

# THE Journal

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## High Time for a Trauma System

*Area experts believe a designated  
trauma system will save Arkansas lives,  
time and money*

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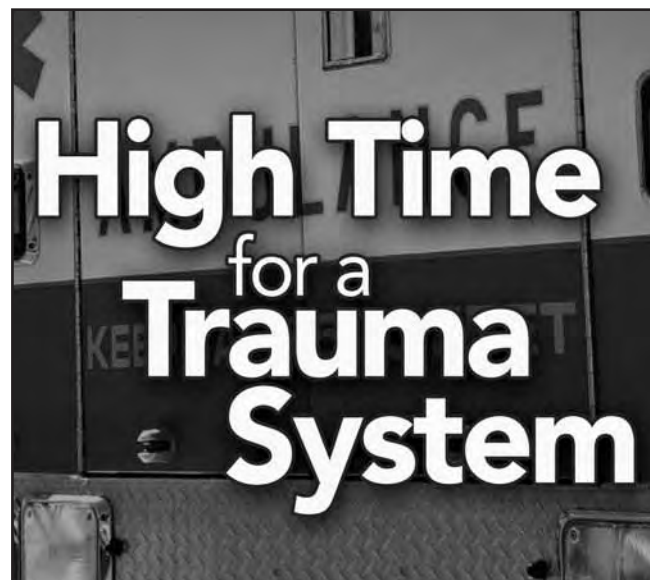
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## High Time for a Trauma System

When you're a trauma victim in Arkansas, you may be in for a long wait when it comes to receiving the treatment you need. Several area experts believe that, in our state, it takes far too long to get trauma patients to definitive care. Their answer to this problem is a functioning, fully funded statewide trauma system with full participation from Arkansas hospitals, trauma specialists and emergency personnel. Page 196 has more.

BY CASEY L. PENN

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# High Time for a Trauma System

*Area experts believe a designated trauma system will save Arkansas lives, time and money*

In August of last year, Dr. James Graham presented his case to legislators at the first Arkansas Health Summit. His argument was for a designated trauma system in Arkansas. Dr. Graham, professor of pediatrics at UAMS and chief of pediatric emergency medicine at Arkansas Children's Hospital (ACH), reported then that Arkansas – a state with no primary seat belt law, miles of two-lane highways and an injury rate surpassing that of the rest of the country – is currently the only state without a single trauma center hospital. In addition, Arkansas is one of only a few states without some form of functioning trauma system.

The Health Summit has come and gone, but Dr. Graham and other Arkansas physicians still work to establish a state trauma system. Graham defines a trauma system as an organized system that includes pre-hospital care, acute hospital care and rehabilitation. It's a system that routes the most seriously injured persons to the nearest center capable of care. The center capable of care would be a designated trauma center hospital – a designation that can be obtained by meeting requirements set forth by either the American College of Surgeons or by the state.

In Arkansas and across the country, emergency trauma care and emergency care in general have been hot topics as emergency departments struggle to keep up with demand and as more and more specialists opt out of emergency care. In the past year, multiple medical groups have recommended an overhaul of the trauma and emergency care departments of hospitals across the nation. The National

Academies is a group consisting of the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council. The group stressed in a June 2006 press release that “the nation's emergency medical system as a whole is overburdened, underfunded, and highly fragmented ... As a result, ambulances are turned away from emergency departments once every minute on average, and patients in many areas may wait hours or even days for a hospital bed.” They recommended more funding, more specialists and more collaboration.

The American Medical Association, the American College of Surgeons and the American College of Emergency Physicians are among other groups addressing emergency care shortfalls. Though Dr. Graham's sentiments echo some of these national groups, he and other physicians, supporting health care providers and others are working toward a trauma system uniquely suited to Arkansas.

## **Why Arkansas?**

As aforementioned, Dr. Graham believes Arkansas is in dire need of a trauma system. For one thing, the state's injury rates are 40% higher than those of the rest of the country. What makes Arkansans so accident prone? According to Dr. Graham, many factors come into play. “Part of the reason is simply the rural nature of our state, and part relates to seat belt use rates, which are [in Arkansas] the lowest in the United States.”

Information from the Arkansas Highway Department's Traffic Safety Summit establishes that around 30% of

fatal crash victims in Arkansas do not wear seat belts. Arkansas has the third highest motor vehicle crash death rate in the country, and the seventh highest national unintentional injury death rate. “Injury in Arkansas disproportionately affects young people,” said Dr. Graham, who regularly works the pediatric emergency room night shift. He sees many reasons for child injury – one of the most common being all terrain vehicles (ATVs). “All terrain vehicle crash is now the second most common reason for trauma injury in children admitted to this hospital [ACH]. This has risen over the past five years. Kids are particularly at risk because they're often too small for the ATVs they're riding, and they don't have the weight to balance the ATV.”

Contrast Arkansas' numbers with those of Washington, a state that has had a trauma system in place since 1997. Dr. Graham and other physicians recently returned from a trip to see how things work across the country. “Washington has a very impressive system,” he said. “They have data which demonstrates a 40% reduction in mortality. They have also seen improvements in safety measures as a result of injury prevention work they've done in the trauma system. They now, this year, have the highest seat belt use rate (96%) of any state in the country (compared to 68% in Arkansas).”

## **Time makes the difference**

With the factors adding to Arkansas' injury rate, some may still wonder what difference – specifically – a trauma system will make here in Arkansas. After all, injury victims are being routed to the nearest hospital

for treatment. Isn't that enough? "Over and over again I've seen delays in instances when you would think going to the nearest hospital would be the thing to do," said Dr. Graham, who explained the problem to be that only certain hospitals have neurosurgeons, orthopedists or other trauma specialists on staff. Getting to the right care isn't always easy.

Dr. John Cone, UAMS trauma surgeon, has seen heartbreaking examples of how wasted time can affect a trauma victim. Case in point: he remembers an 18-year-old male patient who, after a car wreck, was taken to the nearest hospital. It took time to first establish the boy's condition, which called for transfer to a larger hospital with an orthopedic surgeon. Finding one was difficult and took a lot of the emergency physician's time.

Roughly three hours after the wreck, the patient arrived at hospital number two, which then had to call in

the orthopedic surgeon from home. "When the surgeon arrived about 45 minutes later, he found that bone fragments had also severed the major artery in the boy's leg resulting in blood loss into the thigh and no blood flow to the boy's foot," said Dr. Cone, explaining that these findings led to the need for yet another transfer. After several calls, the boy was accepted at UAMS. "We got the patient to our emergency department over five hours after the crash. Due to the long period of ongoing blood loss, the patient was unconscious and hypotensive. He first required resuscitation, transfusion and further evaluation, which identified a ruptured spleen. Two teams worked on him: one to take out his ruptured spleen and one to repair the artery and vein in his leg."

In this case, the boy survived, but his function was not fully restored. "The long period without blood flow to the leg damaged the nerves in his

leg permanently," said Cone. "He had difficulty walking, much less running or playing football. In a working system, the time wasted looking for a receiving facility would not have been required since transfer agreements would be prearranged. With prompt recognition of the injuries and transfer to an appropriate facility, all of this could have been prevented."

True-life examples like this one demonstrate that, when dealing with severe multiple traumas, time makes a big difference. What took five hours in this case should have taken closer to one hour, an amount of time that is termed "golden" when speaking of trauma victims. The "Golden Hour" rule came out of the hardships of war. "Some of our best advances have come out of times of war," said Dr. Graham, who explained that in the days of Mobile Army Surgical Hospitals, doctors realized that getting patients to definitive care within an hour led to much better outcomes.



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"In a well-oiled trauma system, the most severely injured patients will be recognized in the field and taken to the nearest trauma center rather than just the nearest hospital," said Dr. Graham. An effective trauma center keeps the surgical team and operating room ready to go – with staff either at the hospital or at close call distance.

Once again, we come back to time, and how much of it can be saved or more efficiently used in the event of an emergency. "The whole point is to get the patient to the right care in the right amount of time," said Terry Collins, UAMS trauma program manager. Collins has worked with the UAMS Trauma Team since 1991. "We are all so passionate about this issue. We really believe a trauma system will save lives."

### **Overcoming Obstacles: Timing is Everything**

So far, believing strongly in the need for a working, funded trauma system has not yet brought it to fruition. The concept isn't new to the discussion tables. The issue has been brought before policymakers and has even resulted in the passing of nearly enough legislation to make it work. All that was missing? The money.

In the 1980s, UAMS was already focused on building a trauma center. In 1985, they recruited Dr. John Cone, who got the ball rolling. "There were people here at UAMS who were aware of what was going on in the rest of the country," said Dr. Cone, who worked to build the University's system while simultaneously working toward a statewide system. As part of the Governor's Trauma Advisory Council, Dr. Cone worked on legislation that passed in 1995 in the form of Act 553. The group created a system plan modeled after other states, and gave the health department authority over it. "We also came up with a funding plan, but as so often happens, we got

the bill passed [for the state system], but not the funding."

Reasons for lack of funding support sprang from unexpected opposition. "The single largest source of funding for these types of systems is the so-called 'sin' tax on things like alcohol," said Dr. Cone. "But there were other groups going after that money." The most successful programs, Cone said, have had multiple streams of revenue. For example, part of the revenue in some states comes from the state lottery while another part comes from sin taxes.

With the next legislative session ongoing, the Advisory Council is once again working toward effective legislation and hoping for better odds. "This time, we'll have a broader base of support," said Dr. Cone, speaking of groups like the Arkansas Medical Society, Arkansas Hospital Association and the American Medical Association. "Also, we'll have a broader base for funding. However, we have to leave a lot of the funding up to the legislators. They know what they can sell in the House and Senate."

The chairman of the Governor's Trauma Advisory Council is Dr. Johannes Gruenwald, who also leads the Orthopaedic Trauma Team at UAMS. Dr. Gruenwald looks for the day when the trauma system is in place, complete with the proper funding. "Research suggests that, conservatively, 10-30% of deaths could be prevented – and that's only the deaths. It's quite clear that we need it, but it needs to be funded," said Dr. Gruenwald, who describes his main function (as the leader of the Trauma Advisory Council) as working to put the system in place and then immediately turning his attention to the problems other states are experiencing. "It's important to understand that establishment of a system is not the solution. It will take tweaking to make it work."

Problems other states face – especially rural states like ours where the

population is sparse in some areas and highly concentrated in others – is that specialists at peripheral hospitals don't want to participate because their patient load is either too low or too high. "If they're not getting the designations and the expertise they need, they will bail out," said Dr. Gruenwald. If you have people disconnecting from the system because of patient load or lack of compensation, you have a problem."

Dr. Gruenwald predicts that a successful system may require a stipend or other incentive for doctors to take call regardless of patient load or compensation. Also, he feels strongly that Arkansas' system must utilize expertise from all over the state – not just surgeons in highly concentrated areas such as Little Rock. "We don't need a system that sends all injured patients to UAMS. If they come to UAMS, but they have to wait to get here, that is not helping. We must use the "Golden Hour" rule to get them to definitive care as soon as possible."

Even with the obstacles of funding and logistics, the health professionals we spoke to see their efforts as worth it and much better than the alternative. "Trauma care is expensive," said Dr. Graham. "There is a substantial preparedness cost beyond a hospital's normal operation AND a disproportionate number of uninsured victims. But hospitals are *already* taking care of these people. If we had an organized system, their care would be better, the mortality rate would be lower and more people would be put back into the workforce. The ultimate result would be a lower cost."

*Would you like to make your voice heard now, while the system is in the discussion stages? Start by contacting your state specialty society (i.e., the Arkansas Orthopaedic Society, College of Surgeons, Arkansas Medical Society) and your area legislator. Tell them what you believe will work best here in Arkansas.* **AMS**