Regional Performance Improvement and Trauma Committee
Northern Virginia EMS Council
December 7, 2016 - Approved 3-1-2017

Those present were:
Craig Beavers, Prince William County Fire and Rescue, cbeavers@pwcgov.org
Stephanie Boese, Inova Loudoun, stephanie.boese@inova.org
Cam Crittenden, Virginia Office of EMS, camela.crittenden@vdh.virginia.gov
Matt Fox, City of Manassas Fire and Rescue, mfox@manassasva.gov
Maggie Griffen, Inova Fairfax Hospital, Committee Co-Chair, margaret.griffen@inova.org
Kate Kramer, Arlington County Fire Department, kkramer@arlingtonva.us
Johanna Kushan, Inova Loudoun, johanna.kushan@inova.org
Lindsay Jacobs, Loudoun County Fire and Rescue, lindsay.jacobs@loudoun.gov
Keith Morrison, Reston Hospital Center, keith.morrison@hcahealthcare.com
Kate Passow, Physician's Transport Services, kpassow@ptsems.com
John Peddle, Prince William County Fire and Rescue, jpeddle@pwcgov.org
Tim Perkins, Virginia Office of EMS, tim.perkins@vdh.virginia.gov
Marcia Pescitani, Northern Virginia EMS Council, marcia@vaems.org
Kristen Ray, Inova Fairfax Hospital, kristen.ray@inova.org
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Babak Sarani, George Washington Hospital, bsarani@mfa.gwu.edu
E. Reed Smith, Arlington County Fire Department, rsmith@arlingtonva.us
Brenda Snyder, Reston Hospital Center, brenda.snyder@hcahealthcare.com
Scott Weir, Fairfax County Fire and Rescue OMD, Committee Co-Chair, weirsd@comcast.net
Ray Whatley, Alexandria Fire Department, ray.whatley@alexandriava.gov
Jamie Wolfin, StoneSprings Hospital, jaime.wolfin@hcahealthcare.com

The PI & Trauma Committee meeting was called to order at 9:00 am by Dr. Scott Weir.

The September 7, 2016 meeting minutes were distributed prior to today's meeting. A motion was made and unanimously approved to accept the minutes from the September 7, 2016 meeting

Dr. Weir said that regionally there is a National Capital Regional group working on Burn Care and Mass Burn Care to include pediatric patients and pediatric trauma care in future work. Janet Engle from the Regional Hospital Coordination group is the contact if anyone is interested in helping with that project.

Dr. Reed Smith mentioned that there will be a training opportunity at George Mason Arlington Founders Hall on 21st Century Threat and Integrated Ops Symposium. There are still seats available. He will send the flier to Marcia for distribution.

While the guest speaker worked on technical difficulties with the Power Point presentation, Dr. Weir began the jurisdictional reports. We will review regional policies and protocols for burn related care today and return to the speaker when she is ready.

Ray Whatley reported that for Alexandria they ran 7 cases of burns that were transported to a specialty center (MedSTAR or Children's). Two were pediatric patients, aged 1 and 3 years. They also had one case that was RSI'd and the burns occurred from a stove fire. The providers suspected respiratory involvement. They did a thorough internal QA/QI on the call to determine if intubation was really necessary, but they agreed to err on the side of patient care. The patient was extubated @24 hours and released from the hospital with spill/scald burns from splash and splatter. The pain medications that they utilize include Morphine, Ativan, and Fentanyl. Dr. Weir asked if any of the EMS agencies present had utilized

Hydroxocobalamin for burn patients. Ray said that they have it but have not used it yet and that he does not think they missed any appropriate opportunities to use it in Alexandria. Dr. Weir said Fairfax County has the medication on the Supervisor's vehicles and they are still working on strategies on how to best use it and identify when it is most appropriate. The Supervisor's vehicles are not always at the same location as the medic units so therein lies an issue with getting the drug to the patient. The drug is too expensive to put it on every transport vehicle. There are challenges to the drug's use:

- how to get the drug to the medic units and to the patients when requested, when needed
- how to determine when it is appropriate
- accurate ID of population to which it should be applied

There are still some non-clinical issues to resolve. Ray added that they do have it on their front line units and supervisor's vehicles as well. Craig Beavers said that PW hung the Cyanokits three times, two for smoke inhalation and one for an unknown reason. Those applications are currently in a QA process so they have not heard any feedback as to whether the application of the drug helped the patient or not.

The guest speaker, Katie Hallowed, Outreach Education Coordinator from the Burn Division at Washington Hospital Center was invited to give a presentation on burns and burn care and will be happy to address any questions. She offered herself and her coworkers as reviewers to look at agency burn protocols to see if they meet the current guidelines. She began the presentation with some basic information on what to do for burns. The single most thing that will benefit the patient the most is to stop the burning. Ensuring a patent airway is also important to the patient. Some EMS providers have been taught to wrap the burned areas, but she said that is not necessary and it takes time. Pain management is important. The biggest piece of the care if that the patient must have a patent airway. Some have asked if cleaning the wound is something that should be done and Katie said that because the procedure takes time away from getting the patient to the burn center, that it does not have to be done. She reiterated the three most important things to do for a burn patient and that is maintain a patent airway, stop the burn and scene safety. If clothes are smoking take them off. They are a hazard to the providers and the patient. More rural areas must change the priorities to meet the needs of patients with severe burns.

Keeping the patient warm is also very important. There was a discussion about whether to remove the clothing and clothing burned and stuck to the wound. Drs. Smith and Weir said that they prefer to let the burn center do this and that providers may cut around those areas if they wish. They did say to look at upper and lower airways and consider CO poisoning for hints as to issues the patient may have. There were some short topic areas as are listed below:

- Grill Fires – usually due to someone using lighter fluid to start the fire. When it flashes, the person catches their breath and often inhales the heat causing airway burns. The upper airway injuries are more dangerous, because they swell quickly. Sometimes a decision needs to be made in the field whether to intubate or not, based on the airway and potential for swelling as time passes. It is OK to intubate and err on the patient's side to protect the airway. The burn center can always remove the tube if that is needed or appropriate when they receive the patient. The true smoke inhalation comes from the lower airway involvement and those recuperations can take months.
- Carbon Monoxide issue – Oxygen will help resolve this. The ABA now prefers oxygen to hyperbaric treatments for inhalation injury. Time is a factor. Oxygen clears as fast as the hyperbaric chamber and can be started right away.
- Katie showed some slides of burn injuries. Position on stretcher – prefer sitting up. Swelling may be dependent and buy time while transporting.
- Lower airway burns – true smoke inhalation. Some EMS systems can do surgical cricothyrotomy if needed in the field, as can flight medics.
- Electrical Burns – can also cause loss of limbs, sometimes multiple burns.
- IV therapy – Katie went over the most current appropriate IV fluid doses based on age of the patient. Lactated ringers or saline. Titrate to a systolic of 100 in MD and DC and to 90 in Virginia.
- For a short transport don't bother to figure out Parkland. Just maintain BP of 90-100. Keep the

patient warm and maintain temperature. Remember the skin regulates temperature. If skin is burned or missing the regulator is no longer there to keep the patient warn.

- Burn Sheets – Mylar burn sheets are fine and are cheap. They are cheap and come in blanket size. Some still use the plastic on one side and the cotton fabric on the other. It is OK, but it leaves fabric in the wound. It is still fine to use as the burn will be cleaned at the center. Cover the patient with the sheet and a blanket and transport.
- Turn the heat on in the ambulance. Keep the patient warm.
- Rapid transport. Don't take time to do procedures that will not matter. Rapid transport is critical, whether by air or ground.
- Burns to the hands – need to go to a burn center.

Katie said that the outlying agencies in Northern Virginia have really been good with communications with WHC. Dr. Weir asked if the patients should go to the hospital / trauma center first and then the physicians there consult with WHC or if they should go to the burn center first. He said that in some cases they do bring the patient to the trauma center first and let the trauma physicians make the determination whether the patient needs to be transferred to the burn center and call WHC to consult. They are available 24/7 for consults. Katie said there are a few things to remember when deciding. Hands are an area of function. They go to the burn center, as do patients with burns to the face, genitalia, feet, and circumferential burns. Katie praised NV agencies for having developed great communications with the burn center. Dr. Weir said that some agencies transport minor burns for care to a local trauma center and then refer to the Burn Center facility for follow up. She handed out a poster that shows the burn criteria.

Telemedicine is a wonderful tool for burn treatment destination decisions. A photo or video is a wonderful tool for the burn center. WHC is happy to look at any protocols that may be in need of revision and give suggestions on destination determination.

Pain management is the main reason WHC keeps patients for 24 hours.

Dr. Weir asked about firefighters who are burned. They always go to the burn center. It is an impact on their jobs. They may likely be burned again in their jobs, so Dr. Weir asked about multiple burns to the same area. He asked if anyone had a protocol as to where the firefighters are to be transported. Firefighters must be seen by burn professionals. It impacts impact on their longevity and return to their jobs.

Dr. Smith asked about a small 1st degree on the ear of a firefighter. He said they are taken out of service immediately. And that they see a burn physician. He asked if the group felt this was an immediate or non-immediate situation for the injured provider. He asked if the unit should be taken OOS and if that situation is always a carte blanche situation/protocol. There was discussion on this to include discussion on specific protocols that may not fit every situation. Dr. Smith said that the providers should be able to make decisions to manage objectives, not have one rule for all. He said that not all burns should have to go to a burn center unless the airway is involved. Back to the ear burn, the firefighter is taken out of service immediately. Whether they are seen by the burn professional immediately or later, as long as they are seen. They cannot always stop everything and take the emergency unit out of service right away. There may be a delay. The ABA "protocols" may not take into account that everything cannot always stop for transport of the injured firefighter. Each agency is a different situation and determines their own policy. Sometimes the ABA has strong policy that can't be operationally adopted by the EMS agencies. It is not always black and white in the field.

Katie said that the agencies may want the provider with very minor burns to see a burn physician in 24 hours and perhaps there should be recommendations vs. ABA policy on several items. The agencies said they should be able to make those decisions on a case-by-case basis and that there is no way to make a "protocol" that is exactly correct for all burns and for all EMS agencies. Dr. Smith said that all follow policies, but how to operationalize those policies is his issue. Katie said she will stick to the ABA criteria recommendations. She said good communications from hospital to hospital is important.

She then went over some basic anatomy and physiology and criteria for each level of burn.

The Burn Center at WHC does education for Pepco, Dominion and BGE. Safety training is usually in July. They all get training and equipment but they get in a hurry and forget safety; that is when they get burned. They frequently have limb losses from their injuries.

Children's National Medical Center. Kids with burns had historically been sent to Shriners in Boston. The Director of Trauma at that CNMC is now Dr. Byrd, who works with burn physicians at WHC to treat burned kids in house at Children's. They have three burn surgeons on staff and all kids with burns stay there now. Dr. Byrd worked with the burn physicians at Shriners.

Katie went over some case reviews. She made a couple of interesting observations:

- Cold water hardens tar burns.
- Grease splash burns – hard to calculate percentage of burns area.
- Seniors can have peripheral vascular disease and may not feel the heat of hot water. They cut the hot water heater up too much and get scald burns. Sometimes they get burns to the feet, hands and buttocks.
- Fluids are given to maintain pressure and control pain.
- E-cigarettes explode. This is a huge nationwide issue with burns to face, airway, and in areas with a pocket where the device is stored. ABA is working on this and trying to figure why this happens. Some think it is the result of batteries being put in incorrectly. The incident of this is high and the burns are bad.
- Scene consults may be requested with on-scene physicians.
- There is a regional burn section of the NCR MCI Plan.
- ABA has their own plan / protocols. We both (EMS and ABA) triage patients.
- EMS triages and use their own policies/plans/protocols and burn centers want those who are red tagged triaged patients with burns.

Burn Centers and surge capacity. Katie gave a situation, on 9-11, when the burn center was full and they refused additional help. They did not bring in additional physicians. They reevaluated their process. Surge is 1.5 times over the bed availability at the time of the incident. They are required to take on 1.5 of their normal capacity in this situation. EMS should send what they can to the burn centers but when they cannot take any more those additional patients must go to a trauma center. The goal is to have all to a burn center within 72 hours through regional coordination. Some green and yellow triaged patients will not be severely burned and may get a referral to the burn center for follow-up.

There was a discussion on the RHCC and whether they can filter out the trauma and burn patients. The group asked whether RHCC calls the department of health in DC to determine specialty bed availability. Kate P. said she would check on that.

Katie also discussed resources for follow-up for firefighters who had experienced burns and how they make appointments at the clinic for follow-up and she said they will give preferential appointments for firefighters.

Mass Burn care was discussed again and it was clarified that the burn centers want the red burn patients. If the burn center is full, the other options are to transport to the trauma centers or the next in line burn center.

After an additional summary discussion, it was clear that there are different ways to correctly treat burns and the providers have several considerations and decisions that have to be made based on protocols, judgement, and patient presentation.

After a round of applause in appreciation for Katie's time and expertise, the meeting continued with the jurisdictional reports.

Matt Fox reported for Manassas City. He said they have had one burn to the hand in the last year and that patient went to MedSTAR. The treatment included pain medications (mainly fentanyl) and after a short scene time prior to the helicopter arrival, and some cleaning of the home insulation the man was transported. Katie said that if we ever want or need patient follow-up to just let her know. They are trying to start getting letters back to the agencies with info on how the patient did. She would be the point of contact.

Marcia said she will try to update the point of contact list that was developed for the PI committee a while back and share with the hospital point of contacts. Marcia will try to update both lists and please let her know if names or contact info changes.

PTS reported that in the last year they have transported 95 burn patients. 57 patients went to MedSTAR and 36 to Children's National Medical Center. There does not seem to be a seasonal factor as to when the burns occur. The majority of the burn patients were 2nd degree / partial thickness burns and were 18 – 49 years old. There were 37 that were less than 18 years old. There were 26 that were more than 50 years old or older. They are revising their protocols now. Treatment while in their care was mainly pain management and fluids. Their care is mostly a continuation of what the sending hospital had already started.

Kate Kramer said that for Arlington, they had 26 burns from the last year: 1 full thickness burn, 5 partial thickness burns and 11 superficial burns, and 9 unspecified. The average age was 41 years old. The oldest was 95 years old. Have been working for a long time on their mass casualty burn plan. The new updates include use water gels, fentanyl, and a modified triage of SALT.

Dr. Weir continued with the yearly task of determining topics for future meetings in this calendar year. For Quarter 3, fiscal year 2017 (the next meeting), for the Trauma portion of the meeting, we will look at amputations, mangled amputations and re-implantations. Topics to be covered include: triaging, Union Memorial Hospital (hopefully guest speaker), scene flights and whether they can go to Union or not, and who else can do those in the region. Dr. Sarini has a contact there and will try to arrange as a speaker. Dr. Griffen will also try to find out a name through some of her specialty physicians and they will work together to find the right person. Historically, Union Memorial does not accept scene flights, but they recently celebrated a call that originated at a scene and was transported from that scene to Union. For the Medical and System parts of the meeting, we will look at 12-leads and the effect on STEMI care. This will include BLS providers who do 12-leads.

Additional topics that the group wants to consider include the following:

- Opioid Abuse, prescription abuse, use of Narcan. DOH training. Some agencies are embracing the use of Narcan and we need to look at administration of Narcan prior to arrival of EMS. Also look at positive response to Narcan administration. This could be a medical and system topic. Current mandates re: state agencies, police, agencies, and some are embracing it, mostly the rural agencies.
- Opioid Abuse – ED representatives to attend. Magistrate. How to keep patients there, medical TBO. Has the increased incidence of this epidemic changed practice pattern in the EDs? Define "at risk" populations. 3rd party prescriptions for Narcan. Loudoun sheriffs carrying Narcan. OEMS is interested in Narcan administration with a positive response.
- Mass casualty – DC DOH. NV Regional Disaster Plan. Dr. Sarani.

- Sleep deprivation. Worker fatigue in decision making. EMS and hospital staffers. Long duty assignments and prolonged Ops calls. This is a Trauma, Medical and System issue. NAEMSP, issue has been oversimplified in the past. Dual jobs on off-days. Intervention team, CIT training.

How long are employees allowed to work? Hospital, fire, EMS? Policies, DOT. How is it really happening vs. studies. What is out there in the way of literature? Cognitive functions. NIH just did a study. Dr. Weir knows a sleep physician at NIH. He will check to see if he can attend at a later date. A 24-hour shift is different in a busy station vs. a station that sees one call during the 24-hours. There are also providers who leave their fire department jobs and go to their second and third jobs. How does that affect their cognitive functioning for patient care? How long are employees allowed to work? Fire vs. EMS. This is an across the board issue to investigate. Covers medical, trauma and system. Opportunity to look at studies and look at how actions are based on current literature/data that may be flawed. NIH just did a big study/presentation on this. Reality vs. studies.

This will be a good full day of info to add sleep deprivation to the opioid abuse. Maybe do this for June.

For the next date, March, it was suggested to do the amputations and re-implantation for Trauma with system and medical with follow up with STEMI care and BLS identifications and appropriateness and correctness and how that is going. EKGs at the BLS level and that impact on STEMI care.

- Dr. Weir suggested covering the care of Proximal Vessel Strokes, profound stroke deficits, are we identifying them and is there any benefit to identifying them? Looking at screening tools to differentiate Proximal stroke from non-proximal, and the use of RACE screening tool, VAN, etc. Comprehensive Stroke Centers in No.VA. Studies. Bypassing a primary to get to a Comprehensive. Referral strategies. Perhaps impetus for getting a Comprehensive center in the NV Region. March 2016. Science is changing really quickly. The last time we covered stroke, it was just general stroke info. This time, how many stopped for thorombolytics, what were the time intervals, how many did not stop for thrombolytics. OEMS is revising their State Stroke Plan. For those patient going to comprehensive centers, do they get thrombolytics? Would like to share data and get all hospitals here at meeting who receive stroke patients. What they are doing? Where patients are coming from? Interventions? Outcomes? Share data. Primary centers strategies. Reston has interventional radiology capabilities or will have soon. Fairfax has capabilities. VHC Arlington does interventional strategies? We need to email all and get responses. What is out there? Recognize resources and feedback for EMS.

  Cam Crittenden from OEMS can get us stroke contacts for use to contact them? Can she get responses from the contacts and answers to some questions? We are identifying area resources and feedback so we can provide EMS with info to know what is available. She can get contacts. Marcia also has a list that is fairly current that can be updated. What they do with proximal strokes. May take time to get this together.

- There was a question on pediatric care. Fairfax is not a Level I for peds. They still take care of peds, just not specified designated as such. To become level I peds, is financial. ACS not specifically ped certified. They still do PI and have a Peds program manager that covers it. They need three more Pediatric specific FTE staff to qualify. There is only one ped level I in VA and that is VCU.

Dr. Griffen distributed the Inova Trauma stats and went over them. She explained the blunt trauma vs. penetrating trauma and falls data.

There was discussion as to whether Jamie Sansone can break down the data by agency and how many come to FX via consult. They would like to determine which did not meet criteria at first but do later on in the timeline. Which field triage criteria that were met? Would like to track which are admitted, activation, consult.

Dr. Griffen also said that there is little patient data from the ED. There is no registry for the ED. How may come in and go home? How many get on the trauma registry.

Dr. Sarani had to leave but left his data for distribution. Dr. Sarani mentioned that George Washington University Hospital has received their ACS 3-year Level I Trauma Center recertification. He distributed their trauma data for the third quarter of 2016. Along with that data was all quarters for comparison since Quarter 1 2015.

The next meeting will be Wednesday March 1, 2017. The meeting will be held at the **CITY OF FAIRFAX FIRE DEPARTMENT FIRE STATION 403. That station is located at 4081 University Drive, Fairfax City, VA 22030. PLEASE NOTE THE CHANGE IN LOCATION *for this meeting only***. We will begin at 9 am and the group will complete the discussions by noon.

Please bring pertinent data from your agency and if you are unable to attend, please have your back-up representative attend.

Without further, the meeting was adjourned at 11:45 am.

CERTIFICATION OF BOARD OF PERFORMANCE IMPROVEMENT AND TRAUMA MEETINGS
NV EMS Council
7250 Heritage Village Plaza, Ste. 102
Gainesville, VA 20155

I, Marcia Pescitani, Interim Executive Director of the Northern Virginia EMS Council certify that the above minutes are a true and correct transcript of the minutes of a meeting of the Performance Improvement and Trauma Meetings of the Northern Virginia EMS Council on (date of meeting) 12/7/2016. The minutes were officially approved at the (date of approval) 6/8/2017 meeting of the Committees.

Marcia Pescitani
Marcia Pescitani
NV EMS Council

6.8.2017
Date