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#### KEY POINTS

- The modern trauma system is able to coordinate services to have definitive care in an hour
- Communication with in-hospital service may prevent complications
- Better pain management strategies would be welcomed by patients post injury
- Delirium causes a host of potential health, cost, and personal problems

The first 911 call was received at **0552**, for a bicyclist versus motor vehicle incident on A1A at the [Sebastian Inlet Bridge](#). The fire/ambulance station is 5 miles from the accident site and the EMS ground ambulance crew was at the accident scene at **0600**. After evaluating the patient a trauma alert was called at **0605**. Trauma alert based on ejection from vehicle and patient age. Highway A1A in the area has a 50 mph speed limit and vehicle hit cyclist from behind. By **0612**, the cyclist helmet was removed, a 16 and 18 gauge IVs were started, the patient was secured on a backboard, a cervical collar placed, and the patient was on 100% O2 by NRBM.

**0606** - Air ambulance notified upon trauma call alert

**0612** - Helicopter en route, 25 miles to landing zone

**0627** - Air ambulance crew at patient. Maintain status, iv's, O2 and transport 25 miles back to trauma center.

**0646** - Transfer care to trauma center

**0655** - Patient increasingly obtunded, having airway compromise. Trauma/ER attending makes decision to intubate. Challenging intubation with significant facial lacerations, bleeding (INR 3.2 on admission secondary to warfarin), avulsion of lower lip, [LeFort III facial fractures](#), and mandible fracture. Later converted to tracheostomy for facial reconstruction surgery.

Patient resuscitated with 5 L crystalloid, 2 units FFP, and 100 mcg neosynephrine bolus IV X 2. Anesthesiologist in trauma room. To imaging and OR.

Over the next several days, he received 25 total units of blood products

The above is the timeline and could have been written in the first person, as I was the patient. A 54 year old orthopaedic surgeon out for the normal Wednesday morning workout before hospital rounds and office.

First the modern trauma system, trauma transport, can and does work. There is good communication and coordination of services which serves the patient well. Basically, within one hour from injury to "stabilized" in the trauma bay with volume, pressors, and airway management. This case is a testament to the trauma center being ready to deal with injured patients and provide the needed interventions. Based on my experience working in non-trauma centers, emergency rooms, etc. in the 80's and 90's, the results for me would not be the same. Obviously the maintenance of airway was crucial, probably life-saving.

However, the attainment of trauma center status is difficult for physician staff. Funding, logistical support, increased work load, diminishing reimbursement, all lead to a contentious environment. Our hospital was no different. It can take many years to sort out problems and then maintain certification. None of this article should be construed as negative or critical. In my case, it is hard to imagine a better outcome unless I had not gone for a ride that morning.

While not every trauma alert can have an anesthesiologist in the trauma room at presentation, a solid working relationship and communication between services is essential. No one wants to inherit greater difficulty, instability, or other problems than necessary.

Multimodal anesthesia and pain management has been increasingly utilized in elective surgery. However, trauma has an unscheduled (emergent) nature, a variable presentation, and affects many different patient populations. As such, trauma may

not be as amenable as a total joint arthroplasty to study, develop protocols, or generate multimodal anesthesia routines. Whatever can be done to minimize CNS side effects would be beneficial.

My additional injuries included C2 and C3 fractures, right clavicle fracture, multiple bilateral rib fractures, bilateral hemothorax, right sided chest tube, T11 and L4 compression fractures, L1 and L2 burst fractures, right anterior column acetabular fracture, bilateral open knees with extensor mechanism disruption and the assorted scrapes, cuts, road rash. The point of this list is to show how difficult it would be for local, peripheral nerve blocks or regional techniques to deal with the areas of concern.

A hopeful future technique would be systemically administered but locally acting medication based on a marker or product of cell injury or cell death. Simple concept, very complicated result. Do all cell types and tissues release the same substance at the same concentration? How is it measured? Would this new hypothetical advancement work in all tissues, with the same efficacy, etc? It would be ideal to be able to titrate the effect since clinical information from diminishing or worsening of pain is important.

There were 7 episodes of interventional procedures or surgery in the first 5 days, with additional analgesics and amnestics administered in addition to the background meds. There was a concomitant TBI with intraparenchymal and subdural bleeds. With this combination, I have no recollection of the hospital, ICU, OR, or transfer to the rehab hospital -essentially the first 4-5 weeks.

While many have told me this is good, unfortunately, there can be unintended consequences. Pulling out intravenous lines and feeding tubes, trying to get out of bed, getting out of bed and falling. Additional restraints, and a net bed became necessary. In general, making everything more difficult and, obviously, not remembering instructions, education, therapy, etc.



This applies to non-trauma patients as well. We have all had the patient, frequently older, who postoperatively is significantly confused. This experience is not pleasant for the patient, family or the physicians. The question is always "why". Is there a genetic or physiologic predisposition, yet to be elucidated, which leads to this delirium? A single episode of postoperative delirium significantly increases length of stay and costs. In the current environment of emphasis on quality of care, this can lead to negative financial issues.

The ability to interrupt the pain pathway before involvement of the CNS and avoidance of the sometimes long opiate exposure of the multiply injured patient may be beneficial in reducing opiate tolerance and dependence. There are good people, with real injuries, who unfortunately end up with chronic narcotic-use issues.

I was fortunate! I do not like the term "lucky" because there are far too many people, such as yourselves, the nurses, EMS crew who work and train hard to be as good as they are for it to be termed "luck". Because of my experience, I am hoping for innovative solutions for the future.