



Northern Virginia EMS Council  
**Trauma and Performance Improvement Committee**  
Meeting held virtually via Zoom  
December 9, 2020 Meeting Minutes

Those present were (All attendees were present via Zoom):

Stephanie Boese, Inova Loudoun Hospital, [stephanie.boese@inova.org](mailto:stephanie.boese@inova.org)  
Mindy Carter, Virginia Hospital Center, [mecarter@virginiahospitalcenter.org](mailto:mecarter@virginiahospitalcenter.org)  
Jessica Dill, GWU Hospital, [jessica.dill@gwu-hospital.com](mailto:jessica.dill@gwu-hospital.com)  
Valentina Daly, Fairfax County Fire & Rescue, [valentina.daly@fairfaxcounty.gov](mailto:valentina.daly@fairfaxcounty.gov)  
Craig Evans, Northern Virginia EMS Council, [craig@vaems.org](mailto:craig@vaems.org)  
Elizabeth Franco, MD, Inova Fairfax Hospital, [Elizabeth.franco@inova.org](mailto:Elizabeth.franco@inova.org)  
Craig French, Inova Loudoun Hospital, [craig.french@inova.org](mailto:craig.french@inova.org)  
Christopher Gavurnik, MWAA, [Christopher.gavurnik@mwa.com](mailto:Christopher.gavurnik@mwa.com)  
Mark Guditus, Inova Fairfax Hospital, [Mark.Guditus@inova.org](mailto:Mark.Guditus@inova.org)  
Brian Hricik, Alexandria Fire Department, [brian.hricik@alexandriava.gov](mailto:brian.hricik@alexandriava.gov)  
Nathan Kee, Inova Loudoun Hospital, [Nathan.kee@inova.org](mailto:Nathan.kee@inova.org)  
Micah Kiger, Loudoun County Fire & Rescue, [micah.kiger@loudoun.gov](mailto:micah.kiger@loudoun.gov)  
Kate Kramer, Arlington County Fire & Rescue, [kkramer@arlingtonva.us](mailto:kkramer@arlingtonva.us)  
Tracy Lane, Loudoun County Fire & Rescue, [tracy.lane@loudoun.gov](mailto:tracy.lane@loudoun.gov)  
Anne Marsh, Arlington County Fire Department, [amarsh1@arlingtonva.us](mailto:amarsh1@arlingtonva.us)  
Michelle Ludeman, Northern Virginia EMS Council, [Michelle@vaems.org](mailto:Michelle@vaems.org)  
Melinda Myers, Inova Fairfax Hospital, [Melinda.myers@inova.org](mailto:Melinda.myers@inova.org)  
John Morgan, MD, Loudoun County Fire & Rescue, [john.morgan@loudoun.gov](mailto:john.morgan@loudoun.gov)  
Justin Nelson, Virginia Hospital Center, [jnelson@virginiahospitalcenter.org](mailto:jnelson@virginiahospitalcenter.org)  
Brian Orndoff, City of Fairfax Fire Department, [brian.orndoff@fairfaxva.gov](mailto:brian.orndoff@fairfaxva.gov)  
Kate Passow, Physicians Transport Service, [kate.passow@gmr.net](mailto:kate.passow@gmr.net)  
Erik Rhodes, Physicians Transport Service, [Erik.rhodes@gmr.net](mailto:Erik.rhodes@gmr.net)  
Geoff Shapiro, George Washington University, [gshap@gwu.edu](mailto:gshap@gwu.edu)  
Reed Smith, MD, Arlington County Fire Department, [rsmith@arlingtonva.us](mailto:rsmith@arlingtonva.us)  
Alex Stephenson, Prince William County Fire & Rescue, [astephenson@pwcgov.org](mailto:astephenson@pwcgov.org)  
Dallas Taylor, HCA Reston Hospital Center, [dallas.taylor@hcahealthcare.com](mailto:dallas.taylor@hcahealthcare.com)  
Laura Vandegrift, Northern Virginia EMS Council, [laura@vaems.org](mailto:laura@vaems.org)  
Chris Wanka, Metro Washington Airports Authority, [Christopher.wanka@mwa.com](mailto:Christopher.wanka@mwa.com)  
Scott Weir, MD, Fairfax County Fire & Rescue OMD, [scott.weir@fairfaxcountygov.org](mailto:scott.weir@fairfaxcountygov.org)

The PI and Trauma Committee meeting was called to order at 9:02 a.m. by Dr. Scott Weir.

Meeting minutes from September 9, 2020, meeting were distributed via email before this meeting and unanimously approved with no changes.

***Trauma Topic – Tourniquet Use***

Dr. Elizabeth Franco from Inova Fairfax Hospital presented the following data:

- 56 total patients

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- 3 outliers were removed
  - One placed by PD to RUE and removed by EMS
  - One placed by unknown, removed by HEMS
  - One placed on RLE but not required
- Gender
  - 42 male
  - 14 female
- Age
  - Most between 15-65
- Mechanism of Injury
  - Non-assault
  - Unintentional cutting
    - Cutting trees
    - Broken window
    - Pedestrian struck
    - MVA
  - Stabbing
- Tourniquet placed by
  - EMS 27
  - Outside Hospital 9
  - Police 13
  - Bystander 4
  - Unknown 3
- Location of Tourniquet Placed
  - Upper Extremity 29
  - Bilateral Upper Extremity 1
  - Lower Extremity 22
  - Bilateral Lower Extremity 3
  - Upper and Lower Extremities 1
- Time with Tourniquet in Place
  - Mean time 1 hour 9 minutes
  - Median time 50 minutes
- Tourniquet removed by
  - ED 37
  - OR 16
  - Deceased 2
- Vascular Injury
  - 28 yes
  - 27 no
  - 1 unknown
- Had vascular injury when placed by
  - EMS – 53.6%

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- PD – 53.8%
- Outcome
  - Survived 93%
    - 52 alive
    - 4 deceased
- Hospital Length of Stay
  - Vascular injury average 4.8 days
  - Non-vascular injury average 3.6 days
- Discharged to
  - Hospital to Home 33
  - Discharged from ED 11

Dallas Taylor from HCA Reston Hospital Center provided their data. A copy of the presentation is attached to these minutes.

Stephanie Boese from Inova Loudoun Hospital provided the following data for Q3 2019 – Q2 2020:

- 5 total patients
- Gender
  - Male 80%
  - Female 20%
- Age
  - 15-45 40%
  - 46-64 40%
  - >65 20%
- Full Activation was 100% of cases
  - All patients survived
- Tourniquet initially applied by
  - EMS 40%
  - Patient 60%
- Disposition
  - Home 40%
  - OR 40%
  - Transfer to Fairfax 20%
  - They were seeing a trend of patients down for days after a fall and found later due to social distancing (no one checking on friends, relatives, etc., that were home alone)
- They are following all Inova Health System policies and procedures regarding COVID like Fairfax

Jessica Dill from GWU Hospital reported the following:

- 19 patients in total
  - All presented by EMS, 4 from Northern Virginia

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- All trauma activations
- Tourniquet placed by
  - EMS 12
  - PD 7
- Time of day
  - Early morning 1
  - Afternoon 6
  - Evening 4
  - Overnight 6
- Mechanism of injury
  - GSW 47%
  - Knife 21%
  - Sharp Object 32%
- OR required for vascular injury
  - 9 of 19
- ED Disposition
  - OR 9
  - Floor/Observation 3
  - Home 3
  - ICU 2
  - Psych 1
- EMS applied a second tourniquet to 1 patient
- Overall, all went home or home with PT/OT services as needed

Justin Nelson from Virginia Hospital Center provided the following update:

- 5 total patients
  - 1 deceased (hospice service)
  - 1 transferred to Union Memorial
  - 2 had pulses on arrival
    - The other three had no documentation on pulses upon arrival or not
- Mechanism of Injury
  - Construction
  - Fall
  - Stabbing
  - Lawnmower
  - Other laceration
- Tourniquet placed by
  - Bystander 4
  - Arlington PD 1
- Disposition
  - Transfer to Union 1
  - OR 1

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- ICU 1
- Home 2

Alex Stephenson from Prince William County Fire Rescue presented the following data:

Tourniquet Use	Age	Sex	Plain Gauze or Hemostatic	Location of Wound	Where it was applied?	Was it effective?	Bystander Tourniquet
11/28/2019	59	F	Gauze	Left Arm (Fistula)	Left arm, above fistula	Yes	N/A
12/25/2019	30	M	Gauze	Right Wrist	Above Wrist, just below elbow	Yes	Shoestring
12/25/2019	79	F	N/A	Left Arm (Fistula)	Left arm, above fistula	Yes	N/A
2/4/2020	37	M	N/A	Right Ankle	Above Right Knee	No	N/A
2/4/2020	87	M	Gauze	Left Arm (Fistula)	Left arm, above fistula	Yes	N/A
4/1/2020	67	M	Gauze	Right Arm (Fistula)	Right arm, above fistula	Yes	N/A
4/17/2020	38	M	Gauze	Sole of right foot	N/A	Yes	N/A
5/1/2020	40	F	Gauze	Amputation of Right Lower Leg	Right Mid Thigh	Yes	N/A
5/16/2020	33	M	N/A	Lower Right Leg	Above Knee	Yes	N/A
5/29/2020	60	F	Gauze	Lower Left Leg	Above Wound	Yes	Latex Glove Makeshift (Unknown Material)
6/29/2020	18	M	N/A	Right Upper Arm	Above Wound	Yes	Latex Glove Makeshift (Unknown Material)
7/19/2020	52	F	Gauze	Left Wrist	3" Below Left Shoulder	Yes	N/A
7/22/2020	57	M	Gauze	Left Arm (Fistula)	Left arm, above fistula	Yes	N/A
7/30/2020	35	M	Hemostatic	Right Hand	Right Forearm	Yes	N/A
8/28/2020	40	M	N/A	Right Open Femur	Right Upper Thigh	Yes	N/A
9/21/2020	38	M	Gauze	Left Wrist	Above Elbow	Yes	Bulky Dressing
9/28/2020	31	M	Gauze	Left leg, just below knee	N/A	Yes	N/A
9/30/2020	45	M	Gauze	Left leg, just below knee	Above Knee	Yes	Packing Tape

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Kate Kramer from Arlington County Fire Department presented the following data:

- 11 patients in total
- Tourniquet location
  - 2 upper extremity
  - 9 lower extremity
- Tourniquet placed by
  - EMS 3
  - PD 5
  - Bystander 3
    - None of these were replaced by EMS
- Gender
  - Male 10
  - Female 1

Brian Orndoff from the City of Fairfax Fire Department presented the following data:

- 2 total patients
  - Packed with hemostatic agent and pressure dressing, no second tourniquet required
- 7 applied pressure dressing
- They currently use the MET3 tourniquet
  - They recently added the SAM Junctional Tourniquet to all units and SWAT medics

Tracy Lane from Loudoun County Fire & Rescue presented the following data for Q4 2019 – Q3 2020:

- 10 total patients
- Mechanism of injury
  - Ruptured fistula 2
  - GSW 2
  - Laceration/Assault 3
  - Suicide attempt 1
  - Hand/finger amputation 1
  - Other 1
- Location of tourniquet
  - Upper extremity 60%
  - Lower extremity 40%
- Application notes
  - 2 applied by family/bystander
  - 1 packed with Celox
  - 2 bleeding was not controlled with the tourniquet

Chris Wanka from MWAA provided the following data for 9/2019 – 9/2020:

- 2 total patients
  - A boating accident, multiple propeller strikes to a single leg. Placed by Alexandria FD engine company prior to MWAA medic arrival.

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- Elderly female w/ pre-existing wound to lower leg, pressure being held by physician w/ direct pressure not stopping bleeding, applied by EMS w/ bleeding controlled
- They are putting Stop The Bleed kits in the airport as they have AEDs distributed. This was an initiative by Corporate, not the Fire & Rescue Department
  - They will train all airport staff on the proper use during their CPR training when they can resume

Brian Hricik from Alexandria Fire Department provided a presentation of their data. It is attached to these minutes.

***Medical Topic – Cardiac Arrest***

Kate Kramer from Arlington County Fire Department provided the following data:

- 148 total patents
  - 70 unwitnessed
  - 78 witnessed
    - 16 witnessed by a layperson
- ROSC achieved
  - 20 witnessed
  - 6 unwitnessed

Brian Orndoff from the City of Fairfax Fire Department provided the following data for CY2019.

- 33 total events
  - 51.5% achieved ROSC
    - 30.8% ROSC at the time of transfer to hospital
  - An average compression ratio of 88%
  - 2 pauses greater than 10 seconds (52%)
    - Not doing rhythm checks every two minutes likely due to the use of the LUCAS device
  - 5 initial shockable rhythm
    - 20% resuscitated
  - Age – the average was 66 years old
  - 48.3% had bystander CPR
  - 22.6% had AED applied

Dr. Scott Weir from Fairfax County Fire & Rescue provided the following data for CY2019:

- 50 (bystander witnessed, shockable rhythm)
  - 35 died
  - 15 survived
  - Compression fraction 92.72%

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- 79.98% with a 1-minute segment with compression fraction greater than 90%
- Compression pause greater than 10 seconds was 1.96
- Several incidents did not have data
  - Can't produce report – 12
  - Missing data – 5
- Using Utstein Criteria
  - 643 resuscitations attempted
    - 488 presumed cardiac
    - 255 witnessed by a bystander
    - 88 shockable rhythms
    - 55 ROSC at the ED
    - 149 DOA with EMS CPR attempted
  - Gender
    - 60.4% Male
    - 39.6% Female

Tracy Lane from Loudoun County Fire & Rescue provided the following data. Of note, they use the PhysioControl LifePak and started using the CARES Registry in 2019 (must have 150+ patients to start reporting). They also use CodeStat.

- Non-traumatic arrests 167
  - Survived to discharge 15% (25 total)
  - VF/VT survival percentage of 57%
- Gender
  - Female 33%
  - Male 67%
- Location at time of the arrest
  - Home 118
  - Healthcare Facility 21
- Mean Age 64.3
- Witness
  - EMS or bystander 59%
    - Non-EMS witnessed with bystander CPR 74%
      - With AED used 12%
      - Shockable rhythm 16
    - EMS witnessed 20, 3 survived to discharge
- Disposition of those with bystander CPR
  - 5 rehab
  - 9 home
  - 1 nursing facility

Chris Wanka from MWAA provided the following data for 9/2019 – 9/2020):

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- 26 arrests (36 previous 2018-2019 time period)
  - 4 VF
  - 3 Unknown shockable
  - 7 PEA
  - 12 Asystole
  - 3 Obvious DOA
  - 2 Resuscitated & pronounced in the field
  - 7 mutual aid arrests, 19 airport
    - 15 bystander pre-arrival-CPR
    - 11 pre-arrival AED use → 4 with shocks delivered
    - 2 with ROSC in field
  - 9 ROSC in field
    - 6 ROSC out of 7 initial VF/VT/AED shockable rhythm
    - 1 PEA, 2 asystole remaining ROSC
    - 3 ROSC mutual aid (3 of 7)
  - 1 Trauma code, remainder medical
- Mean age 58.7, Median 61.5, Range 25-83
  - 1 pt under 30
  - 4 pts 30-39 years
  - 2 pts 40-49 years
  - 4 pts 50-59 years
  - 8 pts 60-69 years
  - 3 pts 70-79 years
  - 4 pts 80-89 years
- Gender
  - Female 6
  - Male 20
- Related/non-arrest calls
  - 1 Unconscious ICD defibrillation x2 prior to EMS arrival
  - 1 respiratory arrest that bystanders did CPR on → RSI

Alex Stephenson from Prince William County Fire & Rescue provided the following:

- In 2020 – 658 total
  - Witnessed by EMS – 11%
  - Witnessed by bystander or family/provider – 22%
    - CPR prior to EMS arrival of these patients – 10%
  - Witnessed and AED used 5
    - 1 got ROSC
- They just got a few LUCAS devices in the county and have approval via the CARES act to start putting them on all units

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Brian Hricik from Alexandria Fire Department provided a presentation of their data. It is attached to these minutes.

**Systems Topic – First Watch/First Pass**

*Who is using it? What is your feedback on it?*

*First Watch is the system status dashboard. First Pass is used for QA/QI purposes.*

Dr. Scott Weir advised Fairfax County does not use this. They have a Data Analytics section that provides data needed

Alex Stephenson from Prince William County Fire & Rescue provided the following information:

- They use FirstWatch and initially, it was not very user-friendly to navigate but their customer service department will do a WebEx meeting to assist you. Customer service has been extremely helpful for any needs.
- Disadvantages:
  - It doesn't go back for years
- Advantages:
  - Good for unit time tracking and to see transport and time spent traveling, etc.
  - Provides a dashboard to see trends
- For QA purposes, they use the interface in SafetyPad currently but will move to First Pass as they are replacing SafetyPad

Kate Kramer from Arlington County Fire Department advised they do not use this, they use ImageTrend

- Chris Wanka from MWAA advised FirstWatch will do the same as ImageTrend and it's a novice-intuitive way to mine data (STEMI, trauma metrics, etc)

Tracy Lane from Loudoun County Fire & Rescue advised of the following:

- They have been using FirstPass for about 12 months; they don't use the FirstWatch portion
  - They also have had great experiences with top-notch customer service
  - They have not invested many resources in it yet
  - Advantages
    - You can customize to your choices
    - You can create triggers for specific items/call types
    - It's a good opportunity to review charts
  - Disadvantages
    - Data can be redundant from what you can get from ImageTrend
    - Data pushed from IT to FirstWatch/FirstPass is sometimes delay and not in real-time
    - They can make changes/requests and FirstWatch/FirstPass will make changes but the users can't see the backend
  - They will be able to maximize use once they can dedicate more resources to it

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Melinda Myers from Inova Fairfax Hospital advised they use their data registries to pull data for the most part but also put in spreadsheets so they often find they're duplicating efforts to have easier access than with the registry info

Dallas Taylor from HCA Reston Hospital also advised they use the registries as well. HCA has an internal registry system with benchmark reports that are due weekly. They fix any red flags within the week for the benchmark data points

***Future Meetings and Topics***

As a reminder, the meetings for the committee 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. At this time, there has been no decision on whether the meeting will remain virtual or in-person. Please see any updates via email as they are available. The Regional Trauma/PI meetings dates are as follows for 2021:

- Wednesday, March 10, 2021
- Wednesday, June 8, 2021
- Wednesday, September 8, 2021
- Wednesday, December 8, 2021

For the 2021 topics, please email four topics for each category (Trauma, Medical, Systems) to Michelle Ludeman at [michelle@vaems.org](mailto:michelle@vaems.org). Please also include criteria like what dates, what time frames, etc. Please submit within the next two weeks. Michelle will send out an email.

The meeting was adjourned at 11:52 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 September 9, 2020. The minutes were officially approved on March 10, 2021, at the meeting of the Committee.

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Craig Evans  
Northern Virginia EMS Council

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Date



**Reston Hospital Center**

*Trauma Services*

*HCA Virginia Health System*

AN HCA AFFILIATE

# Reston Hospital Center

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TOURNIQUET UTILIZATION

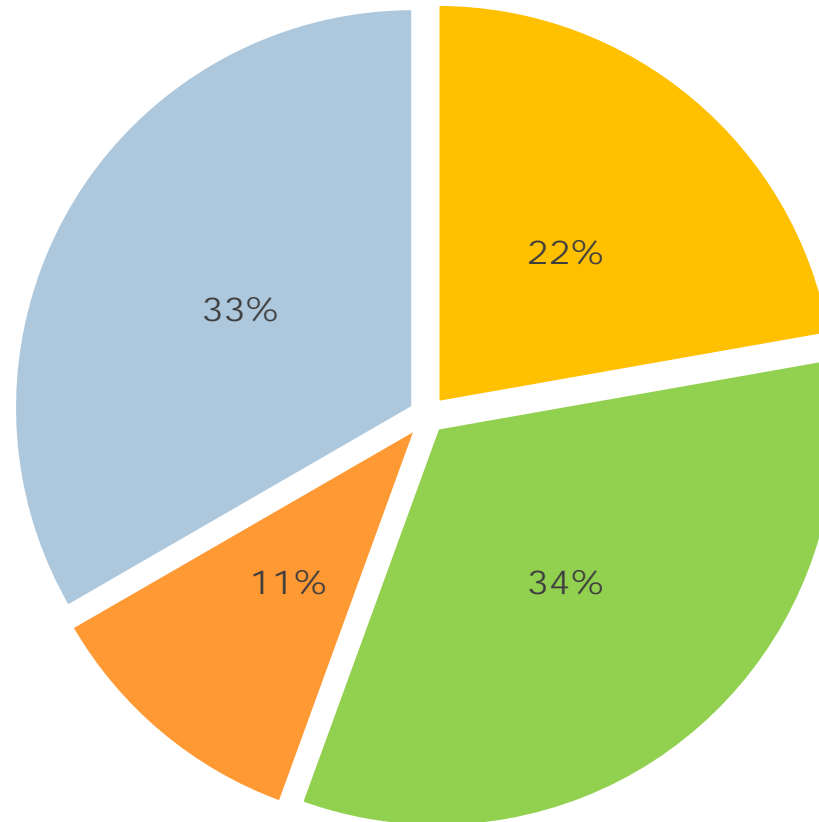
# Tourniquet Utilization at Reston Hospital

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- Date range: 4<sup>th</sup> Quarter of 2019 & 1<sup>st</sup> - 3<sup>rd</sup> Quarters of 2020
- 9 total trauma patients identified as having a tourniquet applied
- All patients had tourniquet applied by EMS

# Tourniquet Utilization by Quarter

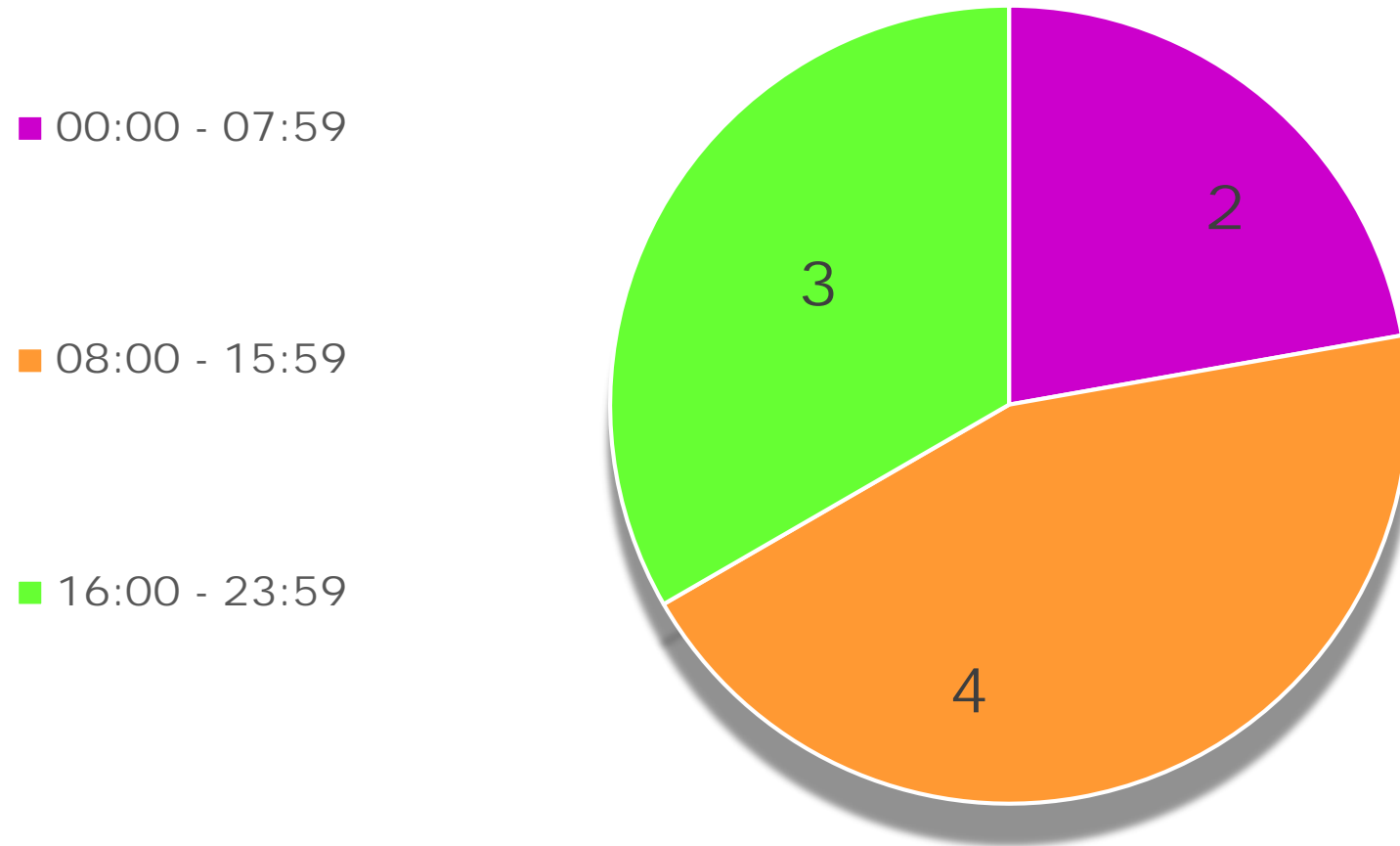
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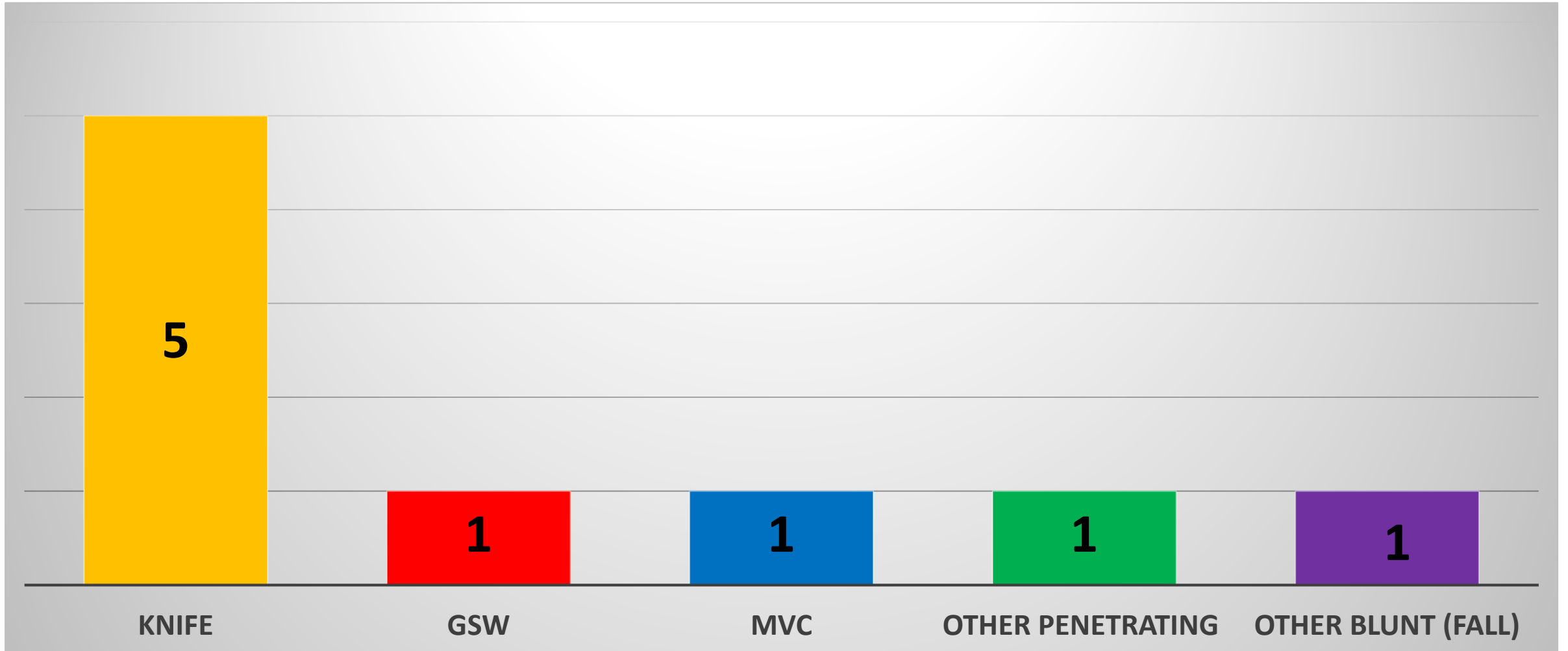
■ 4th Qtr 2019 2 pts   ■ 1st Qtr 2020 3 pts   ■ 2nd Qtr 2020 1 pt   ■ 3rd Qtr 2020 3 pts

# Tourniquet Utilization by Time of Day

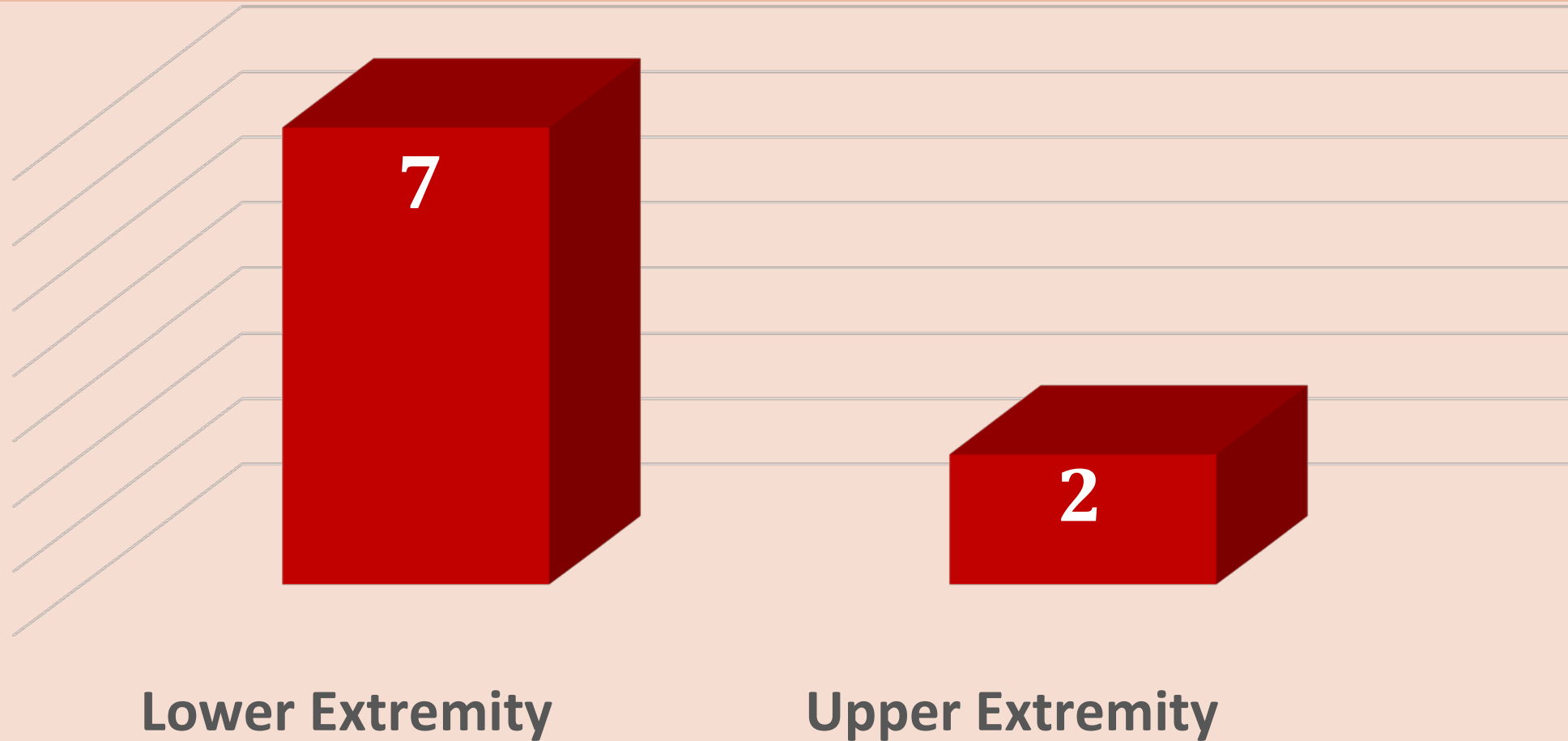
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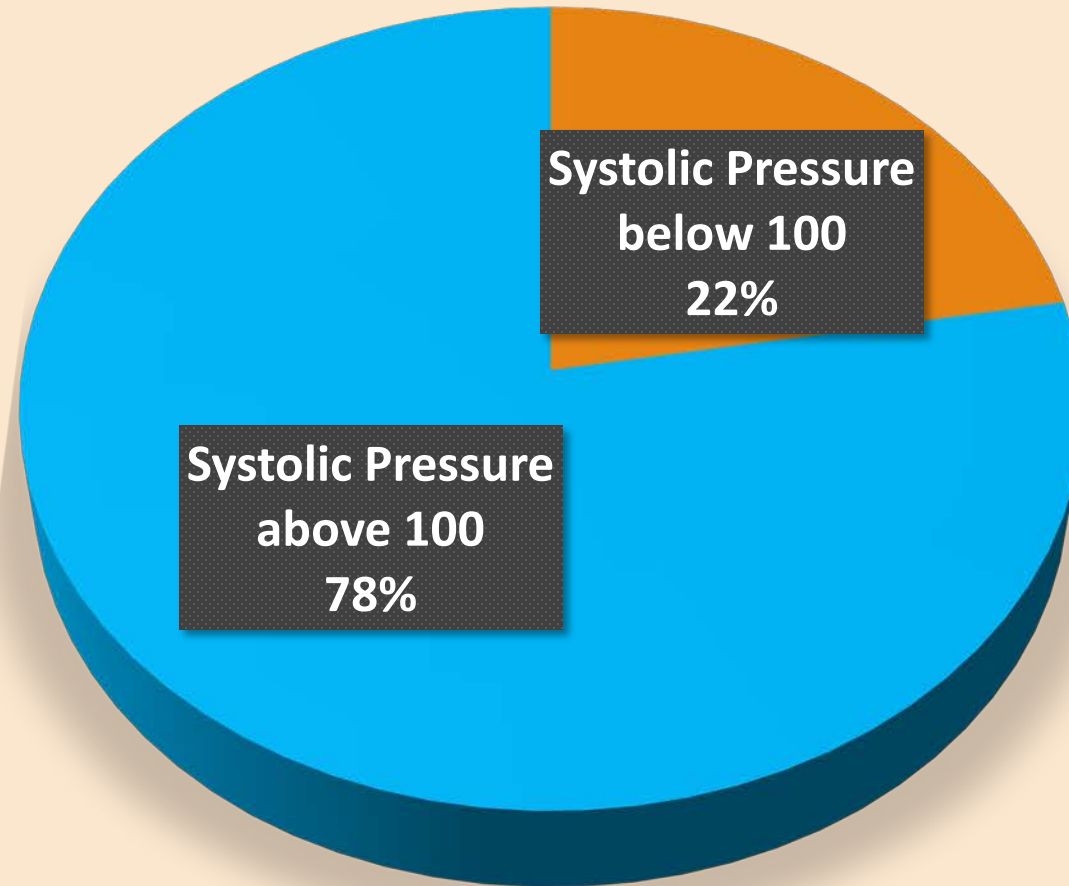
# Mechanism of Injury with Tourniquet Utilization



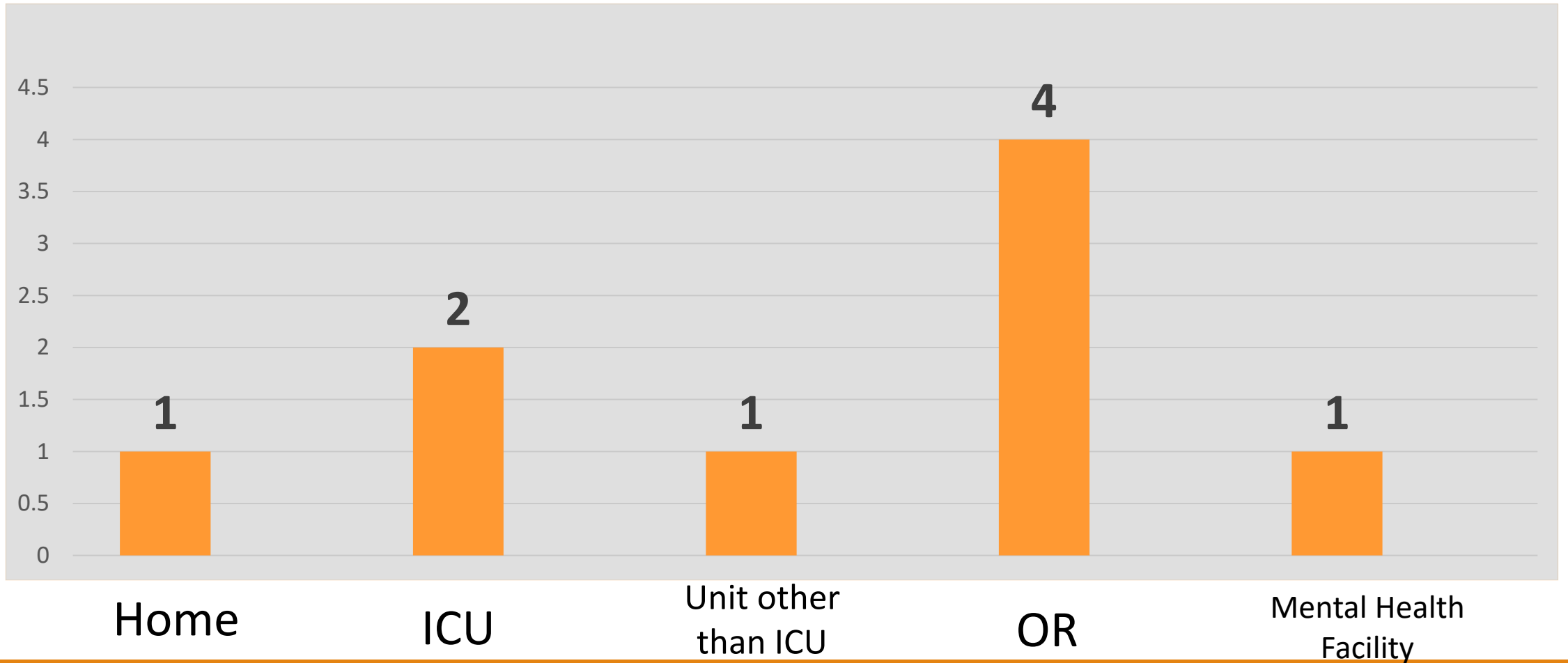
# Location of Tourniquet on Patient



# Systolic Pressure on Arrival with Tourniquet Utilization

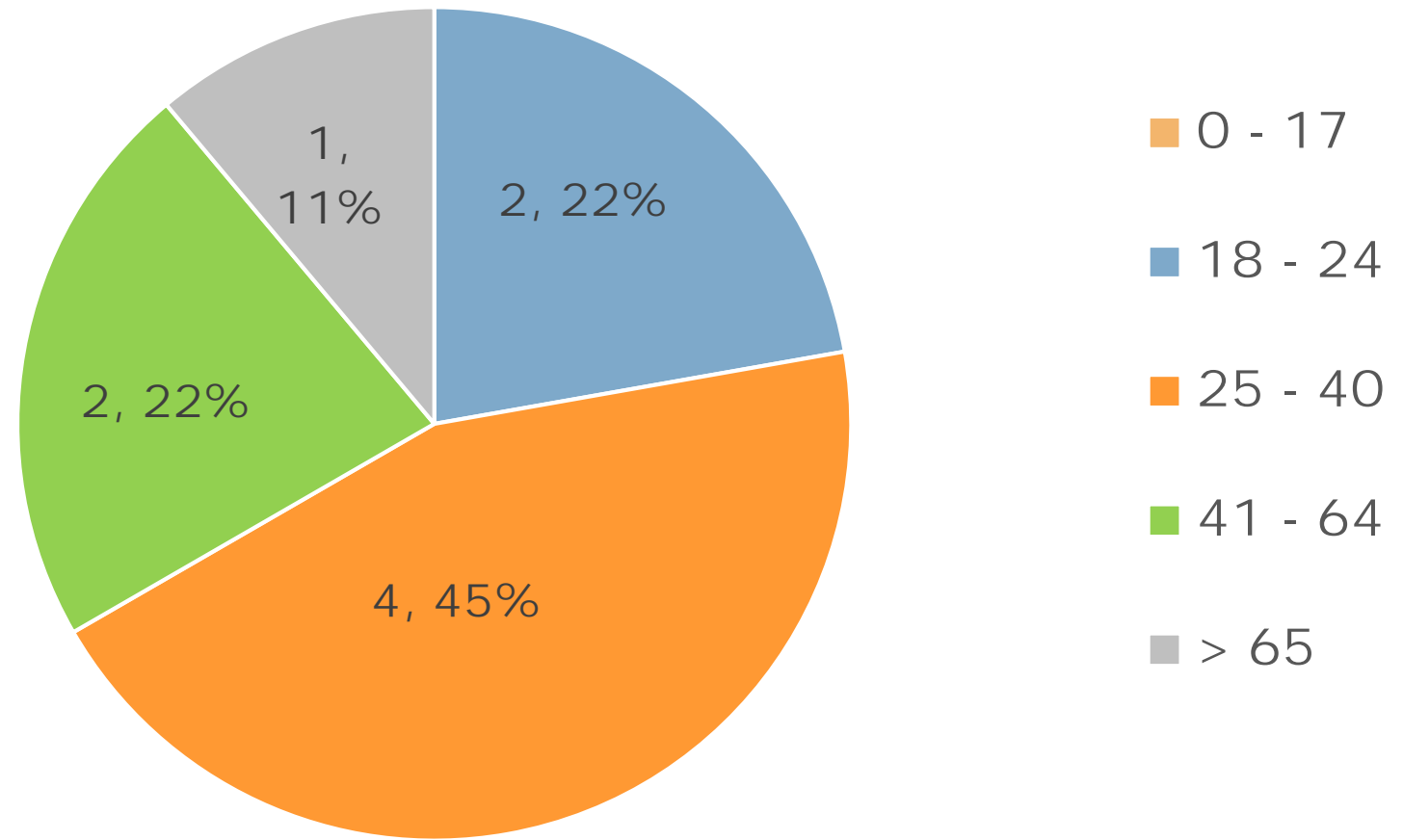


# Post ED Disposition for Tourniquet Utilization



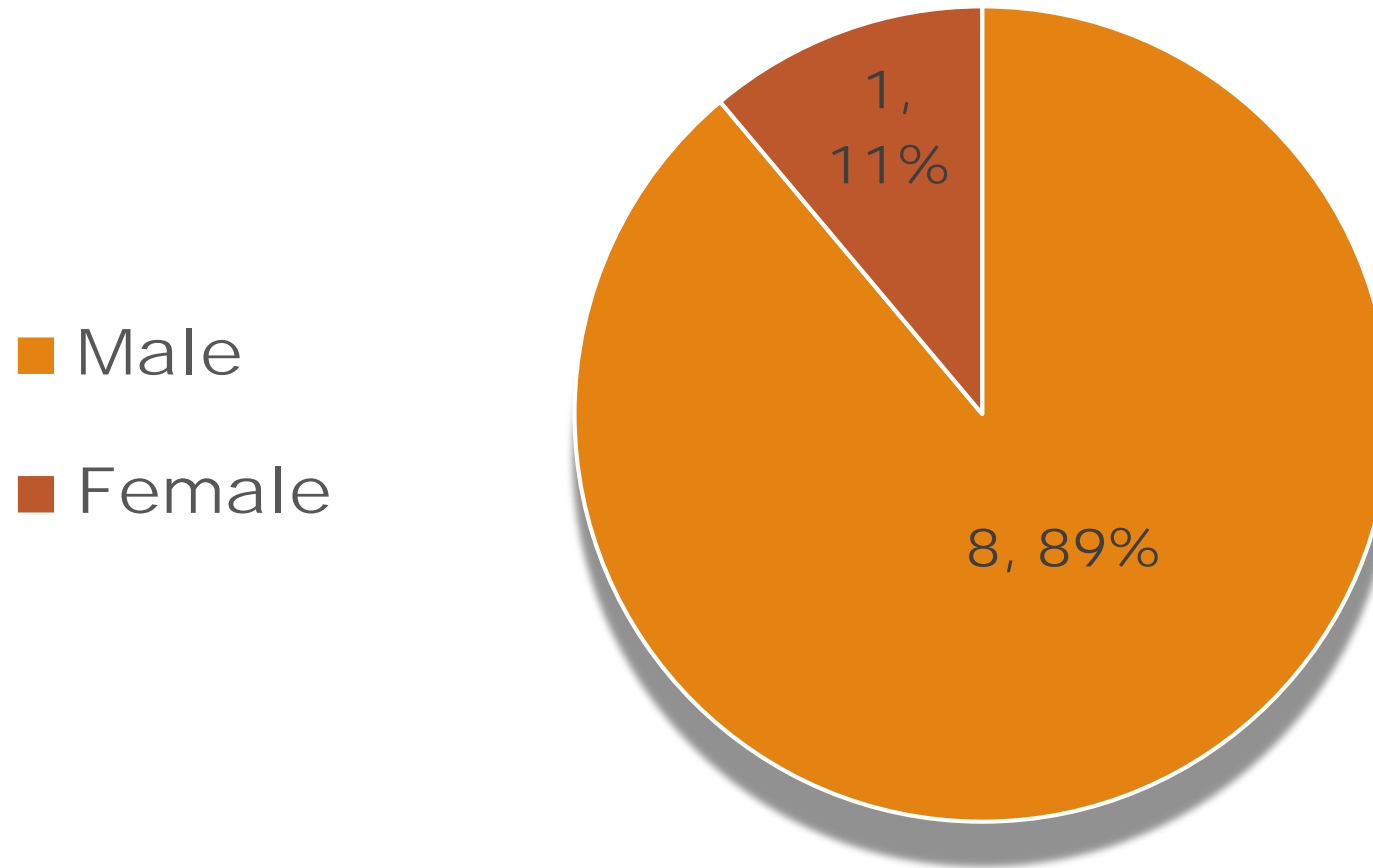
# Patient Age Groups

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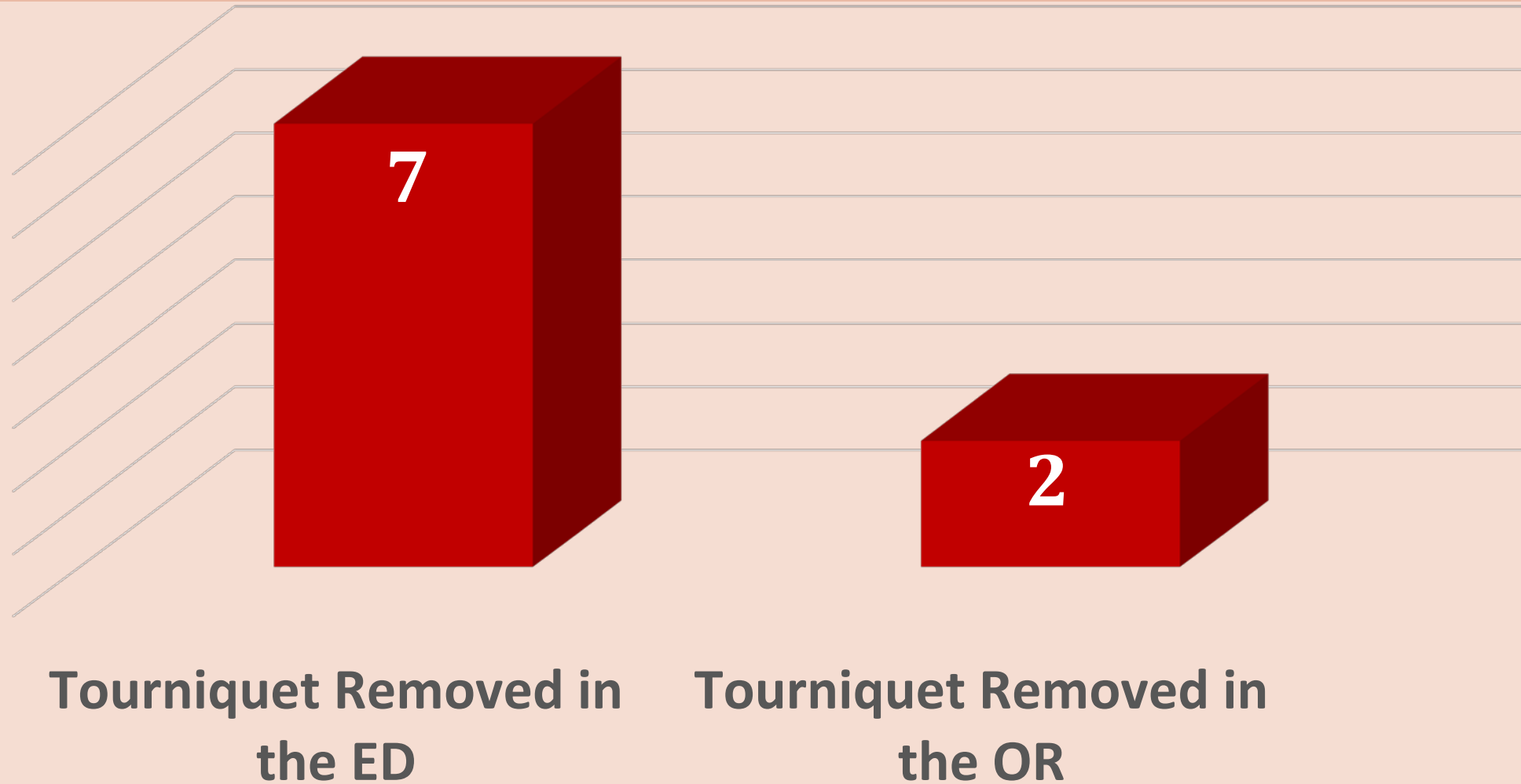


# Tourniquet Utilization by Patient Gender

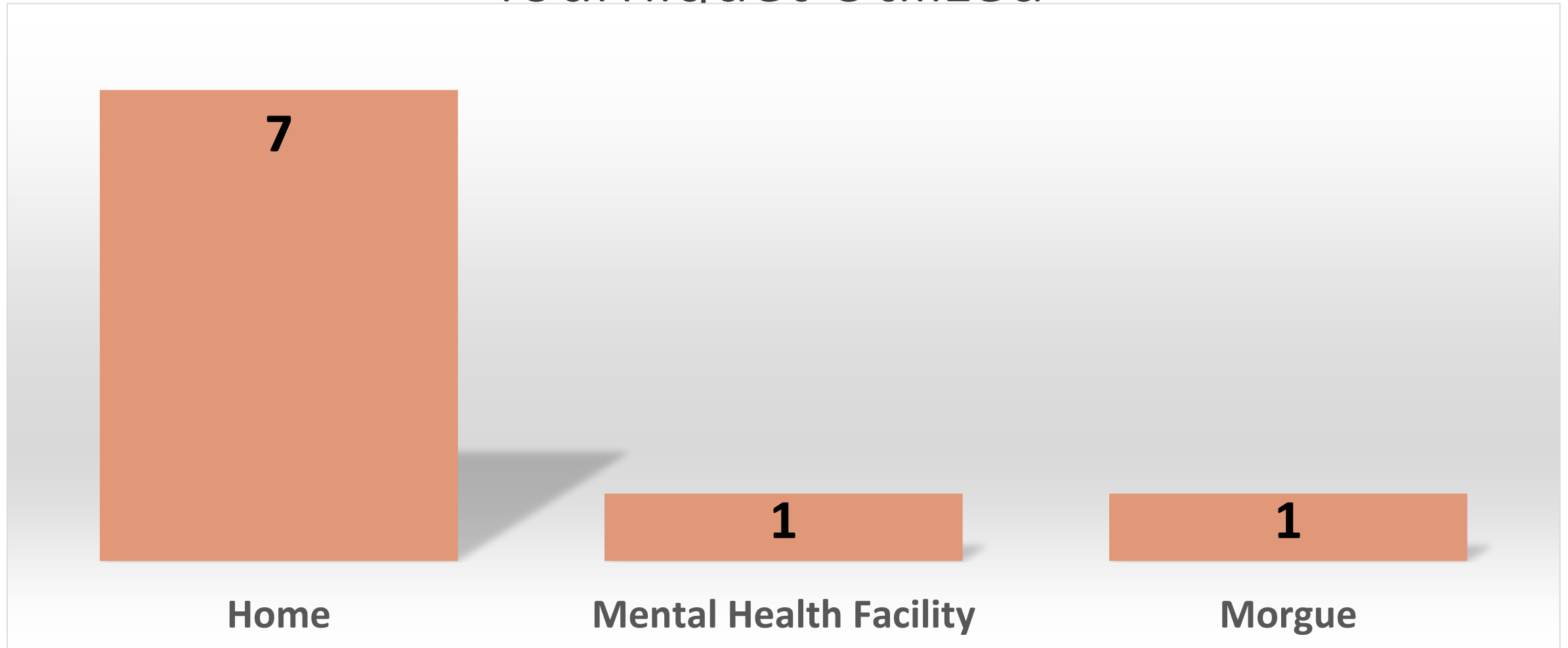
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# Location that Tourniquet was Removed



# Hospital Disposition for Patients that had Tourniquet Utilized



# Questions?

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 **Reston Hospital Center**  
*Trauma Services*  
*HCA Virginia Health System*

AN HCA AFFILIATE

# December 2020 Trauma and PI Meetings

City of Alexandria Fire Department Data

December 2019 to December 2020

Brian Hricik, Deputy Chief EMS

# Trauma – Tourniquet Use

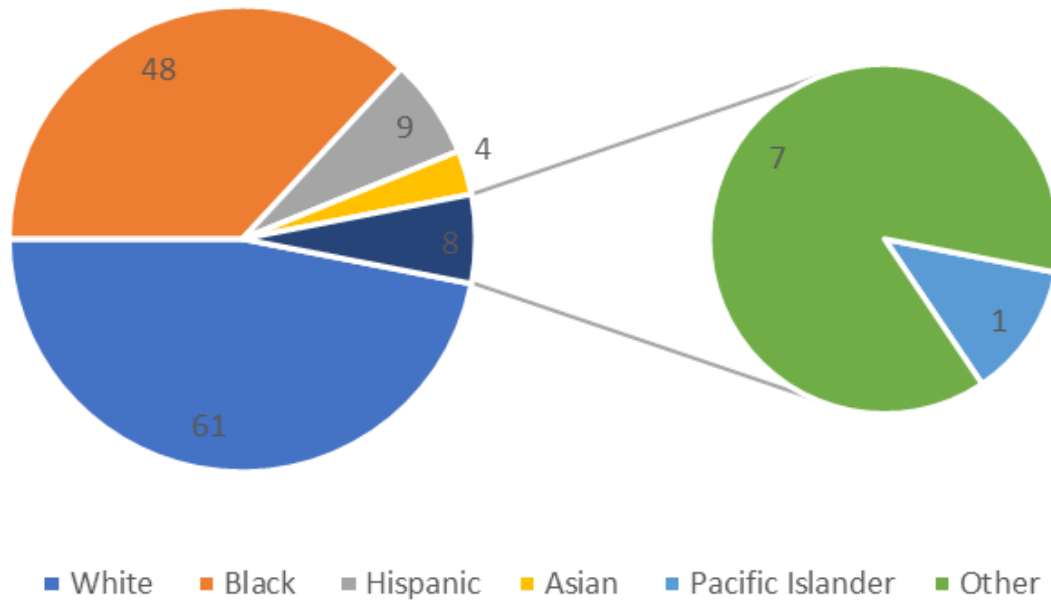
- 8 tourniquets deployed on 6 patients
- Age ranges 28 – 64
- 5 applications to lower extremities
  - Pedestrian struck by vehicle – traumatic amputation
  - MVC – traumatic amputation
  - Fall on staircase – large laceration
  - GSW – lower leg
  - MVC – near amputation
- 1 application to upper extremity
  - Dialysis shunt bleed

# Cardiac Arrest

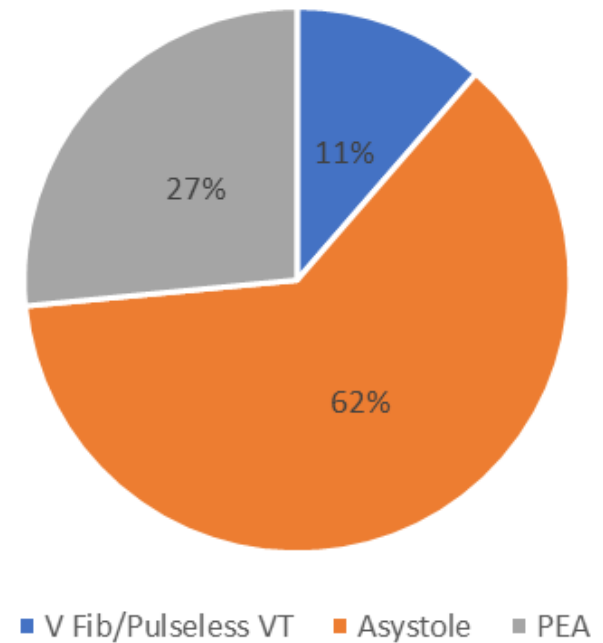
- Total Cases – 132, up about 30% from previous years
- Transported – 60
- Total ROSC – 37
- Sustained ROSC on Scene – 29
- Sustained ROSC to arrival at ED – 18
- CPR prior to EMS arrival – 77
- Age Ranges – 3 months to 96 years
- Median Age – 68 years

# Cardiac Arrest (cont.)

Demographics



Initial Rhythm



# FirstWatch/FirstPass

- We are working with the vendor to develop performance measures
- Not clear understanding of capabilities and how many measures are included
- FirstWatch focus has been on unit availability and readiness (UHU, number of units available, turn out times, response times)
- FirstPass looking at QMS performance measures (IV success rates, STEMI and CVA performance, provider compliance)
- Working on developing a report that demonstrates when we have missing PCRs where there should be one.