

# EMS Update

An Emergency Medical Services Learning Resources Center Publication

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*Because of Columbine High School's explosions and associated hazards, incoming ambulances were repositioned and staged in a "V" shaped, side-by-side manner for easy departure from the scene.*



## Iowa plans emergency responses to school violence

**M**ore than 150 EMS and fire personnel responded to a call on April 20, 1999, when

two students at Columbine High School in Littleton, Colorado, went on a shooting rampage that left one teacher and 11 classmates dead. The gunmen took their own lives as well. More than 160 patients had to be triaged; 24 students had been shot or wounded by explosions and needed immediate care.

The Columbine incident was a

dangerous and frustrating call for emergency and fire personnel. The most stressful obstacle was the long wait responders had to endure until they could access trapped and injured students inside the school. The fear of the unknown affected everyone at the incident. Rescuers didn't know if they

*continued on page 2*

# School violence

*School emergency procedure flip charts, shown at right, are available by calling the Iowa Department of Emergency Management at (515) 281-3231.*

were going to be called to treat 10 more victims or 200.

Ray Rahne, batallion chief, Littleton Fire Department, established initial EMS and fire command. Rahne, a paramedic for 20 years, says the first call to respond was for a possible explosion or driveby shooting.

"It was very calm when we first arrived," says Rahne. "Some teachers and students in the school yard didn't know what happened; they heard the fire alarm go off and left the school.

"Then reality hit. There were victims in the back of the school with numerous gunshot wounds including the head and face."

As EMS, fire and police began arriving, Rahne says communication became a huge problem.

"There were 900 police officers from 27 different departments, seven different fire departments with different communication systems," says Rahne. "Only a few could talk to each other."

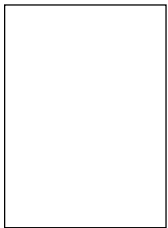
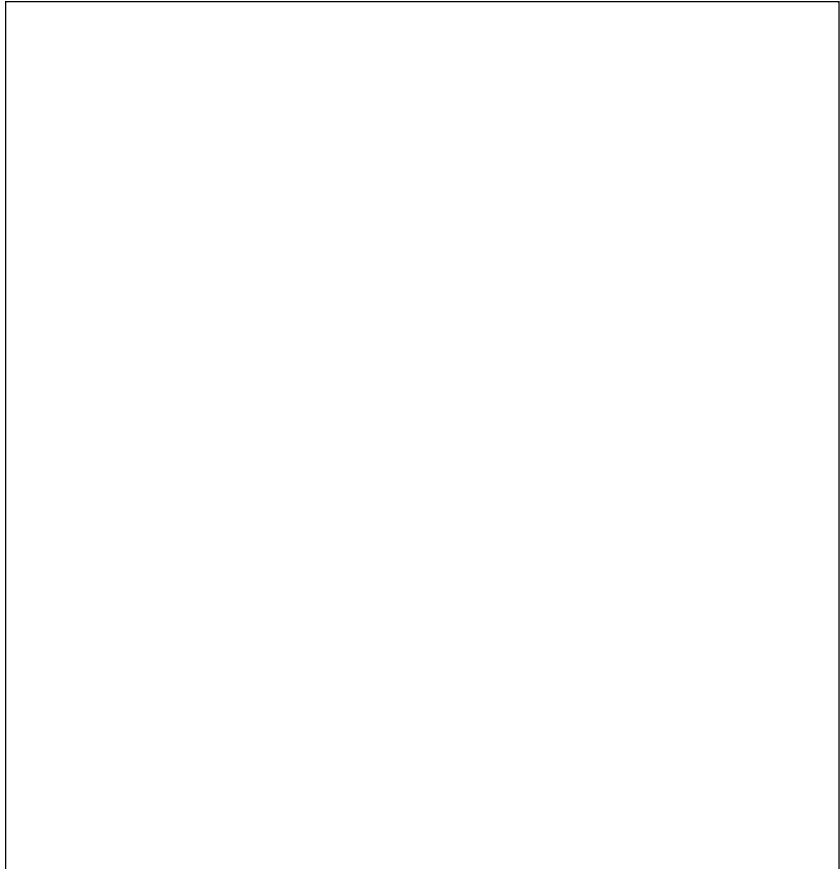
He says response teams must have compatible radio frequencies. In addition, he warns responders that original information received in a mass casualty like this will be unclear, overwhelming and conflicting.

"Emergency responders must develop a preplan for schools," says Rahne. "We now have videos of each school on CD-ROM. We bring them up on our laptop computers and see all angles and corners in the schools."

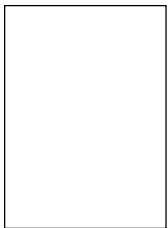
Rahne says students, teachers, support staff and administrators were evacuated from the school, many of whom had to be located, protected and escorted from their hiding places in the 75-room school.

"The plan for schools should include a checklist of resources," says Rahne. "One of those must be the availability of tow trucks. The 900 police officers arrived on the scene, parked, locked their patrol cars and left. We had to call in tow trucks so EMS could access the scene."

Rick Sywassink, chief deputy with



**Ray Rahne**



**Rick Sywassink**

Des Moines County Sheriff's office, presents programs on preventing and responding to school violence.

"Just because we're in Iowa and considered an agricultural state, we can't turn our backs on school violence," says Sywassink. "We have to address it and train for it. Those first on the scene are first responders and law enforcement personnel."

Sywassink trains emergency responders to prepare, react and respond to scenes of violent crimes.

He is also trained by the Federal Emergency Management Administration (FEMA) to assist in developing plans for schools in the event of such disasters as violence, propane gas tank explosions and tornadoes.

Sywassink says every community must establish a mass casualty response. "Teachers, counselors, and principals need to meet with EMS services and police to recognize a potential problem and develop a plan," he says. "This plan should also include parents, school organizations and any other entity that may be involved in a violent incident. This is a total community responsibility. They must plan what they are going to do

before, during and after. They must define who is in charge *before* it happens. The team must implement and evaluate the plan, then routinely practice it."

Sywassink also suggests maps of school structures and roadways be precise, updated and distributed to police and EMS.

"At incidents involving weapons, EMS and fire personnel must understand it is impossible for law enforcement officials to guarantee the areas are safe before they have all suspects in custody," says Sywassink.

In addition, Sywassink says an incident like Columbine will result in months of follow-up reports, investigations, interviews and reports.

"When establishing school violence prevention, all school, fire and EMS personnel and parents must be aware of early warning signs and describe effective prevention practices. A common thread in all young perpetrators is the belief that this type of behavior is acceptable."

For more information on responding to violent crimes or developing disaster plans, contact Sywassink at (319) 753-8285.

# Hypothermia is an emergency; it can kill

*Hypothermia is often aggravated by wind, exhaustion and wetness. The first warning sign that the body temperature is in danger of dropping is difficult to miss, the patient shivers. The involuntary muscle contractions, which indicate impending hypothermia, are the body's attempts to generate heat.*

**A**lthough extreme cold and wind are obvious causes of hypothermia, many people exposed to cold will suffer frostbite, but not hypothermia.

Most hypothermia cases are a result of drug or alcohol intoxication or occur in the elderly who fall or have serious medical problems. This incapacitation leads to exposure to the cold and hypothermia. Hypothermia can be subtle and it doesn't hit only at subzero temperatures.

Hypothermia is an emergency and results from heat loss due to exposure and contact with the cold ground. Normally in the cold, blood circulation to the skin and limbs is reduced by constricting blood vessels to conserve heat.

"Sufferers from hypothermia will show signs of poor circulation, slurred speech, confusion and lethargy because of reduced brain blood circulation and poor oxygen delivery," says Fred Hansen, PhD, MD, director of the Emergency Treatment Center, University of Iowa Health Care.

"They also have numbness, fatigue, poor breathing, low blood pressure and sometimes irregular heart action.

"Most of the hypothermia patients in the ER are either intoxicated, trauma victims, or the debilitated elderly. Patients found outside are at double risk for hypothermia because of their exposure and incapacitation."

Hypothermia can also affect people indoors. Most indoor cases of hypothermia involve older people who maintain low thermostat settings in their houses. "The house doesn't have to be freezing for its occupants to become hypothermic. Even temperatures in the low 60s can be too cold for some people."

Paramedics should check thermostats in the houses of elderly patients; the elderly and the homeless are especially vulnerable to hypothermia.

With mild hypothermia—the body temperature has dropped to about 95 F—shivering is intense and uncon-

trollable and usually accompanied by increased pulse and rapid breathing.

"When the body temperature drops below 89.6 F there is a progressive slowdown of bodily functions," says Hansen. "The body is beginning to constrict blood vessels at the extremities and to shunt blood to the inner body to protect vital organs."

Severe hypothermia occurs when the body temperature drops to below 86 F. By now the victim's skin is cold and bluish-gray and eyes are dilated.

The different stages of hypothermia require different treatment.

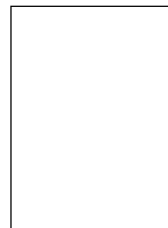
"Impending and mild hypothermia can be halted by first warming the patient," says Hansen.

Moderate hypothermia should be treated the same as mild, with the addition of mild heat applications to the head, neck, chest, armpits and

groin. As soon as possible the patient should be seen by a physician.

If the patient has lost consciousness, Hansen suggests emergency personnel should handle the patient very gently, as his heart is now extremely sensitive. "If the patient is truly pulseless for one minute, CPR should be administered," says Hansen. "CPR should definitely not be given if there is a pulse. Warm IV fluids and covers to prevent further heat loss are always warranted.

"Resuscitation efforts should continue until the body is warmed to between 86 F and 90 F unless there is strong evidence the patient is not viable. Many apparently dead hypothermia victims have been resuscitated after rewarming, especially in cases of emersion in cold water," adds Hansen.



**Fred Hansen,  
PhD, MD**

*EMS responders must take every suicidal act or gesture seriously. The suicidal patient often has feelings of worthlessness and inability to manage his own life.*

## Suicide 11th-leading cause of death in Iowa

Millions of Americans and their families face mental illness, often alone and sometimes in fear. Too often suicide is the result.

Suicide is the 11th-leading cause of death in Iowa and is a concern for Iowa public health officials.

The U.S. Surgeon General, David Satcher, is also concerned and recently declared suicide a public health threat for the first time.

Suicide is defined as any willful act designed to bring an end to one's own life. Suicidal attempts typically occur when a person has lost someone important in his life. The suicidal patient, in addition, often has feelings of being unable to manage his own life; a sense of worthlessness and lack of self-esteem are common.

According to Satcher, about a half million Americans are treated in an emergency room each year after trying to kill themselves. White men, age 65 and older are the most likely to commit suicide, accounting for 20 percent of the cases.

The Iowa Department of Public Health studies show the suicide totals have remained fairly steady for the last 20 years. On average, between 300 and 350 Iowans take their lives each year. Males outnumber female suicides by about 3-1.

"When we're losing 300 to 400 Iowans every year, there is obviously some concern," says Doug York, REMT-P, director, EMS Learning Resources Center.

"Whatever the emotional disturbance, it cannot be over emphasized that the emergency team's attitude in the initial contact with the patient is important," says York. "When responding to a suicide attempt, the EMS team should request police protection before approaching the scene. Armed patients must be considered homicidal as well as suicidal.

"On arrival, the EMS team should survey the scene for patient care information such as evidence of a suicide attempt."

A threat of suicide indicates that a patient has a serious crisis which requires immediate attention. If a suicide attempt is suspected, EMS responders should try not to direct the patient, but rather let him tell his story in his own fashion.

## Non-emergency transports require authorization

Rosie Wilhelm, associate director, Department of Social Services, University of Iowa Health Care, and Mike Sullivan, REMT-P, executive director of the Johnson County Ambulance Service, Iowa City, created a process to assist patients and ambulance services in obtaining the necessary physician authorization on non-emergency patient transports.

"New federal Healthcare Financing Administration regulations require authorization for non-emergency transports," says Wilhelm.

The physician must state that a patient requires an ambulance and a medical necessity exists that contraindicates other means of transportation such as hospital car or a family member's vehicle.

"The Physician Certification Statement (PCS) form we developed lists medical conditions and patient care requirements such as continuous oxygen; cardiac monitoring; isolation precautions; IV maintenance; ventilation; or decreased level of consciousness," says Wilhelm.

"We give a copy of the completed and signed PCS form to the ambulance crew to assist with insurance billing."

Wilhelm offers the form to any service interested in developing a similar document for their organization.

Anyone interested in receiving a copy of the Physician Certification Statement form may contact Rosie Wilhelm via email at [rosemary-wilhelm@uiowa.edu](mailto:rosemary-wilhelm@uiowa.edu) or by phone at (319) 356-3416.



# Sudden increase in Iowa SIDS deaths

**S**udden Infant Death Syndrome (SIDS) is the leading cause of death in the U.S. among infants between one month and one year of age.

It is defined as the sudden and unexpected death of an apparently healthy infant which remains unexplained after a postmortem exam, a review of the case history and complete death scene investigation. In most cases, the baby seems healthy, but death occurs quickly, usually during a sleep time.

In the first six months of 1999, 22 infants died from SIDS in Iowa. This compares to 21 in the entire year of 1996, 25 in 1997 and 25 in 1998.

"After seeing a dramatic decline in our SIDS deaths since the early 1990s, this increase is disturbing," says Herman Hein, MD, professor, Department of Pediatrics, University

of Iowa Health Care and special consultant to the Iowa Department of Public Health.

"We face the dilemma of a dramatic increase in SIDS deaths, an increase that is clearly associated with potentially preventable factors."

The increase in last year's number of deaths was first recognized by the Iowa SIDS Alliance, an organization created to increase SIDS awareness and provide emotional support for parents and caregivers. The Alliance noticed a large increase in their case load and counseling efforts. They asked the Department of Public Health to review the cases.

That review showed that the known risk factors for SIDS were present in several of the deaths. In some cases multiple risk factors for SIDS were present.

Larry Rossman is a member of the Iowa SIDS Alliance and promotes SIDS awareness across Iowa. He has been a paramedic with Johnson County Ambulance Service, Iowa City, since 1988 and part-time with Mary Greeley Mobile and Intensive

Care Services, Ames, since 1979.

"SIDS occurs 10 times more frequently than death by child abuse in children under one year of age," says Rossman. "Emergency responders should approach the situation as in any other call to a child unresponsive or not breathing.

"A SIDS death is suspected if the death is still unexplained after a postmortem exam," says Rossman. "Also, SIDS may be suspected if no other cause of death is found after a thorough death scene investigation. Another consideration when determining a SIDS death is case history. Are there previous deaths of children in the home?"

Rossman says responders must provide emotional support to all grievers on the scene. "If investigation leads to the conclusion that child abuse was involved, responders should remember there was only one perpetrator, but many grievers."

He says ideally, law enforcement would respond to all 'child in distress' or 'child not breathing' calls and arrive before EMS leaves. The law enforcement can stay later and investigate the house or take the baby bottle to examine the formula.

According to the Sudden Infant Death Syndrome Alliance in Baltimore, Maryland, more children die in the U.S. of SIDS in a year than all children who die of cancer, heart disease, pneumonia, child abuse, AIDS, cystic fibrosis, and muscular dystrophy combined.

"Parents and all caregivers of infants under one year of age need to be reminded of the importance of back sleeping and keeping a baby from becoming overheated, particularly during the winter months," says Hein. Sudden Infant Death Syndrome claims more babies' lives during winter months.

Babies should be put to sleep on their backs—not on their stomachs or sides. And there should be no blankets or fluffy bedding under the baby. Parents should also avoid putting babies to sleep with pillows or stuffed toys.

Other risk factors include:  
• Exposure to tobacco smoke, either in the womb or in the home



*Herman Hein, MD*



*Larry Rossman*

# SIDS

after birth

• Co-sleeping in a bed, sofa, or recliner (sleeping with another person that allows an environment for infant re-breathing to occur).

"It's relatively simple for new parents to reduce or eliminate these risk factors from a newborn's home," says Hein. "We believe this message is extremely important to all parents and anyone who provides care to an infant, even on a temporary basis. Babies must not be laid to sleep on their stomachs or sides unless there has been a medical indication that this is appropriate.

"If all potential caregivers of infants are aware of these preventable factors and take steps to avoid them, the incidence of Sudden Infant Death Syndrome can be reduced to its level prior to January 1999 and perhaps lower than it was in 1997 and 1998."

"If it is not clear that the infant has been dead for an extended time," says Rossman, "it is worth initiating CPR

and continuing all the way to the hospital. It is important for the family to feel that everything absolutely possible was done to save the child."

The parents deserve immediate and sympathetic attention. EMS personnel should explain to the parents the rationale for notifying the coroner and police, and should then make the notification.

"EMTs must document any statements made by the caregivers at the time of response. Documentation must also include the positions the baby was put down and found, if tobacco smoke was smelled, and the temperature of the child's room."

Iowa also has a Child Death Review Team that reviews the deaths of all Iowa children under the age of seven. The goals are to determine which of those deaths might have been preventable, and work to reduce or eliminate those risks to children.

To report a death to the Iowa Child Death Review Team, call (515) 242-6384. For more information on the Iowa SIDS Alliance, call (515) 279-6928.

## National EMS Week salutes EMS providers

National EMS Week, May 14-20, honors the lifesaving care that approximately 750,000 EMS providers offer nationwide, 24-hours-a-day, seven days a week," says Michael Rapp, MD, president, American College of Emergency Physicians (ACEP). "EMS Week 2000 is an opportunity to recognize EMS contributions of the past and build upon them for a safer tomorrow."

This year's theme, EMS: New Century, New Hope, speaks to the difference EMS providers have made in America's communities in the last century, and the countless ways they will continue to ensure the nation's health, protection and physical well-being into the next century.

The purpose of EMS Week is to educate the public to: teach their family the emergency phone numbers; to keep these numbers posted by every telephone in the house. It is also a time to encourage the public to take a CPR course, check smoke detector batteries and update first-aid kits and keep them easily accessible.

EMS Week recognizes the numerous ways in which EMS providers make a difference. It also emphasizes the life-saving endeavors of EMS providers and the ways in which they improve the quality of life for us all.

Each year, the American College of Emergency Physicians develops and distributes EMS Week planning kits to help communities plan and promote activities for the week. Kits are distributed to EMS organizations free of charge. This year's kit includes fact sheets addressing topics such as: Domestic Violence, Teens and Firearm Violence, Farm Safety, Tips to Beat the Heat, Traveler's Tips and First Aid Kit, and History of the Ambulance.

If you would like to request a planning kit, you may contact ACEP at 1 (800) 798-1822.

## EMS Update

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## ACLS for Experienced Providers Course introduced

*The Advanced Cardiac Life Support (ACLS) for Experienced Providers is a new, expanded course designed to challenge experienced providers rather than repeat information in the ACLS provider course.*

The majority of U.S. healthcare practitioners, ranging from physicians and nurses to out-of-hospital emergency responders, have taken the American Heart Association Advanced Cardiac Life Support (ACLS) provider course. The American Heart Association (AHA) Emergency Cardiac Committee recommends ACLS providers renew their status every two years through a formal review of the skills and material presented in the ACLS provider course.

"One of the ACLS-Experienced Provider course goals is to teach experienced ACLS providers new information on how to assess and manage critical cardiovascular emergencies not currently addressed in ACLS," says Rosemary Adam, RN, EMT-P, nurse instructor in the EMS Learning Resources Center and ACLS-EP instructor.

Donald Brown, MD, professor of cardiology, Department of Internal

Medicine, University of Iowa Health Care, is also an ACLS-EP instructor.

"This course brings back new excitement to the renewal process and makes recertification fun and quite productive," says Brown.

"The course is a real boost for ACLS participants. It's something different. We present new material that's very practical, meaningful and case oriented."

Adam says the course begins with testing on the Heartsaver AED and ACLS core cases.

"Registrants participate in skills and discussions including Environmental, Toxicology, Electrolytes, and Complicated Myocardial Infarction."

The Environmental station reviews hypothermia, lightning injuries, and near drownings and considers how these conditions modify the standard resuscitation decisions. The Toxicology station discusses cocaine intoxication, tricyclic overdose and beta-blocker toxicity and how they affect resuscitation including persistent hypotension and congestive heart failure. The course ends with a written evaluation.

"The ACLS-Experienced Provider course is structured so that it is interactive and beneficial for providers and patients," adds Brown.

## International conference honors Kerber

The American Heart Association (AHA) honored Richard Kerber, MD, at the International Guidelines 2000 Conference February 6 in Dallas, for his work in the field of CPR and emergency cardiac care (ECC).

Kerber is professor, Department of Internal Medicine and associate director of the Division of Cardiovascular Diseases, University of Iowa Health Care at the University of Iowa Hospitals and Clinics. He is the author of more than 50 papers on cardiac defibrillation and resuscitation.

Kerber is also well known for his involvement with various AHA committees and his research in echocardiology. He is currently serving a second term as chair of the National ECC Committee.

## EMS Bureau Web site debuts

The Bureau of Emergency Medical Services, Iowa Department of Public Health, initiated a Web site in January to better offer information to those interested in Iowa EMS issues.

Three particular bureau links may answer questions often asked of the EMSLRC.

- EMS Bureau (Including Searchable Certification Database--EMS Search Form)
- Iowa Code and Administrative Rules
- Education/Training/Certification Renewal

You may locate the Web site at <http://www.idph.state.ia.us/ems/>

**Donald Brown, MD**

# EMSLRC course calendar

MD                  RN                  EMS

## 2000

Feb 24-25	Iowa City: Advanced Trauma Life Support Student	19	—	—
Feb 25	Iowa City: Advanced Trauma Life Support Refresher	6	—	—
Mar 2-3	Dubuque: Advanced Cardiac Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Mar 2-3	Dubuque: Pediatric Advanced Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Mar 3-4-5	Iowa City: EMS Refresher Course	—	—	24
Mar 6	Iowa City: Advanced Cardiac Life Support Provider Renewal	4	0.4	4
Mar 10	Red Oak: Basic Life Support Instructor Trainer	—	—	—
Mar 16-17	Cedar Rapids: Advanced Cardiac Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Mar 16-17	Cedar Rapids: Pediatric Advanced Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Mar 17-19	Iowa City: EMS Refresher Course	—	—	24
Mar 20-22-27	Iowa City: Pediatric Advanced Life Support Provider	16	1.5	15
Mar 23-24	Iowa City: Trauma Nursing Core Course	—	1.4	16
Mar 31	Cedar Rapids: Basic Life Support Instructor Trainer and Renewal	—	—	—
Apr 6-7	Creston: Advanced Cardiac Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Apr 6-7	Creston: Pediatric Advanced Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Apr 13-14	Fort Dodge: Advanced Cardiac Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Apr 13-14	Fort Dodge: Pediatric Advanced Life Support Instructor/Instructor/Renewal	Varied	Varied	Varied
Apr 17-18	Iowa City: PreHospital Trauma Life Support	—	1.6	16
Apr 27-28	Iowa City: APLS—The Pediatric Advanced Life Support	17.25	1.8	19
May 1-2	Iowa City: Advanced Cardiac Life Support Provider	16	1.5	15
May 4-5	Iowa City: Advanced Trauma Life Support	19	—	—
May 5	Iowa City: Advanced Trauma Life Support Refresher	6	—	—
May 11-12	Mason City: Advanced Cardiac Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
May 11-12	Mason City: Pediatric Advanced Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
May 15	Iowa City: EMT-Basic Class begins	—	—	—
May 15-25	Iowa City: Critical Care Paramedic	—	—	54
May 22-25	Council Bluffs: Neonatal and Pediatric Advanced Life Support	18	1.65	17
Jun 2	Iowa City: Advanced Trauma Life Support Instructor	12	—	—
Jun 3	Iowa City: PreHospital Trauma Life Support Instructor/Coordinator	—	0.7	7
Jun 17-18	Iowa City: National Registry Practical and Written	—	—	—
Jul 5	Iowa City: Full Time Paramedic Training Program begins	—	—	—
Jul 13-14	Marshalltown: Advanced Cardiac Life Support Instructor/Instructor Renewal	Varied	Varied	Varied
Jul 13-14	Marshalltown: Pediatric Advanced Life Support Instructor/Instructor Renewal	Varied	Varied	Varied



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