There will be the intoxicated, the “text distracted”, and Mother Nature to contend with and sometimes, so matter what you do, it wasn’t your day to win. However, a lot of the reported collisions did have opportunities for defensive driving or other operational tactics that could have been used to avoid the collision completely. We get used to driving these heavy beasts of EMS, and sometimes get lax on safety.

#### STERILE COCKPIT CONCEPT

One of the emerging concepts in ambulance operation safety is adopting the aviation industries’ requirement for a “sterile cockpit” during taxi, takeoff, landing, and when the altitude is below 10,000 feet (not cruising). This is not just a recommendation by the FAA, but a requirement taken very seriously by pilots and all flight crew members.
The “sterile cockpit” rule was first introduced in 1981 by the Federal Aviation Administration (FAA) after they reviewed several flight accidents and found the reason for the crash was due to unnecessary distractions during a critical portion of the flight. The defining part of the rule in U.S. FAR 121.542/135.100 "Flight Crewmember Duties" states:

"No flight crewmember may engage in, nor may any pilot in command permit, any activity during a critical phase of flight which could distract any flight crewmember from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties. Activities such as eating meals, engaging in nonessential conversations within the cockpit and nonessential communications between the cabin and cockpit crews, and reading publications not related to the proper conduct of the flight are not required for the safe operation of the aircraft."

One of the pivotal airline crashes that brought about this rule occurred in 1974, involving Eastern Airlines Flight 212 in Charlotte, North Carolina. Sadly, 71 out of 82 lives were tragically lost because of the pilots’ discussion on politics, rather than planning their approach into Charlotte Douglas Airport during foggy weather.\(^3\)

Following the investigation, NTSB issued a probable cause statement for the accident: “The flight crew’s lack of altitude awareness at critical points during approach due to poor cockpit discipline in that the crew did not followed prescribed procedure.”\(^3\) Seventy-one people who trusted their lives to the pilots and crew died. It’s not much different in an ambulance, although the number of passengers is smaller.

“Sterile cockpit!”. With EMS --- Good luck if you snap that phrase expecting no snickering, snorting, or just “that weird glare” from your partner. But, your partner does need to respect a well-intended, kindly given reminder that phone calls, texts, reading, and even political conversations need to be put on hold while driving.

No phone call should override the sterile cockpit concept. Any conversation in the cab should be limited to “mission specific” information, such as driving directions, essential radio communications with dispatch, etc.\(^4\)
**Lights and Sirens: A Necessary Evil?**

**Some history:** Early EMS services followed the traditional response used by fire service: Respond to every call with lights and sirens. Fire departments across the country followed this procedure since a small wastebasket or dumpster fire could quickly grow out of control and consume rooms or other property.⁴

On the other hand, a productive cough and fever for the last three days will probably not become life-threatening in just a few minutes. Although our EMS uses priority dispatch now to weed out emergent responses to a hangnail, there’s still plenty of EMS providers out there that respond to every call with lights and sirens, regardless of the chief complaint.⁴

Another reason lights and sirens were used by EMS in the past: Provider competence and training. It wasn’t long ago when “ambulance drivers” were only required to have minimal basic first aid training. Their scope of practice did not allow for any form of field diagnostics or to determine if the patient was stable. The only person who could do that was a physician and it was assumed, regardless of the patient’s presentation, that the patient could become unstable at any point in time.⁴ Rapid transport to the hospital was expected, and it wasn’t unheard of that the ambulance attendants rode up front, with no one at the patient’s side. Rapid transport was *the* expected service from an ambulance, and not much more.⁴

Even today, lights and sirens are a standard response mode for **every** call with some services. Their reasons may include one or even more of the following:⁴

- **Every call is assumed to be a medical emergency.** This falls back to the past belief system where “EMS providers don’t diagnose, and any patient can worsen”. Others include, “We are emergency medical services: If someone called 911, it is an emergency to them” or “Time is muscle/brain”… *even for a hangnail.*

- **Contractual requirements.** There are cities out there that require EMS to respond to every call within a certain amount of time, usually eight minutes. Financial penalties could result if non-compliant,⁵ and this requirement does not take in account the severity of the illness or injury or available resources. A common thread in this line of reasoning: “Our agency’s contract requires that we arrive in 8 minutes or less, and lights and sirens are essential to meeting these standards and avoiding financial penalties.”
• **Public expectations of EMS.** “Patients and families expect us to arrive with lights and sirens”, or cities may suggest, “We will get complaints from patients and families if we don’t use lights and sirens”.

• **EMS provider retention.** “Our agency will lose providers if they don’t get to drive with lights and sirens” or “EMS attracts adrenaline junkies, and lights and sirens is part of their attraction to the job.”

• **Insurance requirements.** Although completely unfounded and not heard as often now, “Our insurance company requires that we respond and transport with lights and sirens for safety.”

• **Resource optimization.** In some busy EMS agencies, it has been argued that there are not enough EMS resources to permit a non-lights and sirens response and transport. These agencies argue that the few minutes saved on each call optimizes the unit-hour utilization statistics and saves their city money. Without requiring a lights and sirens response to the scene and to the hospital, ambulance availability would be adversely affected. However, communities should not use a lack of EMS resources to justify unnecessary lights and sirens use with its inherent safety risks.

**In medicine, both the benefits and risks of every treatment need to be weighed and considered.** What kind of adverse effects can we expect from this medication, and what are the benefits of giving it? Even something as simple as supplemental oxygen offers both benefits and risks.

Lights and sirens should be looked at in the same way. For all intents and purposes, choosing to transport to the hospital with lights and sirens is a medical intervention decided on by the one actually providing the medical care to the patient. Its use offers both potential benefits and risks to the patient.

A critical patient who needs a surgeon more than a paramedic would benefit from expedient transport with lights and sirens versus a casual ride to the hospital. A patient with her hypoglycemia corrected by EMS and who is now fully oriented and appears stable would not benefit from rapid transport. But, you place her at greater risk for traumatic injury if you choose lights and sirens use. The risk of a collision increases with lights and sirens use.
It’s common for municipal contracts with EMS agencies to be structured around a requirement that ALS (Advanced Life Support EMS) arrival on scene within 8 minutes of dispatch.\(^4\) In these cities, financial penalties may result if this response requirement is not met.\(^4,5\)

For administrative personnel, time is a standard that’s easy and very objective to measure. But, it encourages EMS agencies to race to a scene with lights and sirens to beat an arbitrary response time may have disastrous consequences with crashes, injuries, and risk of harm to other drivers, not to mention sirens all day and night for the general public.\(^4\)

**A history of the 8 minute rule.** The contractual requirements for an ALS response time of within 8 minutes stems from a landmark study in 1979. The study examined cardiac arrest outcomes in King County, Washington (an area surrounding Seattle) with witnessed arrests. They found that the best rates of survival were associated with a Basic Life Support (BLS) response within 4 minutes and an ALS response within 8 minutes.\(^6\) Keep in mind that in 1979, only trained paramedics could defibrillate,\(^7\) and public-access AEDs or AED use by EMTs was very uncommon. However, Seattle already had 20% of their general population trained in providing CPR at this time,\(^6\) and the patients treated by bystanders were also included in the study.

**The critical 1%.** But, cardiac arrests only account for about 1% of all EMS calls.\(^4\) There’s questions about applying an 8-minute response requirement broadly to all EMS responses when cardiac arrest accounts for so few of the calls, but the National Fire Protection Association’s publication for career firefighters (NFPA 1710) and many jurisdictional EMS contracts and regulations still call for an ALS response time standard of 8 minutes 90% of the time.\(^8\)

**Meeting the eight.** For some cities, increasing the number of fire stations helps them meet this recommendation. For others, dynamic deployment strategies are used for EMS units. It can be argued that both have their disadvantages financially and specifically for dynamic deployment, on the crews.
At this time, no one strategy can compete with immediate chest compressions started by the 9-1-1 caller who’s already at the patient’s side, and preferably, with dispatch coaching and guidance.

**Lights, Sirens, and the General Public**

State laws and regulations vary as you cross borders, but most are designed around the Uniform Vehicle Code, which provide four general exceptions to motor vehicle rules for drivers of emergency vehicles. These include:

- Proceeding through a red traffic signal, stop light, or stop sign.
- Driving the wrong way in lanes of opposing traffic or on one-way streets.
- Exceeding the posted speed limit.
- Parking the vehicle in locations that would otherwise not be legal.

You are still required to drive with due regard and some common sense. The use of sirens and warning lights does not automatically give the right of way to the ambulance. These devices simply request the right of way from the other drivers.

Lights on an ambulance can be both a blessing and a problem. While it increases our visibility, the bright lights and glare at night combined with other emergency vehicles can block potential hazards from other drivers’ views. For example, the bright, flashing LED lights at night can make it difficult for other drivers to see EMS or law enforcement personnel crossing the street, as shown to the image in the left. Even firefighters in their reflective bunker gear are difficult to pick out in the image. A group of emergency vehicles “all lit up” may also obscure the outline of each unit. While lights on scene are needed to increase our visibility to others, be aware that at night, they can also be blinding.

**Why is it that some people just don’t seem to hear our sirens?** Information provided by the NHTSA documents the distance at which a driver in a parked vehicle with the engine running could hear the siren of an ambulance approaching at 25 mph under various conditions. The information is summarized on the next page.
### Perception of Sirens at Varying Distances

*Test car is parked with engine idling. Ambulance is approaching at under 25 MPH.*

<table>
<thead>
<tr>
<th>Siren mode</th>
<th>Window is</th>
<th>Cell phone</th>
<th>Radio</th>
<th>Distraction loudness in car</th>
<th>Distance of ambulance before siren was heard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall</td>
<td>Open</td>
<td>Off</td>
<td>Off</td>
<td>30 db (example: Whisper)</td>
<td>1500 ft</td>
</tr>
<tr>
<td>Yelp</td>
<td>Closed</td>
<td>Off</td>
<td>Medium</td>
<td>50 db (example: A quiet stream)</td>
<td>555 ft</td>
</tr>
<tr>
<td>T3</td>
<td>Closed</td>
<td>Off</td>
<td>Loud</td>
<td>55 db</td>
<td>418 ft</td>
</tr>
<tr>
<td>Air Horn</td>
<td>Closed</td>
<td>On</td>
<td>Loud</td>
<td>70 db (example: Vacuum cleaner)</td>
<td>283 ft</td>
</tr>
</tbody>
</table>

During 2015, the NEMSIS data set reported 15,729,516 EMS responses within the category of a 911 response (from the scene) and were transported to a medical facility. Of these, 12,033,680 responses (76.5%) used lights and sirens at some point during the response and 3,695,836 responses (23.5%) did not use them. The number of EMS emergency responses that were conducted without the use of lights and sirens likely represents the strong effect of emergency medical dispatch (EMD) call screening and prioritization.

Lights and sirens, on the average, shortens response intervals by 1.7 minutes to 3.6 minutes. These time savings have been found in urban, suburban, and rural settings. However, most of the studies’ authors have suggested that the time saved only impacts patient outcome in rare situations.

**Cardiac arrests.** There is evidence that the best chance for survival from out-of-hospital cardiac arrest (OOHCA) is to achieve return of spontaneous circulation (ROSC) at the scene. Manual chest compression quality declines during transport; Consider CPR effectiveness when compressions are performed in tight quarters on a travelling, turning, braking ambulance. Wampler et al. found a survival rate of only 0.69% in OOHCA patients who did not have any ROSC in the field. In addition, there were no survivors in this group if the cardiac rhythm was asystole. Their study population of over 2400 cardiac arrests was a collaborative effort incorporating OOHCA patient data from Cincinnati, Ohio and San Antonio, Texas between 2008 to 2010.

**SIDS.** Smith et al. studied and acquired outcome data for 110 infants in Los Angeles and Orange County, California with apparent sudden infant death syndrome (found lifeless after sleeping). The ROSC rate was only 5%, and none of these infants survived to hospital discharge. These researchers suggest that transporting these patients with lights and sirens is not worth the risks to the public or crew.

Many EMS agencies, including our own, have protocols for field termination of CPR for certain adult and even pediatric OOHCA patients who don’t attain ROSC on scene. Other EMS services are still required to transport every potentially-viable patient to the hospital with CPR in progress. The reasons for transport range from Medical Director confidence in the EMS, the education/certification level of the crew, or in some services, the ability to bill insurance for the resources consumed during the cardiac arrest.
The National Association of State EMS Officials® (NASEMSO) published its recent position statement on March 8, 2017 describing this organization’s recommendations for safe pediatric transport in an ambulance. A few important highlights of this statement have been paraphrased below:

**NASEMSO: Safe ambulance transport is as essential as maintaining an open airway, adequate ventilation, and pulses.**

EMS agencies should develop policies and procedures addressing pediatric transport, with a minimum of standards that include:

- Initial and continued training on the methods and equipment used to secure infants and children.
- The equipment should reduce forward motion and possible ejection. The primary focus should be securing the torso, with support for the child’s head, neck, and spine if indicated by the patient’s condition.

There’s a variety of situations that may require modifications to how the infant or child is transported. These include the ones listed below, but is not an all-inclusive list of the possibilities:

- The uninjured/not ill child. In some cases, this could be the patient. More commonly for EMS, this may be a pediatric passenger who accompanies the actual patient (example: A child’s injured mother).
- A pediatric patient who is injured or ill, but does not require intensive interventions or monitoring during EMS transport.
- A pediatric patient who does require intensive interventions or monitoring.
- The pediatric patient who requires spinal precautions ("immobilization” by NASEMSO definition) or should be transported in the supine condition.
- Multiple patients transported in the same ambulance. Example: Mass casualty incident.
Children and infants are not to be transported unrestrained (example: Held in arms or lap).\textsuperscript{11}

Provision for securing all equipment during a transport where a child is an occupant of the vehicle, with mounting systems tested in accordance with the requirements of SAE J3043;

- Only use child restraint devices in the position for which they are designed and tested. EMS agencies should have appropriately-sized child restraint system(s) readily available on all ambulances that may transport children. Additionally, personnel should be initially and recurrently evaluated and trained on the correct use of those restraint systems.

**LOOKING AT UMC EMS’ POLICIES PROTECTING PATIENTS AND STAFF**

This section examines some of the UMC EMS specific transport policies. For other EMS agencies, the hope is that a few of these can provide ideas for new or revising current policies. Or, yours may actually offer an improvement over policies adopted by UMC EMS. Our policies try to conform to the recommendations developed by agencies and associations who play a significant role in EMS operations. Some of our policies include the paraphrased ones below (per DPP #VO-1.0 Attachment, "Emergency Vehicle Operations"):

<table>
<thead>
<tr>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>All field personnel are expected to successfully complete an approved ambulance driving course with skills assessment. Note: At UMC EMS, the approved program used is CEVO4 (Coaching the Emergency Vehicle Operator™ course).</td>
</tr>
<tr>
<td>There will be an annual review of everyone’s driver’s license status.</td>
</tr>
<tr>
<td>If an accident occurs involving an ambulance or other UMC EMS vehicle, the will be an alcohol and drug test required per hospital policy.</td>
</tr>
<tr>
<td>No cell phone use while driving (that’s in bold!)</td>
</tr>
<tr>
<td>The Texas Motor Vehicle law mandates that all occupants of a motor vehicle must use seat belts and shoulder straps.</td>
</tr>
</tbody>
</table>
Most serious emergency vehicle accidents occur in an intersection, which may occur if the driver of the emergency vehicle assumes all traffic is automatically yielding. Remember, the lights and sirens are merely asking permission for the right of way.

START BRAKING SOONER. Because of the heavier weight of an emergency vehicle, it takes a longer distance to stop than a normal passenger car. Because of this greater braking distance, it is necessary to look far ahead and anticipate the need to stop in order to reduce reaction time. As soon as you see the brake lights of the vehicle ahead, cover your own brake pedal.

Front seat technician: (referring to the person sitting in the passenger seat of the ambulance cab)

The technician shall operate the communication system while enroute to the incident, leaving the driver free to operate the vehicle with as little distraction as possible.

It is the responsibility of the technician to guide the driver to the scene using the area mapping system.

When responding to a call, the technician should also watch for approaching traffic from the right at all intersections and advise the driver. The driver must ensure that traffic is clear from all directions before proceeding.

Lights and siren use:

When approaching any intersection and confronted with a green light, the driver will slow down and check the intersection before proceeding through.

Full stop. Whenever confronted by a steady red signal, blinking red signal light, or stop sign, the driver, responding to an emergency incident with warning lights and sirens, will come to a complete stop and clear the intersection before proceeding.

Yelling at an already confused motorist over the PA system is not the way to educate the public on the proper procedure to yield to an emergency vehicle.

The emergency vehicle shall reduce speed in a school zone to the posted speed limit or slower. (Watch for children)

Never pass a vehicle on the right unless it is impossible or unsafe to pass on the left. If you pass on the right, use extreme caution making sure that the vehicle(s) you are passing are aware of your presence.
Vehicles responding to an emergency response ("lights and sirens") will not exceed the posted speed limit by more than 10 MPH.

In school zones and areas with heavy pedestrian or non-motorized vehicle traffic (example: bicycles), reduce speed to the posted speed limit or slower.

Reduce speed if road conditions are poor/hazardous, during inclement weather, or where visibility is limited.

Maintain a safe following distance to other vehicles (approximately 4 seconds).

To determine if there is a four second following distance: Find an object at the side of the road (i.e. highway sign, light post, etc.) to use as a reference point. Whenever the back end of the vehicle you are following passes the object, begin to count: One-one thousand, two-one thousand, three-one thousand, four-one thousand.

The front end of the emergency vehicle should not pass the object until the completion of this count. If the front end of the emergency vehicle does pass the object before the completion of the four second count, you should slow your speed accordingly.

Before backing, the driver should complete a walk around of the unit to familiarize him/herself with all obstacles or hazards surrounding the unit, reducing the likelihood of a backing accident.

Turn signals shall be used appropriately whenever the vehicle is operated.

Emergency lighting should be used at the scene of an emergency call or whenever the vehicle is parked in the flow of traffic.

**WHAT THE STATE SAYS: YOU, YOUR PARTNER, AND YOUR SERVICE**

In Texas, the Department of State Health Services also applies several important regulations with ambulance operation, both for driving and also the EMS firm’s responsibility to keep the vehicle safe. Violation of these rules can lead to disciplinary action and a little unwanted fame on the Texas DSHS’ website at [http://dshs.texas.gov/emstraumasystems/disciplinaryactions.shtm](http://dshs.texas.gov/emstraumasystems/disciplinaryactions.shtm).

**Respect the lights and sirens.** 25 TAC §157.16(d)(15): “…operating, directing, or allowing staff to operate vehicle warning devices unnecessarily or inappropriately;”

**The ‘medic cannot be as intoxicated as the patient.** 25 TAC §157.16(d)(16) “…operating, directing, or allowing any person to
operate any vehicle on EMS business while under the influence of any substance that inhibits the mental or physical capacities of that person;”

**Don’t drive it like you stole it.**

25 TAC §157.16(d)(17) “…having been found to have operated, directed, or allowed staff to operate any vehicle while on EMS business in a reckless or unsafe manner and/or in a manner that is dangerous to the health or safety of any person;”

**Duct tape and Band-Aids are not acceptable repair materials.** 25 TAC §157.16(d)(18) “…operating, directing, or allowing staff to operate any vehicle that is not mechanically safe, clean, and in good operating condition;”

You made it! Be sure to successfully pass the quiz and complete the evaluation for this course to earn continuing education credit.

Questions? Please contact a member of the UMC EMS training staff.

Thank you!
REFERENCES


