The University of Michigan (U of M) Medical Center is not only a Level 1 Trauma Center, but it is also an Organ Transplant Center. It is the job of the hospital based transport program to bring critically ill patients and the donated organs to U of M for further care and treatment. Survival flight started May 16, 1983 and over the last 23 years has progressed to transporting patients in three Bell 430’s, one fixed wing Cessna Citation II, and a ground ambulance transport system. There are 20 flight nurse/paramedics that make up the flight medical staff. My name is David Roberts, and it is my job as the cardiac guru guy of survival flight to keep the other 19 nurses up to date and proficient at transporting patients on cardiac assist devices. I acquired this job in 1999 when I was hired onto the flight team. My background prior to flight is 7 years of open-heart ICU experience from Michigan to Tampa, and then back to Michigan. I have spent many long hours taking care of patients on a multitude of cardiac assist devices.

When I joined the flight team in 1999, the two circulatory assist devices used in transport by survival flight were ECMO (Extracorporeal Membrane Oxygenation) and IABPs (Intra-aortic Balloon Pumps). The need for patients with end stage heart failure to receive the new technology that was being offered by U of M increased when the FDA approved these new implantable devices. When this occurred, Survival Flight began to experience an increase in cardiac transports. The U of M began to implant LVADs that patients could go home with, as a bridge to transplantation. The U of M was also approved by the FDA for the REMATCH study (randomized evaluation of mechanical assistance for treatment of congestive heart failure). These are the patients that would have implantable LVADs but would not be a transplant candidate; they would die if not for the assist device. With the increase in the civilian population having this technology, the need to transport these patient back to the University if anything should go wrong quickly arose.

Although it is rare that these devices have any problems, they can still happen.

These new gizmos and gadgets are being implanted by other hospitals as well. Many of our referring hospitals perform operations on patients that they predict will do well during a procedure, but they usually refer patients to the U of M that they feel are too complex for their resources. Should they run into problems in the cath lab, or in the operating room when they can’t get a patient off bypass, they will use these new gizmos to stabilize the patient. The problem lies in the management of the patient once the device is implanted. This is when they call U of M and say, “Come and get it”! Let’s take a look at the events and the algorithm of cardiac assist devices used in the management of a patient that survival flight has transported.

Case study: JR is a 45-year-old male that presented to his doctor’s office with a complaint of chest pain. He was transferred to the ER by EMS. Early the...
We have all been most fortunate to have just seen the very positive side of the way in which our society works to protect its members. The recent NTSB inquiry into the safety of air EMS transport is just such an example.

But just step back for a moment, and ask a simple question, “Were those 54 lives lost over three years of any more value than the approximately 54 lives lost over a single year in ground EMS transport?” Let’s ask another simple question, “Why is it so that there is oversight for the 54 air EMS fatalities, yet there is little or no oversight for ground EMS events?”

Sure, there has been an increase in the number of air medical transports... and there has also been an increase in the number of fatalities. And yes, the NTSB has a charter to investigate all aviation crashes, but their charter also states the following regarding the scope of their practice: The National Transportation Safety Board Subchapter III—Authority;

“§ 1131. General Authority
(a) GENERAL.
(i) The National Transportation Safety Board shall investigate or have investigated (in detail the Board prescribes) and establish the facts, circumstances, and cause or probable cause of –
(F) any other accident related to the transportation of individuals or property when the Board decides –
(i) the accident is catastrophic;
(ii) the accident involves problems of a recurring character”

Are ground EMS events recurring in nature? Certainly the 30 or more epidemiological papers published in the past 30 years are all saying the same thing – lights and siren use, and intersection crashes, etc., are clearly predictable recurring events. This was also evident in the engineering papers.

Given the clearly described hazards of ground transport, should we tolerate this dichotomy? Just because some of the EMS providers were airborne (when many work both air and ground), is that enough of a reason for them to have such quality safety scrutiny and support? And how does it feel to know that of those ground EMS fatalities, two-thirds to three-quarters of those who died had nothing at all to do with the transport, but were only bystanders who just happened to be in the wrong place at the wrong time? Unlike air EMS, where those involved in the transport knowingly take on the risk, and also that the fatalities in air EMS primarily are those involved in the transport not visa versa.

What do I say to Mr. Gregg Theune, who tells me that he wants no one else’s spouse to die like his wife Cindy did? Cindy was an ER nurse, who was driving home from work and was struck and killed by an emergency vehicle at an intersection. What can one say when Greg phones back a few weeks later and says there was just another fatality in his town involving an EMS vehicle and an intersection? I can tell him by all means, I’m not going to stop him from going to his Senator, but I also know that most Senators get such types of appeals from bereaved relatives for one reason or another on a daily basis, and little is likely to come of it. However, you and I and the NTSB should all know that these events are unlikely to result in any change.

But what about us, as professional healthcare workers, a profession of unique individuals who care more about life than many others, who train rigorously to be able to save lives, and work long hard hours to put that training into practice – and what about that doctrine, the doctrine of ‘do no harm’? We are here to save lives, not to take lives. We value your oversight to optimize the safety of your ground EMS practice, and to do whatever is the best and right action to have the NTSB address both ground and air EMS safety. It is after all the National Transportation Safety Board. We owe it to ourselves, to our patients, and to the public.

References:
3. Statutory Authority Title 49, Chap II, Subchap III, § 1131. General authority , (a) (1) (F) (ii) http://www.ntsb.gov/all/NTSB_statute.htm#1131
4. Levick NR, Mener D. Searching For Ambulance Safety: Where Is The Literature? Prehospital Emergency Care January / March 2006 Volume 10 / Number 1
For electronic reference materials and recorded presentations: www.objectivesafety.net