NCRETAC MD NEWS

Erica Douglas, MD - Regional Medical Director

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Medical Director's Corner

The 16th annual EMS State of the Science conference- informally known as the Gathering of Eagles-was held February 26-27th in Dallas. The Eagles' conference brings together EMS and fire medical directors from the nation's largest cities to present rapid-fire 10 minute presentations covering a wide range of EMS topics often grouped together in relevant bundles. Some of the highlights from the conference include the top five research paper picks of the last year which included epinephrine during CPR (questionable benefit), peri-shock pauses (too long), prehospital ECGs, therapeutic hypothermia (less cooling), and the dangers of hyperoxygentation (94-95% sats are the new "normal"). There were also numerous presentations on multicasualty events and preparation, pediatric topics including IN fentanyl, the Handtevy system, and myths and tricks regarding caring for kids. There were also discussions on ketamine for analgesia, rarely used critical protocols, identifying high-priority calls that may not be initially apparent as such, nurse triage programs, crew configurations, healthcare reform, direct transport to psych facilities, airway devices and OHCA outcomes, pros and cons of video taping resuscitations, LUCAS device performance reviews, pit crew approach to resuscitation, TOR time parameters, AVPU scale, IO use, fentanyl/heroin overdoses and of course spinal immobilization arguments.

Overall the conference provides a wealth of information and review in just a few short days and is well worth attendance for any EMS medical director at least once. Look for next year's Eagles conference in Dallas February 2017. You can visit www.gatheringofeagles.us for more information.

NCRETAC Updates

We continue to have case reviews and CME offerings following the NEPAB meetings, join us for an MCI tabletop exercise at the next meeting, April 5th.

The RML group and EMPAC are beginning a new review of the Chapter Two rules that guide EMS scope of practice in the state. Please take some time to submit any comments, concerns or recommendations to me (ericadouglass@gmail.com) so I can take them back to the group.

Colorado EMS Regulation Update

- Colorado Department of Health and Environment (CDPHE)
- State EMS and Trauma Advisory Council (SEMTAC)
- EMS Practice Advisory Council (EMPAC)
- Regional EMS and Trauma Advisory Council (RETAC)

RMD Meeting and EMPAC – Dr. Weber

RMD's met on Feb 8th. The first item of discussion was about funding for the RMD program. We are starting the 3rd year of the 3 year grant program. Discussion was held on the value of the program. This varies from region to region. Benefits included uniformity of protocols, benchmarking, more collaboration between agencies, and RMD as a resource for the medical directors and agencies in the region. There was a request made by the RMD's to make the program an ongoing sustained position rather than a yearly grant application. This would facilitate a more stable program. Letters of support to accompany the third year grant request would be beneficial.

Chapter 2 rule revision was discussed. The process will be facilitated through the RMDs and EMPAC. The bulk will be divided into 3 parts: A) Tables to be discussed in February, B) The written scope will be mainly discussed at the May meeting; Articles 5-11, and C) The medical direction description to be discussed at the August meeting. The hope is that a consensus of opinion will have been reached at the August meeting so it can be presented to Dr. Wolke in November.

The Newsletter was discussed. Everyone recognized the value. It was felt that probably the best source of ongoing funding would be through the system improvement grant process.

Lastly, there was a discussion on the new community paramedicine legislation. There was the opinion that the current language in the bill is too defining and limiting.

The CDPHE reported that there are currently 5 bills in legislation affecting EMS. There is the community paramedicine bill. There is also a bill that would move Emergency Medical Responders from Fire Safety to CDPHE.

There was a lengthy discussion about ketamine. A standardized reporting form was approved. There will be an annual report of aggregate data to be presented at the August EMPAC meeting. Documents have been prepared to assist medical directors who wish to apply for a waiver for ketamine use in excited delirium and pain control.

The annual aggregate data for RSI was presented. It was very interesting. There are 37 agencies that have RSI waivers. 13 of these agencies had no RSI cases. There were 179 RSI cases this year (139 last year). Of those paramedics that performed an RSI, the average RSI/medic was about 1.5. There are many medics that did not perform any RSI, and these are not included in that average so the average RSI/medic would be a much smaller number. (In the following categories more than 1 box could be checked, so the numbers may add up to over 100%).

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The #1 reason for intubation was inability to protect the airway at 63%, with potential for airway compromise second at 45%. The indications for choosing RSI for intubation were intact gag at 63%, trismus at 30%, and other at 24% which included best option for 1st pass success and combative CHI. The GCS was <8 in 68%, and >8 in 32%. The overall success rate was 92% which correlates to national benchmarks. All unsuccessful RSI patients were able to be ventilated by an alternative method. 10 of the failed cases attempted with direct laryngoscopy, 3 used video laryngoscopy, and 1 used both. 176 cases had no complications. 45 cases had complications including desaturation, bradycardia, and vomiting. The conclusion was that our system is closely monitored, our overall practice is safe, there is still room for improvement, and we are committed to improving safety.

Waivers were reviewed. There were 3 more waivers for EMT-IV placement of IO for patients in extremis to allow the paramedic to concentrate on other areas of the resuscitation. Several waivers were tabled due to unanswered questions and no one from the agency available to answer them.

SEMTAC – Dr. Beckman

The SEMTAC met on Thursday, Jan. 14th. The Funding Section update indicated that the FY16 is on schedule and the deadline for submitting requests for FY17 is Feb. 15th.

An update was provided regarding the Trauma Chapter One Rules, which were passed by the Board of Health and will be effective in February 2016. The results of two hospital trauma program site re-reviews were heard, and SEMTAC recommended approval of both to the department (Boulder Community Hospital – level II and Good Samaritan – level II).

SEMTAC heard reports from its various committees and workgroups. Of special note:

- The Air Ambulance Task Force concluded its statutory concept drafting work in November and will not reconvene for the regulatory portion until the legislative process is complete.
- The Data Task Force continues to work on the Colorado transition into NEMSIS version 3. In addition to rolling out the Elite Platform for EMS data collection, there will be a rule change update before the Board of Health in July. The new rules will become effective Jan. 1, 2017, giving EMS agencies and their software vendors another year to prepare for the transition.

The Statewide Trauma Advisory Committee is identifying the top 3 priorities for the trauma system in Colorado.

Recent Literature – Dr. Douglas

Dyspnea, a high-risk symptom in

Colorado Advisory Boards Meeting Dates

SEMTAC - Apr 13-14, July 13-14 (in Durango), Oct 12-13.

2017 - Jan 11-12, Apr 12-13

Meetings in Denver (except as noted), 9a – 5p. No call in.

EMPAC –May 9, August 8, November 3 (Keystone), February 13, 2017
Meetings in Denver (except where noted), 10a-3p, Conference call available. Waiver applications due the first workday of preceding month – April 1, July 1, October 3.

NCRETAC BOD Meetings – Mar 15th(grants hearing), Apr 19th, May 17th
3rd Tuesday of the month 2-4 at Thompson Valley EMS.

NEPAB- April 5th, June 7th (1st Tuesday of even months 12:15-2 at Thompson Valley

Everyone who leads faces the challenges of changing minds..... beginning with their own.

-Daniel Goleman

patients suspected of myocardial infarction in the ambulance? A population-based follow-up study, Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine, 02/24/2016, Bøtker MT, et al. The objective of this study was to compare mortality in patients suspected of myocardial infarction (MI) presenting with dyspnea versus chest pain in the ambulance. Patients suspected of MI presenting with dyspnea have significantly higher short- and long-term mortality than patients with chest pain irrespective of a confirmed MI diagnosis. Future studies should examine if supplementary prehospital diagnostics can improve triage, facilitate early therapy and improve outcome in patients presenting with dyspnea.

Apneic oxygenation is associated with a reduction in the incidence of hypoxemia during the RSI of patients with intracranial hemorrhage in the emergency department. Internal and Emergency Medicine, 02/29/2016, Sakles JC, et al. Critically ill patients undergoing emergent intubation are at risk of oxygen desaturation during the management of their airway. Patients with intracranial hemorrhage (ICH) are particularly susceptible to the detrimental effects of hypoxemia. Apneic oxygenation (AP OX) may be able to reduce the occurrence of oxygen desaturation during the emergent intubation of these patients. AP OX is a simple intervention that may minimize the risk of oxygen desaturation during the RSI of patients with ICH.

Randomized controlled trial of humidified high-flow nasal oxygen for acute respiratory distress in the emergency department: The HOT-ER Study Respiratory Care, 02/29/2016, Jones PG, et al. The aim of this study was to determine whether HFNC compared with standard O2 given to subjects in acute respiratory distress would reduce the need for noninvasive ventilation or invasive ventilation. HFNC was not shown to reduce the need for mechanical ventilation in the emergency department for subjects with acute respiratory distress compared with standard O2, although it was safe and may reduce the need for escalation of oxygen therapy within the first 24 h of admission.

Public awareness and self-efficacy of cardiopulmonary resuscitation in communities and outcomes of out-of-hospital cardiac arrest: a multi-level analysis. Resuscitation, 02/17/2016, Ro YS, et al. This study aims to test the association between capacity of cardiopulmonary resuscitation (CPR) at community level and survival after out-of-hospital cardiac arrest (OHCA). Higher CPR capacity at community level was associated with higher bystander CPR and survival to discharge rates after OHCA.

Automatic Cardiac Rhythm Interpretation during Resuscitation Resuscitation, 02/17/2016, Rad AB, et al. The objective of this study was to develop a system for automatic rhythm interpretation by using signal processing and machine learning algorithms. An ECG based automatic rhythm interpreter for resuscitation has been demonstrated. The interpreter handles ventricular tachycardia (VT), ventricular fibrillation (VF) and asystole (AS) well, while pulseless electrical activity (PEA) and PR discrimination poses a more difficult problem.

> Argue for your limitations, and sure enough, they are yours
>
> *- Richard Bach*

Out-of-hospital use of analgesia and sedation Annals of Emergency Medicine, 02/11/2016 The American College of Emergency Physicians believes that advanced life support-capable emergency medical services (EMS) systems should provide analgesia and sedation. This should be accomplished in conjunction with close physician oversight and quality improvement programs reviewing the use of both pain and sedative medications. The relief of suffering is among the most common reasons for requesting EMS assistance. Pain and agitation are common causes of this suffering and are commonly encountered by EMS.

Difficult Intubation Factors in Prehospital Rapid Sequence Intubation by an Australian Helicopter Emergency Medical Service. Air Medical Journal, 02/08/2016 Burns B, et al. The objective of this study was to describe the factors associated with difficult intubation in prehospital rapid sequence intubation (RSI) as defined by more than a single look at laryngoscopy to achieve tracheal intubation. Factors associated with more than 1 look at laryngoscopy before TI included paramedic laryngoscopist and the presence of at least 1 of the following indicators: blood/vomitus in the airway, limited mouth opening, and limited neck movement. Trauma to face/neck, obese body habitus, C-spine precautions, cricoid pressure, midline stabilization, and intubation on the

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ground did not influence the level of difficulty encountered.

A prehospital screening tool utilizing end-tidal carbon dioxide predicts sepsis and severe sepsis. The American Journal of Emergency Medicine, 02/03/2016, Hunter CL, et al. The study aim was to determine the utility of a prehospital sepsis screening protocol utilizing systemic inflammatory response syndrome (SIRS) criteria and end-tidal carbon dioxide (ETCO2). A prehospital screening protocol utilizing SIRS criteria and ETCO2 predicts sepsis and severe sepsis, which could potentially decrease time to therapeutic intervention.

Dispatch of helicopter emergency medical services via advanced automatic collision notification. The Journal of Emergency Medicine, 01/26/2016, Matsumoto H, et al. The purpose of this study was to validate the feasibility of early HEMS dispatch via advanced automatic collision notification (AACN). The dispatch of the helicopter emergency medical services (HEMS) using the AACN can shorten the start time of treatment for patients in motor vehicle collisions. This study demonstrated that it is feasible to automatically alert and activate the HEMS via AACN.

Impact of cardiopulmonary resuscitation duration on survival from paramedic witnessed out-of-hospital cardiac arrests: An observational study. Resuscitation, 01/15/2016, Nehme Z, et al. Resuscitation guidelines often recommend ongoing cardiopulmonary resuscitation (CPR) efforts to hospital for out-of-hospital cardiac arrests (OHCA) witnessed by emergency medical service (EMS) personnel. Resuscitation efforts exceeding 32 min yielded less than 1% of survivors from EMS witnessed OHCA. On the basis of this data, EMS witnessed OHCA patients may benefit from on-going CPR efforts up to 48 min in duration.

The price of a helping hand: modeling the outcomes and costs of bystander CPR The Journal of Emergency Medicine, 01/13/2016, Bouland AJ, et al. The morbidity and mortality associated with out of hospital cardiac arrest is a major public health concern. Resuscitative efforts are more likely to be successful when initiated early. Bystander cardio-pulmonary resuscitation (CPR), therefore, is crucial link in the chain-of-survival. This paper seeks to investigate the cost effectiveness of community CPR programs which are intended to increase rates of bystander early intervention.

Expecting the unexpected: A mixed methods study of violence to EMS responders in an urban fire department. American Journal of Industrial Medicine, 01/12/2016 Taylor JA, et al. Struck by injuries experienced by females were observed to be higher compared to males in an urban fire department. The disparity was investigated while gaining a grounded understanding of EMS responder experiences from patient-initiated violence. Mixed methods greatly enhanced the assessment of EMS responder patient-initiated violence prevention.

Interaction effects between highly educated neighborhoods and dispatcher-provided instructions on provision of bystander cardiopulmonary resuscitation Resuscitation, 01/11/2016, Lee SY, et al.

Socioeconomic factors of a community are associated with bystander cardiopulmonary resuscitation (BCPR) rates and outcomes of out-of-hospital cardiac arrest (OHCA). This study aimed to test whether dispatcher-provided CPR instruction modifies the association between education level of a community and provision of BCPR. OHCA patients in communities with a higher proportion of highly-educated residents were more likely to receive BCPR, and the disparity was more prominent in the group that received dispatcher-provided CPR instruction.

Medical Director Education Opportunities

National Association of EMS Physicians – www.naemsp.org

January 24-26, 2017 Annual Meeting, New Orleans, LA

Gathering of Eagles – www.gatheringofeagles.us

February 17-18 (?), 2017, Dallas, TX – great website with old lectures, this is also good for EMS managers/providers.

COPIC Seminars – www.callcopic.com

Don't forget your ERS points!

To improve is to change. To perfect is to change often.

-Winston Churchill

EMS Agency Education Opportunities

We are what we repeatedly do; excellence is then not an act, but a habit

- Aristotle

Pinnacle 2014 – www.pinnacle-ems.com

July 18 – 22, 2016 San Antonio, TX

EMS World Expo – www.emsworldexpo.com

October 3-7, 2016, New Orleans

Colorado State EMS Conference – www.emsac.org

November 4-6, 2015 Keystone, CO

EMS Today – www.emstoday.com

February 24-26 (?), 2017, Baltimore, MD