Northern Virginia EMS Council
Performance Improvement and Trauma Committee
Fairfax County Fire Station 440
4621 Legato Road, Fairfax, VA 22030
March 13, 2019 Meeting Minutes

Those present were:

Stephanie Boese, Inova Loudoun Hospital, stephanie.boese@inova.org
Andrew Carver, City of Manassas Fire & Rescue, Andrew.carver@manassasva.gov
Valentina Daly, Fairfax County Fire & Rescue, valentina.daly@fairfaxcounty.gov
Elizabeth Franco, Inova Regional Trauma Center, Elizabeth.franco@inova.org
Brian Hricik, Alexandria Fire Department, brian.hricik@alexandriava.gov
Tracy Lane, Loudoun County Fire & Rescue, tracy.lane@loudoun.gov
Michelle Ludeman, Northern Virginia EMS Council, Michelle@vaems.org
Robert Moreau, Prince William County Fire & Rescue, rmoreau@pwcgov.org
Chris Munz, Reston Hospital Center, christian.munz@hcahealthcare.com
Melinda Myers, Inova Fairfax Hospital, Melinda.myers@inova.org
Brian Orndoff, City of Fairfax Fire Department, brian.orndoff@fairfaxva.gov
Serdar Serttas, PHI Air Medical, sserttas@phiairmedical.com
Dallas Taylor, HCA Reston Hospital Center, dallas.taylor@hcahealthcare.com
Laura Vandegrift, Northern Virginia EMS Council, laura@vaems.org
Scott Weir, MD, Fairfax County Fire & Rescue Dept, scott.weir@fairfaxcountygov.org

The PI and Trauma Committee meeting was called to order at 9:05 a.m. by Dr. Scott Weir and introductions were made around the room.

Meeting minutes from December 5, 2018, meeting were distributed via email prior to this meeting and unanimously approved with no changes.

Trauma Topic – Use of TXA in the hospital and pre-hospital setting
Attendees from various agencies provided their data for this topic

Dr. Elizabeth Franco from Inova Fairfax Hospital reported the following:

- They measured TXA field use versus in-hospital and use of massive transfusion protocol (MTP)
    - In 2018 87 patients or 4% of all trauma activations received TXA
        - EMS only was 43 patients or 49%
        - In-hospital only was 31 patients or 36%
        - Both EMS & hospital was 13 patients or 15%
    - Why did some patients not receive a second dose of TXA? Three top reasons:
        - There were no signs or symptoms of shock or active hemorrhage upon arrival in the trauma bay in approximately 50%
        - Bleeding source was identified and controlled in approximately 35%
        - Some providers not hardwired to consider the second dose in approximately 15%
    - Complications identified after the use of TXA in multi-trauma patients
        - 1 developed PE
        - 4 developed DVT
    - Of the 87 patients in 2018 that received TXA53% went to the OR/IR to control hemorrhage

        - 17 received TXA by EMS only
        - 19 received TXA by hospital only
        - 10 received TXA by both
- MTP administration in trauma patients
    - In 2018 it was administered to 48 patients
        - 77% or 37 trauma-related patients had MTP activation and also received TXA
            - 9 received TXA by EMS only
            - 20 received TXA by hospital only
            - 8 received TXA by both
    - Their goal for MTP ratio is 1PRBC:1FFP:1PLT

Robert Moreau from Prince William County Fire & Rescue reported the following:

- They administered TXA 24 times in 2018
    - The age range of 16-64, 2 instances of under age 16 with medical control consent
- They have administered TXA once in 2019
- They have a protocol mobile application that indicates use in trauma for patients with systolic BP of less than 90 or sustained heart rate above 110

Stephanie Boese from Inova Loudoun Hospital provided the following data:

- Loudoun Hospital is a Level III Trauma Center and EMS patient who would be TXA eligible should go to a Level I or II Trauma Center so they have no data on EMS administered TXA
    - In the OR there were 369 orthopaedic patients that received TXA last year
    - 30 patients received TXA in Labor & Delivery
    - 2 patients received TXA in the ED and they were both OB patients
- MTP protocol was activated on 1 trauma patient with a pelvic fracture
    - She was taken to the OR and MTP was discontinued at that time
- Blood transfusion was administered within the first hour of the patient's arrival in 2 trauma patients. 1 hip fracture and 1 pelvic fracture
- They previously had FFP but now, with the advent of the FACT*R Blood Program, they now have liquid plasma on hand which has been a big help for them

Dallas Taylor from HCA Reston Hospital Center provided the following data:

- Reston does not have blood in the ED currently but are working with the Trauma, Lab and ED departments to have it in the ED trauma bay in 2019 to forgo the need for runners
    - In 2018, 20 patients received blood products within 4 hours of arrival to the ED
        - 10 of those received blood within 1 hour of arrival
            - 4 of those had MTP protocol initiated within 4 hours (all patients were blunt mechanism)
                - 2 received 10 units of PRBC
                - 1 received 6 units of PRBC
                - 1 received 4 units of PRBC
        - Age breakdown
            - 4 were in their 20s
            - 2 were in their 30s
            - 5 were over age 50
- In 2018 they received 8 patients with TXA administered by EMS

- The ED did not continue TXA on any of those cases

Michelle Ludeman provided statistics submitted by Craig Evans who was unable to attend the meeting.

- Over the last two years, all of 2017 and 2018 the EMS records show the following TXA uses during an EMS transport:

Receiving Hospital	Total Patients from EMS
Alexandria	10
Fair Oaks	2
GW	17
Inova Fairfax	69
Reston	9
VHC	2

Brian Hricik from Alexandria Fire Department provided the following information:

- When they initially started carrying TXA it was used for any suspected hemorrhagic shock patient and they were transported to either Inova Fairfax or GWU Hospitals
  - That has fallen out of favor because most of the hospitals were not continuing use upon arrival to the ED
- Now, over the last 6 months, they are using it for uncontrolled epistaxis topically during transport
- It is in their protocols for postpartum hemorrhage but they have not yet used it for that reason
- Their protocols allow TXA for only these three indications

Andrew Carver from City of Manassas Fire & Rescue advised that their protocols are the same as Alexandria Fire Department but he did not have data available to present their numbers today.

Tracy Lane from Loudoun County Fire & Rescue advised they do not use it at this time.

Serdar Serttas from PHI advised their indications are the same as Prince William County's protocol

- They now bring 2 units of whole blood to the scene as of last year
  - Once EMS gives TXA, they switch to whole blood once on scene

Brian Orndoff from City of Fairfax Fire Department advised they are administering TXA via pump over 10 minutes and asked if anyone had ideas or opinions on push dose of TXA and the use of TXA in pediatrics

- PHI currently drips as well, but Serdar advised that he works PT at Fauquier Hospital and their OR pushes
- Dr. Weir advised Fairfax Hospital is considering it based on current literature but hasn't implemented it yet

Medical Discussion – Sepsis
Attendees from various agencies provided their data for this topic.

Brian Hricik from Alexandria Fire Department advised they currently use "LifeFlow" which loads 10cc syringe of normal saline into the device and provides a passive withdrawal of the 1000cc bag of fluid. With a 20g catheter, it can administer a 1000cc bag of saline in 2 minutes 30 seconds. It is faster than the old stopcock method.

- They have only used it on three occasions
    - In one of those cases the patient presented with a high fever, UTI, septic looking and acting but upon arrival at the ED the patient's lactic acid level was normal because of the volume of fluid they were able to get in them.
        - They've been contacted by the manufacturer to highlight this case in particular
- The idea is to administer 2 liters of fluid before arrival at the hospital, however, they have short transport times so this is not always the case
- This is the most recent change to their sepsis policy

Andrew Carver from the City of Manassas Fire & Rescue advised of the following:

- There has been no change in their protocol
- They added Levophed drip in the last 1-2 years but it's not commonly administered

Serdar Serttas from PHI advised of the following:

- They transport with Levophed on pumps but don't treat in the field, just transport

Brian Orndoff from City of Fairfax Fire Department provided the following information:

- They have recently updated their protocol most involving how they notify the hospital prior to arrival with these patients
    - They can do lactate test in the field but it's not an FDA approved test in conjunction with end-tidal CO2
- They encourage providers to start the IV at the bedside to get fluids started as early as possible
- Norepinephrine administered via IV pump with 2 liters via standing order for the last 2-3 years
    - If given without fluids, they must contact medical control
- No push pressors given for sepsis but are given for allergic reactions and shortness of breath

Robert Moreau from Prince William County Fire & Rescue reported the following:

- They have adult and pediatric sepsis protocols focusing on fever, hypothermia, respiratory rate
- They use dopamine but not often enough to consider adding another and adding the possibility of medication errors
- Their biggest challenge is the receiving facilities
    - One ignores their pre-alerts
    - One activates the alerts prior to arrival

Valentina Daly from Fairfax County Fire & Rescue reported the following:

- In calendar year 2018 Levophed was given to 12 patients but sepsis was listed in the primary impression on nearly 700 patients

Tracy Lane from Loudoun County Fire & Rescue reported the following:

- They have no sepsis protocol in place

Systems Discussion – Patient Refusals

Attendees from various agencies provided their data for this topic

Brian Hricik from Alexandria Fire Department provided the following information:

- A few years ago they had a staff member who was doing an "Alternative Destination Determination Post-Study". He does not have the full results of the study but it was provided to the state with no response.
    - The study looked at a protocol they put together and had providers look back to see if the patient should have had an alternative destination such as urgent care, walk-in medical care facility
        - When the protocol was followed appropriately, they were able to get a nearly 85% compliance rate but following the protocol was the issue
            - They stepped back and looked at why providers aren't following protocols if that is what their care and treatment is based on
                - Lack of education?
                - Lack of taking the protocol seriously?
        - They chose not to make it operational because they couldn't best determine the reasons for non-compliance with the protocol
- They have been tracking patient refusals for the last 15+ years, initially through their quality management process
    - Over the last 10 years, it's been between 14-20% of all calls per month
    - More recently they're scrutinizing performance measures to ensure certain components are taking place prior to allowing the patient to sign a refusal
        - Was an exam done?
        - Were vital signs completed? Documented?
            - If not, why not?
        - They request that providers get a phone number to reach the patient so they can follow up within 72 hours with the patient which is done on about 10% of the refusals
            - Did the patient's complaint resolve?
            - Did they contact a physician and follow up as recommended?
        - For minors, they assure they had parental contact and the parent's information or follow up
        - They also look for witness signatures and have created a hierarchy of who they want to sign as a witness with the thought being that it be someone the furthest away from the providers as possible
            1. Patient relative or friend on-scene
            2. Other bystander or on-scene witness
            3. Someone from another City of Alexandria agency such as police
            4. Other fire or EMS personnel not on the call
            5. Partner or crew member of the EMS unit on the scene
    - In February of 2019, they had 14% of their calls that were patient refusals

Andrew Carver from City of Manassas Fire & Rescue provided the following information:

- He does not have data today on their percentage of patient refusals
- They have no specific directive on patient refusals except for minors
- They also use a hierarchy in terms of who can sign as a witness, similar to Alexandria Fire Department

Serdar Serttas from PHI reported the following:

- They rarely encounter patient refusals, however, if they have a patient refusing to fly or be transported by them and they have already initiated care, they will ride with the ground transporting unit for continuity of care

Brian Orndoff from City of Fairfax Fire Department provided the following information:

- They are currently revamping their quality management program in the City so he doesn't have data available today.
    - One focus of their quality management program is to look at patient refusals
    - They currently review patient refusals on a case by case basis

Robert Moreau from Prince William County Fire & Rescue reported the following:

- In 2017 they received new protocols and revamped their patient refusal of care and transport sections expanding them both
    - Medical care really delved into Medical Power of Attorney, medical decision making, impaired decision makers, etc.
    - One change is for diabetics who are treated on-scene and then refuse transport, they have to obtain approval from medical control to initiate the refusal paperwork
- Their refusal rates are approximately 7.5% based on three call types
    - Against Medical Advice (approximately 1.6%)
    - Refusal of evaluation, treatment, and transport
    - No patient found

Valentina Daly from Fairfax County Fire & Rescue provided the following data:

- Approximately 10% or 1284 of their calls year-to-date
    - 47% of those are within 8am-4pm, with the next highest rate being between 4pm-midnight
    - 38% are under age 30 with even distribution of those 18-30 and those under 18
    - Their most frequent call types are hypoglycemic patients with approximately 70% of the diabetic refusals being male
        - Of those, she looked into whether providers were following protocol with at least 2 sets of vitals, documentation of discussion with the patient regarding refusal of care
            - Overall this was well documented but there could be some education on providers explaining to the patients the short-acting nature of the medication given and encouraging them to follow up with their primary care physicians. While this may be done, it's not well documented

        - An additional area of improvement to consider is the importance of obtaining and documenting two blood glucose readings instead of just documenting that the patient's condition improved
    - There were also two patients with suspected alcohol abuse who were also diabetics but the underlying hypoglycemia was not treated and the patients were just turned over to police custody. This is also a potential area for improvement in not overlooking underlying or other contributing medical conditions

Tracy Lane from Loudoun County Fire & Rescue provided the following data:

- Approximately 12% of all of their calls in 2018
    - They don't review all calls, only select calls
    - They use ImageTrend and their providers have to use a checklist which forces the provider down the path of making sure the patient has decision making authority, etc.
    - They have a "No Patient Found" disposition which is guided by a definition of "Patient" which is very detailed
    - She is looking forward to getting First Watch/First Pass on board soon
    - Average on-scene time for patient refusals is approximately 25 minutes
    - They also use the same hierarchy system as previously mentioned for witness signatures with providers being encouraged to not sign as a witness unless it is absolutely the only option

Topics for the next meeting:

- Trauma
    - Spinal cord injuries using data from calendar year 2018
- Medical
    - Drownings
- Systems
    - Integrating and interfacing hospital and EMS records in both directions

As a reminder, the meetings for 2019 will take place on the second Wednesday of the first month of each quarter as to not conflict with the trauma managers meetings and allow them to attend both. The 2019 Regional Trauma/PI meetings are as follows:

- Wednesday, June 12, 2019 – Station 440, 4621 Legato Road, Fairfax, VA 22030
- Wednesday, September 11, 2019 – Station 440, 4621 Legato Road, Fairfax, VA 22030
- Wednesday, December 11, 2019 – Station 403, 4081 University Dr, Fairfax, VA 22030

The next Regional Trauma/PI Committee meeting will be on June 12, 2019, at 9:00 a.m. The location will be announced Fairfax County Station 440, 4621 Legato Road, Fairfax, VA 22030. An invitation with the location will be sent out before the meeting.

The meeting was adjourned at 11:18 am.

CERTIFICATION OF PERFORMANCE IMPROVEMENT AND TRAUMA MEETING

Northern Virginia EMS Council
7250 Heritage Village Plaza, Ste. 102
Gainesville, VA 20155

I, Craig Evans, Executive Director of the Northern Virginia EMS Council certify that the above minutes are a true and correct transcript of the minutes of the Performance Improvement and Trauma Meeting of the Northern Virginia EMS Council on March 13, 2019. The minutes were officially approved on June 12, 2019, meeting of the Committee.

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Craig Evans
Northern Virginia EMS Council

Date