ON THE SCENE

A Publication of the Colorado Emergency Medical and Trauma Services Section

Winter 2012



New Facility for Thompson Valley EMS

Thompson Valley Emergency Medical Services in Loveland moved into its new facility on Oct. 24, 2011. The building, located at 4480 Clydesdale Parkway, serves as Ambulance Station 350 and is the new home to administration, education and maintenance. The new facility is 14,000 square feet and can house up to 12 ambulances. The administration and education departments moved from Station 320 on Wilson Ave, the maintenance department moved from Station 310 on Boise Ave, and Station 350 relocated from the Loveland/Fort Collins Airport. Thompson Valley EMS Chief Randy Lesher says that combining these departments into one area is an important step in controlling costs, and that with the addition of this fifth station, Thompson Valley EMS will be able to provide 12-hour shifts to increase coverage above the current 24-hour shifts. The service covers approximately 450 square miles of southeastern Larimer County, has five stations, responds to 10,000 calls for service annually and is operated by the Thompson Valley Health Services District.



ON THE SCENE **AT A GLANCE**

Winter 2012



Colorado Department of Public Health and Environment

ON THE SCENE is a quarterly publication of the Emergency Medical and Trauma Services Section of the Health Facilities and Emergency Medical Services Division at the Colorado Department of Public Health and Environment and serves the emergency medical services and trauma communities of Colorado.



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4300 Cherry Creek Dr. S. Denver, Colo. 80246 Main 303-692-2980 800-866-7389 x2980 Fax 303-691-7720 www.coems.info

Michelle Reese Section Chief

Colorado EMTS on the Frontier by D. Randy Kuykendall



One of the most exciting parts of my work at the Colorado Department of Public Health and Environment is the challenge of remaining "in touch" as much as possible with the EMS and trauma stakeholders across the state. A good friend of mine once pointed out that having an open -door policy insinuates the manager/leader remains in one place, but contemporary leaders understand the need to "be present," or be where the work is, in order to be effective. Consequently, it was during a

recent trip to Dolores County in southwest Colorado that I was reminded, once again, of the dedication, commitment and tenacity of our state's EMS and trauma professionals.

One of the many responsibilities of the Emergency Medical and Trauma Services Section is to provide technical assistance to local and county governments that support the provision of pre-hospital and hospital care. In a state where 85 percent of the people live along the Front Range, there is a lot of territory where the population is extremely sparse. Dolores County is one of our most sparsely populated counties consisting of two small towns, Dove Creek and Rico. Under the foresight and leadership of Todd Parisi in Dove Creek and Fire Chief Todd Jones in Rico, we coordinated a technical assistance visit that reviewed the current system and will provide feedback and ideas to support the continued effectiveness of this frontier EMS and trauma care system.

During our visit, we had the opportunity to meet many members of both the Rico Fire Department and the Dove Creek Volunteer Ambulance Service. Interestingly, Dove Creek provides paramedic level care because two of its members, Angela Myers and Grant Allen, are certified paramedics who work in Farmington, NM as full-time providers and continue to live in and contribute to the Dove Creek service. Both of these dedicated individuals found ways to support themselves during their training process, one attending paramedic school in Texas and the other here in Colorado. We met their service medical director, Dr. Mark Turpen, who is highly involved in supporting both of the Dolores County services. He provides an ongoing level of support to the system that is closely coordinated with community needs in ways that larger and more sophisticated EMS and trauma systems would like to implement, but due to their size and complexity, seldom accomplish.

As our meeting in Dove Creek ended, the ambulance service received a call for an ill person. The call location was 20 miles west of town, virtually on the Colorado-Utah border. As we watched the ambulance pull away from the county courthouse, lights and siren in use, it occurred to me that this ill person, located in one of the most remote locations of our state, would receive state of the art advanced life support care because of the energy and effort of many dedicated health care professionals, educators and local government officials. The commitment and cooperation of elected officials, administrative leaders, the Regional Emergency Medical and Trauma Advisory Council and others over the past two decades has expanded the provision of high quality care to the furthest reaches of our state.

Every once in a while, it's good to look at ourselves as an industry and focus on the many successes and improvements that have been accomplished since the late 1960s when Congress identified the need for an organized pre-hospital care and transportation system in the United States. Yes, there continue to be many opportunities for improvement in how we provide care, and the challenges of finance, human resources and education remain in front of us. However, it is important to recognize those successes accomplished each day throughout the Colorado EMTS system and build on those experiences. As our community takes on new issues, makes decisions regarding resource allocation and debates the opportunities before us, let's remember the ongoing dedication of Colorado's trauma and EMS professionals in keeping the focus on the needs of the patient.

D. Randy Kuykendall, MLS, NRP is deputy director of the Health Facilities and EMS Division and can be reached at randy kuykendall@state.co.us



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Airway Management: Rapid Sequence Intubation by Arthur Kanowitz



A Team in Touch

There are many situations in EMS when the ability to secure an adequate airway can make the difference between life and death. Once the clinician determines the patient cannot maintain an adequate airway on his own or cannot adequately ventilate on his own, the clinician must take

appropriate steps to secure the airway and provide the necessary ventilation to preserve the patient's life. This involves the advanced life support procedure endotracheal intubation. Frequently, the patient who is in need of endotracheal intubation is unconscious and without a gag reflex, and endotracheal intubation can be accomplished without the need for any medications to facilitate the procedure. However, medications may be necessary to accomplish emergent endotracheal intubation when the patient is combative, clenching his jaw, has trismus or the presence of a gag reflex. In those situations, rapid sequence intubation (RSI) is indicated.

In Colorado, paramedic scope of practice currently is defined by the Colorado Department of Public Health and Environment in the Chapter Two EMS Practice Rules (6 CCR 1015-3) and previously under the Colorado Medical Board's (formerly Board of Medical Examiners or BME) Rule 500. RSI is outside that defined scope of practice. However, EMS medical directors can apply for a waiver to allow paramedics to utilize RSI under appropriate conditions. Currently, there are 18 medical directors who hold active waivers for 23 agencies approved to administer RSI. According to BME records, RSI waivers were granted as early as 2000. In August 2010, the BME approved the first Colorado Standardized RSI Protocol and RSI Case Reporting Form. Since that time, any medical director approved for new RSI waivers or renewal of existing waivers has been required to meet the guidelines of the new protocol and submit case reports on all incidents in which RSI was administered by a state certified paramedic. Those medical directors approved for RSI waivers prior to the institution of the protocol are not required to meet the guidelines or submit case report forms until they renew their waivers.

Over the years, there has been controversy as to the appropriateness of paramedics administering RSI in the field. However, in 2001, the National Association of EMS Physicians (NAEMSP) published its Position Paper on Prehospital Rapid-Sequence Intubation (PREHOSPITAL EMERGENCY CARE JANUARY/MARCH 2001 VOLUME 5 / NUMBER 1). In that paper, the authors stated that "Airway management in the field is of paramount importance in the critically ill. Endotracheal intubation of patients who are combative or unrelaxed may be facilitated by the use of RSI. Pre-hospital systems electing to use RSI in clinical practice should demonstrate that adequate training, clinical experience and quality assurance programs are in place to ensure success."

Colorado's current waiver process thoroughly evaluates each application for RSI waiver to determine that processes are in place to ensure the competency of every provider administering RSI and that the medical director is providing oversight to confirm RSI is being done safely and effectively. With the addition of the Statewide RSI Protocol and Case Report Form, we have the ability to better evaluate each

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agency's performance and thereby better ensure the health, safety and welfare of the public.

As a result of the protocol and requirement for data reporting, we have some preliminary data on the safety and effectiveness of RSI. This information was presented to the Emergency Medical Practice Advisory Council (EMPAC) at its meeting in November. The data includes a summary of RSI reports submitted via the State RSI Case Report Form from November 2008 through September 2011. During that time, 11 ground ambulance services and three air ambulance services submitted data. At the time of the presentation, 243 cases were available for review, and the following is a summary of that data.

The distribution of RSI cases was 231 (95%) adult and 12 (5%) pediatric (<12).

The overall success rate for the 243 RSI cases reviewed was 91% (220/243).

Adult success rate for the 231 adult cases reviewed was 90% (209/231).

Pediatric success rate for the 12 pediatric cases reviewed was 92% (11/12).

 $(p > 0.05 \mbox{ for comparison of adult and pediatric success rates = No difference)$

The distribution of RSI cases was 75 (31%) ground ambulance and 168 (69%) aeromedical.

The overall success rate for the 75 ground ambulance cases was 87% (65/75).

The overall success rate for the 168 aeromedical ambulance cases was 92% (155/168).

 $(p > 0.05 \mbox{ for comparison of ground vs aeromedical} = No \mbox{ difference})$

Adult success rate for the 71 cases handled by ground ambulance was 86% (61/71).

Pediatric success rate for the 4 cases handled by ground ambulance was 100% (4/4).

 $(p>0.05\ \text{for comparison of adult vs}\ pediatric cases handled by ground = No difference)$

Adult success rate for the 160 cases handled by air ambulance was 93% (148/160).

Pediatric success rate for the 8 cases handled by air ambulance was 88% (7/8).

 $(p > 0.05 \mbox{ for comparison of adult vs pediatric cases handled by air = No difference)$

Complications in the 243 cases reviewed were as follows:

202 cases (83%)	No Complications
17 cases (7%)	Hypotension
16 cases (6%)	Desaturation
8 cases (3%)	Bradycardia
8 cases (3%)	Esophageal Intubations (recognized)
3 cases (1%)	Tube Dislodgement
6 cases (2%)	Multiple Complications

All complications were handled appropriately with no significant sequelae.

As recommended in the NAESMP position statement, prehospital agencies in Colorado approved to administer RSI are demonstrating that adequate training, clinical experience and quality assurance programs are in place to ensure competency and success. The data from the RSI case reporting forms indicate RSI in Colorado is being done both safely and effectively. We will continue to work closely with all our EMS stakeholders, but especially with the medical directors who are responsible for oversight of RSI in the field to identify "Best Practices in RSI" and to continue improving the safety and efficacy of rapid sequence intubation.

Arthur Kanowitz, MD, FACEP is the state EMTS medical director and can be reached at **arthur.kanowitz@state.co.us**.

Booster Seat Use by Sallie Thoreson

Booster seat use by Colorado children Ages 4-7 has increased to 70 percent

Motor vehicle crashes are the leading cause of death and injury for children ages 14 and younger. Because children ages 4-8 do not fit well in adult seatbelts, booster seats are recommended to position children until they fit into adult seatbelts.

Colorado's original booster seat law was passed in 2003 and required children ages 4-5 to ride in a booster seat. In 2010, the law was strengthened to require children ages 6-7 to ride in a booster seat. The strengthened law went into effect Aug. 1, 2010. While most state laws require booster seat use for children through age 7, safety experts recommend that children remain in booster seats until they fit in an adult seatbelt, typically when the child is 8 to 12 years old. The American Academy of Pediatrics recommends "booster seats for most children through 8 years of age." Injury

New messages are needed to reach all parents and children with the booster seat message

The National Highway Traffic Safety Administration (NHTSA) and states like Colorado have simplified the car seat message. The Colorado law for children past their first birthday emphasizes the correct use of the car seat/booster seat following the manufacturers' instructions. Basically this means a car seat with a harness for 1, 2 and 3 years old, and a forward-facing car seat or booster seat for 4, 5, 6 and 7 year olds. After the 8th birthday, it's either a booster seat or a lap/shoulder belt. In all cases, parents need to follow the weight limits on the manufacturer's instructions. For more information, go to www.carseatscolorado.com. To view or print NHTSA's new "Car Seat Recommendations for Children," visit www.nhtsa.gov/Safety/CPS.

NHTSA also has found that parents still are overconfident when making decisions about a child's car seat or booster

seats for most children research continues to show that children ages 4-8 benefit from the use of booster seats.¹

Using data from the statewide Child Health Survey, the Colorado Department of Public Health and Environment can monitor the trends in booster seat use (see Figure 1). In 2001, adults reported that 15 percent of the 4- to 8year-olds in their households used a booster seat while riding in a vehicle; by



seat usage. Despite the frequency of motor vehicle collisions, parents seem to believe that a crash or a motor vehicle injury will not happen to their family. Parents and caregivers may believe that vehicles and car/booster seats are safe, regardless of how they are used. NHTSA's new campaign will state the dangers that motor vehicle crashes pose to children, with the "Kids are Fragile" message. The focus of the message will be that it is important to choose, install and use car/booster seats correctly every time. The goal of the campaign is to

2010, booster seat use by this age group had increased to 55 percent. The most dramatic change was in booster seat use by ages 6-7. By 2010, booster seat use was essentially the same for children ages 4-5 and 6-7. This is an important change from 2007 when booster seat use was significantly lower for children ages 6-7 (before the law applied to this age group). Eight-year-olds continue to have low booster seat use.

Colorado compares favorably with the United States, where the 2007 national survey found 40 percent of parents reported their 4-8 year olds were riding in booster seats.² shake parents' and caregivers' overconfidence and motivate them to seek additional information about keeping their children safe.

1 Durbin, DR, et. al. Technical Report-Child Passenger Safety. 2011. www.pediatrics.org/cgi/doi/10.1542/peds.2011-0215.

2 National Highway Traffic Safety Administration. 2009. 2007 Motor Vehicle Occupant Safety Survey finds children more likely to use booster seats compared to 2003. Traffic Safety Facts, Number 375.

Sallie Thoreson is an injury prevention specialist at the Colorado Department of Public Health and Environment and can be reached at sallie.thoreson@state.co.us.

Certification and Education Transitions by Marilyn Bourn

During the past year, there have been some significant changes regarding EMS education and certification and more changes are on the way.

This article describes these changes and provides answers to questions you may have. We see these transitions as an opportunity to work with our stakeholders and further advance EMS in Colorado. As always, feel free to contact us if you have additional questions or would like more information.

A little history and what this means for today

The EMS Education Agenda for the Future: A Systems Approach establishes a system of EMS education that more closely parallels that of other health care professions. As part of this systems approach, the National EMS Scope of Practice Model calls for the reconfiguration of EMS provider levels in the United States.

In 2008, based on stakeholder input and recommendations from the EMT Practice Subcommittee of the State Emergency Medical and Trauma Services Advisory Council (SEMTAC), Colorado chose to follow the National Scope of Practice Model. Colorado chose also to follow the National EMS Education Standards as the basis for initial EMS education leading to state certification as an EMS provider.

New Certification Levels

In July, the revised 6 CCR 1015-3 Chapter One Rules – "Rules Pertaining to EMS Education and Certification" became effective in Colorado. The title for each level of EMS provider was changed to be consistent with the National Scope of Practice Model. See the table below. In addition, some other changes were made to the rules.

- EMS education programs that currently are recognized at the "old" levels are authorized to continue providing services using the new titles for the remainder of their current recognition periods.
- EMS education programs that currently are recognized as an Intermediate "Center" or "Group" are automatically recognized as an AEMT Center or Group respectively for the remainder of their current recognition periods.
- Total continuing education hours did not change. However, the number of pediatric and obstetrical hours was divided into two separate topic categories.
- The AEMT level will require 36 hours of continuing education (same hours as the EMT level).

The scope of practice rules - 6 CCR 1015-3 Chapter Two -"EMS Practice and Medical Director Oversight Rules" were revised to reflect the changes necessary to implement the EMS Education Agenda.

- The term "EMS Provider" has been added to the definitions to mean, "all levels of emergency medical technician certification as issued by department."
- The new level of AEMT was added throughout the rule as appropriate.
- The new level titles of EMT, EMT-I and Paramedic replaced the old titles.
- AEMT medical acts, skills and medications were added to Appendices A, B, C and D.

Emergency Medical Technician – Basic	CHANGED	Emergency Medical Technician (EMT)
New level added		Advanced Emergency Medical Technician (AEMT)
Emergency Medical Technician - Intermediate/99		EMT-Intermediate (EMT-I)
Emergency Medical Technician – Paramedic	то	Paramedic

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New Initial Education

Currently, there are more than 40 EMS education programs in Colorado that provide initial education for EMS providers. Those programs will be responsible for revising their curriculums to meet the new Education Standards for the EMT, AEMT and Paramedic levels. The curriculum for the EMT-I level has not changed. Programs that currently teach at the EMT-I level are automatically recognized to teach at the AEMT level as well.

National Registry Examinations

Students who successfully complete an initial EMS provider course must pass the National Registry of Emergency Medical Technicians' (National Registry) practical and written examinations in order to become nationally registered. The skills examination forms have been updated to reflect the National Scope of Practice. The written examination questions are in the process of being revised now.

National Registry written examinations based on the National Scope of Practice will begin on the following dates:

EMT	Jan. 1, 2012	
AEMT	June 1, 2011	
EMT-I	No change	
Paramedic	Jan. 1, 2013	

What about EMT-Intermediates?

EMS Education Centers in Colorado may choose to continue to offer the EMT-Intermediate curriculum, and the National Registry will continue the EMT-I exam until Dec. 31, 2013. Beginning Jan. 1, 2014, the National Registry no longer will provide a registration examination at the EMT-I level. However, the National Registry will continue to provide the same examination as an assessment examination to states (like Colorado) that want to use it. So, after Jan. 1, 2014, individuals who successfully pass the National Registry EMT-I assessment examination will be able to apply for Colorado EMT-I certification.

Recertification In Colorado

EMS providers in Colorado will continue to be recertified if they meet the current recertification requirements (i.e., National Registry registration or within six months of expiration date and completion of minimum CEUs and skills attestation, current CPR certification, current ACLS certification for EMT-I and Paramedic levels and criminal history record check, if applicable).

EMT		EMT Intermediate	
Advanced EMT		Paramedic	
Preparatory	1	Airway, breathing	8
OB	2	& cardiology	0
Pediatrics	2	Medical	4
Trauma	6	Trauma	3
Pt. Assessment	5	OB	4
Airway	3	Pediatrics	4
Medical/Behavioral	6	Operation	2
Elective	11	Elective	25
Minimum of 36 hours		Minimum of 50 hou	irs

National Registry Transition

Nationally Registered EMTs and Paramedics who have National Registry certification expiration dates of March 31, 2011, or March 31, 2012, will have four years (two registration cycles) to complete the transition based on the National Scope of Practice. The following content has been identified as a "gap" between the old national scope of practice and the new National Scope of Practice.

Additional Content in the EMT Scope of Practice		
Pulse oximetry	Mechanical CPR device	
Automatic transport ventilator	Hemorrhage control (direct/ tourniquet)	
Humidified oxygen	Oral aspirin	
Partial rebreather mask, simple face mask, Venturi mask, tracheostomy mask	Assisting patients w/self medication	

Additional Content in the Paramedic Scope of Practice			
BIPAP, CPAP, PEEP	Access indwelling catheters and implanted central IV ports		
ETCO2 monitoring	Morgan lens		
NG/OG tube	Administer physician- approved meds		
Chest tube monitoring			

Colorado scope of practice and education standards currently meet or exceed the National Scope of Practice. Therefore, a "state approved" or "state mandated" transition course will not be required. As has always been the case, medical directors and agency training officers are responsible for making sure their providers are kept current on new treatment modalities, equipment, medications or changes in national and local scope of practice and clinical care.

Certification and Education Transitions by Marilyn Bourn

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The National Registry is requesting that the recertifying EMT or Paramedic provide documentation that the transition has been completed. Since there will not be a "state-approved" transition course, the Emergency Medical and Trauma Services Section has notified the National Registry (via letter) that applicants from Colorado will not have a "certificate of completion." Individuals who are recertifying via electronic applications will have their continuing education, refresher and transition verified by their agency's training officer or program representative. Individuals who are reapplying via the mail will not be required to include any paper documentation regarding the transition. A copy of the letter that was sent to the National Registry can be found at www.coems.info under EMS Provider Transition Information.

Bridge or Transition To a New Level of Practice

Currently certified EMS providers may wish to bridge or transition to a higher level of certification. Colorado recognized EMS Education Centers may offer these courses and must meet state and national requirements. Upon completion of the program, applicants who successfully pass the National Registry examination process are then eligible to apply for state certification. Additionally, Intermediate to Paramedic bridge programs must be accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). For specific information on bridge programs, contact a Colorado approved Education Center. A list of programs can be found at www.coems.info.

Questions

If you have questions or need additional information, please check out the following websites for more information.

Education Agenda Documents – www.ems.org National Registry – www.nremt.org National Association of State EMS Official- Education Resources and Tool Kit – www.nasemso.org CDPHE EMTS Section – EMS Provider Education and Certification- www.coems.info

Upgrading Colorado's EMS Data Collection System by Holly Hedegaard

Staff in the EMS and Trauma Data Program continue to make progress in implementing the new statewide EMS data collection system. Over the past several months, staff have worked with ImageTrend, the state-selected vendor, to convert to the new system. Steps include customization of the ImageTrend software (on-line and laptop versions), migration of the current database to the state data repository on the ImageTrend servers and training of EMS agency personnel and field providers who choose to use the new software.

Included in the contract with ImageTrend was the purchase of a state license for the ImageTrend Field Bridge software. Field Bridge is the laptop version of the online ImageTrend patient care data collection software. The purchase of the state license allows the Emergency Medical and Trauma Services Section to offer agencies Field Bridge licenses if they want to use the ImageTrend product. Agencies that are already using other vendor products do not need to change, unless they choose to do so. With the new system, agencies using other third party vendor software still will be able to download to the state database, as long as their software can create the standard NEMSIS export (similar to how the download process currently is being done).

In June 2011, 30 agencies participated in a pilot program to learn how to use the ImageTrend software. Many of these agencies began downloading data through the new system starting in July 2011. During the pilot phase, EMS and Trauma Data Program staff worked with agencies to customize the software to best meet Colorado's needs. With completion of the pilot phase, we now are ready to move forward with full implementation, bringing additional agencies on-board.

Agencies are invited to begin conversion to the ImageTrend State Bridge and Field Bridge system. A series of training webinars started in October. Agencies that want to use the ImageTrend product are encouraged to participate in the webinars to learn about system administration, data entry and reporting capabilities of the software. In addition to the webinars, an in-person training might be held in central or western Colorado (details are being finalized).

In December, EMTS Data Program staff began working with agencies that use other third party vendor software to begin uploading their submission files to the state database at ImageTrend rather than at the Colorado Department of Public Health and Environment. Staff will work with agencies, their software vendors and ImageTrend to resolve any issues in this conversion process.

It is anticipated full conversion to ImageTrend will be completed by March 2012, at which time the current online and desktop versions of the MATRIX software no longer will be supported. Agencies are encouraged to plan appropriately. If your agency is interested in using the ImageTrend Field Bridge software, please contact Steve Boylls at 303-692-2994 or steve.boylls@state.co.us. Steve will be able to assist you in obtaining the software license and initial set-up of the software.

The upgrade of Colorado's EMS data collection system provides a unique opportunity to increase our capacity for using patient care data for clinical decision-making. For questions about the upgrade of the EMS data collection system and project timelines, please contact Holly Hedegaard.

Holly Hedegaard, MD, MSPH,

is the EMS and Trauma Data Program manager and can be reached at holly.hedegaard@state.co.us.

