

We Don't Mean to Hurt Patients

Incidents of harm resulting from medical care are all too common. How can EMS reduce its share?

Have you ever made a mistake that hurt or killed someone you were caring for? I have. My partner and I had successfully resuscitated a 68-year-old man from ventricular fibrillation. We'd given him a bolus of lidocaine, and I'd set up a lidocaine drip before calling medical control. Our patient had a weak pulse and low blood pressure, and was starting to fight his tube and open his eyes in confusion. The physician I contacted congratulated us on our resuscitation, and suggested a small fluid bolus to raise his blood pressure and a dopamine drip if the fluid was not successful.

While I was on the phone, my partner, our paramedic student and the corresponders from the fire department loaded our patient onto the stretcher and moved him to the ambulance. I caught up with them just as they got to the ambulance and noticed the EKG showed flat-line asystole. Hoping the leads had just fallen off, I checked for a pulse. Finding none, we started CPR again. When I took the IV bags from the paramedic student to load the patient into the ambulance, I noticed there were only 50 of 250 ccs of fluid left in the lidocaine drip. I asked the paramedic student what happened. He



Photo by Dan Limmer

replied, "I heard you talking about a fluid bolus on the phone, so I opened up the IV."

We had resuscitated this patient, then put him back in cardiac arrest because of our error: the administration of almost 800 mg of IV lidocaine. Our second resuscitation attempt was not successful, and the patient was pronounced dead an hour later in the emergency department.

I wonder if you have any idea how hard it is for me to write about this mistake. When I talk with EMS

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providers about mistakes, most have a story or six they're embarrassed about. Most have not told anyone about the errors they've made or witnessed.

FIVE MILLION MISTAKES

Last December Don Berwick, MD, president and CEO of the Institute for Healthcare Improvement (IHI), set a 24-month goal: to protect patients from five million incidents of harm over the next two years. Research indicates that more than 15 million instances of medical harm occur in U.S. hospitals each year—a rate of over 41,000 a day. That means 35.2% of all people admitted to hospitals in America will experience some sort of injury while being cared for. The IHI defines medical harm as "unintended physical injury resulting from or contributed to by medical care (including the absence of indicated medical treatment) that requires additional monitoring, treat-

ment or hospitalization, or results in death."

Cutting five million instances of harm out of our healthcare system is a daunting task. To give hospitals a place to start, Berwick suggests these five areas:

- Prevent methicillin-resistant *Staphylococcus aureus* (MRSA) infection by reliably implementing sci-

entifically proven infection control practices throughout the hospital.

- Reduce harm from high-alert medications starting with a focus on anticoagulants, sedatives, narcotics and insulin.

- Reduce surgical complications by reliably implementing the changes in care recommended by the Surgical Care Improvement Project (SCIP).

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- Prevent pressure ulcers by reliably using science-based guidelines for prevention of this serious and common complication.

- Deliver reliable, evidence-based care for congestive heart failure to reduce readmissions.

What, you may ask, does this have to do with me and my EMS service? For one thing, my guess is that many of the infections and pres-

sure ulcers that are listed as “hospital acquired” get their start in the backs of our ambulances. Think about it: We treat or transport millions of patients each year. Many of the sickest patients admitted to hospitals start their healthcare journeys in the backs of our ambulances.

MRSA, often called *staph*, is a type of bacterium commonly found on the skin and in the noses of one

third of the healthy population. It can enter a patient’s body through breaks in the skin like cuts, abrasions or IV sites. Infections can be mild or serious. Children and people with weak immune systems are at greatest risk for serious infections. MRSA infections can cause everything from minor irritation to death.

The best way to prevent the spread of germs is for EMS providers to rigorously wash their hands frequently and disinfect all equipment that may come into contact with patients. It is estimated that 30% of in-hospital infections could be prevented with rigorous handwashing alone. According to the Centers for Disease Control and Prevention, “The main mode of transmission to other patients is through human hands, especially healthcare workers’ hands. Hands may become contaminated with MRSA bacteria by contact with infected or colonized patients. If appropriate hand hygiene, such as washing with soap and water or using an alcohol-based hand sanitizer, is not performed, the bacteria can be spread when the healthcare worker touches other patients.”

The reality of most EMS systems is that they do not have systems and practices in place that make it easy for providers to wash their hands before and after every patient contact. We need to design and implement systems so that every time we touch a patient, our hands are clean.

MRSA also can be transmitted through infected equipment. One study cultured the neckties worn by 42 physicians at the New York Hospital Medical Center of Queens and found that nearly half of them contained bacteria. Another study that looked at the stethoscopes of nurses and physicians in emergency departments found *staph* and 13 other pathogenic microorganisms. Analysis of the cleaning habits of ED staff found that 45% cleaned their stethoscopes annually or never. There are several pieces of equipment we use that touch multiple patients during the course of a shift.

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Backboards, stethoscopes, blood pressure cuffs, blankets and stretcher straps are not regularly decontaminated between patients in most EMS services. It is time for us to develop equipment, systems, practices and protocols to ensure we're not trans-

are "localized areas of tissue necrosis that develop when soft tissue is compressed between a bony prominence and an external surface for a prolonged period of time." The panel advises patients to reposition themselves every 15–20 minutes to

strapped to backboards for several hours. This is the perfect recipe for pressure ulcers. There are alternative spinal immobilization devices available that have been found to be more comfortable, and it's likely that they put less pressure on bony prominences than backboards. It's time to change our immobilization strategies to protect people from spinal cord damage without increasing their risk of pain and complications from pressure ulcers.

I'm sure there are other ways we can contribute to reducing instances of medical harm. For more information and to download "how to" guides for the IHI recommendations, see www.ihl.org. ■

Mike Taigman is a lifelong student who works with EMS systems worldwide, helping them provide better care for their patients, improve the health of their communities and create a better place to work for their employees. Contact him at www.miketaigman.com.

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mitting infections from one patient to another during the course of our care.

Another area where I think EMS can significantly contribute to achieving these healthcare improvement goals is preventing pressure ulcers. According to the National Pressure Ulcer Advisory Panel, pressure ulcers

prevent ulcer development.

Thousands of EMS patients are immobilized every day on backboards. These patients have soft tissue compressed between their bones and their backboards for long periods of time. With ambulance delays in emergency departments, it is not uncommon for patients to be

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