Insights

Red Lights, Rollovers and Responsibility

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Red Lights, Rollovers and Responsibility

The evolution of EMS as an industry has been quite remarkable. In a few short decades we have gone from modified hearses to critical care units; from no attendant in the back of a truck to advanced practice paramedics; from providing barely bleeding control to pre-hospital ultrasound capability and from fixed stations to presumptive ambulance posting based on predictive call volume patterns.

However, one area of EMS provision has remained the "Galapagos Islands" of the EMS evolution, immune to the usual evolutionary progress of our advancements. The dreaded "Code 3" response.

In the days of limited, BLS care and long transport times, speed was essential to the survival of a great number of patients. However, thanks to forward thinking Medical Directors and system designers, most areas of the country have the benefit of pre-hospital ALS service and an acute care hospital bed for every 750 people or so.

If we as EMSr's are able to bring most of the great procedures and medical care available in the emergency department to the patient's living room, why do we need to risk the lives of the EMS personnel and the general public racing Code 3 to all medical calls?

A review of the **Ambulance Crash Log** (http://www.emsnetwork.org/artman/publish/ambulance-crashes.shtml) on the **EMS Network News** (http://www.emsnetwork.org) site is full of daily reports of ambulances and other emergency vehicles involved in crashes while operating Code 3. Over the past decade, several studies have been undertaken to put this issue into perspective. Here are some staggering statistics from this research:

- 12,000 emergency medical vehicle crashes occur each year in the United States and Canada as a result of Code 3 responses[1].
- 60,000 "Wake effect" crashes are caused annually from emergency units confusing and startling other drivers[2].
- Use of Code 3 responses reduces times an average of 43.5 seconds.
- 300 fatal ambulance crashes occurred between 1991 and 2000[3].
- 25% of firefighter fatalities are due to vehicle crashes occurring when the firefighter is either responding to or returning from an emergency incident.
- In the last 10 years, more than 225 firefighters have been killed in the line of duty as a result of a vehicle crash[4].

Here are a couple of other things to consider regarding EMS responses. Typically, only about 5% of all EMS calls are truly life threatening. These are usually trauma cases that need the immediate surgical intervention not available in the ambulance. 30 – 45% of the

EMS responses result in no transport at all. But yet, 90 − 95% of the EMS calls are answered using a Code 3 response, in many cases, by more than one emergency vehicle.

How about the use of Code 3 ambulance transports? Most Code 3 transports are contraindicated for several reasons. First, the clinical care available in the pre-hospital setting can appropriately stabilize virtually all medical emergencies during the brief transport time. Further, consider the 56-year-old patient complaining of 5/10 cardiac suspicious chest pains with ST elevation. Is it better for the patient to be provided a safe, QUIET, stress free 15-minute ride to the hospital (perhaps listening to Mozart on the stereo) while being administered oxygen, baby aspirin and nitro; not accelerating his myocardial oxygen consumption. Or, is it better for the patient to experience a 13-minute ride weaving around cars with a siren blaring at 100dbs and have the medic miss 3 IV attempts due to changing G-Forces in the ambulance? That would certainly increase myocardial oxygen consumption and make the extent of his possible infarct greater.

We all need to seriously ask ourselves some serious questions about how we handle EMS calls.

Do we know the actual time difference for your agency responding Code 3? In 2004, First Responder Fire Agencies in one typical community in Central Florida had an average emergency response time of 4:15 and an average non-emergency response time of 4:19. Even though only 51.2% of the patients were actually transported to the hospital, 98.02% of the calls received an emergency response by the First Responders.
Have we seriously looked at safer ways to save time such as reducing call processing and activation time? Street corner posting, system status management and mobile computing terminals all reduce response times and are a MUCH safer way to reduce response time. The use of encoding alert tones adds to the dispatch time and should be seriously evaluated for their effectiveness.

Is more than one emergency vehicle responding to the call Code 3? If so, why? We know that only 5% of EMS calls are life threatening, most fire alarms are accidental and most MVC′s, especially at congested intersections, do not have injuries or hazards.

In August 2004, the USFA published the ***Emergency Vehicle Safety Initiative***, (http://www.usfa.fema.gov/research/safety/vehicle.shtm#e) a report co-sponsored by the Department of Transportation's Federal Highway Administration. The purpose of the initiative is to enhance the safety of firefighters and other emergency personnel while responding and returning from emergencies. Hopefully, this initiative will be able to promulgate the necessary change in mindset and NFPA standards to stop risking it all by responding Code 3.

One of the principles of the Hippocratic Oath is to first, do no further harm. The sooner we all begin to finally realize that using red lights and sirens are hurting our employees, our patients and the public, the sooner we can improve our impact in the community (no pun intended!).

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[1] Hunt, Richard C.; *"Is Ambulance Transport Time With Lights and Siren Faster Than That Without?"*; Ann Em Med, Apr. 1995
[2] Ibid.
[3] CDC: Morbidity and Mortality Weekly Report, 52(08) Pub. **February 28, 2003;154-156**

[4] Paulson, David R.: "**Courses of Action**", Fire Chief Magazine, February 1, 2005