

EMS Update

An Emergency Medical Services Learning
Resources Center Publication

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The AirCare Ground Safety courses teach EMS, hospital and law enforcement personnel how to set up a helicopter landing zone and identify obstructions.

The number one threat to a landing EMS helicopter is wires. Wires may be obvious from the ground, but invisible to the helicopter crew — especially at night.



Ground safety courses benefit community emergency personnel

“After 24 years with AirCare, I can't think of anything more important than the safety of the patient, ground personnel and the crew,” says Mike Dillard, RN,

University of Iowa Hospitals and Clinics AirCare flight nurse.

Helicopter safety classes for EMS, hospital and law enforcement personnel are offered free-of-charge through the University of Iowa Hospitals and Clinics AirCare team.

The two-hour classes are provided on-site and earn two continuing education units for certified Iowa EMS personnel.

“We begin the program in a meeting place with a powerpoint

presentation,” adds Mike Dillard. “Then we go outside, have a mock demonstration on how to request AirCare and set up a landing zone in a field.”

Karla Dillard, RN, an AirCare flight nurse since 1993, goes to the landing zone (LZ) and points out wires, etc. Course participants get hands on experience and talk to the helicopter pilots and duty crew by

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Ground Safety cont'd

The helicopter lands and takes off so the observers can see the start up procedure and make sure the tail is clear. Emergency personnel and community members are permitted to sit in the helicopter.

radio. The helicopter lands and takes off so the observers can see the start up procedure.

"We teach helicopter safety, no medical skills," says Karla Dillard. "We appreciate the EMS crews' willingness to learn about helicopter landing zones and ground safety."

All personnel are required to approach the aircraft from the pilot's line of sight and wait until the helicopters shut down.

EMS/fire crews, law enforcement, and medical doctors can request AirCare. The dispatch center personnel will ask who is calling, the location and a ground contact name.

Patient conditions warranting AirCare requests include: airway and breathing emergencies; major lacerations with hemodynamic instability; ground transport more than 30 minutes; Glasgow (consciousness scoring system) of 13 or less; near drowning; motorcycle crash greater than 20mph with ejection; penetrating trauma; crush injury to head/torso; traumatic amputation; falls—adult more than 15 feet or pediatrics two times height of child; multi-system trauma; major burn—20 percent or involving face or airway; any spinal injuries. In addition, motor vehicle crashes with fatality of other occupant; ejection of patient; pedestrian/cyclist crash; or prolonged extrication qualify.

"We request one person to be in charge of setting up the LZ. Ground contact radio frequencies will be used to communicate with the inbound helicopter and we recommend using the law mutual aid 155.475 radio frequency or statewide EMS 155.340," says Mike Dillard.

Landing zone coordinators must consider the wind direction and helicopter approach path; helicopters land and take off into the wind when possible. The approach path into the scene should be clear of height obstructions including wires, poles, antennas, trees, and buildings.



"The number one threat to a landing EMS helicopter is wires," says Mike Dillard. "Wires may be obvious from the ground, but invisible to the helicopter crew. The poles and wires could be hidden in the trees and not noticeable from above—especially at night."

The landing zone should be level with no greater than a 10 degree slope and be free of obstructions such as stumps, bushes, tall grass, hidden holes and ditches, rocks and logs, fence posts, mile markers, loose wire, and road signs.

Sometimes the least obvious obstruction can be the most dangerous, such as trash, debris, signs, and mailboxes. Vehicles and farm animals should also be removed from the landing zone.

"At night the landing zone area should be lighted with crisscrossed low beams or emergency lights to help with visibility," says Karla Dillard. "Pilots also request no spotlights, flares or flash photography during takeoff and landing."

"The patients benefit from the Ground Safety courses because the crews learn to establish a landing

zone which helps speed patient transport," she adds.

The AirCare staff depend on the ground crew for accurate information regarding the landing zone.

"The Ground Safety program gives us a chance to get feedback from our customers on how we can improve our AirCare program to better serve them and the patients," Mike Dillard says.

"Nearly 60 people from Louisa County EMS attended the Ground Safety course and another 100 residents came out to see the helicopter at our athletic fields," says Tom Bryant, director, Morning Sun Ambulance Service. "The next time AirCare is needed we will all be better prepared."

Other Ground Safety courses have been presented recently in Lockridge, Coralville and Kalona.

The AirCare team appreciates a four to six week notice when requesting a Ground Safety course. Contact Diane Lamb, RN, at (319) 353-6360 to schedule a presentation.

For more information on AirCare, visit www.uihealthcare.com/depts/med/emergencymedicine/aircare



Karla Dillard



Mike Dillard



Tom Bryant

From left, Jason Hughes, MD; Eric Nilles, MD; and Chris Russi, DO.



New faculty join Department of Emergency Medicine

Dr. Eric Dickson, director, Department of Emergency Medicine, welcomes new faculty members to the University of Iowa Hospitals and Clinics.

Jason Hughes, M.D., ABFP, FACEP, joined the department in August. Prior to moving to Iowa City, Hughes resided in El Paso, TX, and was an emergency medicine attending physician at Mountain View Regional Medical Center in Las Cruces, NM, and an assistant professor of Emergency Medicine at R.E. Thomason Hospital/Texas Tech Medical School in El Paso, TX. He has experience in rural family practice settings in Minnesota, Hawaii, Alaska, Montana, and Wyoming, was a U.S. Naval flight surgeon and has worked in various public and private emergency medicine settings in Texas.

"I came to the University of Iowa because I like the Midwest and enjoy the different pace from our county hospital on the border of Mexico," says Hughes. "The hospital and the leadership here seem to be excellent role models.

"I look forward to the challenges of any new program; we all want to do well in our teaching and in our

mentoring. Most of my educational enjoyment comes from hands on, clinical teaching."

Hughes' interests include the development of a rural emergency medicine rotation and fellowship.

"I enjoy building quick rapport with patients and the uncertainty of the job. Teamwork, camaraderie, and leadership are all important and why I chose emergency medicine. From the housekeeping staff to the attending surgeons, we all have a job and we all can be a team."

Eric Nilles, M.D., joined the department in early August. Nilles

completed his Emergency Medicine residency in June at New Haven Hospital, Yale School of Medicine. He has been a physician and climber on an international expedition to China and Pakistan and practiced international medicine in Zambia and Cape Town, South Africa.

His research interests are in high altitude and wilderness medicine. In addition to working in the Emergency Treatment Center, Nilles will initiate and teach a Wilderness Medicine Course in the College of

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Eric Dickson, MD



New faculty cont'd



**Roy Werner,
MD**

*The Summer 2004 issue of **EMS Update** introduced new faculty member **Roy Werner, MD**, assistant professor, clinical, Department of Emergency Medicine and medical director, EMS Learning Resources Center.*

Medicine to fourth-year medical students in the Spring of 2005.

"With the recently established residency program, it's a very exciting time to be here," says Nilles. "To participate in the development of this program into a regionally and, ultimately, nationally respected center of emergency medicine is an outstanding opportunity.

"Emergency medicine is unique in its position at the front line of medicine: our doors are open to all patients regardless of financial status, and as a result we see a dizzying array of disease processes," adds Nilles. "The stimulation of the constant variety of illnesses and injuries keeps every day and every shift immensely rewarding."

Chris Russi, D.O., assumed the roles of assistant director, Emergency Medicine Residency and Undergraduate Medical Student Education on July 1. Most recently Russi completed a faculty development fellowship and was a clinical faculty member in the Department of Emergency Medicine, Wright State University, Good Samaritan Hospital in Dayton, OH. He received his Doctor of Osteopathic Medicine degree from Des Moines University and completed his residency in emergency medicine at Regions Hospital in Saint Paul, MN. Russi's academic interests include cardiovascular resuscitation research, toxicology and bedside teaching.

"I wanted to return to Iowa to continue my pursuit of academic emergency medicine and be integral in the development and training of emergency medicine residents," says Russi. "The state of Iowa needs trained emergency providers and I wanted to be a part of that growth.

"I would like to push for more emergency medicine teaching during medical school and work with our EMS and law enforcement agencies to better serve them and our patients," adds Russi.



Advanced Trauma Care for Nurses program introduced

The first Advanced Trauma Care for Nurses (ATCN) program in Iowa, presented October 7 and 8 in Iowa City, was designed for those nurses who have already taken the Trauma Nursing Core Course.

The ATCN course is offered to any nurse working in the emergency department, intensive care unit, the prehospital setting or any department related to trauma care. This program meets the course criteria for trauma education for nurses in Iowa.

"This course coincides with and cooperates with the existing Advanced Trauma Life Support (ATLS) course for physicians," says Rosemary Adam, RN, PS, nurse instructor, EMSLRC, and coordinator of the Advanced Trauma Care for Nurses course.

"The ATCN nurse participants attend the lectures with the physicians but attend separate, interactive, hands-on skill stations designed specifically for the trauma nurse and taught by trauma nurses," adds Adam.

"The unique combination of these two courses (ATLS and ATCN) meets the needs of a true trauma

'team' with physicians and nurses."

The ATCN course offers an educational, collaborative, synchronized team approach to trauma care with the participants of the simultaneous ATLS course. Doctors and nurses caring for trauma patients have the opportunity to share a common language and approach to trauma care.

The ATCN students receive an ATLS textbook, along with an ATCN skill station book.

Linda Peterson, RN, MSN, education coordinator, Winneshiek County Memorial Hospital, Decorah, Iowa, attended the ATCN course held recently in Iowa City.

"I took the course because I think training the nurse and physician together creates a team environment in trauma care," says Peterson. "The Advanced Trauma Care for Nurses reviewed the basic principles of trauma care in small and large hospital settings and included a discussion of the current standards of care for trauma patients.

"I recommend this course to emergency room nurses in particular. The course used realistic case studies which would help rural nurses prioritize trauma care and utilize their resources in the best interest of the patient."

The goal is to offer the Advanced Trauma Care for Nurses course at least once a year in Iowa City and Des Moines as a combined effort between the University of Iowa Hospitals and Clinics and Mercy Hospital, Des Moines.

Fall decaying vegetation mold affects asthma sufferers



Miles Weinberger, MD

For those who experience the heaving chests and wheezing breaths associated with asthma, inhalers have become a part of everyday life. Current studies show the metered dose inhalers with valved holding chambers are most effective.

Patients with asthma who suffer from seasonal outdoor inhalant allergens, may have difficulty breathing in the Midwest from molds that grow on decaying vegetation, especially during the fall.

It is frightening to be unable to breathe comfortably. Asthma is a chronic respiratory disease, often associated with allergies, which can be life-threatening if not properly managed and is characterized by sudden recurring attacks of labored breathing, chest tightness, and coughing.

A fine layer of mucus and fluid washes the airways to remove any bacteria, dirt, or other foreign material that might get into our lungs. The increased mucus in the airways stimulates coughing as the body attempts to clear the airways.

Even when severe, however, the airway obstruction is usually fully reversible, either spontaneously or as a result of treatment.

"Asthma attacks can occur quickly and vary in severity," says Miles Weinberger, M.D., professor, Department of Pediatrics, director, Pediatric Allergy and Pulmonary Division, University of Iowa Hospitals and Clinics. "They range from mild discomfort to life-threatening attacks where breathing may stop."

Some patients have intermittent symptomatic periods brought on by vigorous exertion, cold air, or specific environmental exposures including dust, mold spores, animal fur, feathers, and cigarette smoke. Respiratory infections and certain drugs can also provoke an attack. The attacks can often be prevented by avoiding the causes.

"A bronchodilator inhaler decreases the risk of requiring emergency medical care from rapidly progressive asthma, which on rare occasion can cause brain damage and death," says Weinberger.

"If difficulty breathing is severe and does not permit effective delivery of inhaled medication, a self-injecting adrenaline syringe (EpiPen or Anaguard) provides an emergency measure for temporary relief."



If emergency personnel are called, they will usually find the asthma patient sitting upright, leaning forward with hands on knees, and using accessory muscles to help breathe. The typical asthmatic is in obvious respiratory distress, with rapid and loud respirations; wheezing may be present. Lethargy, exhaustion, agitation, and confusion are signs of impending respiratory failure. An initial health history must be quickly obtained.

Asthma exacerbations are true medical emergencies and emergency response personnel should be aggressive. Initial patient management should be directed at ensuring an adequate airway, providing supplemental oxygen, and reversing the bronchospasm.

Asthma is the leading cause of hospitalization for children and is twice as common in boys as in girls.

Weinberger treats many children with asthma each year. He believes a majority of asthma patients could avoid trips to the emergency room if the families followed some simple guidelines he has developed to manage asthma.

"Children with asthma should go to school, and be able to take part in all physical activity — including competitive athletics, if they're so inclined," says Weinberger. Weinberger believes if physicians and families carefully determine what is needed, asthma will allow more kids to live happier, healthier lives.

For more information visit www.uihealthcare/allerpulm.com

A helicopter lifts off from Crawford County Road E16 as bicycle riders wait at top after a crash brought this summer's RAGBRAI® to a temporary halt.

Photo at right by Gary Frandel. Copyright 2004, The Des Moines Register and Tribune Company. Reprinted with permission.



They helped injured and ill RAGBRAI® bikers along the way

RAGBRAI®, the Register's Annual Great Bicycle Ride Across Iowa®, a seven-day bicycle ride across the state held each July, is planned and coordinated by The Des Moines Register. This rolling celebration of Iowa attracts bikers from all 50 states and many foreign countries.

For road safety reasons, RAGBRAI® is limited to 8,500 week-long riders and 1,500 day pass riders.

The RAGBRAI® route averages 471 miles and is not necessarily flat. It begins somewhere along Iowa's western border on the Missouri River and ends along the eastern border on the Mississippi River.

Paramedic teams patrol the bicycle route and emergency medical treatment is available in each overnight stop and campground.

Bob Libby, PS, Johnson County Ambulance Service, owns four ambulances and is contracted by the

Des Moines Register to provide medical coverage for the week of RAGBRAI®.

Each of the four dedicated Advanced Life Support ambulances is staffed with four nurses and four paramedic specialists. They patrol the route and take care of injured or ill bikers from 6am-6pm. Usually the ambulance crews are not done before 6:30 pm—they like to make sure the majority of the bikers are in the final overnight town.

"We treat lots of riders with dehydration, multiple orthopedic injuries—such as hip, leg and arm fractures due to falls—and head injuries with loss of consciousness," says Libby. "This is different than working as paramedics on the streets; we really need to adapt to the surroundings."

Mark Graber, MD, associate professor clinical, research director, Department of Emergency Medicine, University of Iowa Health Care, rode RAGBRAI® and volunteered to serve as medical director this year.

"I helped design protocols so the ambulances could carry drugs that aren't usually available outside of hospitals such as those for aggressive pain management and to treat heart attacks," says Graber.

"The ambulance crews and I kept in touch via cell phones. I had a first aid kit with me at all times," says Graber. "I stopped and helped several injured bikers who had fallen and hit their heads or scraped themselves. I was able to rule out any C-spine injuries, and none of the bicyclists I treated needed ambulance transport."

Libby says the ambulance crews help pick up bikes at hospitals after they have been treated as well as getting their bike to the next town.

"In addition, we also coordinate locating family in the case of a death on RAGBRAI® and assist families with their needs."

The ambulances are contacted by the local county sheriffs departments over mutual aid frequency.

"This has worked well," says Libby. "One challenge we encounter

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RAGBRAI® cont'd



**Mark Graber,
MD**

is with everyone having cellular telephones and riding in the country, no one knows where exactly they are. So sometimes we get dispatched to 2120 365th Street and we have no idea where that is on our maps.

"Most pages are, 'biker down' and you might hurry and get there and by the time you get there they have gotten up and ridden down the road," adds Libby.



Bob Libby

It takes two to three months to prepare for RAGBRAI®. All the emergency rooms along the route have extra staff and have been fully briefed on cycling injuries. Libby visits each overnight town and talks to the local ambulance services, hospitals, and police departments about preparing for 10,000 bikers coming to a small community.

"I talk to them about first aid tents and help the hospitals plan to streamline the mass amount of people they might see," says Libby.

The highway patrol, police departments and dispatch centers are aware of the ambulance crews' responsibilities and know how they can assist.

Libby creates daily color-coded route maps so each ambulance crew knows their assignment.

"Each ambulance is assigned to a color which is one of four sections on the map," says Libby. "If a biker goes down in an assigned colored section, that crew goes. If the call announces 'biker down, CPR in progress' other colored sections respond also.

"We responded to an accident the first day; the victim was wearing a helmet, but died of a head injury," says Libby. "We didn't treat any cardiac arrest patients this year, but we typically have at least one. That's why we choose to carry particular drugs for cardiac arrests."

Although Libby estimates that 90 percent of RAGBRAI® riders wore helmets, Graber pleads for all cyclists to always wear helmets.

EMSLRC adds experienced instructor

Lee Ridge is a well respected member of the Iowa EMS community. We are privileged to have him join our staff," says Doug York, PS, director, EMS Learning Resources Center.

Ridge, a paramedic specialist and a certified flight paramedic, has been a paramedic for 21 years and is a 16-year member of the Covenant Medical Center AirCare II flight team, Waterloo, Iowa.

His many other certifications include: EMS Instructor, National Registry Paramedic practical exam evaluator, Critical Care Paramedic, and Neonatal Resuscitation Program.

Ridge is also certified to provide and teach Basic Cardiac Life Support, Advanced Cardiac Life Support, Pediatric Advanced Life Support, Prehospital Trauma Life Support—Basic and Advanced, Advanced



Medical Life Support, Prehospital Pediatric Care, Pediatric Education for Prehospital Professionals, and Geriatric Education for Emergency Medical Services.

"Lee is a tremendous asset to the EMSLRC in the classroom," adds York. "In addition, he coordinates paramedic students' clinical rotations and ride times and has assumed other administrative responsibilities."

Ridge has been a member of the EMSLRC adjunct faculty since 1987.

EMS Update

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All e-mails will receive a response.

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EMSLRC course calendar

		CMEs	CEUs	CEHs
2004				
Nov 15	Iowa City: Pediatric Advanced Life Support Provider Renewal	—	0.4	—
Dec 3	Iowa City: Heartsaver First Aid	—	—	—
Dec 8	Iowa City: Neonatal Resuscitation Program Provider Renewal	—	.58/.33	—
Dec 9	Iowa City: Prehospital Trauma Life Support Instructor	—	0.7	—
Dec 10	Iowa City: Advanced Cardiac Life Support Provider Renewal	—	.45	—
Dec 16-17	Iowa City: Pediatric Education for Prehospital Professionals	—	1.45	—
2005				
Jan 3	Iowa City: Paramedic Specialist Full-time Training Program begins	—	—	—
Jan 22-23	Creston: Prehospital Trauma Life Support Basic/Advanced Provider	—	1.6	16
Feb 5	Ottumwa: Advanced Cardiac Life Support/ Pediatric Advanced Life Support Instructor Renewal	Varied	Varied	Varied
Feb 12-13	Iowa City: Prehospital Trauma Life Support Basic/Advanced Provider Renewal	—	1.6	16
Feb 14, 16, 21, 23	Iowa City: Advanced Cardiac Life Support Provider	—	1.53	—
Feb 19-20	Mt Vernon: Pediatric Education for Prehospital Professionals	—	1.45	—
Feb 19-20	Charlotte: Prehospital Trauma Life Support Basic/Advanced Provider	—	1.6	16
Feb 25	Davenport: Advanced Trauma Life Support Student Refresher	5	—	—
Feb 26-27	Iowa City: National Registry EMT Practical Exam	—	—	—
Mar 4-5-6 18-19-20	Iowa City: EMS Refresher	—	—	48
Mar 7	Iowa City: Advanced Cardiac Life Support Provider Renewal	—	.45	—
Mar 8-9	Iowa City: Pediatric Education for Prehospital Professionals	—	1.45	—
Mar 12	Iowa City: National Registry EMT Practical Exam	—	—	—
Mar 17-18	Iowa City: Geriatric Education for Emergency Medical Services	—	Varied	Varied
Mar 24-25	Iowa City: Advanced Trauma Life Support Student	19	—	—
Mar 25	Iowa City: Advanced Trauma Life Support Student Refresher	5	—	—
Mar 31-Apr 1	Iowa City: Advanced Cardiac Life Support/ Pediatric Advanced Life Support Instructor and Renewal	Varied	Varied	Varied
Apr 2	Ft Dodge: Advanced Cardiac Life Support/ Pediatric Advanced Life Support Instructor Renewal	Varied	Varied	Varied



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