Texas Department of State Health Services November/December 2006

Texas EMS

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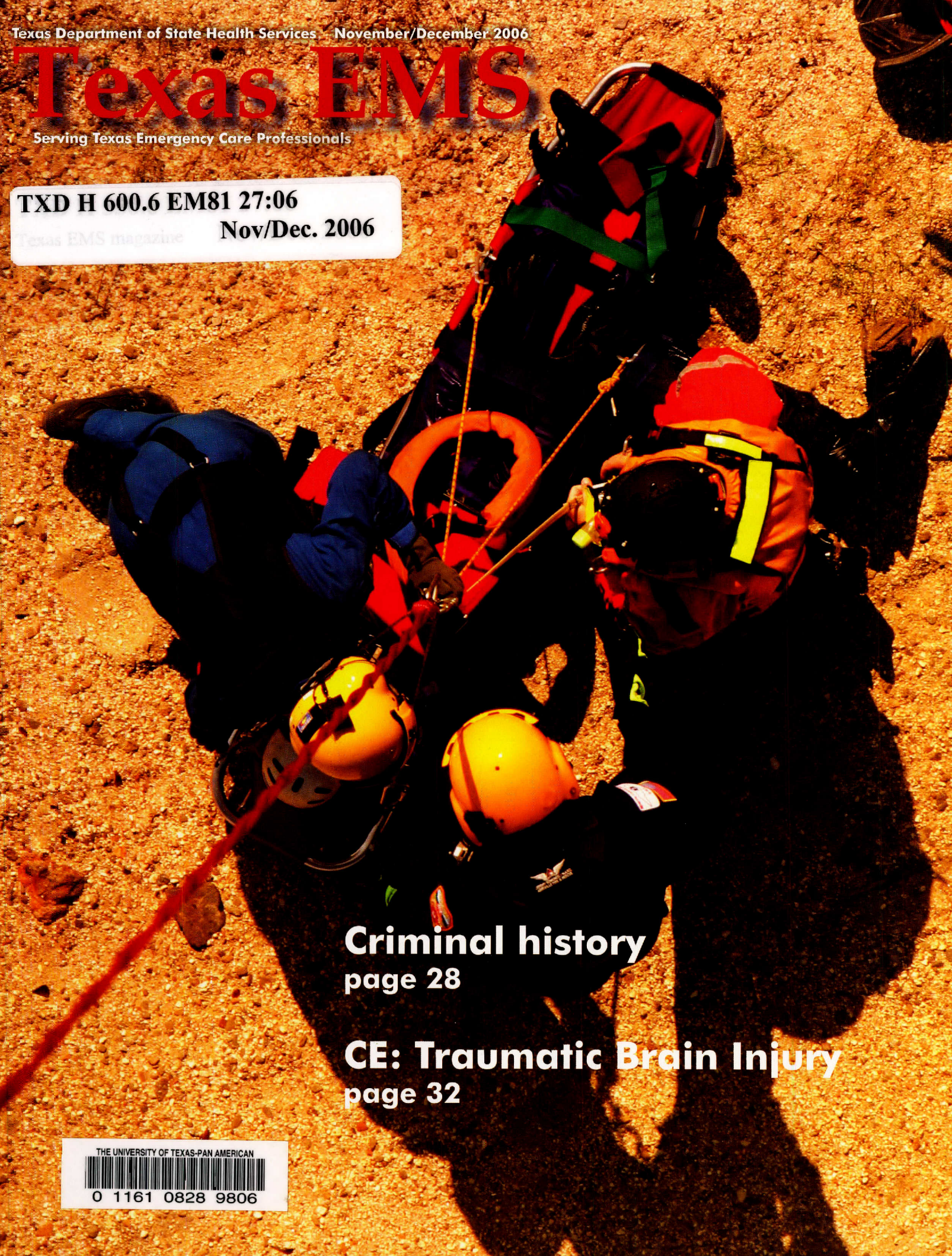

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_____ **"I'm an EMS Friend" sticker.** Ready Teddy in a 2-½ inch, 3-color sticker.

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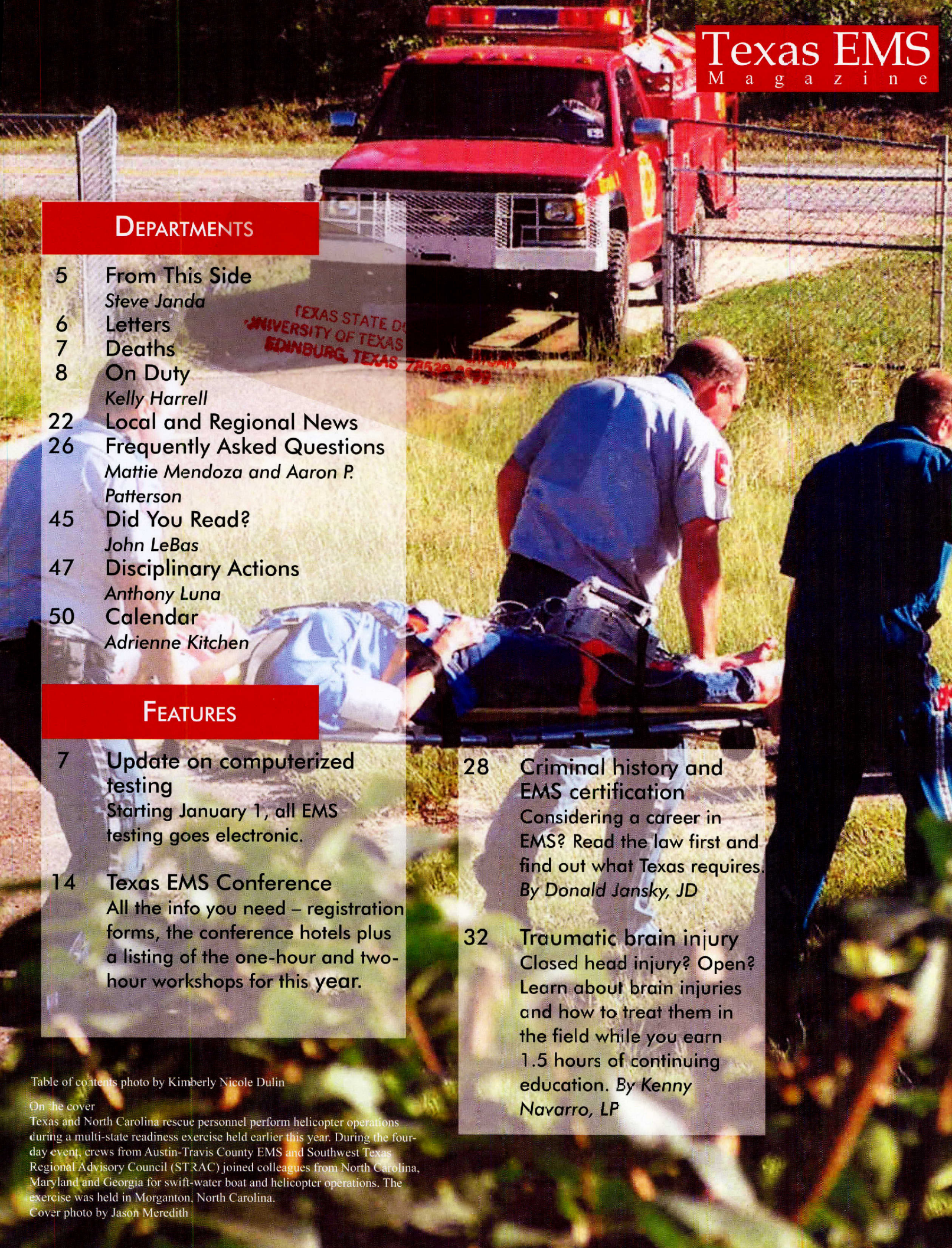
Texas EMS Magazine



Departments

Features

Table of contents photo by Kimberly Nicole Dulin

On the cover
Texas and North Carolina rescue personnel perform helicopter operations during a multi-state readiness exercise held earlier this year. During the four-day event, crews from Austin-Travis County EMS and Southwest Texas Regional Advisory Council (STRAC) joined colleagues from North Carolina, Maryland and Georgia for swift-water boat and helicopter operations. The exercise was held in Morganton, North Carolina.
Cover photo by Jason Meredith

Texas Department of State Health Services

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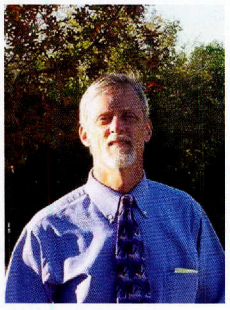
Provider agreements prepare Texas for hurricane season



Steve Janda
Office of EMS/Trauma Systems Coordination

As I write this in mid-October, the National Oceanographic Data Center shows the bay water in Galveston to be a cool-ish 81.9 degrees. Texas fingers remain collectively crossed because, as of press time, the Atlantic still has not produced the number of hurricanes originally predicted for this year. While we hope our luck holds out, we're confident that Texas could respond if a hurricane does arrive on our coast because of the EMS providers who have signed a memorandum of agreement (MOA) to respond during state disasters. We're grateful to all of you for your generous response. Please turn to page 6 for an update on the MOA. We may not get a hurricane this year, but clearly at some point we'll need to rely on integrated regional and state disaster plans to save lives and minimize injuries.

As usual, the Governor's EMS and Trauma Advisory Council (GETAC) is holding meetings during Texas EMS Conference. GETAC committees will meet on Saturday and Sunday (November 18 and 19) at the Dallas Convention Center, and the council itself will meet Monday evening (November 20) at the Hyatt Regency Dallas at Reunion. Some task forces and work groups also may meet on Monday and Tuesday (November 21) during the day. We are still working with the groups' chairs on scheduling, so watch our website in November for a more complete listing of the meetings and locations.

Want to get involved and help shape the future of EMS in Texas? GETAC allows you to have a real voice in what happens with EMS, especially with the task forces and work groups. The Disaster/Emergency Preparedness Task Force is developing a plan for how Texas emergency responders will respond to disasters of any kind – manmade or natural. And the EMS and Trauma Regulatory Structure Task Force is looking at how the current regulatory structure works and how regulation of EMS and trauma systems might be improved. Additionally, a work group chaired by GETAC Vice Chair Pete Wolf is exploring how EMS might be recognized as an essential service in statute. Stakeholder input for each of these groups is crucial.

Only two months remain until all NREMT testing goes to the computer. Turn to page 7 for more computerized-testing information. During the conference, NREMT's Rob Waggoner will give a free presentation on the new process for computerized testing and how computerized testing works. The presentation begins Sunday, November 19, at 2 p.m. at the Dallas Convention Center in the C ballroom, near the exhibit hall entrance.

Also convening at the convention center this year are groups that traditionally meet during the conference. Look in the conference program for a listing of groups such as EMSAT, EMSEAT and the Texas Foundation for EMS and Trauma Care, meeting in the A meeting rooms on the floor below the A ballrooms.

We're hoping that the majority of you can make it to the conference this year. We've lined up more than 140 one-hour workshops and 45 of the new, hands-on, two-hour workshops. The one-hour workshops are still first come, first served, but the two-hour workshops require that you sign up in advance at registration. You can register for those classes beginning at 1 p.m. Sunday.

We're greatly looking forward to seeing you at the conference and at GETAC…

Amanda Koch stands between licensed paramedic Matt Tarrillion and EMT-P Gary Wadham. Wadham and Tarrillion responded when Koch overdosed on heroin in 2003. She survived, is drug-free and is now pregnant with her first child. Koch's mother is Kiki Sansom, who works in DSHS EMS Certification.

To *Texas EMS Magazine:*

An open letter to EMS personnel — what an extraordinarily awesome bunch! I am honored for the opportunity to address you. My name is Kiki Sansom and I work in the EMS Certification Unit at DSHS in Austin. I truly believe that God put me in this position to thank you for what you have given to me. I feel this is my calling. I sincerely take pride is assisting you with your certification questions.

A few years ago my eldest daughter, Amanda, almost died from a drug overdose after years of living on the darker side of life. When she overdosed, she went into cardiac arrest and her heart stopped beating. She was totally unresponsive with no pulse when EMS arrived on the scene. Her brain had been without oxygen for approximately 25 minutes, and EMS literally brought her back to life. You got her heart beating again, got her on life support and transported her to North Austin Medical Center, where she remained in critical condition. She was in a coma when I got to the hospital and stayed in a coma for 10 days. On New Year's Day, she woke up with a breathing tube down her throat and choked the words to me, "I'm sorry, Mom. I love you." We didn't know at the time how much brain damage there was. As time passed, we found out that she had lost about 75 percent of her hearing and lots of cognitive skills and memory. She had to learn how to do everything all over again. She learned to walk and to talk and to live.

This letter is in gratitude to the first responders on the scene, the Pflugerville Fire Department, and two very special men from Austin/Travis County EMS: Gary Wadham and Matt Tarrillion. Thank you for saving my daughter's life. Please know that when you save a life, you don't just save one life but you save generations to come. I am happy to say that Amanda is doing extremely well now. She hasn't touched a drug since this happened and is now carrying my first grandchild, a boy. I thank you from the bottom of my heart, and so does her little sister, Lilly. Every single one of you is my hero. You are so important! You make such a difference in lives, especially mine. God bless you all.

Kiki Sansom
DSHS
Austin

Hurricane MOA update

DSHS is extremely grateful to the Texas EMS providers that have thus far committed 82 ground and air ambulances for state facility evacuations and/or state missions during disasters. A list of these providers can be found on our website, www.tdh.state.tx.us/hcqs/ems, in the News/Features section by clicking on "Signed Memoranda Of Agreement By Texas EMS Providers For Mutual Aid In Disasters." This list will be updated weekly for the foreseeable future.

If you like to review the details of the MOA for ground EMS providers, go to this web address: www.tdh.state.tx.us/hcqs/ems/RevisedMOA_GroundAmbulances.htm. For answers to questions you have about the MOAs, contact the EMS specialist or manager in your zone (www.tdh.state.tx.us/hcqs/ems/regions.htm) or state EMS director Maxie Bishop (512-834-6700; maxie.bishop@dshs.state.tx.us) in the central office.

NREMT presents class on computer testing:
National Registry guru Rob Waggoner will present a free presentation about computer-adaptive testing at 2 p.m. Sunday, November 19, at the Dallas Convention Center. Anyone who wants to learn about the new process for testing and how computerized testing works is welcome to attend this free session. After the presentation, Waggoner will take questions from the audience.

Computerized testing process

Want to test for EMS certification and licensing after January 1? The process will be different once Texas goes to computer-based testing through NREMT. Here are the steps:

- Enroll and pass your EMS course.
- Your coordinator will go online to NREMT and let them know you have passed your test.
- You will go online to NREMT and submit your application and fees to NREMT. Paying by credit card online is the fastest route, but they will accept money orders sent by mail.
- NREMT will send notification by email or mail that you are eligible to test.
- Go to Pearson VUE at www.vue.com to locate a testing center and schedule a test. You can also call the toll-free number that NREMT gives you in the notification. Once you take the test, DSHS will get the notification of the results from NREMT.

For a list of testing centers, go to www.tdh.state.tx.us/hcqs/ems and click on "Computerized Testing News" under News/Features.

Attention Educators:

Your students will not be able to take an NREMT exam until your program is registered and approved. **That means your program needs to be registered now!** If you are a program director, you should go to www.nremt.org to establish a personal account and register your program. If you are an instructor, contact your program director and confirm that your program has been registered. Go to www.tdh.state.tx.us/hcqs/ems and click on "News for EMS Educators" under News/Features.

For additional help, call NREMT at (614) 888-4484.

Line-of-duty deaths

In the span of one month this fall, the Texas EMS community lost two of its own in the line of duty. Both **Joe Alvarez Jr.**, 32, and **Eric Hanson**, 26, died in collisions while working EMS shifts.

Alvarez, of Robinson, died September 13 when the medical van he was driving hit the back of a street sweeper in Waco, the *Waco Tribune-Herald* reported. The licensed paramedic was a supervisor for East Texas Medical Center EMS. Police said they were unsure why the van struck the sweeper, or whether Alvarez was responding to a medical call. The father of three previously worked as a training officer at a Florida fire department.

Hanson, a paramedic with Marble Falls Area EMS, died October 10 west of Austin when the ambulance he was driving was hit by a pickup. The driver of the pickup also died, and Hanson's partner, paramedic Kyla Wilson, was seriously injured. The ambulance was returning from a transport to Austin when the collision occurred. Hanson, an Austin resident, decided to become a paramedic after the September 11 attacks and graduated from the program at Austin Community College, the *Austin American-Statesman* reported.

Alvarez and Hanson will be inducted into the Texas EMS Hall of Honor during a ceremony at the 2006 Texas EMS Conference in November. The hall is reserved for medics killed in the line of duty.

EMS Obituaries

Leo Hayden Gammon Jr., 63, of Tomball died October 3. He was a retired fire chief/fire marshal for the city of Tomball, a volunteer EMT-B and president of Harris County ESD-8. The ESD funds Northwest Rural EMS, which he helped found.

Victor Montoya, 49, of Carrizo Springs died of a heart attack August 11. He was a certified EMT who worked many years for Dimmit County EMS and Crystal City EMS.

Michelle McKay Otto, 29, of Bastrop County died October 8 as the result of an automobile wreck. She was a paramedic for Fayette County EMS and worked as a photographer.

On Duty

Austin medic awarded scholarship

Christian E. Callsen, LP, assistant director of EMS operations for Austin/Travis County EMS, was awarded a scholarship to a three-week program at Harvard University designed to promote the advancement of EMS executive leadership. The ADPI/NAEMT Administrator Division - Harvard Executive Session Scholarship is funded by Advanced Data Processing Inc. (ADPI) under its partnership with National Association of Emergency Medical Technicians (NAEMT). Callsen will attend Harvard's Senior Executives in State and Local Government program in the summer of 2007. He is a member of GETAC's EMS Committee and also a tri-chair on the Disaster/Emergency Preparedness Task Force. NAEMT is a national association of EMTs and paramedics that represents paid and volunteer EMS workers worldwide.

Callsen

Emergency funding available

EMS/Trauma System Account Extraordinary Emergency Funding is available to assist licensed EMS providers, hospitals and registered first responder organizations should unforeseeable events cause degradation of services to the communities they serve. Situations that may severely reduce or incapacitate emergency response capability are considered extraordinary emergencies.

The following organizations were awarded Extraordinary Emergency Funding recently:

City of Cedar Park Fire Department – $8,970 for AEDs
Mart EMS Inc. – $35,097 for operational expenses
Hardin County EMS – $15,500 for monitor/defibrillator
Culberson Hospital EMS – $10,375 for ambulance remount
Martin County Hospital District – $40,390 for ambulance
City of Presidio – $106,810 for ambulance
Zapata County Fire Department/EMS – $2,600 for ambulance repairs
Shackelford County EMS – $85,000 for ambulance
Bullard Volunteer Fire Department – $14,928 for motor boat
Community EMS – $89,150 for ambulance
Sterling County EMS – $85,748 for ambulance

GETAC meets at 6 p.m. November 20 Hyatt Regency Dallas at Reunion

CDC survey shows hospitals crowded

The Centers for Disease Control and Prevention recently released findings that validate what we all know: Some hospital EDs are crowded. The report found that between 40 percent and 50 percent of U.S. hospitals experience crowding, with nearly two-thirds of metropolitan EDs crowded.

The report, titled "Staffing, Capacity, and Ambulance Diversion in Emergency Departments: United States, 2003-04," also contains these findings:

- ED visits rose by 18 percent between 1994 and 2004. The number of hospitals operating 24-hour EDs decreased by 12 percent during the same time frame.
- Crowding in metropolitan EDs was associated with a higher percentage of nursing vacancies, higher patient volume, and longer patient waiting and treatment durations.
- More than half the EDs saw fewer than 20,000 patients annually, but 1 out of 10 had an annual visit volume of more than 50,000 patients.
- Most EDs used outside contractors to provide physicians (64.7 percent).
- Half of EDs in metropolitan areas had more than 5 percent of their nursing positions vacant.
- Approximately one-third of U.S. hospitals reported having to divert an ambulance to another emergency department due to overcrowding or staffing shortages.

For a complete copy of the report, go to www.cdc.gov/nchs/data/ad/ad376.pdf.

Trauma money distributed

The Office of EMS/Trauma Systems Coordination (OEMS/TS) distributed $905,162 to 239 designated trauma facilities during the week of August 28. Funding came from the Emergency Medical Services and Trauma Care System Account and Emergency Medical Services, Trauma Facilities, and Trauma Care System Fund (1131 monies). When added to the FY 2004 and 2005 disbursements, the total distributed to hospitals in the last three years is $3,777,848. For detailed information about this disbursement, including a spreadsheet that shows each hospital's disbursement amount, go to the News/Features section on www.tdh.state.tx.us/hcqs/ems and click on the link titled "August 2006 DSHS Uncompensated Trauma Care Distribution (1131 monies) to designated hospitals." For more information, contact Kim Petty at kim.petty@dshs.state.tx.us or (512) 834-6794.

Stroke committee invites comment on plan

Neal Rutledge, MD, Texas Governor's EMS and Trauma Advisory Council (GETAC) Stroke Committee chair, is inviting public comment on a draft document titled "Early Treatment Protocols For Stroke Rapid Transport." The document is on the OEMS/TS website at www.tdh.state.tx.us/hcqs/ems. Click on "Request for Public Comment on GETAC Stroke Committee Draft Documents" under News/Features. Comments are due by November 16.

On Duty

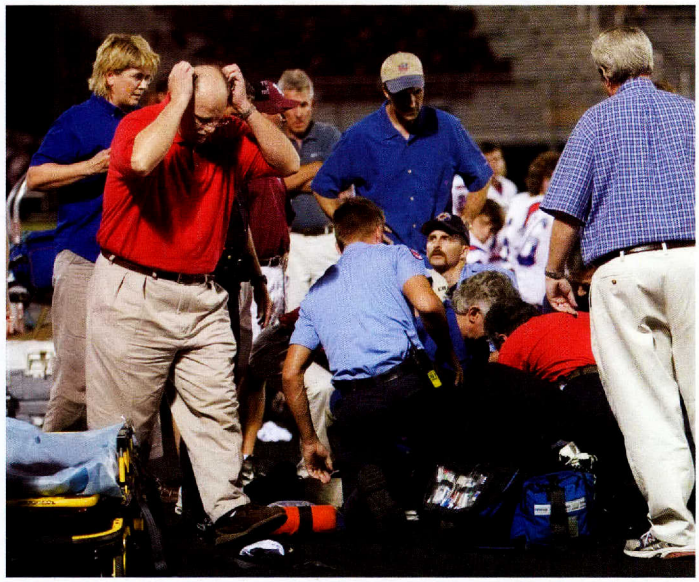
Perkins named assistant commissioner

Kathryn Perkins, RN, MBA, has been named assistant commissioner for the DSHS Division of Regulatory Services, effective Oct. 1. She had served as the division's acting assistant commissioner since Aug. 1. Kathy came to Texas Department of Health in 1989 to work as a statistical clerk. She later served as a trauma program specialist, the EMS program director and the state trauma director. In those roles, she helped develop the Texas trauma system. With the vision of improving care for injury victims, Kathy worked with a coalition of dedicated health-care professionals – including trauma surgeons and nurses, EMS personnel, emergency physicians, and EMS medical directors – to create 22 regional advisory councils, designate nearly 250 trauma facilities, and establish funding sources for EMS, trauma facilities, and the Texas trauma system, resulting in a decrease in the statewide trauma death rate. The trauma system now serves as a model for other states. It's a system, as Kathy has said many times, that was built by health care professionals in their spare time.

In 2000, when Kathy was named chief of the TDH's Bureau of Emergency Management, her work was expanded to include the regulation of EMS firms, providers and education programs. Using her experience of coalition and stakeholder consensus-building, she worked with the newly established Governor's EMS and Trauma Advisory Council to establish "facilitated regulation" – working with the regulated community to achieve voluntary compliance.

After accepting an appointment in 2004 as the director of the new DSHS Health Care Quality Section, Kathy's work was once more expanded to include licensing functions for all entities regulated by DSHS, including health-care professionals, health-care facilities, food and drug safety, radiation control and environmental protection.

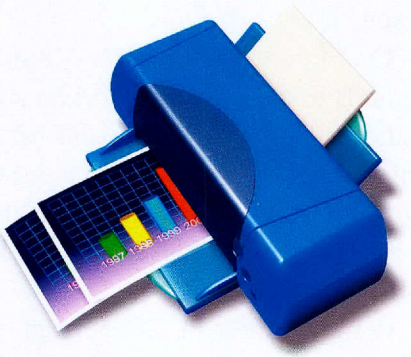
Kathy is a registered nurse who earned a Master of Business Administration from Columbus College in Georgia. Her husband of 28 years, Chuck, is a retired Army nurse and a faculty member at the University of Texas School of Nursing. They have three daughters and nine grandchildren.



Austin Westlake offensive lineman Matt Nader collapsed during a September 15 football game at A&M Consolidated in College Station. His parents, Barbara Bergin and Paul Nader (at left), performed CPR on him until an automatic external defibrillator (AED) was used to restart his heart. A month after Nader's life was saved by one of the devices, the University Interscholastic League (UIL) voted to require all state high schools to have an AED. The organization, which oversees high school athletics and other extracurricular activities in Texas, had recommended five years ago that schools have the devices on hand, but cost kept them from being required, the *Austin-American Statesman* reported. The price of an AED has since come down significantly, now ranging between $1,500 and $3,000. And as of last year, about 600 of the 1,300 UIL high schools already had an AED on campus.

Butch Ireland/*The Bryan-College Station Eagle*

Want a registry report? Print it!



Did you know that EMS/Trauma Registry users can view and print some regional reports? These reports are region-specific and include multiple entities. The data can be used in injury prevention grant applications, to document baselines for measuring performance, and to track performance for quality assurance and evidence-based process improvement. Registry data also has been used to justify current/additional personnel as well as equipment and training needs.

To access regional reports:

1. Log into www.txetra.com using your assigned username and password.
2. If you have access to more than one entity's account, choose the entity whose reports you want to view.
3. Select the reporting period of the data you would like to view.
4. On the sidebar menu under "Reports," click on "Regional Reports."
5. Click on the report you want to view.
6. Some reports have several drop-down menus with additional choices. Make your selections and then click on "View."

Users also can access reports for specific entities if they have medium-access, high-access, or account manager rights. To view the entity-specific reports, follow steps 1-3 above, and on the sidebar menu under "Reports," click on "Reports." Then follow steps 5-6 above to select your report. These reports may take a few minutes to load, depending on the amount of data.

If the information available in the reports is not exactly what you need, you can submit a data request to the EMS/Trauma Registry by going to www.dshs.state.tx.us/injury/data and clicking on "External Data Request Queue Protocol." If you are requesting your raw data files be sent back to you, log onto www.txetra.com and select "Reports" and then "Report Request." Fill out and submit the request.

Book on special health needs published

The Children with Special Health Care Needs (CSHCN) Services Program of the Texas Department of State Health Services recently published a bilingual booklet titled *Emergency and Disaster Planning for Children with Special Health Care Needs/ Planificación de Emergencias y Desastres Para Niños con Necesidades Especiales de Salud.* All clients who receive services or are on the waiting list for the CSHCN Services program received the booklet; others can download it for free. You can link to the booklet through the CSHCN news page by clicking on its name or the graphic of its covers, or by going directly to this URL: www.dshs.state.tx.us/cshcn/pdf/emer_plan.pdf.

CSHCN also published a two-page bilingual Emergency Information Form for Children with Special Needs along with instructions. You can link to the Emergency Information Form through the news page, or at the following URL: www.dshs.state.tx.us/cshcn/pdf/emer_info_form.pdf.

On Duty

Star of Texas Awards presented

On September 11, Governor Rick Perry presented the 2006 Star of Texas Awards, honoring 49 first responders who were killed or seriously injured in the line of duty.

The first Star of Texas Awards were presented in 2004 to three Texas first responders, one for each category of first responder: emergency medical, fire and law enforcement. The 79th Texas Legislature passed legislation that amended the Star of Texas Awards statute to require awards for each first responder seriously injured or killed after September 1, 2003.

EMS first responder injured in the line of duty responding to a medical call:

Flight RN Ronald Stephens, MCH CareStar

On March 21, 2004, Stephens was a member of the flight team transporting an infant patient and his mother when the helicopter crashed. Stephens was the only survivor of the crash, which also killed a flight paramedic and the pilot. (Paramedic Paul Lujan and pilot Mickey Price were Star of Texas recipients in previous years.)

Emergency medical first responders killed in the line of duty responding to calls other than medical calls included:

Firefighter Brandon Scott Phillips, Keller Fire Rescue

On March 29, 2005, 26-year-old firefighter/paramedic Brandon Phillips worked an extra shift as a paramedic. After his shift, he went for a jog and collapsed. Phillips was diagnosed with a dissecting aortic aneurysm, and he died during surgery on March 30, 2005.

Capt. Chad Ernest Wessels, Briggs Volunteer Fire Department

On December 11, 2005, Capt. Wessels, an EMT, was driving a tanker truck responding to a house fire when he lost control of the truck. The vehicle crashed and ignited, and Wessels died at the scene.

Emergency medical first responders injured in the line of duty responding to calls other than medical calls:

Capt. Daniel Loren Friday, Midland Fire Department

On April 10, 2006, Capt. Friday, a licensed paramedic, assisted two citizens in evacuating their residences during an Africanized bee swarm. Friday was stung and experienced an anaphylactic allergic reaction, requiring hospitalization.

Firefighter Lewis D. Millegan, Robert Lee Volunteer Fire Department

On July 7, 2005, firefighter/ECA Millegan was riding on the back of a fire truck, fighting a wild land fire by hosing trees and brush. The driver made a sudden stop to keep the truck from going over a cliff, and Millegan was thrown off the vehicle, suffering serious injuries to his shoulder and neck.

Firefighter Wesley David Mosher, Irion County Volunteer Fire Department

On January 1, 2006, firefighter/ECA Mosher was fighting a wildland fire when his truck stalled due to lack of oxygen. Mosher ran through the ground fire to safety, sustaining second-degree burns to his face and hands. He required skin grafts and surgery.

Training Coordinator/Firefighter Dennis Vern Penney, Boonsville-Balsora Volunteer Fire Department

On December 3, 2005, firefighter/EMT Penney was driving a fire truck responding to a wildland fire when the 2 1/2-ton truck hit a rut, jerking the steering wheel

and fracturing Penney's forearm. Penney had his arm splinted and continued to assist with the incident command for this massive fire. Two days later, the full extent of the break was assessed, and Penney underwent surgery to repair the break. He has lost 30 percent of the use of his arm.

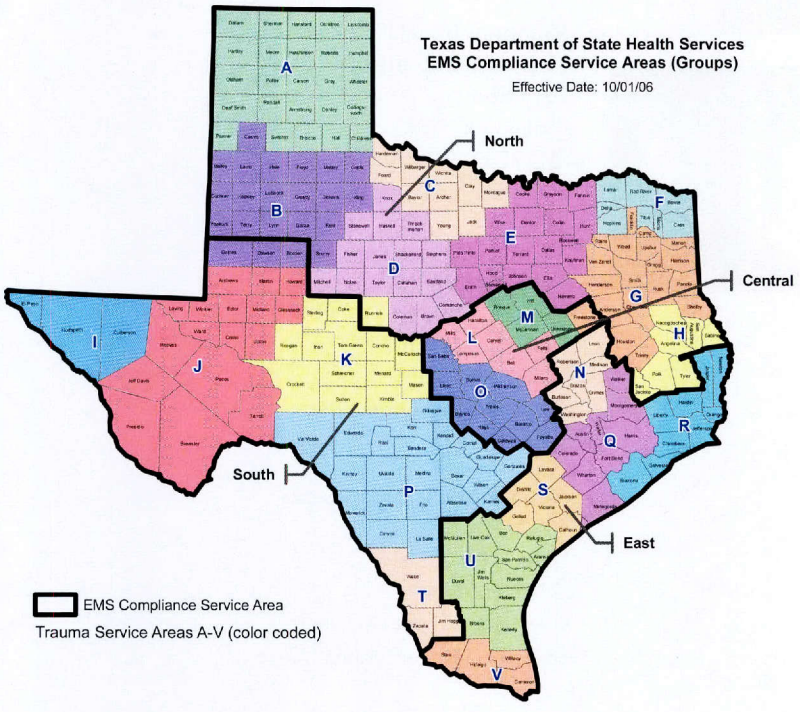
Capt. Gary Lynn Winton, Pampa Fire Department

On April 6, 2006, Capt. Winton, an EMT, was on the front of a fire truck, battling a grass fire, when the truck made a sudden jolt, throwing Winton off the truck and causing serious injuries to his shoulder.

The governor's office issues a call for nominations for the Star of Texas Awards each summer. OEMS/TS will pass along the call when we receive it.

New zone manager added in Houston

A new zone manager position recently was created in Houston, resulting in revised EMS compliance service areas. EMS Compliance East Group is now headed by Aaron P. Patterson, who was most recently an EMS program specialist in Austin. The revised zone map reflects internal DSHS changes, and most providers will see no change in who they contact for help. The few providers who are affected by the change in service areas will be contacted by DSHS staff. If you have any questions, call your zone office. A list of zone offices is on page 4 of this issue.



Revised plan details hospitals' responsibilities

A revised Texas Hurricane Evacuation and Mass Care Plan recently was approved by the Governor's Division of Emergency Management (GDEM). Hospitals need to be aware of state expectations related to disaster planning, particularly the need to pre-plan for evacuation and to coordinate their plans with their local areas. OEMS/TS recently mailed out information about the revised plan, the draft disaster rules, and a survey being conducted by the Texas Hospital Association (THA).

The mail-out went to two contacts at each DSHS-licensed hospital, plus GDEM, state regional liaison officers (RLOs), Texas disaster district committees (DDCs), Texas councils of government (COGs), and regional advisory councils (RACs).

Trauma program staff are key members of a hospital's disaster response program, and DSHS wants to make sure that the trauma program manager has this information. Go to the News/Features section of our website (www.tdh.state.tx.us/hcqs/ems/default.htm) and click on "Hospital Disaster and Evacuation Planning" to see the letter sent to hospital administrators. OEMS/TS staff also will be discussing the plan at the Texas Trauma Coordinators Forum meeting in Dallas in November. For information, contact Greg Wilburn at greg.wilburn@dshs.state.tx.us or at (512) 834-6675.

On Duty

November 19-22, 2006

Texas EMS Conference 2006, Dallas

For 2006, we're heading to the Dallas Convention Center for what promises to be the biggest and best Texas EMS Conference yet!

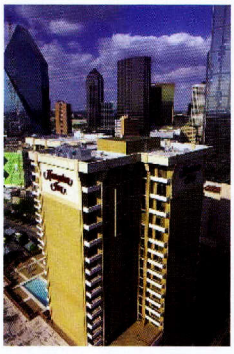
We're lining up some excellent education, including special two-hour hands-on classes during the conference that will allow you to polish your skills. And, of course, we'll be inviting the best speakers back for the three days of lectures you've come to expect. Our exhibit hall has grown this year, so you'll have the opportunity to see even more state-of-the-art equipment, including, as always, lots of ambulances and helicopters.

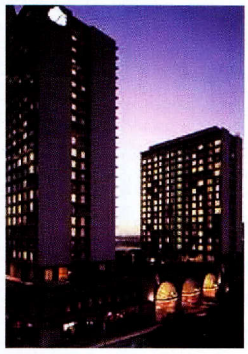
Our low conference rate includes access to 15 hours of continuing education, an always-popular conference bag, coffee breaks and two full lunches – including our Awards Luncheon, where we honor the best in Texas EMS and trauma.

We have special conference rates at five downtown hotels – all within walking distance of the convention center. Plus, all attendees will receive a free, three-day pass for the Dallas Area Rapid Transit (DART) trains, which will whisk you between the hotels and the convention center. Make your reservation early – space at the conference hotels will go fast, especially at the host hotel, the Hyatt.

— See you in November!

Hotels





Hyatt Regency Dallas at Reunion
300 Reunion Blvd. E.
Dallas, TX 75207
(214) 651-1234
www.dallasregency.hyatt.com
$85/$105

Adolphus Hotel
1321 Commerce St.
Dallas, TX 75202
(214) 742-8200
www.hoteladolphus.com
$85/$115

Hampton Inn Dallas - West End/ Convention Center
1015 Elm St.
Dallas, TX 75202
(214) 742-5678
www.hamptoninn.com
$85/$85

Fairmont Dallas
1717 N. Akard St.
Dallas, TX 75201
(214) 720-2020
www.fairmont.com/dallas
$85/$85

Adam's Mark Hotel Dallas
400 N. Olive St.
Dallas, TX 75201
(214) 922-8000
www.adamsmark.com/dallas
$80/$80 (free buffet breakfast)

*After November 1, hotels may not honor conference rate.

Schedule

Conference At-A-Glance

Sunday, November 19

1:00 pm - 7:00 pm	Registration in Convention Center inside Exhibit Hall
3:00 pm - 7:00 pm	Exhibit Hall opens with Welcome Reception

Monday, November 20

7:00 am - 6:00 pm	Registration in Convention Center inside Exhibit Hall
8:15 am - 9:30 am	Opening Session
9:45 am -10:45 am	Workshop Breakouts
10:00 am - 6:00 pm	Exhibit Hall open
11:00 am - Noon	Workshop Breakouts
Noon - 1:00 pm	Lunch in Exhibit Hall
2:00 pm - 3:00 pm	Workshop Breakouts
3:15 pm - 4:15 pm	Workshop Breakouts
4:30 pm - 5:30 pm	Workshop Breakouts

Tuesday, November 21

7:00 am - 3:00 pm	Registration in Convention Center inside Exhibit Hall
7:30 am - 8:30 am	Early Bird Workshop Breakouts
8:45 am - 9:45 am	Workshop Breakouts
9:00 am - 11:45 am	Exhibit Hall open (closed during Awards Luncheon)
10:00 am - 11:00 am	Workshop Breakouts
11:45 am - 1:15 pm	Awards Luncheon-Exhibit Hall (Exhibit Hall open immediately after Awards Luncheon)
1:15 pm - 3:00 pm	Exhibit Hall open
2:00 pm - 3:00 pm	Workshop Breakouts
3:00 pm	Exhibit Hall closes
3:15 pm - 4:15 pm	Workshop Breakouts
4:30 pm - 5:30 pm	Workshop Breakouts

Wednesday, November 22

8:30 am - 9:30 am	Workshop Breakouts
9:45 am - 10:45 am	Workshop Breakouts
11:00 am - noon	Workshop Breakouts Conference adjourns

GRAND PRIZE - $250; FIRST PLACE - $175; SECOND PLACE - $100; THIRD PLACE - $75; HONORABLE MENTION - $50

2006 Texas EMS Photography Contest entry form

Photographer's Name _____

Employed by _____

Address _____

City _____ State _____ Zip _____

Phone (HM) ___/___-____ (WK) ___/___-____

E-mail Address _____

Mail to: Texas Department of State Health Services/EMS
1100 W. 49th St., Austin, TX 78756-3199

Deadline for entering: November 10, 2006

Tape this form to the back of the photo

Brief explanation of scene: _____

_____

_____

Photo Contest Rules

- Winning categories and prizes:
  One Grand Prize winner (either color or black and white)—$250 and a plaque.
  One First Place—$175 and a ribbon.
  One Second Place—$100 and a ribbon.
  One Third Place—$75 and a ribbon.
  One Honorable Mention—$50 and a ribbon.
- Deadline: Entries must be received no later than November 15, 2006. All photos will be displayed at Texas EMS Conference, and winners will be printed in the January/February issue of Texas EMS Magazine.
- Photos: Send unmatted prints, in color or black and white (5 X 7 to 9 X 12 is best). Fill out the ntry form, tape it to the back of your photograph, and mail your entry to: Texas Department of State Health Services/EMS, 1100 W. 49th St., Austin, TX 78756-3199.
- For digital photos: Please print out a copy and mail a printed copy with the entry form attached. You also may e-mail the photo in .jpg format, using CMYK colors, to Dawn.Whitfield@dshs.state.tx.us.
- The photographer's name will be printed along with the photo.
- Anyone is eligible; no entry fee is required.
- Photographs should show good patient care.
- The ownership of the negative will remain with the photographer.

Conference Class Schedule

Monday					
General Session - I Certainly Hope You've Learned Your Lesson! Laurie Romig and Lou Romig - 8:15 am – 9:30 am Ballroom A					
Room	Workshops subject to change. Please refer to conference program.				
	9:45 am – 10:45 am	11:00 am – Noon	2:00 pm – 3:00 pm	3:15 pm – 4:15 pm	4:30 pm – 5:30 pm
Ballroom A	If You Only Knew **Page** *Prep*	How We Die: The Pathophysiology of Cardiac Arrest **Bledsoe** *Medical*	Anachronistic Catastrophes: The Past, Present, and Future of Disaster Medicine **Pepe** *CRO*	Dirtballs, Frequent Flyers and Taxi Runs **Bradley** *Prep*	
Ballroom C1 **Trauma**	Pelvic Fractures **Sims** *Trauma*	Mind Over Gray Matter: Preventing Secondary Brain Injury **Essman** *Trauma*	Altered Mental Status and Documentation: What Every Caregiver Needs to Know **R. Turner** *Spec Cons*	What Lies Beneath: Prehospital Ultrasound (2-hour) **Beeson/Fowler** *Pt. Assess*	
Ballroom C2 **Airway**	Endotracheal Intubation: A 12-Step Program **Navarro** *Airway*	The Failure of Tracheal Intubation: Why the Gold Standard is Tarnished and We Only Have Ourselves to Blame **Villers** *Airway*	Killing Them to Get the Airway: RSI Facts and Fiction: What Does the Research and Literature Really Say **Ericson** *Airway*	Slap the Cap: The Real Uses for Capnography **Page** *Airway*	Are We Safe Working in or Near Moving Traffic? **Cudaback** *CRO*
Ballroom C3 **Spec Pts**	Mistakes You Don't Want to Make in Pediatric Emergency Care **Weibe** *Spec Cons*	I Want To Kill Myself: How to Interact with a Person Actively Engaged in a Suicide Attempt **R. Turner** *Spec Cons*	Pediatric Patients: Meeting the Developmental Needs of Infants, Children and Adolescents **Franklin/Moreau** *Spec Cons*	Drowning on Dry Land: Advances in the treatment of CHF **Wesley** *Medical*	Tourette's Syndrome in a Box **Retano** *Spec Cons*
Ballroom C4	Oh Nooooo!: Mr. Bill's Unique Causes of Death **Floyd** *Spec Cons*	American Heart Association STEMI Guidelines Put into a Community Effort **Wozniak** *Medical*	Controversies in Trauma Management **Chapleau** *Trauma*	Never Let Them See You Sweat: Taking Control of the Pediatric EMS Call **Lou Romig** *Spec Cons*	Motorsports Medicine: Life in the Fast Lane **Laurie Romig** *CRO*
Room C140	Internal Collections: Getting Patients to Pay **Adams** *Prep*	Walk the Walk: Clinical Desires vs. Operational Needs **Bennett** *Prep*	From the Field to the Office **Dralle** *Prep*	Organizing Your Billing Operation from A to Z: Dealing with Claims, Credit and Collections! **Adams** *Prep*	GIK in Acute Coronary Syndrome: Everything Old is New Again **Navarro** *Medical*

Monday					
Room	Workshops subject to change. Please refer to conference program.				
	9:45 am – 10:45 am	11:00 am – Noon	2:00 pm – 3:00 pm	3:15 pm – 4:15 pm	4:30 pm – 5:30 pm
Room C141 **Nursing** *EMS CE also given*	Flying High: Street Drugs and the ED patient **Baros** *Medical*	The Post-op Bariatric Patient in the ED **Snow** *Medical*	Pediatric Seizures: That's a seizure? **Brandt** *Spec Cons*	ESI Triage in place: How the Data can Help **S. Turner** *Pt. Assess*	Mid-level Providers in the ED: Advantages to Care **Dutton** **CRO**
Room C142	Keeping the Shiny Side Up and You and Your Patient Safe **Wait** *CRO*	EMS and Hospitals: Working as Partners, Not Advisories **Waechter** *Prep*	Putting Service Back in Emergency Medical Services: Humbug **Nollette/Creech** *Prep*	Do We Really Need a Tactical Paramedic **Dush** *CRO*	Implementing an Electronic Patient Care Reporting System **Saffer** *Prep*
Room C143 **Nursing** *EMS CE also given*	Burns **Griswold** *Medical*	Katrina **Keaty** *CRO*	ETOH Interventions **McCarley** *Medical*	Forensics **Hand** *Spec Cons*	
Room C144 **Educator**	The Development of the National EMS Education Standards **Cason** *Prep*	Keeping It Real **Kern** *Prep*	The Affects of Effecting the Affective **Locke** *Prep*	There Is Gold After All! **Bledsoe** *Prep*	Am I an Instructor or Reader: Technology Assisted Instruction **Wallace** *Prep*
Room C149 **Admin**	CQI: Education or Discipline **Cudaback** *Prep*	Clean Data: No Soap Required! **Brannon** *Prep*	Team Building: What's My Color **Jones/Wood/Rodriquez** *Prep*	Creating an ESD, Bake Sales to Tax Roles, Is it worth it? **Schriber/Farris/Trouten** *Prep*	Show Me The Money: The Ins and Outs of the Fair Labor Standards Act **Wait/Oglivie** *Prep*

Conference Class Schedule (cont.)

Tuesday						
Room	Workshops subject to change. Please refer to conference program.					
	7:30 am – 8:30 am	8:45 am – 9:45 am	10:00 am – 11:00 am	2:00 pm – 3:00 pm	3:15 pm – 4:15 pm	4:30 pm – 5:30 pm
Ballroom A1	Band-Aids and Blood Pressures **Suprun** *Trauma*	Bad to the Bone **Beeson** ***Prep***	Understanding SHOCK in 60 minutes **Bouvier** *Trauma*	Emergency Ventilatory Management for the Critically Ill and Injured **Pepe** *Medical*	If We Don't Laugh, We Will Certainly Cry: Humor in EMS Part 2 **Racht** ***Prep***	The Three Phases of Ventricular Fibrillation **Navarro** *Medical*
Ballroom A2 **Trauma**	Pain: The Invisible Emergency **Racht** *Medical*	EMS Caught in the Crossfire: EMTALA and ER Diversions **Wolfberg** *Prep*	The ABCs Just Ain't What They Used To Be: Changes in the Culture of the Sacred Principles **Racht** *Medical*	Did You Say "Crush" **Dush** CRO	Hush Little Baby, Don't You Cry **Yates/Coleman** *Spec Cons*	I'm Having an MI **Knappage** *Medical*
Ballroom A3 **Airway**	Disaster Medicine: Providing Medical Assistance During Hurricane Katrina **Vankawala** *CRO*	Sawing Logs: When Snoring Is More Than a Nuisance **Page** *Airway*	Management of Respiratory Distress in the Pediatric Patient **Sheehan** *Airway*	In-Custody Death Syndrome: What It Is and What the EMS Provider Responsibilities Are **R. Turner** *CRO*	To Breathe or Not to Breathe, The Question is How and When **Gordon** *Airway*	The Airway Continuum **Grayson** *Airway*
Ballroom C1 **Spec Pats**	Don't Be Scared: Pediatric Assessment Made Easy **Gilmore** *Spec Cons*	Good Lord, Where Are My Ankles?: Obstetrical and Gynecological Emergencies **Gilmore** *Medical*	The Bariatric Patient **Seeber** *Spec Cons*	The Seven Dwarfs of Toxicology: Why Did They Call Her Snow White? **Donald Phillips** *Medical*	Pediatric Need to Know **Stovall/Pemberton** ***Spec Cons***	Child Abuse Injuries **Floyd** *Spec Cons*
Ballroom C2	Dinosaurs, Myths and Boxes **Rinard** *Prep*	Unusual Forensic Medicolegal Cases **Floyd** *Spec Cons*	Insulin Pump Therapy in Type 1 Diabetics **Kludt** *Spec Cons*	Hypertonic Saline: The Perfect IV Fluid **Navarro** *Trauma*	Drowning: Texas Trends **Hellsten** Spec Cons	Less Lethal Technologies: What Every Responder Needs to Know **R. Turner** *Spec Cons*
Ballroom C3	Boating Injuries: Slippery When Wet **Hahn** *Trauma*	OLD School: Patient Assessment CAVEMAN Style **Ericson** *Pt. Assess*	Novel Pain Management Techniques **McManus** *Pt. Assess*	Organ and Tissue Donation: Blazing a New Trail in EMS **Conley** *Spec Cons*	Pandemic Influenza: What You Can Do To Prepare **T. Powell** *Spec Cons*	How to Survive in the Biz: Things I Wish They'd Told Me in Paramedic School **David Phillips** *Prep*

Tuesday						
Room	Workshops subject to change. Please refer to conference program.					
	7:30 am – 8:30 am	8:45 am – 9:45 am	10:00 am – 11:00 am	2:00 pm – 3:00 pm	3:15 pm – 4:15 pm	4:30 pm – 5:30 pm
Ballroom C4	You're Wrong, Officer: How to Protect Your Patient from Constitutional Violations That Affect Patient Care **R. Turner** *CRO*	Criteria for Terminating Resuscitation for both Traumatic and Non-Traumatic Cardiac Arrest **Wiggington** *Trauma*	Evolution and Revolution in Cardiopulmonary Resuscitation **Pepe** *Medical*	Pharmacobiology in Resuscitation **Wigginton** *Spec Cons*	Circle of Protection: Think Child and Senior Safety **Petrilla** *Prep*	Physiologically Speaking: The Impedance Threshold Device: New CPR Guidelines **Porter** *Medical*
Room C140 **Spec Focus**	1 in 3: A Startling New Look at Sexual Assault and EMS **Story** *Spec Cons*	Use of Data for Injury Prevention **Folden** *Prep*	A Guide to EMS Research **Bledsoe** *Prep*	Clinical Problem Solving in EMS **Bledsoe** *Prep*	Building a Solid Foundation: Critical Decision Making in EMS **Martin** *Prep*	Business Planning for EMS **Hay**
Room C141 **Nursing** *EMS CE also given*	Blast Injuries: What it Means to Us **Morgan** *Trauma*	Forensic Nursing: Meeting the BNE Requirement **Wright** *CRO*		OB Emergencies **K. Powell** *Spec Cons*	Improving ED Door to Intra-aortic Balloon Times **K. Powell** *Medical*	Don't Take Your Work Home With You…Infectious Diseases and Maladies You Can Get From Your Patients **Townsend** *Prep*
Room C142	Are You an EMS Detective? **Perkins** *Pt. Assess*	Mentoring: Keeping the Profession Alive **Nollette/Creech** *Prep*	Mr. Yuk with Attitude: Chemical Dangers Everywhere **Garcia** *CRO*	Innovation in Combat Casualty Care: What Are the Civilian Lessons? **McManus** *Trauma*	Bites and Stings of Summer **Yudizky** *Medical*	Predator Drugs **Moore** *Medical*
Room C143 **Nursing** *EMS CE also given*	Bariatrics **Johnson** *Medical*	Blast Injuries **Williams** *Trauma*	Bioterrorism **Morgan** *Trauma*	Hangings **Young** *Trauma*	Maxillofacial Trauma **Whitson** *Trauma*	History of Trauma **Rhyne** *Trauma*
Room C144 **Educator**	Use of High Fidelity Simulation as an EMS Training Tool: From First Responder to Paramedic and Beyond **Molino** *Prep*	Constructing the Multiple Choice Exam **Navarro** *Prep*	Blinded to the Truth **Gillum** *Prep*	Are They Laughing or are They Learning: Humor in the EMS Classroom **Ericson** *Prep*	Simulation on a Budget **Butler** *Prep*	Conducting a Successful Training Program **Seeber** *Prep*
Room C149 **Admin**	Fleet Management: Does It Matter? **Storm** *Prep*	Improving and Managing Employee Attitudes in the EMS Workforce **Wirth** *Prep*	Can't Touch This: Avoiding a Hostile or Discriminatory Work Environment **Wait/Ogilvie** *Prep*	Groundhog Day: The Hiring Process **Rinard** *Prep*	Unfolded Leaps of Logic: Discipline and other Supervisory Myths **Rinard** *Prep*	EMS Law Case Studies: Liability in the Trenches **Wolfberg** *Prep*

Conference Class Schedule (cont.)

Wednesday			
Room	Workshops subject to change. Please refer to conference program.		
	8:30 am – 9:30 am	9:45 am – 10:45 am	11:00 am – Noon
Ballroom A1	Alternative Resuscitation Devices in 2006 **Wigginton** *Medical*	Strategic National Stockpile: What is That? **Allen** *CRO*	
Ballroom A2	Protocol-Directed Torture: Unnecessary Spinal Immobilization **Grayson** *Trauma*	Yeah, But Can You Defend It? **Rickey/Ogilvie/Grayson** *Pt. Assess*	The "Oh %$$^" Reflex: Overcoming Pediatric Pucker Factor **Grayson** *Spec Cons*
Ballroom A3	Canine Emergency Care **Wall** *CRO*	Patient Care: From Curbside to Bedside **Tubb** *Prep*	TEMS: Not Just Another Day at the Office **R. Turner** *CRO*
Ballroom C1	Pre-Incident Planning for EMS **Porter** *CRO*	Incident Rehabilitation: Do Something! **Cudaback** *CRO*	

Texas EMS conference*2006

Texas EMS Conference 2006 - Registration Form

Dallas Convention Center
$175 registration fee - bring this form with you to registration

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____-_____-_____ E-mail address _____

Sunday, November 19, 2006
1:00 pm - 7:00 pm Registration-Convention Center
3:00 pm - 7:00 pm Exhibit Hall Opens-Welcome Reception

Monday, November 20, 2006
7:00 am - 6:00 pm Registration-Convention Center

Tuesday, November 21, 2006
7:00 - 3:00 pm Registration-Convention Center

Note: Make a copy of this form for each additional registration — only one registration per form. Fill in the name exactly like you want your nametag to be printed.

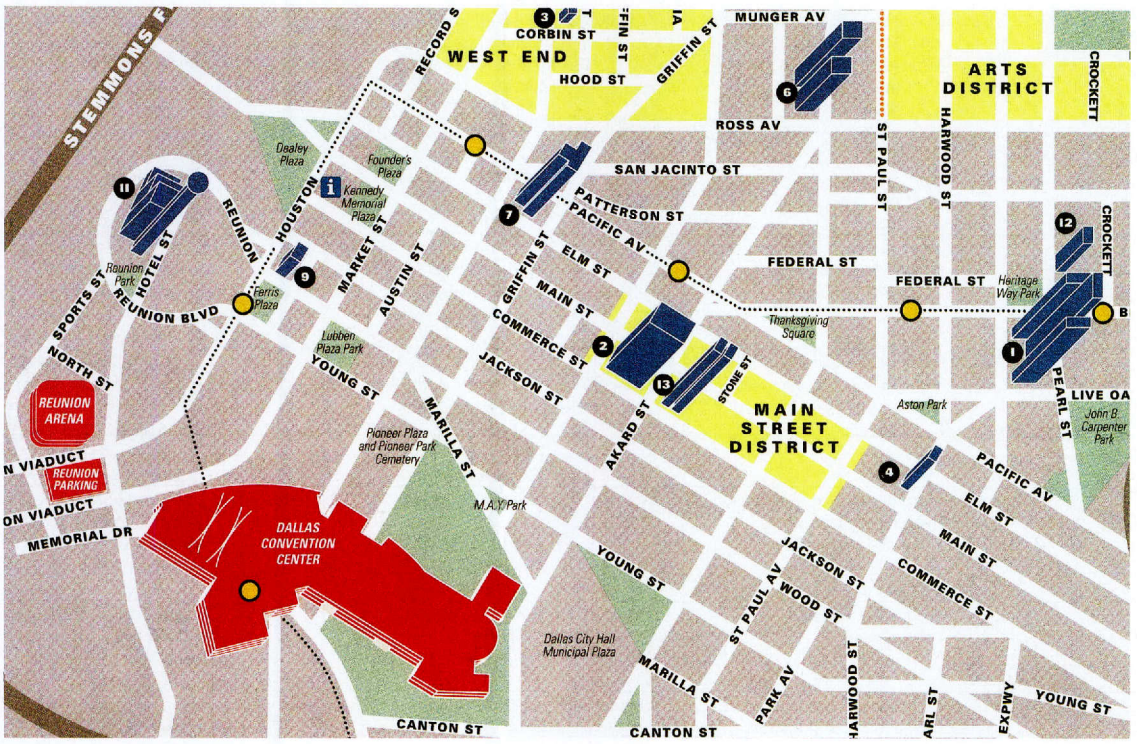
Registration Information: (512) 759-1720

2-Hour Hands-On Workshops

Monday			
Rooms Located Downstairs	Workshops subject to change. Please refer to conference program.		
	9:45 am – 11:45 am	1:00 pm – 3:00 pm	3:30 pm – 5:30 pm
Room C145	Cardiac Science '06: Making It All Make Sense **Etheridge/Skinner** Limit = 25 *Medical*	Cardiac Science '06: Making It All Make Sense **Etheridge/Skinner** Limit = 25 *Medical*	Cardiac Science '06: Making It All Make Sense **Etheridge/Skinner** Limit = 25 *Medical*
Room C146	Capnography in EMS: An Emerging Standard of Care **Krauss** Limit = 50 *Airway*	Capnography in EMS: An Emerging Standard of Care ***Krauss*** Limit = 50 *Airway*	Challenging Cases from the Field: How Would You Manage Them? **Racht/Krauss** Limit = 50 *Pt. Assess*
Room C147	Your Patient Care is Only as Good as Your Patient Assessment **Charpentier/Nelson** Limit = 25 *Pt. Assess*	Your Patient Care is Only as Good as Your Patient Assessment **Charpentier/Nelson** Limit = 25 *Pt. Assess*	Your Patient Care is Only as Good as Your Patient Assessment **Charpentier/Nelson** Limit = 25 *Pt. Assess*
Room C148	The Basic Theory Behind Advanced Chaos: Common Pitfalls of the ALS Provider and Instructors **Street** Limit = 25 *Pt. Assess*	The Basic Theory Behind Advanced Chaos: Common Pitfalls of the ALS Provider and Instructors **Street** Limit = 25 *Pt. Assess*	The Basic Theory Behind Advanced Chaos: Common Pitfalls of the ALS Provider and Instructors **Street** Limit = 25 *Pt. Assess*
Room C150	Alternative Laryngoscopic Approaches: Better Intubation through Yoga! **David Phillips** Limit = 25 *Airway*	Alternative Laryngoscopic Approaches: Better Intubation through Yoga! **David Phillips** Limit = 25 *Airway*	Alternative Laryngoscopic Approaches: Better Intubation through Yoga! **David Phillips** Limit = 25 *Airway*
Room C154	Wilderness Rescue **Green** Limit = 25 *CRO*	Wilderness Rescue **Green** Limit = 25 *CRO*	Wilderness Rescue **Green** Limit = 25 *CRO*
Room C155	Neonatal and Pediatric Emergencies: The Lecture Tips for Tots Skills Lab **Gilmore** Limit = 25 *Spec Cons*	Neonatal and Pediatric Emergencies: The Lecture Tips for Tots Skills Lab **Gilmore** Limit = 25 *Spec Cons*	Neonatal and Pediatric Emergencies: The Lecture Tips for Tots Skills Lab **Gilmore** Limit = 25 *Spec Cons*
Room C156	The Method to Our Madness: The Use of "Discovery Discussion" in the EMS Classroom **Ricky/Grayson** Limit = 25 *Prep*	The Method to Our Madness: The Use of "Discovery Discussion" in the EMS Classroom **Ricky/Grayson** Limit = 25 *Prep*	The Method to Our Madness: The Use of "Discovery Discussion" in the EMS Classroom **Ricky/Grayson** Limit = 25 *Prep*

Tuesday			
Rooms Located Downstairs	Workshops subject to change. Please refer to conference program.		
	7:30 am – 9:30 am	9:45 am – 11:45 am	2:00 pm – 4:00 pm
Room C145	Scenario-Based Training and Education **Bennett** Limit = 25 *Prep*	Scenario-Based Training and Education **Bennett** Limit = 25 *Prep*	Scenario-Based Training and Education **Bennett** Limit = 25 *Prep*
Room C146	A Stitch in Time: Advanced Wound Care **Majewski** Limit = 25 *Trauma*	A Stitch in Time: Advanced Wound Care **Majewski** Limit = 25 *Trauma*	The Patient Puzzle **Laurie & Lou Romig** Limit = 75 *Prep*
Room C147	Tricks of the Trade: Don't Keep It a Secret **Wallace** Limit = 25 *Prep*	Tricks of the Trade: Don't Keep It a Secret **Wallace** Limit = 25 *Prep*	Tricks of the Trade: Don't Keep It a Secret **Wallace** Limit = 25 *Prep*
Room C148	Advanced Airway Management and the Application of Capnography in the Field **Weinzapfel** Limit = 25 *Airway*	Advanced Airway Management and the Application of Capnography in the Field **Weinzapfel** Limit = 25 *Airway*	Advanced Airway Management and the Application of Capnography in the Fie ld **Weinzapfel** Limit = 25 *Airway*
Room C150	Toys, Tricks and Trachs **Gandy/Migala** Limit = 25 *Airway*	Toys, Tricks and Trachs **Gandy/Migala** Limit = 25 *Airway*	Toys, Tricks and Trachs **Gandy/Migala** Limit = 25 *Airway*
Room C155	Pediatric ALS Workshop: All The Procedures You're Scared of, Plus the Ones That Actually Work **Grayson/Rickey** Limit = 25 *Spec Cons*	Pediatric ALS Workshop: All The Procedures You're Scared of, Plus the Ones That Actually Work **Grayson/Rickey** Limit = 25 *Spec Cons*	Pediatric ALS Workshop: All The Procedures You're Scared of, Plus the Ones That Actually Work **Grayson/Rickey** Limit = 25 *Spec Cons*
Room C156	Patient Care and Assessment with Tactile Sensory Deprivation **Blackford/Schuler** Limit = 25 *Pt. Assess*	Patient Care and Assessment with Tactile Sensory Deprivation **Blackford/Schuler** Limit = 25 *Pt. Assess*	Patient Care and Assessment with Tactile Sensory Deprivation **Blackford/Schuler** Limit = 25 *Pt. Assess*

Downtown Dallas



1 Adam's Mark Hotel Dallas
2 Adolphus Hotel
6 Fairmont Dallas
7 Hampton Inn Dallas - West End/ Convention Center
11 Hyatt Regency Dallas at Reunion
○ DART rail station

Source: Dallas Convention Center & Visitors Bureau

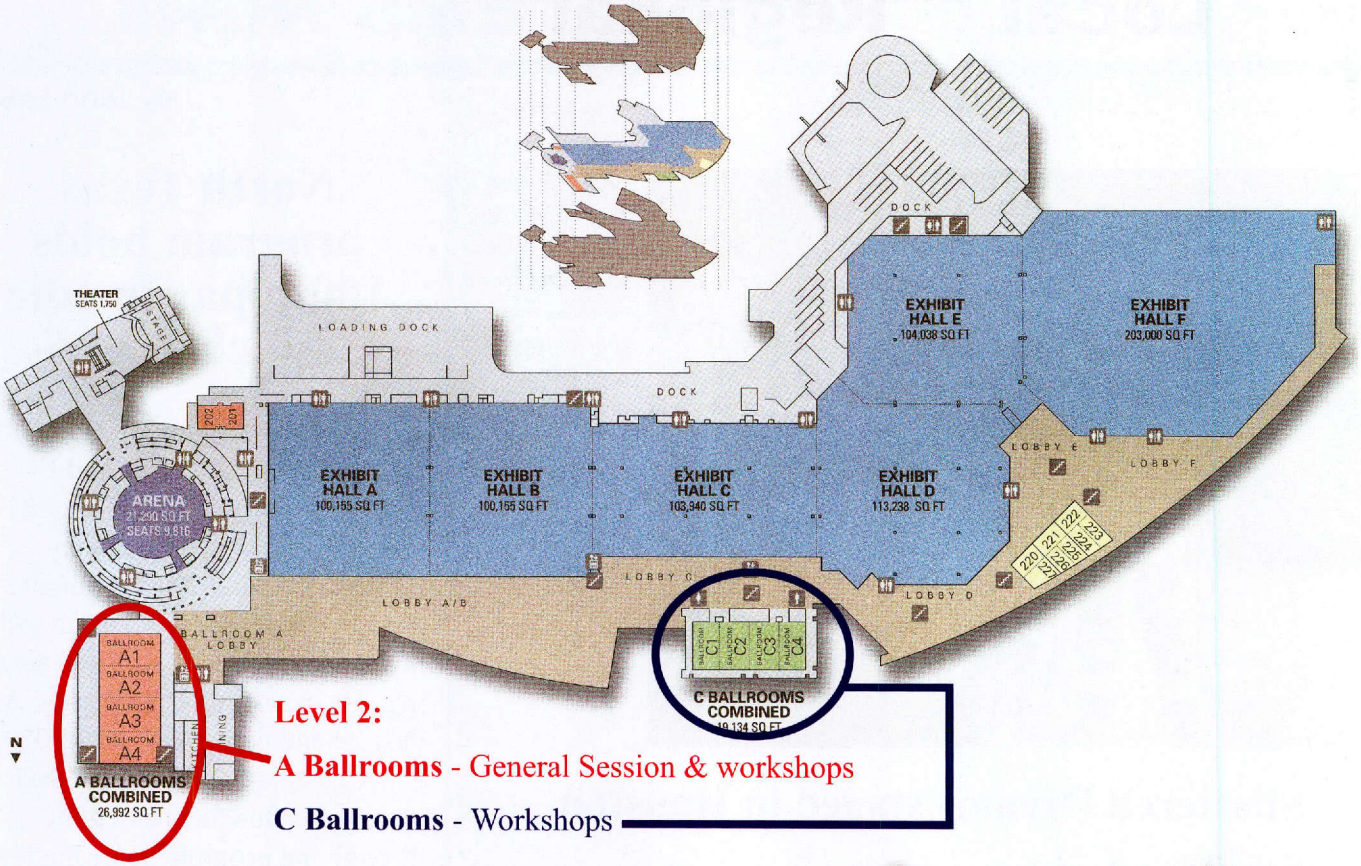
Ride-outs available at conference

Want to get a firsthand look at the types of calls that Dallas Fire-Rescue handles every day? Sign up for a ride-out during Texas EMS Conference. The service has kindly agreed to let interested conference attendees spend a few hours with one of its rescue units. You'll learn about local protocols and get to know some of the Dallas Fire-Rescue medics while witnessing emergency calls up close and personal. For more information or to request a spot, call Capt. Mike Watson at 214-670-0755.

Don't forget to bring your conference handouts

Just like last year, we're relying on you to bring printed copies of classroom handouts with you to Texas EMS Conference. **Printed handouts will not be provided at the conference.** Instead, we are posting electronic versions on our website (www.tdh.state.tx.us/hcqs/ems/06conference.htm). Before leaving for the conference, be sure to visit the site, download the handouts for any classes you might want to attend, and print them. A limited number of CD-ROMs containing the handouts will be available at registration – but when they're gone, they're gone, so it's best to bring printed copies with you. We do it this way to save paper and continue to keep conference costs low. If you have any questions, please email Dawn Whitfield at dawn.whitfield@dshs.state.tx.us, or call her at (512) 834-6700, ext. 2363.

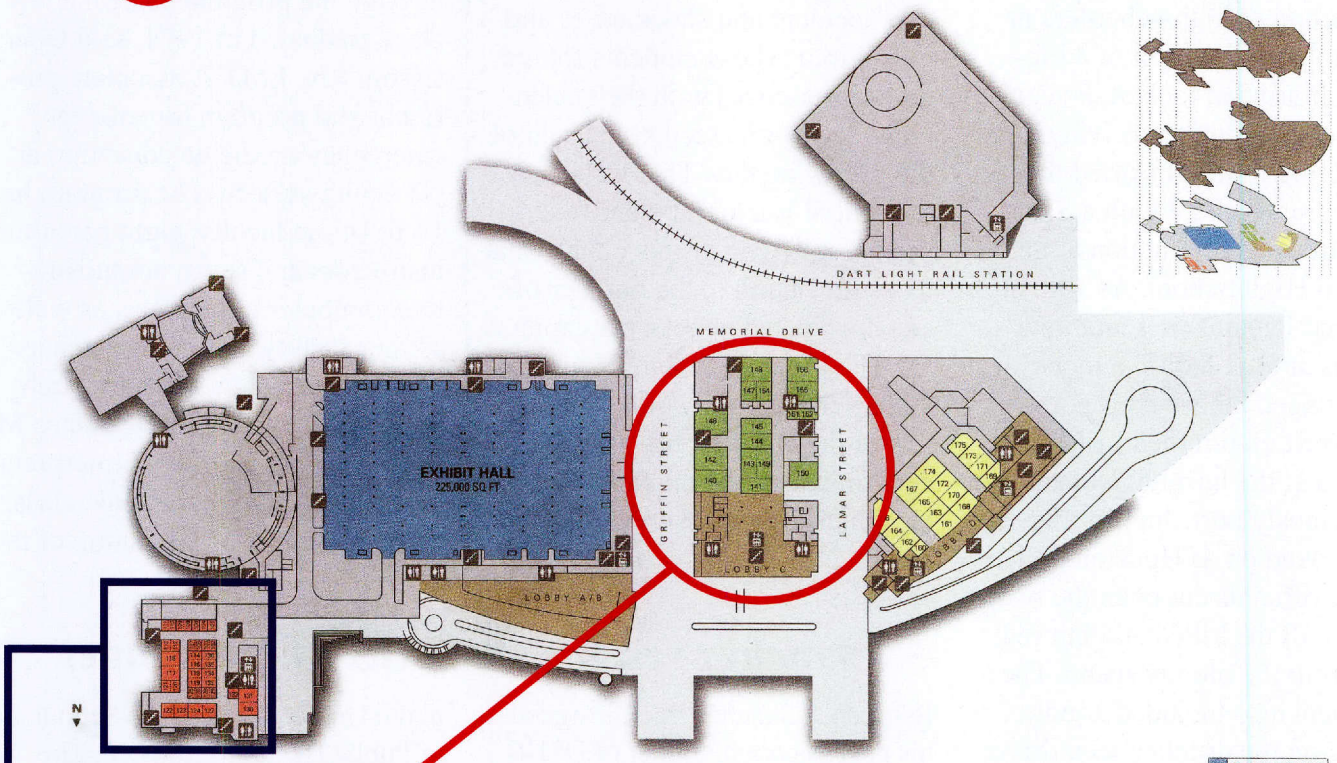
Dallas Convention Center



Level 2:

A Ballrooms - General Session & workshops

C Ballrooms - Workshops



Ground Level:

C meeting rooms - Workshops & 2-hour workshops (sign-up required for 2-hour)

A meeting rooms - other groups' meetings

Source: Dallas Convention Center Facility & Specifications Guide

Local & Regional EMS News

by John LeBas

Sam Houston High School students watch as rescue crews work to free the victims of a mock car crash during a Shattered Dreams anti-drunken-driving program.

Shattered Dreams staged in Houston

A group of high-schoolers in Houston got the lesson of a lifetime: a first-hand look at the consequences of drunken driving, just days before prom. It started the morning of April 27 with a Shattered Dreams presentation at Sam Houston High School. As with all Shattered Dreams presentations, students at took part in a mock wreck staged before their peers. One wreck victim died instantly, one died at the hospital and another was seriously hurt. Juniors and seniors looked on as Houston police and fire officials cut open the two cars to pull the killed and injured teens from the bloody scene. The enactment also included a judge sentencing the drunken teen driver who caused the wreck and hospital officials notifying a family of their daughter's death.

Later that night, a group of 20 students spent the night at the Ben Taub General Hospital, where they saw accident and shock cases and took a tour. Those students shared their experiences with the student body during an assembly at school the following day. That weekend, the school had an incident-free prom – noteworthy in a county that leads the nation in the number of alcohol-related wrecks per capita.

The program at Sam Houston High School was a collaborative effort of the Houston fire and police departments and Ben Taub General Hospital's Trauma Services Department.

North Texas program holds 100th paramedic class

The University of Texas Southwestern Medical Center and El Centro College marked a special milestone this year when they kicked off their 100th paramedic class, marking 32 years of providing the highest level of EMS training. The part-time class started August 29 and continues into 2007.

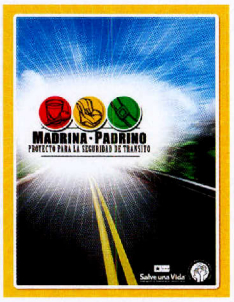
An estimated 3,800 to 4,000 paramedic students have gone through the program since the first class graduated in 1974, said Debra Cason, RN, EMT-P, associate professor and program director for emergency medicine education at UT Southwestern. The program has 16 full-time faculty, eight part-time instructors and seven administrative/computer employees, as well as four faculty and 16 research assistants in the new EMS research arm. Medical director Dr. James M. Atkins still teaches ECG interpretation during every paramedic class, as he has since the beginning of the program.

Sanchez resigns as DSHS commissioner

Eduardo J. Sanchez, MD, resigned his post as commissioner of DSHS effective October 6. He served as commissioner for nearly 5 years, leading an agency of 11,500 employees and an annual budget of $2.3 billion. Sanchez is now director of the Institute for Health Policy in the University of Texas School of Public Health in Houston. The institute, dedicated primarily to the study of health policy in Texas, was created to help researchers communicate their findings with administrators and policy makers.

May wins national teaching award

Vicki L. May, a professor in the Emergency Medical Services Department at the Coleman College for Health Sciences in Houston, has received a national award for service and excellence in her field. The "Heroes in EMS Education" award was given to May by the National Association of EMS Educators (NAEMSE) in September. May was one of nine recipients and the only one from Texas. She was cited for excellence in teaching, outstanding competence, service to the profession, service to students, continuing professional growth, and recognition by colleagues and students in her position as a professional EMS educator. The Coleman College for Health Sciences is part of the Houston Community College System.



The curriculum book for the Madrina-Padrino Traffic Safety Project, printed in both English and Spanish, will be used to teach Hispanics about traffic safety issues.

Hispanic traffic safety effort under way

The South Injury Prevention and Research Center and the Texas Department of Transportation are teaming up for a new, community-based program aimed at combating traffic-related deaths and injuries among Hispanics. The Madrina-Padrino Traffic Safety Project relies on organizations trusted within the Hispanic community to serve as madrinas (godmothers) and padrinos (godfathers). Those organizations are trained in the curriculum – which incorporates customs, values and beliefs within the Hispanic community – and then work to educate Hispanics about traffic safety. The curriculum is now being taught in San Antonio, with plans to take it to the Rio Grande Valley and eventually statewide.

Unexpected rescue lauded in Manvel

Two of Manvel EMS's own were honored in August for their role in discovering a potentially fatal heart problem in a 15-year-old girl. The medics – Rick Wahlquist, EMT-P, and Rick Wilson, EMT-B – examined the teen during a sick call at her home. They couldn't find anything wrong with her, but Wahlquist's instincts told him to keep checking, and he ran a 12-lead as a precaution. That test uncovered a previously undiagnosed heart condition that required immediate medical attention. Doctors told the girl's mother, Manvel police Sgt. Carrie Martin, that her daughter would not have survived without the medics' intervention. In recognition of their help, the city declared Wahlquist and Wilson "Hometown Heroes," and Sgt. Martin's husband, G.D., presented them with flags that flew over the Marine base in Iraq where he worked.

Brackenridge ED to expand

The Brackenridge Hospital Emergency Department is undergoing a renovation that will add 10 trauma and critical care bays. The Austin hospital, a Level II trauma center, is the lead trauma facility for the Central Texas region. Construction for the $6.75 million, nine-month project begins in mid-November and is expected to have minimal impact on incoming EMS vehicles, according to hospital officials. Some EMS patients may need to be transported through secure temporary hallways and tunnels.

LifeCare EMS, the only EMS provider in Parker County, recently opened two new facilities in its service area. Station 2 in Springtown, shown here, replaces an older building, while Station 3 in Willow Park was built to improve response time. Each building has private sleeping quarters, day rooms, kitchens, exercise rooms and office space. LifeCare's MICU ambulances are staffed with dual paramedics and handle about 8,500 calls per year.

Statewide trauma events

More than 200 nurses, physicians, medical directors and EMS professionals attended the third annual EMS and Trauma Care Conference sponsored by Southeast Texas Trauma Regional Advisory Council (SETTRAC). The two-day conference, held in August in Conroe, featured vendor exhibits and presentations on care of trauma patients.

The keynote speaker was Dr. Kenneth Mattox, chief of staff at Ben Taub General Hospital and a world-renowned trauma surgeon. He spoke about medical response by EMS, trauma nurses and physicians in Houston during hurricanes Katrina and Rita.

Visiting faculty members included Pamela Woods, Mary Kay Bader, Robert Vroman, Dr. Bryan Bledsoe and Dr. Eric Frykberg; local faculty included Dr. Michael McKinney, Dr. Rohit Shenoi, Mary Front, Elda Ramirez, Chivas Guillote, Sean Conley, Dr. Imran Fayaz, Melissa Kendrick, Lori Upton, Jeremy Thomas, Douglas Havron and Dr. Brad Scott. The fourth annual SETTRAC EMS and Trauma Care Conference is scheduled for August 2-3, 2007.

Also hosting a trauma symposium in August was the Carl R. Darnall Army Medical Center at Fort Hood. The fourth annual event featured lectures on head trauma, spinal trauma, forensic science, combat nursing, snake bites and oral/facial trauma. Dr. Stephen Hetz, a retired colonel and former surgical consultant to the surgeon general, delivered a keynote address about the 31st Combat Support Hospital in Balad, Iraq. More than 200 people attended the symposium.

The conference committee for the third annual SETTRAC EMS and Trauma Care Conference. Standing (from left): Eric Stricklin, Judy Franco and Bernie Belvin, sitting (from left): Angela Biddle, Robin Garza, Mary Chacko and Cheryl Dykes, kneeling: Sarah Beth Abbott, Denise Williams and Madelyn Jurek. Not pictured: David Rives, Lon Squyers, Marnie Krause, John Wilson and Hallie Booth.

And East Texas Medical Center in Tyler hosted Hot Trauma Topics VI, its sixth annual trauma symposium, this summer as a way to improve trauma care through education. The August symposium was attended by 250 trauma care providers, who heard from local and regional speakers and earned continuing education credits. The featured speaker was Dr. David Tuggle, pediatric and trauma surgeon at the University of Oklahoma Medical Center. The symposium, a project of East Texas Medical Center's Trauma Service, is sponsored in part by an educational grant from the Piney Woods RAC.

Hospital district rewards employees

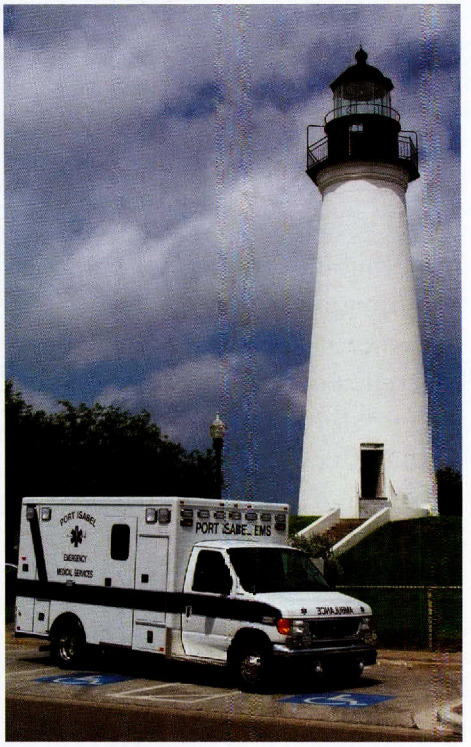
In September, the board of directors of the Montgomery County Hospital District unanimously approved employee bonuses as a reward for increased revenue and achievement of operational goals. All full-time employees received the $1,250 "You Made a Difference Reward!", according to hospital officials, who say the improvements are a result of focusing on employee needs. The hospital saw $850,200 in unanticipated revenue, cost savings and additional investment income last fiscal year, and met goals including increased EMS customer satisfaction, increased employee involvement in decision-making, improved driver safety, and completion of large projects on time and under budget.

New ambulances rolling across Texas

Several services around the state have added new ambulances to their fleets.

The City of Port Isabel EMS recently purchased an ambulance with grant funding from two state sources. The 2006 Type III MICU with BLS capabilities replaced a 1996 model. The Texas Community Development Program provided $75,000 in funding, while the DSHS Local Project Grants program kicked in another $35,000. The ambulance, shown here in front of Port Isabell's 154-year-old lighthouse, is equipped with advanced theft-prevention features and emergency light systems. The EMS service also operates a 2001 model ambulance to cover the city of about 5,000 – a number that swells by thousands during tourist seasons, local officials say.

Moffat Volunteer Fire Department, meanwhile, put its new Rescue One into service. The unit is a 2006 Chevrolet CK4500 chassis with a custom Supreme Corp. rescue bed. It carries all equipment necessary for BLS first responder service, along with a RESQTEC combi-tool and ram, a rescue saw, an air chisel, high-angle rescue equipment and swift-water rescue equipment. Rescue One also is used to pull the department's rescue boat. The basic design of the unit, which cost $80,000 and replaces two old trucks, was done by members of the department. Moffat VFD covers 64 square miles with 8,500 residents in northwestern Bell County.



City of Port Isabel EMS's new ambulance.

And Lake Jackson EMS received approval from the city council for a $109,050 Frazer ambulance on a Chevrolet chassis. The new unit eventually will replace the oldest of the service's three ambulances, *The Facts* reported in September.

Moffat VFD's new Rescue One.

Rapid EMT training yields results for Army Reserve

The San Antonio and Houston offices of medical transport company American Medical Response have reason to be proud. Army reservists in those two cities who went through AMR's new fast-track EMT-B course achieved a first-time pass rate of more than 90 percent for the NREMT exam. The course was developed by the San Antonio operation in response to an Army Reserve request for accelerated training. The intensive 21-day program – which covers 154 hours of didactic and skills sessions along with 36 clinical and field internship hours – was first taught to 27 reservists in San Antonio in June. The students achieved an 85 percent first-time pass rate for the NREMT exam and a 100 percent second-attempt pass rate. The Army Reserve was so pleased with the results that it contracted with AMR for concurrent courses in San Antonio and Houston in August. The first-time pass rate for the two classes combined was 91 percent.

The courses were conducted under advanced coordinator Steve Dralle, AMR's director of operations in South Texas. San Antonio-based lead instructor Julia Fox managed the courses, and Thom Seeber was lead instructor in Houston.

AMR's San Antonio operation also recently started offering EMT-P initial training. The first course, completed in January 2006, resulted in a 100 percent pass rate. The second course ended in July, and results were pending at press time.

FAQ Frequently Asked Questions

By Mattie Mendoza and Aaron P. Patterson

Q: I completed my EMT-basic initial course and need to schedule my National Registry (NR) exam. How do I do that?

A: First, you will need to visit our website and verify that we have received your initial course information from your course coordinator and that our system shows you are "Eligible to test" or "Eligible for National Registry." You can do that using the "Certification Query" link on the homepage our website at www.tdh.state.tx.us/hcqs/ems.

If your status does not reflect any deficiencies and you are eligible to test, then you are ready to schedule your exam. Until January 1, go to the "Schedule an Exam" link on our homepage. From there, choose an exam location and date that is most convenient for you from the calendar at the bottom of the page. Please note your preferred exam number. You will need it to submit your request. Directly below the calendar, you will notice the link "EMS Exam Request Form." Click on this link, fill out the Exam Request Form with your top two exam preferences and submit your request. Within three to five business days, you should receive an email confirmation of your exam registration, including a list of items to bring with you to the test site. (Please disable all blockers on your email system, as this may inhibit our ability to send your confirmation.)

After January 1, you will schedule your NREMT computerized test through Pearson VUE Testing Centers. Pearson VUE will have 14 professional centers and five testing centers located throughout the state. For more information on how the new testing process will work, turn to page 7.

Q: I already submitted my Texas online application for EMT-basic certification, and I'm now told I need to submit another application to take my NR exam. Is this the same application or is it different from what I already submitted?

A: This application is separate from the DSHS certification application and fee you need to submit to become eligible to work in Texas. You can submit your state certification application online from our website at www.tdh.state.tx.us/hcqs/ems. In order to take the NR exam and become nationally registered, you also will need to fill out the NR application and bring it with you along, with the fee, to the test site. You can find more information about NR on its website at www.nremt.org/about/nremt_news.asp.

Q: I took the NR exam for initial certification this summer and failed. I will submit a retest fee and application to the NR, but will I have to submit a retest fee to DSHS also?

A: No. If you complete testing under NR policy and procedures, you will be required to submit the initial application fee to DSHS for state certification only once.

Q: I received one-year reciprocity certification in Texas and have since passed the NR exam. How do I renew my Texas certificate?

A: According to Texas Administrative Code (TAC) 157.33 (i)(3)(Reciprocity),
"(3) Personnel receiving department issued certification through reciprocity must recertify prior to the expiration of the certificate by following the requirements in §157.34 of this title."

You may renew using any of the standard five options, which include NR. So, if you hold current NR certification, you can use that as your state renewal option, with no further action necessary on your part. If not, you may choose from the remaining options. You can view all of the renewal options from the website at www.tdh.state.tx.us/hcqs/ems/TexAdminCode.htm. Click on "Rule 157.34."

FAQ Frequently Asked Questions

Q. Are EMTs required to stop at all traffic accidents unless emergency services are already present?

A. There is no universal, statewide duty to act for EMS personnel in Texas. Generally, EMTs (and paramedics) are not required to stop and render aid if they are not involved in the incident, are *off-duty*, or do not belong to an EMS organization responsible for the location where the incident occurred. However, you need to ensure that your EMS organization does not have specific policies, operating procedures or membership requirements that require something different when you are in your service area. (The service area is the area in which a specific EMS organization responds to requests for emergency care.)

Q. What, if any, kind of emergency equipment can an EMT have in a personal vehicle for use when stopping at a traffic accident?

A. DSHS does not require an EMT to carry any EMS equipment for *personal* use. EMS organizations and medical directors are required to set standards for what equipment is to be carried on EMS vehicles or to be used by the organization's personnel. EMS organizations that allow take-home equipment and personnel to respond from home to emergencies should have policies and procedures for equipment storage and use. Remember, most medical directors do not cover EMTs (or paramedics) if they are not on duty or working for the EMS organization. In those cases, you would not be able to carry any equipment and use it. (This does not include commercially available first aid kits sold to the general public). EMS organizations that allow take-home equipment or vehicles with equipment should ensure they are compliant with all laws and regulations concerning equipment, supply and medication storage.

Q. What is the law regarding the use of lights and sirens?

A. The use of lights and sirens is addressed in the Transportation Code, Chapter 546, Operation of Authorized Emergency Vehicles and Certain Other Vehicles. The wording can be found at http://tlo2.tlc.state tx.us/statutes/tn.toc.htm.

Governor's EMS and Trauma Advisory Council (GETAC)

Dallas Convention Center
650 S. Griffin St.
Dallas, Texas

Saturday, November 18, 2006
8:00 am-10:00 am Education Committee
10:00 am-12:00 pm Stroke Committee
1:00 pm-3:00 pm Pediatric Committee
3:00 pm-5:00 pm Trauma Systems Committee
3:00 pm-6:00 pm Injury Prevention Committee

Sunday, November 19, 2006
8:00 am-10:00 am Combined EMS and Air Medical committees
10:00 am-12:00 pm EMS Committee
1:00 pm-3:00 pm Air Medical Committee
3:00 pm-5:00 pm Medical Directors Committee
5:00 pm-7:00 pm Regional Advisory Council (RAC) Chairs

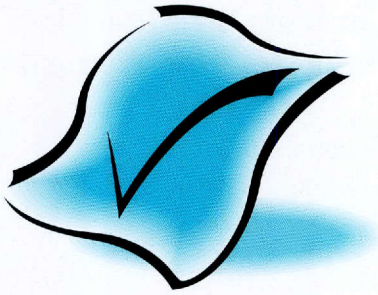
Monday, November 20, 2006
6:00 pm Governor's EMS and Trauma Advisory Council (Hyatt Regency Dallas at Reunion, 300 Reunion Blvd. E.)

All meetings at the convention center take place in the C Ballrooms located on Level 2. Location for the GETAC meeting on Monday can be found at the Hyatt Regency's daily schedule Reader Boards.

Criminal history and EMS

Considering a career? Read the law first

By Donald Jansky, JD



Does a criminal history keep someone from receiving EMS certification or licensure? There is no simple answer. DSHS must abide by the Texas Occupations Code in determining whether to allow the certification or licensure to go forward, so it might be wise to check the factors that DSHS is obligated to use in reviewing an applicant's criminal history. Chapter 53 of the Texas Occupations Code (TOC), "Consequences of Criminal Conviction," lays out the factors that must be considered in reviewing criminal history. And DSHS's own rule – Chapter 25 of Texas Administrative Code (TAC), Section 157.37, titled "Certification or Licensure of Persons with Criminal Backgrounds" – details DSHS's obligation to consider and review the criteria listed in TOC Chapter 53 and spells out the department's authority to deny, decertify, revoke or suspend a certificate or license to people who have *committed* a felony or misdemeanor. Even if the behavior did not result in a criminal conviction or a deferred adjudication – or even just an arrest – DSHS can still propose denial of an application.

Reading the law and rule should help answer most EMS candidates' concerns. Getting familiar with the law is really the first step – whether it's a misdemeanor or a felony, whether the crime happened 15 years ago or just last year, or whether a criminal history includes one crime or several.

A majority of EMS applicants with a criminal history are not denied certification or licensure. The underlying intent of TOC Chapter 53 appears to be to keep a criminal history from being an automatic bar to licensure. Certification depends on a number of factors listed in TOC Chapter 53. The first set lists four major factors that go to the seriousness and nature of the crime, and how the crime might relate to the licensed occupation. The second set (around a dozen or so) goes to the general background of the applicant. Those factors include the applicant's current age, age at time of the crime, work history, rehabilitation and rehabilitative effort, and letters of recommendation from law enforcement and other people. Also, applicants with a criminal history are required to provide not only certified copies of court records, law enforcement offense or incident reports, and their personal written explanation of the crime, but also other documentation to show rehabilitation, work history and good conduct in the community.

DSHS staff will not begin to gather the required information (mostly from the applicant) about the applicant's crimes and general background until it has received an application. If you have a criminal history, gathering the required information can take time. So begin early. Waiting until you have passed your National Registry (NR) exam will only prolong the process. A better option would be to start your documentation collection early and then file your application while you are in the last part of your course. That way, by the time you pass the NR exam, the DSHS application review and criminal history evaluation could be that much further along.

The length of time it takes for DSHS to review these documents depends upon the complexity of the criminal history and how

quickly the applicant provides the required documentation and any additional information requested. Most cases are then presented to the Enforcement Review Committee (ERC) for a decision on whether to grant or deny the application. But this is not done until the applicant has sufficiently completed the application by providing written proof of course completion and passing the NR exam. Even if the applicant receives a formal letter proposing application denial, he or she can still request a formal administrative hearing and also request a face-to-face meeting – an enforcement conference – with DSHS staff to discuss the case prior to such hearing. However, if the decision is still to propose denial, and if the applicant requests an appeal hearing in a timely manner, one will be scheduled and conducted by the State Office of Administrative Hearings before an administrative law judge. The hearing usually results in a written recommendation by the judge to the DSHS commissioner, who makes the final decision about whether to issue the certification or license.

Not only can a potential EMS candidate review Chapter 53 to get a better idea about the factors DSHS uses to deny an application, it can be useful in figuring out what kind of documentations DSHS will require. Section 53.022 states that the licensing authority shall consider:

(1) the nature and seriousness of the crime;
(2) the relationship of the crime to the purposes for requiring a license to engage in the occupation;
(3) the extent to which a license might offer an opportunity to engage in further criminal activity of the same type as that in which the person previously had been involved; and
(4) the relationship of the crime to the ability, capacity, or fitness required to perform the duties and discharge the responsibilities of the licensed occupation.

But, more importantly, the law lists a wide variety of other factors to be considered. And it specifies certain information (simply described) that the applicant is to provide to DSHS for its evaluation process.

Section 53.023 requires the department to consider and for the applicant to provide:

(1) the extent and nature of the person's past criminal activity;

Why does DSHS ask about criminal history?

The EMS rule dealing with the Certification or Licensure of Persons With Criminal Backgrounds says that DSHS "may deny, decertify, revoke, and/or suspend a certificate or license to persons who have committed a felony or misdemeanor…". This rule is in Title 25 of the Texas Administrative Code (TAC), Chapter 157, Section 157.37(a) and can be found online under TAC Viewer at www.sos.state.tx.us/tac.

Also, 25 TAC 157.36(c), titled: "Criteria for denial of certification, or licensure," notes that a certificate or license may be denied for, but not limited to, the following reasons: . . .

(3) conviction of a crime which directly relates to the profession of EMS personnel as described in §157.37 of this title; . . .
(8) making a plea of no contest in any criminal action which relates or could relate to the candidate's ability to carry out EMS duties;
(9) receiving a deferred adjudication in a criminal action which relates or could relate to the candidate's ability to carry out EMS duties; . . .

Additionally, 25 TAC 157.36(b), titled: "Nonemergency suspension, decertification and revocation of a certificant or paramedic licensee," states that the Department may suspend or decertify an EMS certificate-holder or suspend or revoke a licensed paramedic for, but not limited to, the following reasons: . . .

(1) violating any provision of . . . Federal, State, or local laws, rules or regulations affecting, but not limited to, the practice of EMS;
(2) any conduct which is criminal in nature and/or any conduct which is in violation of any criminal, civil and/or administrative code or statute; . . .
(23) having been convicted of any misdemeanor or felony . . .
(29) engaging in any conduct listed in §157.37(a)-(c) of this title whether or not resulting in a conviction.

(2) the age of the person when the crime was committed;

(3) the amount of time that has elapsed since the person's last criminal activity;

(4) the conduct and work activity of the person before and after the criminal activity;

(5) evidence of the person's rehabilitation or rehabilitative effort while incarcerated or after release; and

(6) other evidence of the person's fitness, including letters of recommendation from:
(A) prosecutors and law enforcement and correctional officers who prosecuted, arrested, or had custodial responsibility for the person;
(B) the sheriff or chief of police in the community where the person resides; and
(C) any other person in contact with the convicted person.

Also, according to Section 53.023:

(7) the applicant has the responsibility, to the extent possible, to obtain and provide to the licensing authority the recommendations of the prosecution, law enforcement, and correctional authorities; and

(8) the applicant shall furnish proof in the form required by the licensing authority that the applicant has:
(A) maintained a record of steady employment;
(B) supported the applicant's dependents;
(C) maintained a record of good conduct; and
(D) paid all outstanding court costs, supervision fees, fines, and restitution ordered in any criminal case in which the applicant has been convicted.

The applicant should also keep in mind DSHS regulations about why particular criminal offenses relate to the certification and licensure of EMS personnel. These crimes are noted in 25 TAC 157.37(c)(3) and include offenses under the Health and Safety Code, Transportation Code, Alcoholic Beverage Code and Texas Controlled Substances Act; and certain crimes under the Penal Code, including offenses involving organized crime and offenses against the person, the family, property, public administration, public order and decency, public health, and safety and morals.

But again, for the EMS candidate who has yet to enroll in an EMT or paramedic course, the next best effort a potential candidate – especially one with a substantial criminal history – can make to determine whether the department might propose application denial is to review TOC Chapter 53. Then, if the decision is made to make EMS a career and to enroll in the course, the applicant can begin collection of the documentation that DSHS will use in its evaluation process and send in application toward the end of the course. Still unsure? Consult with an attorney who specializes in representing applicants for state licensure.

Donald Jansky is assistant general counsel at DSHS.

GETAC meets Monday, November 20, at Hyatt Regency Dallas at Reunion

Criteria for evaluation of criminal history
The evaluating criteria of the Texas Occupations Code are as follows:

Section 53.022, titled FACTORS IN DETERMINING WHETHER CONVICTION RELATE TO OCCUPATION, states: In determining whether a criminal conviction directly relates to an occupation, the licensing authority shall consider:

(1) the nature and seriousness of the crime;
(2) the relationship of the crime to the purposes for requiring a license to engage in the occupation;
(3) the extent to which a license might offer an opportunity to engage in further criminal activity of the same type as that in which the person previously had been involved; and
(4) the relationship of the crime to the ability, capacity, or fitness required to perform the duties and discharge the responsibilities of
the licensed occupation.

Section 53.023, titled "ADDITIONAL FACTORS FOR LICENSING AUTHORITY TO CONSIDER," states:

(a) In determining the fitness to perform the duties and discharge the responsibilities of the licensed occupation of a person who has been convicted of a crime, the licensing authority shall consider, in addition to the factors listed in Section 53.022:

(1) the extent and nature of the person's past criminal activity;
(2) the age of the person when the crime was committed;
(3) the amount of time that has elapsed since the person's last criminal activity;
(4) the conduct and work activity of the person before and after the criminal activity;
(5) evidence of the person's rehabilitation or rehabilitative effort while incarcerated or after release; and
(6) other evidence of the person's fitness, including letters of recommendation from:

(A) prosecutors and law enforcement and correctional officers who prosecuted, arrested, or had custodial responsibility for the person;
(B) the sheriff or chief of police in the community where the person resides; and
(C) any other person in contact with the convicted person.

(b) The applicant has the responsibility, to the extent possible, to obtain and provide to the licensing authority the recommendations of the prosecution, law enforcement, and correctional authorities as required by Subsection (a)(6).
(c) In addition to fulfilling the requirements of Subsection (b), the applicant shall furnish proof in the form required by the licensing authority that the applicant has:

(1) maintained a record of steady employment;
(2) supported the applicant's dependents;
(3) maintained a record of good conduct; and
(4) paid all outstanding court costs, supervision fees, fines, and restitution ordered in any criminal case in which the applicant has been convicted.

Traumatic Brain Injury

by Kenny Navarro, LP

photo by Linda Gheen

Objectives:

At the completion of this unit, the EMS provider will be able to

1. Review the anatomy of the brain and the pathophysiology of traumatic brain injury (TBI).
2. Describe the signs and symptoms of hypoxia in TBI.
3. Discuss the effects of hypotension on the TBI patient.
4. Discuss the treatment plan and management of TBI.

Introduction

Head injuries are the leading cause of death among all traumatic injuries. Every year in the United States, 1.5 million to 2 million people will experience a traumatic brain injury.[1] It is estimated that head injuries are responsible for 50 percent to 60 percent of early deaths, with a majority occurring either at the scene or en route to a medical facility.[2,3] The most frequent mechanism of traumatic head injuries in adult patients is motor vehicle accidents,[4] although serious injuries can occur in a variety of ways. Proper identification and management of these patients can significantly reduce their morbidity and mortality.

Primary vs. Secondary Brain Injuries

Traumatic brain injury is a dual insult, with primary and secondary components. The primary injury occurs at the time of impact as some of the brain cells are destroyed instantly or die within a matter of minutes. The amount of damage inflicted during the primary injury can be reduced only by prevention techniques, including the use of seat belts, education on avoiding high-risk activities and on laws regarding drunken driving.

Surviving brain cells not killed immediately may be left vulnerable to secondary brain injury. This occurs as hypotension, hypoxia and increased intracranial pressure (ICP) exert their effects at the cellular level. Many of these injuries are preventable through correct and appropriate care.

Anatomy and Physiology Review

The brain consists of three major regions: the cerebrum, the cerebellum and the brain stem. The cerebrum lies superior to the other parts of the brain and can be visualized by thinking of the way the cap sits on top of a mushroom. It is this region that most people visualize when they hear the word "brain." The cerebrum is divided into regions, such as the frontal, parietal, temporal and occipital regions, named for the skull bones under which they lie. The cerebrum is responsible for motor functions, sensation, expression, appreciation of art and science, and self-awareness. It is this part of our brain that separates us from animals.

The cerebellum lies in the inferior portion of the cranial cavity, below a shelf called the tentorium cerebelli. The cerebellum continually

coordinates the skeletal muscle contractions needed for smooth movement. Cerebellar function occurs subconsciously; that is, we have no awareness of its functioning.

The brain stem lies inferior to the cerebrum and anterior to the cerebellum. It is situated at the upper-most end of the spinal cord. The brain stem and its various parts are responsible for the rigidly programmed autonomic behaviors necessary for our survival, such as cardiac, respiratory and peripheral vascular functioning.

The brain is protected externally by the skull and internally by membranes and a watery cushion. The skull is a closed, bony container that sits atop the spinal column. Nerve fibers from the lower portion of the brain extend through a hole in the skull called the foramen magnum to become the spinal cord. The skull is extremely fragile in some areas and, due to the poor support of the entire structure, is extremely vulnerable to injury.

The three membranes that cover the brain are collectively called the meninges. From the outside, the meninges are the dura mater, arachnoid and pia mater. The dura mater, meaning "tough mother," is a double-layered membrane where it surrounds the brain. The middle menix, the arachnoid, forms a loose brain covering and is separated from the dura mater by a very narrow subdural space. Beneath the arachnoid membrane is the rather wide subarachnoid space, which is spanned by thread-like arachnoid extensions that secure this membrane to the innermost pia mater. (Arachnida means "spider", and this membrane was named for its web-like extensions.) The subarachnoid space is filled with cerebrospinal fluid and is the site of all major cerebral arteries and veins. Since the arachnoid is so fine and elastic, these blood vessels are rather poorly protected. The pia mater, meaning "gentle mother," is the only menix that clings tightly to the brain, following every convolution.

Cerebrospinal fluid (CSF), found in and around the brain and spinal cord, forms a liquid cushion that gives buoyancy to the central nervous system organs. By floating the jelly-like brain, the CSF prevents it from crushing under its own weight. CSF also buffers the brain and spinal cord from blows and other trauma. Additionally, although the brain has a rich blood supply, cerebrospinal fluid helps to nourish the brain and to absorb and remove waste products from neuronal metabolic activity.

Protection from harmful substances in the blood is provided by the blood-brain barrier. This barrier helps ensure that the brain's environment remains stable. The structure of the blood-brain barrier is not identical in all regions of the brain. Only a few substances pass freely through the barrier, including water, nutrients, some electrolytes, fatty acids and fat-soluble substances.

Classification of Primary Brain Injuries

Closed-head injuries are defined as injuries that occur to the brain but do not have any external openings or wounds. In such cases, it is very difficult or even impossible to make a diagnosis in the field as to the extent of the trauma involved. Proper assessment and diagnosis must be made at the hospital using X-rays, MRIs (magnetic resonance images) and computed tomography (CT) scans. CT scanning is an invaluable tool for the evaluation of traumatic head injury. It provides rapid diagnosis of epidural and subdural hematomas, parenchymal injuries and depressed skull fractures.[5]

Mechanism of injury can vary greatly among the different classifications, and it would be futile to try and summarize the types of injuries that could occur based on mechanism of injury alone. Normal mental status and neurological examination does not totally exclude the possibility of intracranial injury.[6] Severe brain injuries can occur with a seemingly harmless blow to the head, and, likewise, a person who takes a severe blow to the head can walk away with minimal damage. One important thing to remember is that brain injury can occur at the point of impact (coup injury), but it also can occur by the ricocheting effect as the brain hits the opposite side of the skull (contrecoup injury).

Concussion – A concussion occurs when brain injury is slight and the symptoms are mild and transient. The victim may be dizzy, see "stars" or lose consciousness briefly, but no permanent neurological damage is sustained. Concussions are graded as mild, moderate or severe depending upon the time interval from impact to recovery from symptoms. As a gen-

eral rule, recovery of neurological function occurs within 24 hours.[7]

Contusion – If the patient's level of consciousness is altered for more than 24 hours, it is a good indication that he or she has suffered a cerebral contusion.[8] In a contusion injury, small blood vessels in the brain rupture and produce a bruise. In cortical contusions, the individual may remain conscious, but severe brain stem contusions always result in unconsciousness (coma) ranging in duration from hours to a lifetime. These patients are at great risk for developing seizures and seizure disorders if they recover. In addition, many contusion injuries are associated with subarachnoid hematomas, as some of the blood may leak out of the ruptured cerebral capillaries and into the subarachnoid space.

Epidural hematoma – Epidural hematomas form between the dura and the skull. Epidural hematomas are almost always arterial in nature, the result of a laceration of the middle meningeal artery.[9] Because the bleeding is arterial in nature, the brain cannot accommodate the sudden increase in volume, intracranial pressure rapidly rises, and death can quickly occur. The classic presentation of an epidural hematoma is in a patient who suffers a blow to the temporal or parietal region of the head and has an initial loss of consciousness. This is followed by a lucid interval lasting for minutes to days during which the patient appears normal and often refuses transport. Near the end of this interval, the patient begins to complain of nausea and headache, and may or may not vomit. A change in orientation will begin at that time, and left uncorrected, death occurs very soon afterward. About 15 percent to 20 percent of patients with epidural hematomas will die.[10] The mortality rate associated with epidural hematomas has decreased significantly in the past 10 years and approaches zero mortality if craniotomies are performed prior to neurological deterioration.[11-13]

Subdural hematoma – Subdural hematomas result almost exclusively from ruptured veins between the dural venous sinuses and the cerebrum.[8] This is usually a slow bleed and the brain has time to enlist the compensatory mechanisms, so changes in the patient's level of consciousness are more subtle. This type of injury is often associated with underlying brain tissue injury. Because of this and even with early surgical intervention, the prognosis is poor, and 50 percent to 80 percent of these patients will die.[10] Symptoms such as unconsciousness and seizures may occur immediately or not begin to appear for weeks or even months after what appeared to be a minor injury. Once symptoms begin to appear in these patients, rapid neurological deterioration follows.

Secondary Brain Injury

Once a primary brain injury has occurred, the entire brain, not just the injured portion, is subject to the effects of a secondary brain injury. For those patients not killed when the primary injury occurs, it is usually the effects of the secondary brain injury that cause significant morbidity and mortality.

Cerebral edema – Maximal cerebral edema following brain injury does not occur until 12 to 36 hours post injury. Head injury is associated with elevated plasma catecholamines and sympathetic activity.[14] This results in an increased need for oxygen. As the cerebral tissue becomes hypoxic, cerebral edema occurs. As the edema increases, intracranial pressure becomes elevated. As intracranial pressure increases, cerebral perfusion decreases, which causes cerebral ischemia, or additional hypoxia. This cycle will continue until the brain becomes anoxic, and death can occur at that point. It is very important to interrupt this cycle as quickly as possible, because when hypoxia is present in patients with severe head injury (Glasgow Coma Scale score < 8), the mortality rate doubles.[15]

Cerebral herniation – Another secondary brain injury is cerebral herniation. In this situation, as the brain tissue swells, it fills up all the available space within the skull. If it continues to swell, the tissue begins to push on a thick area of the dura mater called the tentorium cerebelli. This pushes the cerebrum into the space occupied by the cerebellum.

Within the tentorium is an opening where the cerebrum attaches to the midbrain.[16] If the pressure above this opening is greater than the pressure below it, as might occur with severe brain swelling, part of the cerebrum will herniate or push through the opening. EMS

personnel might be able to tell that this is happening as the herniating brain compresses the third cranial nerve at the opening. This nerve is responsible for pupillary constriction, and compression produces a fixed, dilated pupil. Herniation also compresses the motor pathway responsible for voluntary movement, resulting in weakness or paralysis on the side of the body opposite, or contralateral, to the dilated pupil.

Near the bottom of the cerebellum is an opening in the skull called the foramen magnum. This is where the spinal cord attaches to the brain. As the pressure inside the skull continues to rise, the cerebrum continues to push on the cerebellum and eventually forces it though this opening. As it does, it puts pressure on the medulla, which contains the vital cardiovascular and respiratory centers. When this happens, the breathing pattern becomes irregular, the cardiovascular system fails and the patient dies.

Assessment

As with any type of trauma, initial assessment should begin with the ABCs. It is very important to complete the primary survey while maintaining cervical traction and/or immobilization. This may be difficult in those head injury patients who are combative; however, it is of paramount importance that every possible precaution be taken when trying to prevent further injury to these traumatized patients.

Hypoxia has been associated with increased mortality in patients who have suffered severe brain injuries.[17-20] It is estimated that hypoxia may be present in over 44 percent of all severe traumatic brain injuries (GCS < 9) arriving from the field.[21] The rate, depth and rhythm of respirations should be monitored very carefully. Signs and symptoms of hypoxia include: impaired judgment, confusion, delirium, agitation, unconsciousness, tachycardia, cyanosis of nailbeds and lips, peripheral vasoconstriction and tachypnea.

Patients with significant brain injury sometimes develop abnormal breathing patterns, which can contribute to the development of hypoxia. The patient may go from slow, shallow respiration to rapid, deep respiration, returning to slow and shallow again – followed by periods of apnea. This type of breathing is called Cheyne-Stokes breathing. The next worsening stage of abnormal respiratory patterns as they relate to brain injury is characterized by a very fast, shallow panting. This is called central neurological hyperventilation. As brain injury becomes more severe, respiratory patterns become more irregular. The patient finally exhibits ataxic or medullary breathing before succumbing to the injury.

When assessing the pulse, note the rate and quality of the beat. Cushing's reflex is a slow, bounding pulse in association with an elevated blood pressure. This is the body's attempt to maintain cerebral perfusion by combating the increased intracranial pressure with increased systemic pressure. While Cushing's reflex can be sign of a rapidly expanding hematoma, it is usually a late sign in head injury.[22]

Part of the primary circulatory exam involves bleeding control. If any external bleeding is discovered, attempt to stop the blood loss. The vessels of the scalp do not have the ability to constrict when injured, so the amount of bleeding will be excessive in relation to the size of the laceration.

Utilize a properly sized cuff when obtaining a blood pressure. As isolated head injuries do not cause hypotension in adult patients, the presence of low blood pressure suggests hemorrhage from another source. If hypotension *is* present, for whatever reason, it is associated with worse outcome and increased mortality.[17-19, 23-28] Clinical signs of shock are: cyanosis, pallor, restlessness, anxiety, LOC changes, tachycardia, tachypnea-rapid, shallow respiratory rate, narrowed pulse pressure and hypotension.

An initial neurologic exam is very important in determining the seriousness of injury, and ongoing exams may be used as a guide for measuring the body's physiological response to therapy or the effects of secondary brain injury. The first step in the neurologic exam is an assessment of the level of consciousness. Obviously, patients who have lost consciousness have suffered a significant blow to the head and should be managed appropriately.

Some EMS educational courses advocate the use of AVPU method of describing level of consciousness in the initial assessment. Patients are categorized into those who are alert from

the onset, those who respond to verbal stimuli, those who respond only to painful stimuli, and those who do not respond to stimuli at all. Although this scale is useful for providing an overview of the patient's status, it does not quantify the degree of neurological dysfunction, especially the motor activity.

The Glasgow Coma Scale (GCS) was developed in 1974 as an objective measure of neurological status in head trauma.[29] Since the scale is commonly used in hospitals and ambulances across the country, it is a reliable method of tracking the status of the patient as he or she passes from one area of the health care system into another.[30] The field GCS score has been demonstrated to be an accurate early predictor of outcome; that is, patients with GCS score between 6 and 15 were 30 times more likely to have a good outcome than those with an initial score between 3 to 5.[31] In most cases, GCS less than 8 is considered to be a severe head injury, and mortality is expected at 35 percent even when those patients are treated at specialty centers.[32]

Some EMS providers advocate that certain procedures be performed based on the Glasgow Coma Scale. Many EMS providers remember the phrase, "If the GSC is less than 8, intubate." While this is a catchy little phase and would make a great bumper sticker, it overly simplifies airway management strategies. The decision to intubate cannot be made solely on a GCS.[33] Although the scale is useful in predicting the final outcomes of the patient, it would be difficult to preach that all patients who have a Glasgow score of 8 or below be intubated. A hypoglycemic patient who has been in a traffic accident can score a 3, but instead of needing hundreds of thousands of dollars worth of intensive care, he merely needs 50 cents worth of sugar.

Documentation is also very important. Days later, when the patient is coming out of his drug-induced coma, many nurses and doctors will want to know the patient's initial neurological status in the pre-hospital phase of his treatment. Therefore, in addition to giving a Glasgow score, EMS personnel should document the specific criteria from which the final GCS core was derived. For example, document "eye opening to pain, incomprehensible sounds and abnormal flexion," which corresponds to a Glasgow score of 7. A decrease of two points in a patient with an initial score of 9 or lower indicates a serious injury.[30]

Also part of the early neurological exam is an evaluation of the sensory and motor function of the extremities. Does the patient feel the sensation when his hands and feet are touched? Can the patient wiggle his fingers and toes? If the patient is unconscious, does he respond to stimuli? Both decorticate posturing, where the arms are bent and the legs are straight, and decerebrate posturing, where the arm and the legs are straight, are ominous signs of severe head injury.

Beginning at the top of the head, observe for "DCAPBTLS." Attempt to locate any deformities, contusions, abrasions, punctures/penetrations, burns, tenderness, lacerations or swelling. EMS personnel should follow a systematic approach to assessment by starting at the top, then moving down the sides of the head, to the back and then to the forehead. Care should be taken not to poke into any holes or put pressure on any unstable areas. Gloves should be frequently checked for the presence of blood. This can especially useful in low light situations or for identifying injuries in areas that can't be easily observed.

Evaluate the patient's eyes. Bruising around the eyes, known as raccoon's eyes, or bruising over the mastoid bone, known as battle signs, suggests the presence of a basilar skull fracture. The ears and nose should be evaluated for the presence of blood or leaking cerebrospinal fluid.

Pupils generally are round and roughly equal in diameter; although a slight inequality (less than 1 mm) is common and has no pathological significance.[34] Do the pupils react in response to light? Do they react equally, or does one pupil constrict more rapidly than the other? Pupillary light reflex is an indirect measure of herniation or brain stem injury. An unconscious head-injured patient with a single dilated pupil or bilateral dilated, non-responsive pupils should be suspected of having cerebral herniation. With this in mind, no literature exists regarding the ability of paramedics to accurately assess pupillary light reflex in the field, nor is there literature establishing a relationship between pupil findings in the field with patient outcome.[30]

The head-injured trauma patient should be further evaluated head-to-toe using the DCAPBTLS acronym. This exam should take no longer than 60 to 90 seconds and may yield considerable information about the condition of the patient.

Assessment Variables
Hypothermia

The effects of hypothermia on outcome is very controversial. In the last decade, it was felt that induced hypothermia might offer some degree of protection. Animal models have demonstrated improvement in outcomes when rats suffering from cerebral ischemia were cooled.[35-37] One researcher cooled brain-injured patients to 32 degrees Celsius (89.6 degree Fahrenheit) within 6 hours of injury and found 16 percent more of them had good outcomes when compared to a group that was maintained at normal body temperature.[38] Another researcher found moderate hypothermia improved outcome in 82 patients with severe injury; however, no benefit was observed in those patients with GCS scores below 5.[39] The National Acute Brain Injury Study in 2001 noted that hypothermia, in general, appears to be detrimental in patients over age 45 but beneficial in patients under age 45.[40] Clearly, more information is needed before treatment protocols can incorporate this management strategy.

Hypoglycemia

Glucose is the molecule used by the nervous system for energy production. Symptoms of hypoglycemia, such as diaphoresis, headache and weakness, may become evident as blood glucose levels drop below 80 mg/dL, although no clear correlation between symptoms and glucose levels has been established.[41] In fact, one pre-hospital study found none of these symptoms present in about 25 percent of patients with altered mental status who were ultimately found to be hypoglycemic.[42] Hypoglycemia also can produce focal neurologic deficit and seizure.[43,44] Blood glucose levels less than 30 mg/dL are associated with confusion and delirium, while levels below 10 mg/dL usually produce a deep coma that may not be reversible.[45]

Hypoglycemia can present like traumatic brain injury. Delays in treating hypoglycemia can result in expensive and unnecessary diagnostic testing and interventions,[46] as well as potential deterioration of the patient's condition. It is important that hypoglycemia not be overlooked, and paramedics should not be biased toward closed-head injury by the trauma settings in which they find patients.

Hyperglycemia

The idea that hyperglycemia may contribute to worsening of outcomes in traumatic brain injury is not new. Twenty years ago, it was demonstrated that more severe cerebellar damage occurred in rats when hyperglycemia was present before injury.[47] Follow-up in humans found that patients with high blood glucose levels on admission were associated with the worst neurological outcomes.[48] Another study looked at brain-injured patients with GCS scores below 8 and found that when the post-operative blood glucose level was greater than 200 mg/dL, significantly worse outcomes developed. An interesting side note to this is that these same patients had significantly higher blood glucose levels than brain-injured patients with GCS scores between 12 and 15.[49] This is not too surprising considering the fact that glucose levels in the body tend to rise with the severity of the stress response. The frequency of occult hyperglycemia may be as high as 40 percent in patients with GCS scores below 8.[24]

Treatment Guidelines for Prehospital Management of Traumatic Brain Injury

Because correcting hypoxia early may improve the outcome of head-injured patients, airway maintenance is the most important prehospital concern EMS personnel will face.[50]

Airway

Determine whether the airway is open and whether respirations are of an adequate quality and quantity. Provide airway management and

ventilation as necessary. Oral airways should be used in all unconscious patients. Nasal airways should be used with caution because an improperly inserted nasal airway can result in penetration of the cranial cavity in those patients with basal skull fractures, although there is no evidence in the literature of this happening. What has been demonstrated is intracranial nasogastric tube insertion through cribiform plate fractures.[51]

While controlling the airway, the paramedic should always maintain spinal movement precautions. Place a properly sized, semi-rigid cervical collar on the patient's neck, strap the patient to a spineboard and stabilize the head with some form of head-immobilization device. Be prepared to roll the immobilized patient in the event of vomiting.

Endotracheal intubation with in-line stabilization is the airway method of choice in head-injured, unconscious patients when the proper equipment is readily available. Numerous studies have demonstrated that RSI added to the pre-hospital list of approved procedures increases the success rates for intubation.[52-56]

Despite numerous studies that show the negative effects of hypoxia on outcome of patients suffering severe brain trauma, there is little evidence to suggest that aggressive airway control protocols improve outcome.

Although tracheal tube placement is routinely practiced in the pre-hospital setting, recent data has highlighted the efficacy and significant risks associated with this procedure.[57] Pneumonia has been reported to be four times more likely in head-injured patients who were paralyzed and intubated in the field compared to those whose intubation was delayed until arrival at the hospital.[58,59] An increased incidence of mortality also has been demonstrated in brain-injured patients who were intubated by paramedics over the hospital-intubated patients.[33,57] Other researchers have discovered an increase in total out-of-hospital time intervals, incidence of pneumonia, and mortality when intubation occurred in the field as compared to intubation that occurred in the emergency room, even though the patients intubated in the emergency room were more likely to need immediate surgical intervention, thereby suggesting more severe injury.[60] A review of the National Pediatric Trauma Registry examined over 31,000 pediatric patients with severe brain injury and found no survival benefits offered by pre-hospital intubation when compared to ventilation with a bag-valve mask.[61] And of course, there's the famous Gausche study from Los Angeles that found no survival advantages from endotracheal intubation in 830 pediatric patients age 12 or younger when compared to bag-valve mask ventilation.[62]

A possible explanation for the increase in mortality associated with pre-hospital intubation, especially in the RSI groups, may have to do with the incidence of inadvertent hyperventilation and hypoxia. Unrecognized hyperventilation has been demonstrated both in aeromedical and ground transport groups with RSI-assisted intubation, even when the treatment protocols directed otherwise.[63] In one study, 80 percent of head-injured patients were found to be overventilated, even though the treatment protocol and policy was to avoid it.[24] In the landmark and controversial San Diego RSI study, more than half of the 209 patients developed transient hypoxia, with many of these developing concurrent bradycardia during the airway control attempts.[33]

Hyperventilation

There was a time when hyperventilation was advocated for the treatment of traumatic brain injury,[64-67] but most modern systems have all but abandoned this strategy except for very short periods of time in very specific instances of cerebral herniation caused by increased intracranial pressure. Hyperventilation lowers ICP though cerebral vasoconstriction, which reduces the overall blood flow to the brain.[68] However, in the first 24 hours after injury, cerebral blood flow is already lowered, and hyperventilation further reduces the flow and makes the situation worse.[69] In fact, many authors have observed jugular venous desaturation in hyperventilated patients.[70-72] Hyperventilating head-injured patients appears to be associated with increased mortality when compared to normoventilated patients.[33,73] Hyperventilation is still being recommended in instances of cerebral herniation,[30] although the long-term benefit has not been determined.

Blood Glucose Analysis

As soon as a capillary blood sample can be obtained, a blood glucose determination should be made. As previously mentioned, hypoglycemia can present like traumatic brain injury. If hypoglycemia is found, it should be treated with IV dextrose or IM or SubQ glucagon. Do not let the mechanism of injury create bias toward brain injury in traumatic settings.

IV Fluids

Although many providers downplay the hazards of IV fluids in the field, this therapy is not benign. If hypotonic solutions, such as 5 percent dextrose, are used, water rapidly migrates from the intravascular space into the interstitial and intracellular compartments, which leads to an increase in cerebral edema. Within most EMS systems, an isotonic solution of 0.9% normal saline is used; this slows fluid movement and brain swelling. However, at some point even the isotonic solutions will diffuse out into the cerebral tissue if the patient is overhydrated and if the excess fluid is not excreted.

For hemodynamically stable traumatic brain injury, a single IV established at a TKO rate or saline lock is probably adequate. Attempts at IV access should be made en route. Transport should not be delayed for multiple IV attempts.

On the other hand, traumatic brain injury is significantly complicated by the presence of hypotension. A two-fold increase in adverse outcome defined as severely disabled, vegetative or dead has been reported in brain-injured patients when pre-hospital hypotension is observed.[74] The injured brain becomes unable to autoregulate or control blood flow to neural tissue and becomes very dependent on blood pressure.[75] Hypotension then causes a secondary brain injury that extends beyond the region of the initial injury.[76]

If hypotension is present in the head-injured patient, enough fluid must be administered to maintain a systolic blood pressure of 90-100 mm Hg in the adult. This can usually be accomplished by administering 250 mL boluses of normal saline, with a re-evaluation of the patient between each bolus. The administration of too much fluid may actually contribute to brain swelling and secondary injury.[77]

Researchers have begun to examine alternative crystalloid solutions, which might offer better survival advantages by increasing perfusion to the injured portion of the brain while minimizing the chances of overhydration. It has been demonstrated that resuscitation of traumatic brain injury with large volumes of crystalloid solution, as is currently being practiced in many areas, is actually quite harmful to the patient.[78,79] Small-volume fluid resuscitation using a hypertonic saline has been shown to improve mean arterial pressure in animals and humans[80-88] while lowering intracranial pressures, which often rise following head injury.[89-98]

Antiepileptic Medications

Seizure activity can occur in any patient who receives a blow to the head, regardless of the severity of the injury.[99] The development of seizures early in the course of care does not necessarily mean the patient will develop a long-term seizure disorder. If the adult patient experiences a seizure, a common pre-hospital intervention is to administer a benzodiazepine, such as diazepam. Local medical control will determine the exact amount to be given, but a dose between 2 mg and 15 mg usually will work. Diazepam can cause respiratory depression to the point of apnea and hypotension, especially if given rapidly. EMS personnel must be ready to support ventilation and give a fluid bolus of normal saline, if necessary.

Prophylactic administration of antiepileptic drugs has been shown to decrease the incidence of early seizures in traumatic brain injury, but it does not appear to affect mortality.[100]

Summary

Head injuries continue to be one of the leading causes of traumatic death, but prompt recognition and treatment can significantly reduce the mortality of those patients. Early hyperoxygenation, immobilization and rapid transport to an appropriate facility are key components of proper management of head-injured patients.

Bibliography

1. Sosin DM, Sniezek JE, Thirman DJ. Incidence of mild and moderate brain injury in the United States, 1991. Brain Inj. 1996;10:47-54.

2. Baker CC, Oppenheimer L, Stephens G. Epidemiology of trauma deaths. Am J Surg 1980:1440-1450.

3. Goris RJ, Draaisma J. Causes of death after blunt trauma. J Trauma 1982;22:141-146.

4. McGarry LJ, Thompson D, Millham FH, et al. Outcomes and costs of acute treatment of traumatic brain injury. J Trauma 2002;53(6):1152-1159.

5. Snyder HS, Salo D. Epidural hematomas: an unusual presentation. AJEM 1990; 8:538-541.

6. Feuerman T, Wackym PA, Gade GF, et al. Value of skull radiography, head computed tomographic scanning, and admission for observation in cases of minor head injury. Neurosurgery 1988;22:449-453.

7. Amacher AL. Critical head injuries: Part 1. Pathophysiological effects. Emergency Care Quarterly 1985;1:1.

8. Rausch TJ. The head-injured patient. Emergency 1991;23:44-49.

9. Ficher. Emergency Medicine. John Miley and Sons Publishers, N.Y. 1934:229.

10. Demarest JH (Ed). Prehospital Trauma Life Support. First ed. Akron, Emergency Training Institute, 1986.

11. Cordobes F, Lobato RD, Rivas JJ, et al. Observations on 82 patients with extradural hematoma. J Neurosurg 1981;54:179-186.

12. Rivas JJ, Lobata RD, Sarabia R, et al. Extradural hematoma: Analysis of factors influencing the courses of 161 patients. Neurosurgery 1988;23:44-51.

13. Bricolo AP, Pasut LM. Extradural hematoma: toward zero mortality. Neurosurgery 1984;14:8-12.

14. Clifton GL, Ziegler MG, Grossman RG. Circulating catecholamines and sympathetic activity after head injury. Neurosurgery 1981;8:10.

15. Zhaung J, Schmoker JD, Shackford SR, Pietropaoli JA. Focal brain injury results in severe cerebral ischemia despite maintenance of cerebral perfusion pressure. J Trauma 1992;33:83-88.

16. Moore KA. Clinically oriented anatomy. Baltimore: Williams and Wilkins, 1980.

17. Chestnut RM, Marshall LF, Klauber MR, et al. The role of secondary brain injury in determining outcome from severe head injury. J Trauma. 1993;34:216-222.

18. Pigula FA, Wald SL, Shackford SR, Vane DW. The effect of hypotension and hypoxia on children with severe head injuries. J Pediatr Surg. 1993;28:310-316.

19. Stocchetti N, Furlan A, Volta F. Hypoxemia and arterial hypotension at the accident scene in head injury. J Trauma. 1996;40:764-767.

20. Chestnut RM. Avoidance of hypotension: conditio sine qua non of successful severe head-injury management. J Trauma. 1997;42:S4-S9.

21. Silverston P. Pulse oximetry at the roadside: a study of pulse oximetry in immediate care. BMJ. 1989;298:711-713.

22. McSwain Jr NE, Frame S, Paturas JL. PHTLS: Basic and Advanced Prehospital Trauma Life Support. St. Louis: Mosby. 1999.

23. Kokoska ER, Smith GS, Pittman T, Weber TR. Early hypotension worsens neurological outcome in pediatric patients with moderately severe head injury. J Pediatr Surg. 1998;33:333-338.

24. Jeremitsky E, Omert L, Dunham M, Protech J, Rodriguez, A. Harbingers of poor outcome the day after severe brain injury: hypothermia, hypoxia, and hypoperfusion. J Trauma. 2003;54:312-319.

25. Marmarou A, Anderson RL, Ward JD, et al. Impact of ICP instability and hypotension on outcome in patients with sever head trauma. J Neurosurg. 1991:75;S59-S66.

26. Wald SL, Fenwick J, Shackford SR. The effect of secondary insults on mortality and long-term disability of severe head injury in a rural region without a trauma system. J Trauma. 1991;31:104-110.

27. Pietropaoli JA, Rogers FB, Shackford SR, et al. The deleterious effects of intraoperative hypotension on outcome in patients with severe brain injuries. J Trauma. 1992;33:403-407.

28. Chestnut RM, Marshall SB, Piek J, et al. Early and late systemic hypotension as a frequent and fundamental source of cerebral ischemia following severe brain injury in the Traumatic Coma Data Bank. Acta Neurochir. 1993;59(suppl):121-125.

29. Teasdale G, Jennett B. Assessment of coma and impaired consciousness: A practical scale. Lancet 1974;2:81-84.

30. Gabriel EJ, Ghajar J, Jagoda A, et al. Guidelines for the prehospital management of traumatic brain injury. Brain Trauma Foundation 2000, available at www.braintrauma.org.

31. Massagli TL, Michaud LJ, Rivara FP. Association between injury indices and outcome after severe traumatic brain injury in children. Arch Phys Med Rehabil 1996;77:1125-1132.

32. Marshall LF, Gautille T, Klauber MR, et al. The outcome or severe closed head injury. J Neurosurg. 1991;75:S28-S36.

33. Davis DP, Hoyt DB, Ochs M, Fortlage D, Holbrook T, Marshall K, Rosen P. The effect of paramedic rapid sequence intubation on outcome in patients with severe traumatic brain injury. J Trauma. 2003;54:444-453.

34. Meyer B. Incidence of anisocoria and difference in size of palpebral fissures in five hundred normal subjects. Arch Neurol Psychiatry 1947;57:464-470.

35. Chopp M, Knight R, Tidwell CD, et al. The metabolic effects of mild hypothermia on global cerebral ischemia and recirculation in the rat: comparison to normothermia and hyperthermia, J Cereb Blood Flow Metab. 1989;9:141-148.

36. Jiang JY, Lyeth BG, Kapasi MZ, et al. Moderate hypothermia reduces blood-brain barrier disruption following traumatic brain injury in the rat. Acta Neuropathol. 1992;84:495-500.

37. Smith SL, Hall ED. Mild pre- and posttraumatic hypothermia attenuates the blood-brain barrier damage following controlled cortical impact injury in the rat. J Neurotrauma. 1996;13:1-9.

38. Clifton GL, Allen S, Barrodale P, et al. A Phase II study of moderate hypothermia in severe brain injury. J Neurotrauma. 1993;10:263-273.

39. Marion DW, Penrod LE, Kelsey SF, et al. Treatment of traumatic brain injury with moderate hypothermia. N Engl J Med. 1997;336:540-546.

40. Clifton GL, Choi SC, Miller ER, et al. Intercenter variance in clinical trials of head trauma: experience of the National Acute Brain Injury Study - Hypothermia. J Neurosurg. 2001;95:751-755.

41. Malouf R, Brust J. Hypoglycemia: causes, neurological manifestations, and outcome. Ann Neurol 1985;17:421-430.

42. Hoffman J, Schriger D, Votey S, Luo J. The empiric use of hypertonic dextrose in patients with altered mental status: a reappraisal. Ann Emerg Med 1992;21:20-24.

43. Wallis W, Donaldson I, Scott R, Wilson J. Hypoglycemia masquerading as cerebrovascular disease (hypoglycemia hemiplegia). Ann Neurol 1985;18:510-512.

44. Foster J, Hart R. Hypoglycemia hemiplegia: two cases and a clinical review. Stroke 1987;18:944-946.

45. Ferrendelli J. Cerebral utilization of nonglucose substrates and their effect in hypoglycemia in Brain Dysfunction in Metabolic Disorders, Plum F (ed), Res Publ Assoc Nerv Ment Dis 1974;53:113-130.

46. Luber S, Brady W, Brand A, et al. Acute hypoglycemia masquerading as head trauma: a report of four cases. Am J Emerg Med 1996;14:543-547.

47. Pulsinelli WA, Waldman S, Rawlinson D, et al. Moderate hyperglycemia augments ischemic brain damage: a neuropathic study in the rat. Neurology. 1982;12:1239-1246.

48. Young B, Ott L, Dempsey R, et al. Relationship

between admission hyperglycemia and neurologic outcome of severely brain-injured patients. Ann Surg. 1989;210:466-473.

49. Lam AM, Winn HR, Cullen BF, et al. Hyperglycemia and neurological outcome in patients with head injury. J Neurological outcome in patients with head injury. J Neurosurg. 1991;75:545-551.

50. Gerich TG, Schmidt U, Hubrich V, et al. Prehospital airway management in the acutely injured patient: the role of surgical cricothyroidotomy revisited. J Trauma. 1998;45:312-314.

51. Fremstad JD, Martin SH. Lethal complications from insertion of nasogastric tube after severe basilar skull fracture. J Trauma. 1978;18:820-822.

52. Sing RF, Reilly PM, Rotondo MF, Lynch MJ, McCans JP, Schwab CW. Out-of-hospital rapid-sequence induction for intubation of the pediatric patient. Acad Emerg Med. 1996;3:41-45.

53. Wayne MA, Friedland E. Prehospital use of succinylcholine: A 20-year review. Prehosp Emerg Care. 1999;3:107-109.

54. Pace SA, Fuller FP. Out-of-hospital succinylcholine-assisted endotracheal intubation by paramedics. Ann Emerg Med. 2000;35:568-572.

55. Hedges JR, Dronen SC, Feero S, Hawkins S, Syverud SA, Shultz B. Succinylcholine-assisted intubations in prehospital care. Ann Emerg Med. 1988;17:469-472.

56. Ochs M, Davis DP, Hoyt DB, Bailey D, Marshall LM, Rosen P. Paramedic-performed rapid sequence intubation of severely head-injured patients. Ann Emerg Med. 2002;40:159-167.

57. Murry JA, Berne TV, et al. Prehospital intubation in patients with severe head injury. J Trauma. 2000;49:1065-1070.

58. Sloane C, Vilke GM, Chan TC, et al. Rapid sequence intubation in the field versus hospital in trauma patients. J Emerg Med. 2000;19:259-264.

59. Karch SB, Lewis T, Young S, et al. Field intubation of trauma patients: complications, indications, and outcomes. Am J Emerg Med. 1996;14:617-619.

60. Bochicchio GV, Ilahi O, Joshi M, et al. Endotracheal intubation in the field does not improve outcome in trauma patients who present without an acutely lethal traumatic brain injury. J Trauma. 2003;54(2):307-311.

61. Cooper A, DiScala C, Foltin G, et al. Prehospital endotracheal intubation for severe head-injury in children: a reappraisal. Semin Pediatr Surg. 2001;10:3-6.

62. Gausche M, Lewis RJ, Stratton SJ, et al. Effect of out of hospital pediatric endotracheal intubation on survival and neurological outcome: a controlled clinical trial. JAMA. 2000;283:783-790.

63. Thomas SH, Orf J, Wedel SK, Conn AK. Hyperventilation in traumatic brain injury patients: Inconsistency between consensus guidelines and clinical practice. J Trauma. 2002;52:47-53.

64. Wolf AL. Initial management of brain and spinal cord injured patients. Emerg Med Serv 1989;18:6.

65. Campbell JE. Basic Trauma Life Support, second ed. Englewood Cliffs N.J. Prentice Hall, 1988.

66. Caroline NL. Emergency Care in the Streets. third ed. Boston, Little Brown and Co., 1987.

67. Simon RH. Management of critical head injuries. Emerg Care Quarterly 1985;1:1.

68. Bourma GJ, Muizelaar JP, Choi SC, et al. Cerebral circulation and metabolism after severe traumatic brain injury: the elusive role of ischemia. J Neurosurg. 1991;75:685-693.

69. Marion DW, Darby J, Yonas H. Acute regional cerebral blood flow changes caused by severe head injuries. J Neurosurg 1991;74:407-414.

70. Cruz J, Miner ME, Allen SWJ, et al. Continuous monitoring of cerebral oxygenation in acute brain injury: assessment of cerebral hemodynamic reserve. Neurosurgery. 1991;29:743-749.

71. Sheinberg M, Kanter MJ, Robertson CS, et al. Continuous monitoring of jugular venous oxygen saturation in head-injured patients. J Neurosurg. 1992;76:212-219.

72. Schneider GH, von Helden A, Lanksch WR, et al. Continuous monitoring of jugular bulb oxygen saturation in comatose patients: therapeutic implications. Acta Neurochir. 1995;144:71-75.

73. Muizelaar JP, Marmarou A, Ward JD, et al. Adverse effects of prolonged hyperventilation in patients with severe head injury: a randomized clinical trial. J Neurosurg. 1991;75:731-739.

74. Wald SL, Shackford SR, Fenwick J. The effect of secondary insults on mortality and long-term disability of severe head injury in a rural region without a trauma system. J Trauma. 1993;34:377-381; discussion 381-382.

75. Rosner MJ, Rosner SD, Johnson AH. Cerebral perfusion pressure; management protocol and clinical results. J Neurosurg 1995;83(6):949-962.

76. Graham DI, Ford I, Adams JH, et al. Ischaemic brain damage is still common in fatal non-missile head injury. J Neurol Neurosurg Psychiatry 1989;(3):346-350.

77. Doyle JA, Davis DP, Hoyt DB. The use of hypertonic saline in the treatment of traumatic brain injury. J Trauma 2001;50(2):367-383.

78. Davis, DP, Dunford JV, Poste JC, et al. The impact of hypoxia and hyperventilation on outcome after paramedic rapid sequence intubation of severely head-injured patients. J Trauma 2004;57:(1):1-8.

79. Shafi S. J Trauma 2004 (abstract);57:448.

80. Holcroft JW, Vassar MJ, Perry CA, et al. Use of 7.5%NaCl/6% Dextran 70 solution in the resuscitation of injured patients in the emergency room. Prog Clin Biol Res 1989;299:331-338.

81. Walsh JC, Zhuang J, Shackford SR. A comparison of hypertonic to isotonic fluid in the resuscitation of brain injury and hemorrhagic shock. J Surg Res 1991;50(3)284-292.

82. Schmall LM, Muir WW, Robertson JT. Haemodynamic effects of small volume hypertonic saline in experimentally induced haemorrhagic shock. Equine Vet J 1990;22(4):273-277.

83. Spiers JP, Fabian TC, Kudsk KA, et al. Resuscitation of hemorrhagic shock with hypertonic saline/dextran or lactated Ringer's supplemented with AICA riboside. Circ Shock 1993;40(1):29-36.

84. Kein ND, Reitan JA, White DA, et al. Cardiac contractility and blood flow distribution following resuscitation with 7.5% hypertonic saline in anesthetized dogs. Circ Shock 1991;35(2):109-116.

85. Poli de Figueiredo LF, Peres CA, Attalah AN, et al. Hemodynamic improvement in hemorrhagic shock by aortic balloon occlusion and hypertonic saline solutions. Cardiovasc Surg 1995;3(6):679-686.

86. de Barros LF, Baena RC, Velasco IT, Rocha e Silva M.{Early hemodynamic effects of the rapid infusion of sodium cholroide Dextran-70 hypertonic solution as treatment for hemorrhagic shock in dogs}. Arq Bras Cardiol 1993;61(4)217-220.

87. Ogata H,Luo XX. Effects of hypertonic saline solution (20%) on cardiodynamics during hemorrhagic shock. Circ Shock 1993;41(2):113-118.

88. Holcroft JW, Vassar MJ, Turner JE, et al. 3% NaCl and 7.5% NaCl/dextran 70 in the resuscitation of severely injured patients. Ann Surg 1987;206(3)279-288.

89. Sheikh AA, Matsuoka T, Wisner DH. Cerebral effects of resuscitation with hypertonic saline and a new low-sodium hypertonic fluid in hemorrhagic shock and head injury. Crit Care Med 1996;24(7):1226-1232.

90. Battistella FD, Wisner DH. Combined hemorrhagic shock and head injury; effects of hypertonic saline (7.5%) resuscitation. J Trauma 1991;31(2):182-188.

91. Berger S. Schurer L, Hartl R, et al. Reduction of post-traumatic intracranial hypertension by hypertonic/hyperoncotic saline/dextran and hypertonic mannitol. Neurosurgery 1995;37(1):98-107;discusssion 107-108.

92. Ducey JP, Mozingo DW, Lamiell JM, et al. A comparison of the cerebral and cardiovascular effects of complete resuscitation with isotonic and hypertonic saline, hetastarch, and whole blood following hemorrhage. J Trauma 1989;29(11):1510-1508.

93. Prough DS, Johnson JC, Poole GC, Jr., et al.

Effects on intracranial pressure of resuscitation from hemorrhagic shock with hypertonic saline versus lactated Ringer's solution. Crit Care Med 1985;13(5):407-411.

94. Zornow MH, Scheller MS, Shackford SR. Effect of a hypertonic lactated Ringer's solution on intracranial pressure and cerebral water content on a model of traumatic brain injury. J Trauma 1989;29(4):484-488.

95. Freshman SP, Battistella FD, Matteucci M, Wisner DH, Hypertonic saline (7.5%) versus mannitol; a comparison for treatment of acute head injuries. J Trauma 1993;35(3):344-338.

96. Qureshi AL, Suarex JL, Bhardwaj A, et al. Use of hypertonic (3%) saline/acetate infusion in the treatment of cerebral edema: Effect on intracranial pressure and lateral displacement of the brain. Crit Care Med 1998;26(3):440-446.

97. Simma B, Burger R, Falk M, et al. A prospective, randomized, and controlled study of fluid management in children with severe head injury; lactated Ringer's solution versus hypertonic saline. Crit Care Med 1998;26(7):1265-1270.

98. Schatzmann C. Heissler HE, Konig K, et al. Treatment of elevated intracranial pressure by infusions of 10% saline in severely injured patients. Acta Neurochir Suppl 1998;71:31-33.

99. American College of Surgeons. Advanced Trauma Life Support Program. ChicagoAmerican College of Surgeons. 1989.

100. Temkin NR, Dikmen SS, Wilensky AJ, et al. A randomized, double-blind study of phenytoin for prevention of post-traumatic seizures. N Engl J Med. 1990;323:497-502.)

Traumatic Brain Injury
Quiz

1. When significant force is applied to the brain, such as in a motor-vehicle collision, some of the brain cells are destroyed instantly or die within a matter of minutes. This is an example of

   a. cerebral edema.
   b. primary brain injury.
   c. intracranial pressure.
   d. secondary brain injury.

2. The part of the brain responsible for higher thought processes, sensation, expression, vision and hearing is the

   a. tentorium.
   b. cerebrum.
   c. brain stem.
   d. cerebellum.

3. The part of the brain responsible for coordinating skeletal muscle contractions needed for smooth movement is the

   a. tentorium.
   b. cerebrum.
   c. brain stem.
   d. cerebellum.

4. The part of the brain responsible for the automatic behaviors necessary for survival, such as cardiac, respiratory and peripheral vascular functioning, is the

   a. tentorium.
   b. cerebrum.
   c. brain stem.
   d. cerebellum.

5. The hole at the bottom of the skull where the spinal cord attaches to the brainstem is called the

   a. foramen magnum.
   b. medulla oblongata.
   c. tentorium cerebelli.
   d. subarachnoid space.

6. The outermost membrane (menix) covering the brain is the

   a. pia mater.
   b. arachnoid.
   c. dura mater.
   d. blood-brain barrier.

7. The middle menix (membrane) covering the brain is the

   a. pia mater.
   b. arachnoid.
   c. dura mater.
   d. blood-brain barrier.

8. The innermost menix (membrane) that clings tightly to the brain is the

   a. pia mater.
   b. arachnoid.
   c. dura mater.
   d. blood-brain barrier.

9. If the patient presents with normal mental status and

neurological examination, he or she cannot have a head injury.

a. True
b. False

10. Injuries that occur by the ricocheting effect as the brain hits the side of the skull opposite the point of impact are known as

a. coup injury.
b. contrecoup injury.
c. cerebral herniation.
d. secondary brain injury.

11. A slight brain injury with mild symptoms and recovery of neurological function within 24 hours is known as a

a. contusion.
b. concussion.
c. epidural hematoma.
d. subdural hematoma.

12. You are treating a patient who was struck above the left ear with a baseball. It is reported that the patient lost consciousness for about five minutes before your arrival. The patient is now conscious and alert and does not think he needs to go to the hospital. This patient is exhibiting a classic presentation of a

a. cerebral edema.
b. cerebral herniation.
c. epidural hematoma.
d. subdural hematoma.

13. You are called to a residence where a 34-year-old male could not be roused from sleep. The patient has no medical history. His wife says he had a minor traffic accident about four weeks ago, but it wasn't bad enough for him to go to the doctor. Which of the following primary brain injuries is this patient MOST LIKELY suffering from?

a. Concussion
b. Cerebral edema
c. Subdural hematoma
d. Epidural hematoma

14. When hypoxia is present with severe head injury, the mortality rate

a. increases.
b. decreases.
c. is unaffected.

15. You are treating an 18-year-old male who was thrown from a car during a roll-over. The patient has a Glasgow Coma Score of 4, has evidence of decerebrate posturing, and has one pupil that is completely dilated and non-responsive. Which of the following secondary brain injuries is MOST LIKELY responsible for the patient's appearance?

a. Contusion
b. Concussion
c. Cerebral herniation
d. Subdural hematoma

16. Cushing's reflex, a late sign in head injury, is a

a. slow pulse with an elevated blood pressure.
b. slow pulse with a decreased blood pressure.
c. elevated pulse with an elevated blood pressure.
d. elevated pulse with a decreased blood pressure.

17. The most important prehospital concern faced in the treatment of head-injured patients is

a. airway maintenance.
b. cervical stabilization.
c. control of hemorrhage.
d. choosing appropriate destination.

18. Spinal movement precautions involve

a. head-immobilization device.
b. strapping the patient to a spineboard.
c. a properly sized, semi-rigid cervical collar.
d. All of the above.

19. You are transporting a 21-year-old male who fell 30 feet. GCS is 3 and the patient is breathing about 8 times per minute. Of the following, choose the BEST method of oxygen delivery to this patient?

a. No oxygen is needed
b. Nasal cannula at 6 lpm
c. Non-rebreather mask at 12-15 lpm
d. BVM with 100 percent oxygen and oral airway

20. Hyperventilating head-injured patients appears to be associated with increased mortality and should be avoided except in cases of severe brain injury with evidence of cerebral herniation.

a. True
b. False

This answer sheet must be postmarked by November 20, 2006

CE Answer Sheet Texas EMS Magazine

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Answer Form

Check the appropriate box for each question. All questions must be answered.

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2.	A.☐	B.☐	C.☐	D.☐	12.	A.☐	B.☐	C.☐	D.☐
3.	A.☐	B.☐	C.☐	D.☐	13.	A.☐	B.☐	C.☐	D.☐
4.	A.☐	B.☐	C.☐	D.☐	14.	A.☐	B.☐	C.☐	
5.	A.☐	B.☐	C.☐	D.☐	15.	A.☐	B.☐	C.☐	D.☐
6.	A.☐	B.☐	C.☐	D.☐	16.	A.☐	B.☐	C.☐	D.☐
7.	A.☐	B.☐	C.☐	D.☐	17.	A.☐	B.☐	C.☐	D.☐
8.	A.☐	B.☐	C.☐	D.☐	18.	A.☐	B.☐	C.☐	D.☐
9.	A.☐	B.☐			19.	A.☐	B.☐	C.☐	D.☐
10.	A.☐	B.☐	C.☐	D.☐	20.	A.☐	B.☐		

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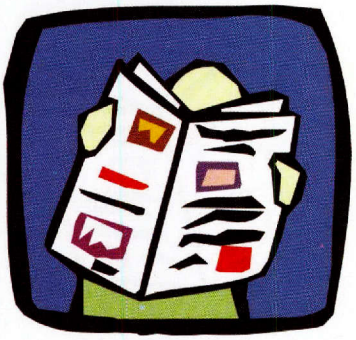

Heavy-hitters in the snack food industry said this fall that they will start replacing junk food in U.S. schools with healthier options, a response to rising obesity among kids. It's a voluntary plan reached between five companies and the Alliance for Healthier Generation, a joint project of the William J. Clinton Foundation and the American Heart Association. The new guidelines would require that foods and drinks contain no more than 35 percent sugar by weight and 230 milligrams of sodium; no trans fats; and no more than 35 percent of their calories from fat. Calorie limits for serving sizes also were set, and the companies are reformulating old products and developing new ones to offer healthier options. The move was applauded by some as an important step in fighting childhood obesity, while others called for government regulation instead of voluntary action. The healthier foods aren't expected to reach vending machines and cafeterias until next school year. Former President Clinton, who spoke at a news conference announcing the agreement, said the effort will take time: "We didn't get in this fix overnight, and we won't get out of it overnight." From *The New York Times*, "Producers agree to send healthier foods to schools," October 9, 2006.

The healthier foods aren't expected to reach vending machines and cafeterias until next school year.

The U.S. Centers for Disease Control and Prevention and five other research centers are launching the largest-ever federal study of what causes autism. The research, involving 2,700 children, will aim to uncover genetic and environmental factors behind the developmental disorder. Scientists will look at medical records of the children and their parents, along with cheek swabs and samples of their blood and hair. The study has been criticized by some parents of autistic children who believe a mercury-based preservative in childhood vaccinations is to blame for many cases. They say the CDC shouldn't be involved because it promotes vaccines for children and won't consider whether they are a cause of the disorder. Because the study will focus on children between ages 2 and 5, it is expected to shed only limited light on whether the preservative – omitted from children's vaccines since 2001 – is a culprit. Previous research has not shown such a link. From Associated Press, "CDC plans largest-ever study on autism," October 9, 2006.

The research, involving 2,700 children, will aim to uncover genetic and environmental factors behind the developmental disorder.

The evaporation of recess from America's schools is getting fresh scrutiny, with parents and doctors alike saying playtime provides social and health benefits that kids can't get elsewhere. Many schools have cut back on playtime, saying the pressure to meet testing requirements means students must spend more time in the classroom. Now, up to 30 percent of children in grades 1 through 6 get 15 minutes or less of recess each day, according to an estimate by the U.S. Department of Education. In place of traditional recess, some educators have introduced stretches and exercises between studies. But other experts say that's

Did you read?

not enough, and an American Academy of Pediatrics report released in October says unstructured playtime is essential in helping kids develop social skills, be creative and gain confidence. Other reports have suggested that recess also helps children focus, resulting in better school performance. From *Wall Street Journal*, "Rethinking Recess," October 10, 2006.

An American Academy of Pediatrics report released in October says unstructured playtime is essential in helping kids develop social skills, be creative and gain confidence.

A new prescription drug to treat Type 2 diabetes was approved by the Food and Drug Administration after trials showed it was just as effective as older medications but caused fewer side effects. Januvia works by boosting the body's ability to lower blood sugar levels. The once-a-day pill, made by Merck and Co. Inc., is expected to cost $4.86, nearly 10 times what older drugs can cost. About two-thirds of patients who took Januvia in a trial were able to lower their averaged blood sugar levels to less than 7 percent, the maximum level recommended for diabetics by the American Diabetes Association. While it doesn't cause as many unwanted results, like weight gain, as older drugs, Januvia is linked to such side effects as upper respiratory tract infection, sore throat and diarrhea. From Associated Press, "Merck diabetes drug wins federal OK," October 17, 2006.

About two-thirds of patients who took Januvia in a trial were able to lower their averaged blood sugar levels to less than 7 percent, the maximum level recommended for diabetics.

A fruity-smelling household cleaner has gotten dozens of Texas children and adults sick in recent months after they took a gulp, apparently mistaking it for a beverage. The cleaner, Fabuloso, comes in bright colors and is packaged in liter bottles that resemble drink containers, doctors treating the rash of poisonings discovered. It also smells yummy, which could be what coaxes the curious and downright thirsty to take a sip. None of the 104 Fabuloso poisonings between January and April were fatal; most cases involved nausea, vomiting and diarrhea. According to Colgate Palmolive, which makes Fabuloso, the company adheres to all federal rules for packing and labeling the product, and that a child-safety cap and better graphics recently were added. Still, with poisonings continuing after the study period, the director of the Central Texas Poison Center at Scott & White Memorial Hospital is pushing for more changes to protect kids and grownups alike. "My concern is that it is so similar to sports drinks," Douglas Borys said. From *Austin American-Statesman*, "Is it a drink? No, it's a cleaning fluid," October 16, 2006.

The cleaner, Fabuloso, comes in bright colors and is packaged in liter bottles that resemble drink containers.

Disciplinary Actions

Absolute Ambulance Service, Weslaco, TX. June 16, 2006, Administrative penalty in the amount of $5,950.00, for violating the EMS Rules 157.11 and 157.16.

Alexander, Christofer J., Allen, TX. July 7, 2006, Reprimand, for violating the EMS Rules 157.36.

Alfaro, Carlos M., La Vernia, TX, August 14, 2006, Reprimand, for violating the EMS Rules 157.36.

All Nations Group DBA Ang EMS, Houston, TX. September 30, 2006, assessment of an administrative penalty in the amount of $9,750.00, for violating the EMS Rules 25 TAC §§ 157.11 and 157.16.

Allen, Roger L., Vernon, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.

Anders, Scott W., Ponder, TX. July 3, 2006, Reprimand, for violating the EMS Rules 157.36.

Arguello, Luis, San Juan, Texas, December 22, 2005 through December 22, 2007, 24 month probated suspension, for violating the EMS Rules 157.37 and Texas Occupation Code Chapter 53 and the Texas Health and Safety Code § 773.061.

Boddie, Anthony A., Houston, TX, March 31, 2006 through March 31, 2007, 12 month probated suspension, for violating the EMS Rules 157.37.

Baileys, Anson, Arlington, TX. Forty-eight (48) month probated suspension of EMS certification through July 21, 2008, for one (1) misdemeanor conviction, and two (2) felony convictions. EMS Rules 157.37 and 157.36(b) and (c).

Barnes, Thomas E., Kerrville, TX, August 14, 2006, Revoked, for violating the EMS Rules 157.36

Barrera, Jeremy L, Odessa, TX, April 27, 2006, Reprimand, for violating the EMS Rules 157.36.

Blair, Patrick R., Arlington, Texas, February 21, 2006, 12 month suspension with 11 months probated after serving an actual 1 month suspension, for violating the EMS Rules 157.36.

Blanton, Christopher A., Wylie, TX, April 17, 2006, Denied EMT-B, for violating the EMS Rules 157.36, 157.37, and the Texas Occupations Code, Chapter 53.

Boldra, Michael, San Antonio, TX. 1 month suspension, followed by 48-month probated suspension through February 2008 of the EMT certification. EMS Rules 157.36(b)(1), (2), (17) and (28).

Bonilla, David, Mission, TX. Thirty-six (36) month probated suspension of EMS certification through November 4, 2007, for one (1) felony deferred adjudication, and one (1) misdemeanor conviction. EMS Rules 157.37 and 157.36(b) and (c).

Brasher, Jr., John L., Texas City, TX, August 3, 2006, Reprimand, for violating the EMS Rules 157.36.

Bray, Randall, San Antonio, TX, August 25, 2006, Revoked, for violating the EMS Rules 157.36.

Brookes, Warren P., Vernon, TX, March 29, 2006, Reprimand, for violating the EMS Rules 157.37.

Byers, Danny, Earth, TX. 60 month probated suspension of EMT-P certification through March 2007. EMS Rules 157.36(b)(1), (2), (23), (25), (26), (28) and (29); 157.37(a)-(c); and Occupations Code Chap 53.

Byrd, Michael W., Houston, TX, August 3, 2006, Reprimand, for violating the EMS Rules 157.37.

Capehart, Robert, Longview, TX, March 27, 2006, Revocation, for violating the EMS Rules 157.36.

Caraway, Cassie D., Port Lavaca, TX, April 27, 2006, Reprimand, for violating the EMS Rules 157.36.

Careflight Ground, Grand Praire, TX. June 23, 2006, Administrative penalty in the amount of $500.00, for violating the EMS Rules 157.11 and 157.16.

Carillo, Tito, El Paso, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.

Castillo, Daniel A., Edinburg, TX, April 13, 2006, Reprimand, for violating the EMS Rules 157.37 and Chapter 773 of the Healthy and Safety Code.

Christus Spohn Brooks EMS, Falfurrias, TX. July 3, 2006, Reprimand, for violating the EMS Rules 157.11 and 157.16.

Clarke, Russell G., Midland, TX. June 5, 2006, 19 months 26 day suspension, for violating the EMS Rules 157.36.

Clear Lake Emergency Medial Corps, Houston, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.11.

Clements, Elizabeth A., Tyler, TX, July 21, 2006, Revocation, for violating the EMS Rules 157.36.

Cole, Kenneth M., Millsap, TX. July 3, 2006, Reprimand, for violating the EMS Rules 157.36.

Cooke County EMS, Gainesville, TX, August 14, 2006, assessed an administrative penalty in the amount of $890.00 for violating the EMS Rules 157.11 and 157.16.

Cooper, Keith A., El Paso, TX. September 27, 2006, Reprimand, for violating the EMS Rules 25 TAC § 157.36.

Cruz, Ricardo, Harlingen, TX, March 16, 2006 through March 16, 2007, 11 month probated suspension with 1 month actual suspension, for violating the EMS Rules 157.37.

Depau, James A., LaPorte, TX. February 21, 2006, 24 months suspension with 18 months probated, for violating the EMS Rules 157.36.

Diaz, Gilbert, Houston, TX, August 9, 2006, Reprimand, for violating the EMS Rules 157.36.

Dube, Chad K., Austin, TX. February 21, 2006 through February 21, 2007, 12 month probated suspension, for violating the EMS Rules 157.36.

Dunn, Joshua D., Beckville, TX. September 14, 2006, Reprimand, for violating the EMS Rules 25 TAC § 157.36.

Duran, Lisa D., Ferris, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.

Everman EMS, Everman, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.11.

Escamilla, Daniel, Corpus Christi, TX. 48 month probated suspension of EMS certification through September 2007, misdemeanor convictions and misdemeanor deferred adjudication probation. EMS Rules 157.37, 157.36(b) and (c).

Everett, Navada, Roscoe, TX, April 27, 2006, 12 month probated suspension with 6 month actual suspension, for violating the EMS Rules 157.36.

Extended Care EMS, Inc., Houston, TX, April 13, 2006, Administrative penalty in the amount of $3,750.00, for violating the EMS Rules 157.11 and Chapter 773 of the Health and Safety Code.

Fason, Carl W., Arlington, TX. June 12, 2006, 8 month suspension through February 12, 2007, for violating the EMS Rules at 25 TAC § 157.36.

Fenner, Lisa L., Pasadena, TX. September 30, 2006, 24 months probated suspension, for violating the EMS Rules 25 TAC §§ 157.36 and 157.37.

Fernung, Lloyd, Austin, TX, Twenty-four (24) month probated suspension of EMS certification through February 2, 2007, for one (1) ,misdemeanor deferred adjudication, and one (1) misdemeanor conviction, EMS Rules 157.37 and 157.36(b) and (c).

Fickey, Bobby, College Station, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.

Flower Mound Fire Department, Flower Mound, TX, assessment of an administrative penalty in the amount of $1,050.00, for violating the EMS Rules 25 TAC § 157.11.

Franks, Steven L., Sherman, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.

First Response Medical Services, McAllen, TX, July 21, 2006, assessed an administrative penalty in the amount of $9,800.00 for violating the EMS Rules 157.11.

Garcia, Adrian J., Brownsville, TX, March 31, 2006, 10 month probated suspension with 2 month actual suspension, for violating the EMS Rules 157.37.

Garcia, Ismael N., Odem, TX. June 5, 2006,12 month 25 day suspension, for violating the EMS Rules 157.36.

Garcia, Mark A., Houston, TX. June 12, 2006, 11 month 19 day suspension through May 31, 2007, for violating the EMS Rules 157.36.

Garner, John, Burleson, TX. 12 month suspension followed by 36 month probated suspension of EMS certification through June 3, 2007 for misdemeanor convictions. EMS Rules 157.37, 157.36(b) and (c).

Garza, Diana, Weslaco, TX, August 14, 2006, Reprimand, for violating the EMS Rules 157.36.

Godkin, Gregory W., Deer Park, TX, April 13, 2006, Voluntary Surrender of EMT-B certification in lieu of the Department taking formal disciplinary action for violating the EMS Rules 157.36.

Gonzalez, Donna, Princeton, TX. 48 months probated suspension of EMT-P license through July 2007. EMS Rules 157.36(b)(1), (2), (26), (27) and (28).

Gonzalez, Fernando, Zapata, Texas, December 22, 2005, 48 months suspension with 45 months probated suspension, for violating the EMS Rules 157.36.

Gonzales, Robert, San Antonio, TX, August 9, 2006, Revocation, for violating the EMS Rules 157.36.

Goodson, Angela R., Amarillo, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.

Grabs, Teresa, Valley Mills, TX. 108 months probated suspension of LP through September 26, 2010. EMS Rules 157.37(c)(2)(3)(G).

Granado, Sammy S., Jr., Midland, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.

Gray, Javiya, Houston, TX. 60 month probated suspension of EMT certification through December 17, 2007, felony deferred adjudication. EMS Rules 157.37, 157.36(b) and/or (c).

Griggs, Clayton, Bagwell, TX. Forty-eight (48) month probated suspension of EMS certification through November 1, 2008, for three (3) misdemeanor convictions. EMS Rules 157.37 and 157.36(b) and (c).

Griego, Julian, Amarillo, Texas, December 22, 2005, 12 month probated suspension, for violating the EMS Rules 157.37 and Texas Health and Safety Code § 773.061 and the Texas Occupation Code Chapter 53.

Groves, Brent, Lake Dallas, TX. 48 month probated suspension of EMS certification through May 5, 2007, felony deferred adjudication probation. EMS Rules 157.37, 157.36(b), and/or (c).

Guin, James A., Bloomburg, TX. July 3, 2006, Reprimand, for violating the EMS Rules 157.36.

Guthrie, Tammy L., Kempner, TX. August 14, 2006, 24 months suspension with 23 months probated suspension after serving an actual one-month suspension, for violating the EMS Rules 25 TAC § 157.36.

Gutierrez, Robert, Converse, TX. Twenty-four (24) month probated suspension of EMS certification through November 1 2006, for one (1) felony deferred adjudication. EMS Rules 157.37 and 157.36(b) and (c).

Hall, Lee, Victoria, TX. Forty-eight (48) month probated suspension of EMS certification through June 29, 2008, for six (6) misdemeanor convictions. EMS Rules 157.37 and 157.36(b) and (c).

Hartz, Mikel, North Richland Hills, TX. September 20, 2006, Reprimand, for violating the EMS Rules 25 TAC § 157.36.

Haskell Co. Ambulance Service, Haskell, TX, April 27, 2006, Administrative penalty in the amount of $3,750.00, for violating the EMS Rules 157.11, and Chapter 773 of the Health and Safety Code.

Hayden, Christopher T., North Richland Hills, TX. June 5, 2006, 9 month 23 day suspension, for violating the EMS Rules 157.36.

Helton, John, Crosby, Texas, December 23, 2005 through December 23, 2006, 12 month probated suspension, for violating the EMS Rules 157.37.

Hemphill, Mark R., Sachse, TX, April 13, 2006, Revocation, for violating the EMS Rules 157.36.

Hendrickson, Andrew A., Carrollton, TX, August 9, 2006, Reprimand, for violating the EMS Rules 157.36.

Hernandez, Rogerio, Brownsville, TX. Thirty-six (36) month probated suspension of EMS certification through November 1, 2007, for one (1) felony deferred adjudication probation. EMS Rules 157.37 and 157.36(b) and (c).

Herrera, Jorge, El Paso, TX. June 5, 2006, 24 month 5 day suspension, for violating the EMS Rules 157.36.

Hiltbrunner, Lois, Shamrock, TX. 48 month probated suspension of EMS certification through September 30, 2007, felony deferred adjudication probation. EMS Rules 157.37, 157.36(b) and (c).

Houdek, Joleen J., Fort Worth, Texas, December 2, 2005, Reprimand, for violating the EMS Rules 157.36.

Iles, Megan, Seabrook, TX. March 7, 2005 through March 7, 2007, 24 month suspension with 23 months probated, for violating EMS Ruiles 157.36.

Jacobs, Daniel E., Dallas, TX, March 27, 2006 through March 27, 2007, 12 month probated suspension, for violating the EMS Rules 157.36.

Jones, Clifford E., Beaumont, TX, April 17, 2006, Denied EMT-B, for violating the EMS Rules 157.36 and 157.37.

Keating, Patricia, El Paso, TX, March 31, 2006, Reprimand, for violating the EMS Rules 157.36.

Kelly, John P., Webster, TX, July 25, 2006, 2 month suspension, for violating the EMS Rules 157.36.

Kennedy, William L., Gun Barrel, TX, September 6, 2006, 12 month suspension, for violating the EMS Rules 25 TAC § 157.36.

Klein, John F., Sulphur Springs, TX. June 5, 2006, 7 month 26 day suspension, for violating the EMS Rules 157.36.

Kline, Kyle, San Leon, TX. Forty-Eight (48) month probated suspension of EMS certification through June 29, 2008, for three (3) misdemeanor convictions. EMS Rules 157.37 and 157.36(b) and (c).

Kohler, Bryan C., Austin, TX, March 16, 2006, Reprimand, for violating the EMS Rules 157.36.

Krodel, James R., Royse City, Texas, December 2, 2005 through December 2, 2007, 24 month probated suspension, for violating the EMS Rules 157.36.

Lacey, Michael C., Austin, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.36.

Langdale, Charles T., Killeen, TX. September 27, 2006, Reprimand, for violating the EMS Rules 25 TAC § 157.36.

Leasure, Adam C., Florence, TX, March 1, 2006 through March 1, 2007, 12 month probated suspension, for violating the EMS Rules 157.36.

Lifeguard Ambulance Service, Dallas, TX, September 6, 2006, assessed an administrative penalty in the amount of $5,650.00 with $50,850.00 administrative penalty probated for 12 months, for violating the EMS Rules 157.11 and 157.16.

Lifeline Ambulance Service, Laredo, TX, April 13, 2006, Administrative penalty in the amount of $3,750.00, for violating the EMS Rules 157.11 and Chapter 773 of the Health and Safety Code.

Llano County EMS, Llano, Texas, July 21, 2006, Reprimand, for violating the EMS Rules 157.11.

Loar, David R., Lubbock, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.

Longoria, Leonard, Murphy, TX, August 9, 2006, Reprimand, for violating the EMS Rules 25 157.36.

Luna, Stephanie D., Lewisville, TX. June 5, 2006, 15 month suspension, for violating the EMS Rules 157.36.

Martello, Joseph, Cooper, TX, December 22, 2005, 36 month probated suspension, for violating the EMS Rules 157.37.

Martinez, Desiderio, La Feria, TX. September 30, 2006, Reprimand, for violating the EMS Rules 25 TAC § 157.36.

Martinez, Jose G., Brownsville, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.36.

Martinez, Julio, Laredo, TX. February 1, 2006, Reprimand, for violating the EMS Rules 157.36.

Martinez, Oscar, Lindale, TX. 48-month probated suspension of EMT-P certification through September 2007. EMS Rules 157.36(b)(1), (2), (19), (26), (27), (28) and (29).

Massey, Charles D., Fort Worth, TX. July 3, 2006, Reprimand, for violating the EMS Rules 157.36.

McGarity, Todd A., Fort Worth, TX. September 6, 2006, six months suspension, for violating the EMS Rules 25 TAC § 157.36.

McCurdy, Daniel L., Austin, TX. March 1, 2006, Reprimand, for violating the EMS Rules 157.36.

McGiboney, Brian R., Danbury, TX, April 17, 2006, Denied ECA, for violating the EMS Rules 157.37 and Texas Occupations Code, Chapter 53.

McGinnis, Ronald, Porter, Texas, December 23, 2005, Reprimand, for violating the EMS Rules 157.36.

Mckinnon, Tammie S., Jasper, TX, September 6, 2006 through February 6, 2007, 6 month suspension, for violating the EMS Rules 157.36.

McMeans, Nancy H., Santa Fe, TX., July 3, 2006, Reprimand, for violating the EMS Rules 157.36.

Medical Ambulance Services Inc., Laredo, TX. June 16, 2006, Administrative penalty in the amount of $11,200.00, for violating the EMS Rules 157.11 and 157.16.

Mendoza, Carlos, El Paso, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.

Mendoza, Juan C., Elmer, OK. June 12, 2006, Reprimand, for violating the EMS Rules 157.36.

Mercado, Mark, Edinburg, TX. Twenty-four (24) month probated suspension of EMS certification through November 1, 2006, for one (1) misdemeanor deferred adjudication and one (1) misdemeanor conviction. EMS Rules 157.37 and 157.36(b) and (c).

Metro-Med, Edingburg, TX, July 21, 2006, assessed an administrative penalty in the amount of $3,750.00 for violating the EMS Rules 157.11.

Mid-Valley EMS, McAllen, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.11 and 157.16.

Mims, Sara K., Watauga, TX, March 29, 2006, Revocation, for violating the EMS Rules 157.36.

Mitlacher, Carol L., Leander, TX. June 7, 2006, 18 month 23 day suspension, for violating the EMS Rules 157.36.

Needham, Christopher, Troup, TX. Twelve (12) month suspension followed by a thirty-six (36) month probated suspension of EMS certification through November 4, 2008, for EMS rule violations. EMS Rules 157.37 and 157.36(b) (1),

(2), (26), (27), (28), and/or (29).
New Life Ambulance, Houston, Texas, August 9, 2005, Administrative Penalty $5,000.00 and fifteen (15) month probated suspension, for violating the HSC §773.041 and 773.050 and EMS Rules 157.11 and 157.16.
Nichols, James J., Lavon, TX, April 19, 2006, 24 month probated suspension, for violating the EMS Rules 157.36.
North East Texas EMS, Center, TX. September 14, 2006, Reprimand, for violating the EMS Rules 25 TAC §§ 157.11 and 157.16.
O'Kane, Thomas, Bacliff, TX. June 12, 2006, 6 month probated suspension through December 12, 2006, for violating the EMS Rules 157.36.
Page, Roger, Mansfield, TX, December 7, 2005, 12 month probated suspension, for violating the EMS Rules 157.36.
Pappas, James, Wake Village, TX, August 25, 2006, Assessed a $700.00 administrative penalty against EMS Coordinator certification , for violating the EMS Rules 157.43.
Parker, Alvin, Jefferson, TX, August 12, 2005, Twenty four (24) month suspension of EMT certification with twenty one (21) months probated, for violating EMS Rules 157.36. (August 12, 2005-August 12, 2007)
Paul, Jon, Rowlett, TX. 48 month probated suspension of EMS certification through September 2, 2007, felony convictions. EMS Rules 157.37, 157.36(b), and/or (c).
Pendergrass, Cassandra D., El Paso, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.
Pickle, Travis, F., Sherman, TX, December 23, 2005, 12 month probated suspension, for violating the EMS Rules 157.36.
Pompa, Veronica, Corpus Christi, TX, December 2, 2005, 36 month probated suspension, for violating the EMS Rules 157.37.
Reed, Carroll, Houston, TX, 48-month probated suspension of EMS certification through August 22, 2007, felony deferred adjudication probation. EMS Rules 157.37, 157.36(b) and (c).
Reed, Johnny, La Porte, TX, April 7, 2006, Reprimand, for violating the EMS Rules 157.37.
Reid, James G., Denton, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.37.
Rinehart, Brian, Kingwood, Texas, December 23, 2005, 12 month probated suspension, for violating the EMS Rules 157.37.
Rosser, Daniel E., Corinth, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.37.
Rosales, Antonio R., San Antonio, TX, March 16, 2006, 12 month probated suspension, for violating the EMS Rules 157.36.
Roth, Peter W., Bandera, TX, August 14, 2006, EMS Instructor certification Revoked, for violating the EMS Rules 157.32 and 157.44.
Rothrock, Kelly C., Texas City, TX, April 27, 2006, Reprimand, for violating the EMS Rules 157.36.
Royal EMS Ambulance Service, Houston, TX. July 7, 2006, Administrative penalty in the amount of $5,200.00 with $2,700.00 probated for three months, for violating the EMS Rules 157.11 and 157.16.
Ruffcorn, Derek, Stockdale, TX. Twenty-four (24) month probated suspension of EMS certification through October 6, 2006, for one (1) felony deferred adjudication. EMS Rules 157.37 and 157.36(b) and (c).
Russell, Richard A., Lufkin, TX, July 21, 2006, 12 month suspension with 11 months and 3 weeks probated after serving an actual 1 week suspension, for violating the EMS Rules 157.36.
Salas, Rosa M., Brady, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.
Scarborough, Samuel L., Hamilton, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.
SF Diamond Corporation, Houston, TX, August 14, 2006, assessed an administrative penalty in the amount of $500.00 for violating the EMS Rules 157.11.
Shelton, Tommy, Crosby, TX. Thirty-Six (36) month probated suspension of EMS certification through May 24, 2007, for one (1) felony misdemeanor. EMS Rules 157.37 and 157.36(b) and (c).
Simmons, Kevin W., Bryan, TX, September 6, 2006, Reprimand, for violating the EMS Rules 157.36.
Singletary, Michael W., The Woodlands, TX, April 17, 2006, Denied EMT-B, for violating the EMS Rules 157.36, 157.37, and Texas Occupations Code, Chapter 53.
Skiles, Billy, Dallas, TX, a one (1) month suspension followed by a forty-seven (47) month probated suspension through March 28, 2009, for violating EMS Rules 25 TAC § 157.36, and/or 25 TAC § 157.37. (March 28, 2005)
Snowden, Casey L., League City, TX. March 1, 2006, 24 months probated suspension, for violating the EMS Rules 157.36.
Southeast Texas EMS, Beaumont, TX, July 21, 2006, administrative penalty in the amount of $5,000.00, for violating the EMS Rules 157.11.
Stewart, Alvin D., Comanche, TX, August 25, 2006, Reprimand, for violating the EMS Rules 157.36.
Sutton, Brian M., Sherman, TX. September 20, 2006, Reprimand, for violating the Health and Safety Code (Act) § 773 and EMS Rules 25 TAC § 157.36.
Sweat, Jr., Derick M., Galveston, TX. March 1, 2006, 12 month suspension with 10 month probated after serving an actual 2 month suspension, for violating the EMS Rules 157.36.
Sweeney, Lisa G., Beaumont, TX, April 27, 2006, Reprimand, for violating the EMS Rules 157.37.
Todd II, Jack W., Tulia, TX. September 14, 2006, Reprimand, for violating the EMS Rules 25 TAC § 157.36.
Torrez, Adriana L., Hurst, TX. July 7, 2006, Reprimand, for violating the EMS Rules 157.36.
Torres, Johnny, McAllen, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.
Torres, Jr., Roberto C., Houston, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.36
Trevino, Guadalupe, Harlingen, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.
Tucker, Chad, Allen, TX, December 7, 2005, 24 month suspension with 21 month probated suspension, for violating the EMS Rules 157.36.
Tuijillo, Thomas, Fort Worth, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.
USA Ambulance Service, Sugar Land, TX. July 3, 2006, Reprimand, for violating the EMS Rules 157.11 and 157.16.
Vernon Fire/EMS Dept., Vernon, TX. June 12, 2006, Reprimand, for violating the EMS Rules 157.11 and 157.16.
Wade, Matthew A., San Antonio, TX, March 27, 2006, 36 month probated suspension, for violating the EMS Rules 157.37.
Watters, Ray G., Burleson, TX, April 3, 2006, Voluntary Surrender of Paramedic License in lieu of the Department taking formal disciplinary action for violating the EMS Rules 157.36.
Wheel Care EMS, Houston, TX, August 25, 2006, assessed an administrative penalty in the amount of $15,000.00 for violating the EMS Rules 157.11.
Willhite, III, John H., Alvin, TX, March 16, 2006, 48 month probated suspension, for violating the EMS Rules 157.36.
Williamson, Bobby, Belton, TX, placed on a twenty-four 24 month probated suspension through April 6, 2007, for violating EMS Rules 157.36, and/or 157.37. (April 6, 2005)
Wilson, Keni M., Clyde, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.
Woody, William K., Cleburne, TX, July 21, 2006, Reprimand, for violating the EMS Rules 157.36.
Wooten, Danny M., Horseshoe Bay, TX, September 6, 2006, Revoked, for violating the EMS Rules 157.36.

Get your flu shots

With flu season once again upon us, doctors are urging immunizations – especially for the very young, older people and others at high risk of flu complications. It's also important for health care providers to get flu shots. The government says plenty of flu vaccine is available this year, so be sure to get yours as soon as possible – and remember that it takes about two weeks for the shot to provide maximum protection.

Meetings & Notices

Calendar

November 3, 2006. **First Annual Austin Medfest**. Join ***STAR** Flight* and Brackenridge Trauma Center for "**MedFest 2006**: Key Concepts in Critical Care and Emergency Medicine at the Texas Disposal Systems Exotic Game Ranch & Pavilion, Austin, TX. Registration form and Conference schedule are available at www.starflightrescue.org. For any questions, contact Paul Kuper, 512/854-3703, Paul.Kuper@ci.austin.tx.us

November 30, 2006. **KCS Hazardous Materials Training.** Laredo and surrounding communities. KCS will provide a locomotive, tank cars, and a classroom boxcar for hands-on training. Training will accommodate only confirmed attendees. Contact Karen Davidson at 816/983-1603 for more information and reservations.

December 4–8, 2006. **NREMT-P Refresher.** Meet Section I CE requirements for NREMT-P in one week. Hosted at Cedar Valley College in Cedar Hill, Virginia. Whether you're preparing to re-register or need a refresher because your first attempt was not successful, this class will get you the hours and content you need to be successful. Call Chris at 972/697-8941 or register online www.consurgo.org/refresher.html.

Deadlines and information for meetings and advertisements

Deadline: Meetings and notices must be sent in six weeks in advance. Timeline: After the pages of this magazine have completely gone through editorial, design and layout, the magazine goes to the printshop to get printed (a 15-working-day process), then on to our mailing service (a four-day process), and then to the post office to get mailed out.

Cost: Calendar items are run at no charge. Calendar items run in the meeting and notices section until just prior to the meeting or class. Classified ads run for two issues unless we are notified to cancel the ad.

Fax or mail: Calendar items can be faxed to 512/834-6736 or mailed to Texas EMS Magazine, Texas Department of State Health Services, 1100 W. 49th St., Austin, TX 78756-3199. Call 512/834-6700 if you have a question about the meetings and notices section.

Jobs

EMT-I/Paramedic Instructor: Clinical Simulation Training & Patient Safety. This is an NIH funded clinical simulation project to study an important patient safety problem. Candidates should be Texas and/or NREMT-P certified or licensed. Preferred Experience: 1 to 2 years of EMS or 911, associate degree or higher, EMS instructor, ACLS, BCLS, PALS. Candidates must demonstrate competency handling emergencies utilizing all basic and ALS equipment and skills. This research will take place at Scott & White Hospital, in conjunction with Texas A&M Health Science Center College of Medicine, and at the Clinical Simulation Center at Temple College, www.templejc.edu/dept/HealthScience/Sim_Center.htm. Send CV and contact information for three references to: Jose F. Pliego, MD, via email at jpliego@swmail.sw.org or by fax 254/724-8344. Call 254/ 724-4320 for additional information. +

Paramedic/EMT-P/RN: Central Texas Hospital in Cameron has immediate openings for the Acute Care Unit and Emergency Room. Flexible schedules and benefits. Apply with David at 254/749-8503 or send resume to centexhospital@gmail.com +

EMT-I/EMT-P/Dispatchers: Montgomery County Hospital District-EMS, the 911 emergency provider for Montgomery County, is seeking to candidates to keep pace with our growing community. Sign on bonuses available for paramedics, intermediates and dispatchers. To apply, contact Human Resources at 936/523-1132 or scox@mchd-tx.org, or apply online at http://www.mchd-tx.org/emp_app.cfm. +

EMT/EMT-I/Paramedic: Knox County Hospital District EMS is accepting applications for full and part-time positions. KCHEMS provides 911 service and MICU level transports for Knox County, averaging 650 calls annually with two primary BLS/MICU units staffed 24/7 and one BLS call-in unit. Paramedics must maintain ACLS, PALS, and PHTLS certifications. Relocation not required and sleeping quarters are available. Resumes may be faxed to KCHEMS Attn: Ronnie Brown at 940/422-4929 or 940/657-5521. For questions or applications contact Ronnie Brown at 940/203-0775 or Lisa Myers at 940/657-3535. +

Part-time Paramedic Instructor: Needed to teach evening courses for the Spring 2007 semester at Trinity Valley Community College in Kaufman (30 miles SE of Dallas). Associate degree or higher and at least 3 years of recent clinical experience in emergency medicine required. For more information, visit www.tvcc.edu/hr/JobOpenings Call 972/932-4309 or send resume to TVCC Health Science Center, 800 HWY 243 W. Kaufman TX 75142. +

Adjunct EMS Instructor: Responsible for general effectiveness of the didactic and clinical experiences of students enrolled in the EMS program at Galveston College. This is a part-time position reporting to the program coordinator. Requires Texas certification as EMT-B and Texas EMS instructor. Preferred associate degree, EMS field experience, and previous teaching experience. Check our website, www.gc.edu for more information.+

EMS Professor: Collin County Community College invites applications for full-time EMS and clinical coordinator professor position, available fall 2006. Requires an associate degree or higher from a regionally accredited institution, indicating a major in emergency medical services or a related field; three years EMS work experience, including one year "street" experience as an "in charge" paramedic. Community college or university teaching experience is desired. Current Texas certified or licensed paramedic, EMS instructor (or eligible to receive certification). ACLS, BTLS/PHTLS, PALS, PEPP, CPR instructor are considered a plus. For more information and to apply online, visit our website at www.ccccd.edu. *

Paramedics: MedStar is seeking experienced paramedics and SSM controllers. MedStar needs great paramedics looking for a home to develop their knowledge, skills, and experience. Salary range of $36,192 to $50,635. Great benefits. Hands-on medical director with progressive protocols. Relocation allowance up to $2,500. For more information, visit the website at www.medstar911.org. *

EMT/EMT-I/EMT-P: Houston

Meetings & Notices

Ambulance Service is now hiring for part and full-time positions. Starting at $13 an hour. For more information, call Gus at 713/225-5367. *

EMS Educators: Austin Community College - EMS Professions is recruiting for full- and part-time faculty positions. Potential faculty must meet SACS accreditation requirements, which include a minimum of three years 911 EMS experience above the EMT-B level, an associate or higher degree in EMS, and current certification or licensure at the paramedic level. For full details on salary, qualifications, and a description of the major duties, or to submit an online application for employment, visit www3.austincc.edu/it/jobs/search.php and follow the link to the faculty or adjunct faculty listings or call 512/223-5621. *

EMT-I/Paramedic: Montgomery County Sheriff's Department Health Services Division is actively recruiting EMT-I and paramedics to work in a Correctional setting. Great benefits, insurance, paid time off, 4-day work week and above average pay. Contact recruiting at 936/538-7733 or call Randy Longdon 936/760-5861 for more information. *

EMS/Clinical Coordinator: College of the Mainland is seeking an Assistant Professor EMS/Clinical Coordinator. Requires paramedic certification; associate degree in EMS or related field, EMS and CPR instructor with 2 years experience as a paramedic, and 2 years teaching experience. Applications can be obtained and submitted to: Department of Human Resources, College of the Mainland, 1200 Amburn Road, Texas City, Texas 77591. For a listing of open positions at College of the Mainland, call 409/938-1211 or 888/258-8859, ext 269 or visit the website at www.com.edu. *

Allied Health CE Coordinator: College of the Mainland is seeking an Allied Health CE Coordinator. Requires associate degree in a health related field such as, but not limited to, nursing, EMS, or respiratory therapy. Prefer CPR instructor. Must have minimum of 1 year experience as a healthcare professional. Teaching experience within a college based program preferred. Applications can be obtained and submitted to: Department of Human Resources, College of the Mainland, 1200 Amburn Road, Texas City, Texas 77591. For a listing of open positions at College of the Mainland, call 409/938-1211 or 888/258-8859, ext 269 or visit the website at www.com.edu. *

For Sale

For Sale: 1995 Ford E350 Type VII Ambulance. E350 RV Cutaway, 1995 Ford E-Series chassis, 7.3 liter turbo diesel E40D, 4-speed automatic axle code E-6. Ambulance built by Collins, c/o Wheeled Coach Inc. with full medical box bed. $8,000. Good condition. Contact Harrell Robinson at 512/632-7260 or Vernon Jordan at 512/894-0574. *

Miscellaneous

National Registry Prep Class: 16 hour refresher class from medical, legal to pediatrics. Good review for national EMT-P curriculum and is designed as a refresher before taking the NREMT exam. Visit www.nationalregistryprep.com for more information, schedules and registration. +

Health Claims Plus: EMS and Fire Department billing. Excellent rates and services. We offer electronic billing, weekly and monthly reports and educational workshops. Contact 1-888-483-9893 or visit www.healthclaimsplus.com. +

Online Education: Online options for a bachelor's degree in public safety management. St. Edward's University in Austin now has an online option for its BA degree in public safety management. The program is accelerated taking one-half the time of a tradition program. There is also an optional BAAS degree for those with an associate degree. For more information visit www.stedwards.edu/newc/pacepsm.htm or call 877/738-4723 or 512/428-1050. +

Rope Rescue Training: Training for fire, EMS, law enforcement and industry in technical rescue, rope rescue, fire rescue, cave rescue, vehicle rescue and wilderness first aid. Call John Green at 361/938-7080 or visit www.texasroperescue.com. +

Texasemt.com: www.texasemt.com your one stop shop for Texas EMT information, news, forums, pictures, patches, and other Texas EMT related merchandise. *

prnMedics.com: Free web based listing service for all certification levels of EMTs. If you are looking for full or part-time employment you can list with us. For more information call 409/284-2947. *

+ This listing is new to the issue.
* Last issue to run (If you want your ad to run again please dall 512/834-6748).

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EMS Profile by Matt McCoy, NREMT-I

EMS Profile: Mills County EMS

photo by Leon Sutherland

From left: Matt McCoy, NREMT-I; Becky Stewart, NREMT-I; John Priddy, EMT-P; Melissa Stevens, NREMT-P; Stefan Jones, EMT-P; Linda Johnston, EMT-P; Mildred Peters, ECA; Tami Keeter, EMT-P, director; Jason Drosche, NREMT-P; Edward Sanders, LP; JoNell Miller, NREMT-P; Debbie Grba, EMT-P; Kendra Major, EMT-P; and Scotty Jones, NREMT-B.

Mills County EMS is a paid and volunteer service headquartered in Goldthwaite. MCEMS has 16 members – six full-time, four part-time and six volunteer. Members include one ECA, three EMT-basics, two EMT-intermediates, nine EMT-paramedics and one licensed paramedic. MCEMS is dispatched from Mills County Sheriff's Department in Goldthwaite and provides 9-1-1 services for approximately 4,800 residents in an area of 850 square miles. MCEMS responds to approximately 600 calls every year. One unit is staffed each day with either dual medics or a paramedic and a lower certification. Medical direction has been voluntarily provided since 1993 by John Dunn, MD, JD, via protocol.

Mills County assumed responsibility of emergency medical services in 1991 and formed MCEMS. Norman Atha held the position of director, and EMS responded from the Mills County Courthouse for the first several years. Tami Keeter, EMT-P, took over Atha's position following his resignation in 1995 and still serves as the EMS director. The county purchased the present home of MCEMS in 1998. The former service station was renovated by EMS personnel, who turned the garage into two ambulance bays, painted the exterior and did a complete makeover of the interior.

MCEMS has three ambulances: one BLS and two MICU. Advanced procedures include 12-lead capabilities, RSI and needle cricothyrotomy. MCEMS regularly transports to emergency rooms at Brownwood Regional Medical Center in Brownwood and Coryell Memorial Hospital in Gatesville. An average transport time is 35 to 40 minutes, and the nearest Level 1 trauma center is Scott & White Hospital in Temple, approximately 1 1/2 hours away by ground. MCEMS has mutual-aid contracts with all services in surrounding counties and uses the services of Air Evac Lifeteam out of Brownwood if criteria for air transport are met.

MCEMS is currently planning a Shattered Dreams program, which is aimed at youth to show the reality and consequences of drinking and driving. Other activities include Relay for Life, health fairs and Vial of Life.

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