

Management of Combat Casualties During Aeromedical Evacuation From a Role 2 to a Role 3 Medical Facility

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THIS STUDY WAS CONDUCTED UNDER A PROTOCOL REVIEWED AND APPROVED BY THE WILFORD HALL AMBULATORY SURGICAL CENTER IRB AND IN ACCORDANCE WITH THE APPROVED PROTOCOL

BACKGROUND

Continuum of Care

Emergent care (point of injury)



Movement to a medical treatment facility (MTF)



Intermediate care (Role 2 or Role 3 Facility)



Movement



Definitive care (Role 4 Facility)



OBJECTIVES

- Describe the use of intra-theater and inter-facility transports
- Describe the clinical care needs during intra-theater and inter-facility transport



METHODS

IRB Approved Retrospective Review of Medical Records with confirmed transport from Role 2 Facility to a Role 3 Facility During 2007 to 2016

- Original Destination
- Flight times
- Patient Characteristics
- Procedures performed
- Events



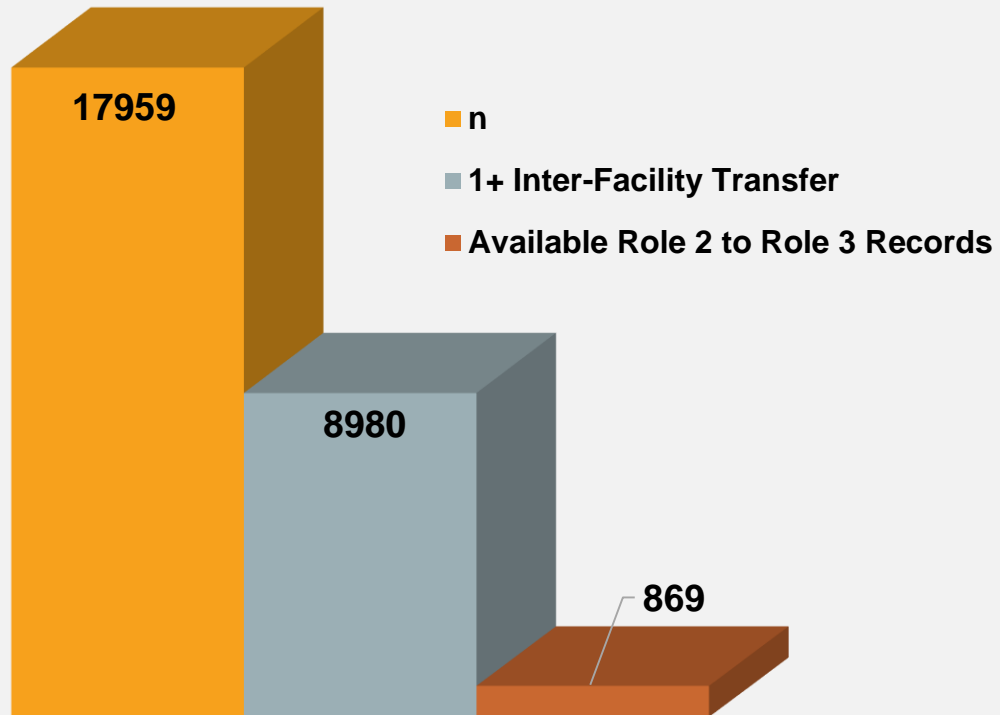


RESULTS

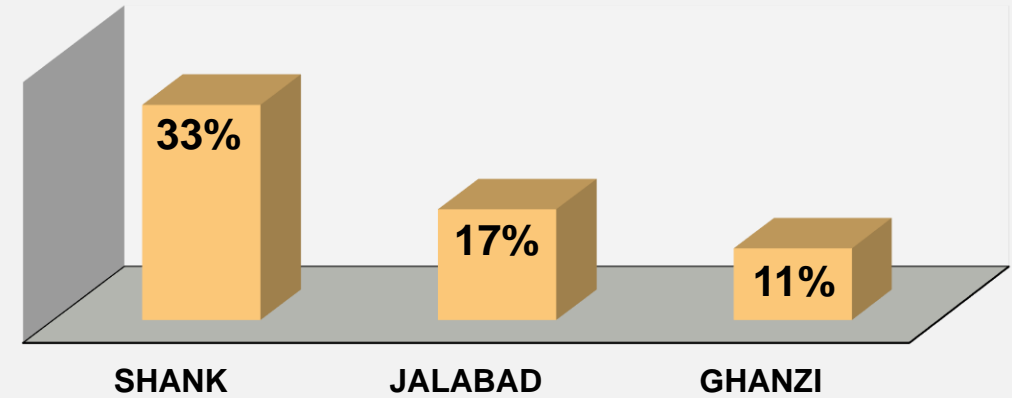
- 869 Available Role 2 to Role 3 mission records between January 2007 and December 2016
- Transport Times
 - Average intra-theater transport time was 39 minutes
 - Average Prehospital transport time was 22 minutes
- Highest level provider
 - RN (35% [95% CI, 31-40%])
 - Advanced level provider (21% [95%, CI, 17-25%])
 - Paramedic (8% [95% CI, 6-11%])
 - Unknown (18% [95% CI, 15-21%])

RESULTS

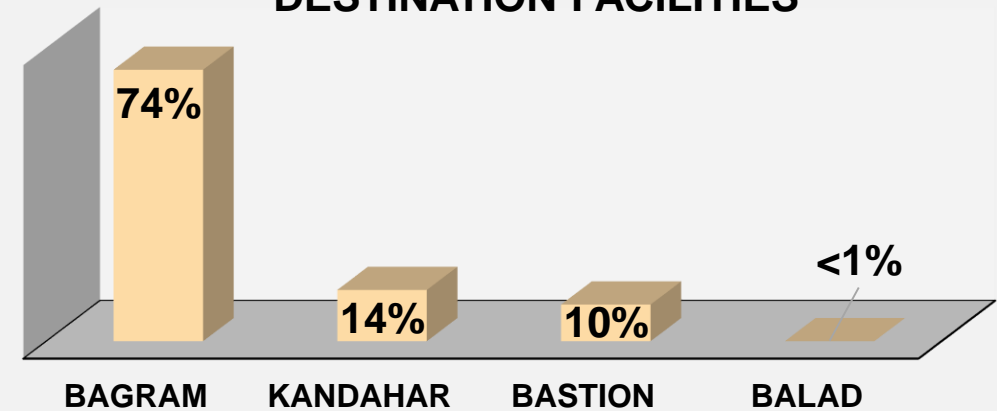
NUMBER OF RECORDS



ORINATION FACILITIES



DESTINATION FACILITIES



RESULTS

97% were male

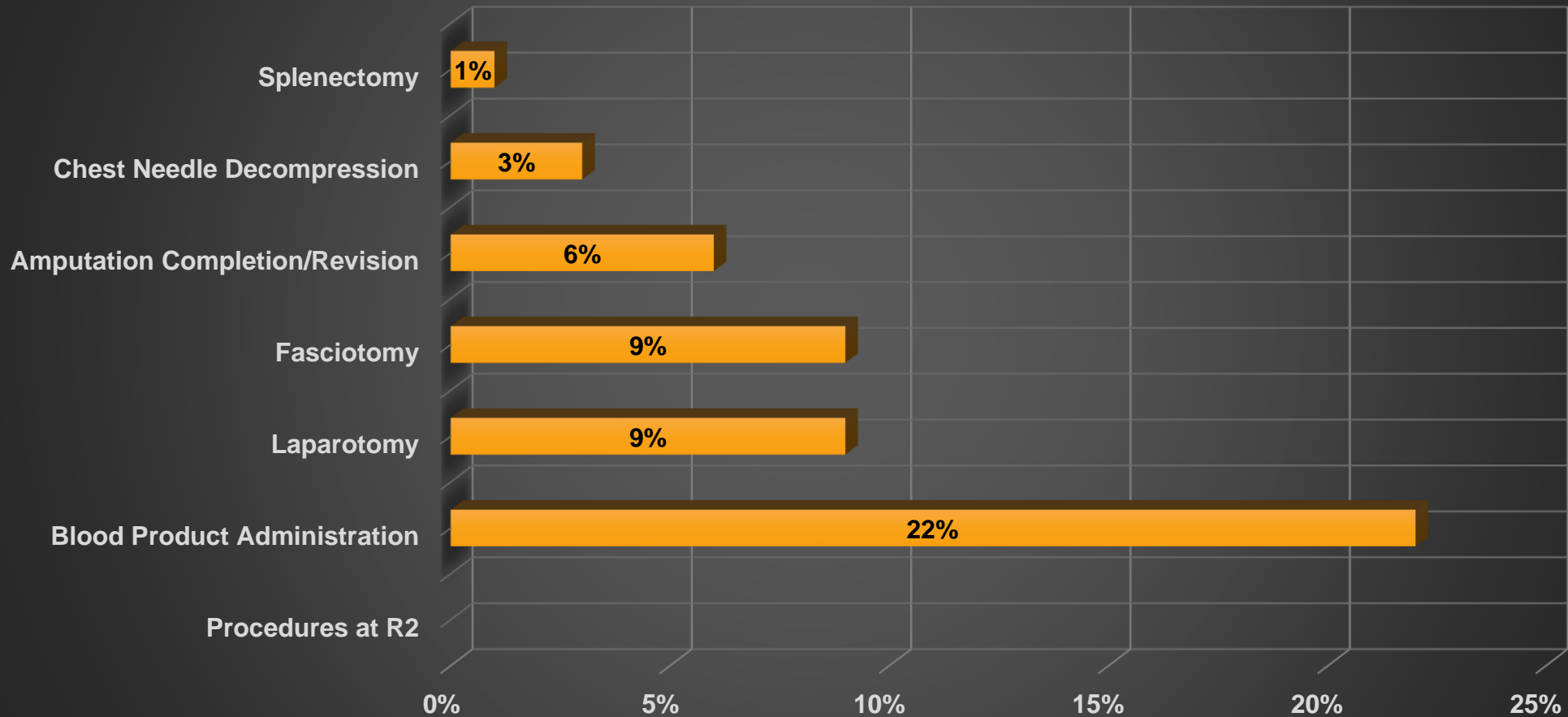
Median age 27

85% Battle Injuries

- <50% were secondary to Explosive devices
- 37% Sustained Head Injuries
- 60% Sustained Lower Extremity Injuries

RESULTS

Procedures at Role 2





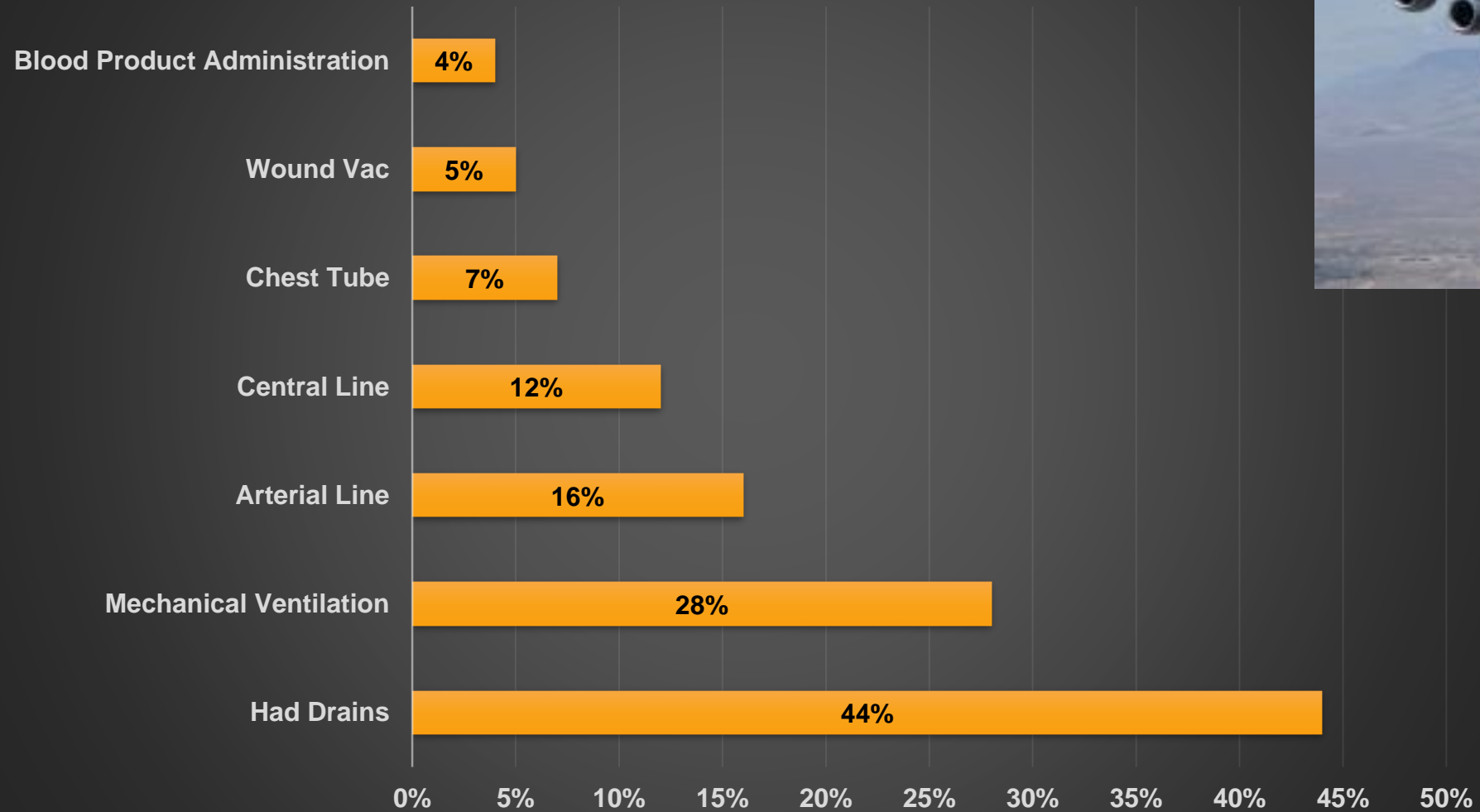
RESULTS

- In Flight procedures
 - PIV initiated (n=7)
 - CPR (n=1)
- In Flight documentation
 - Vital Signs (92%)
 - Labs (< 1%)

RESULTS



Care During Flight



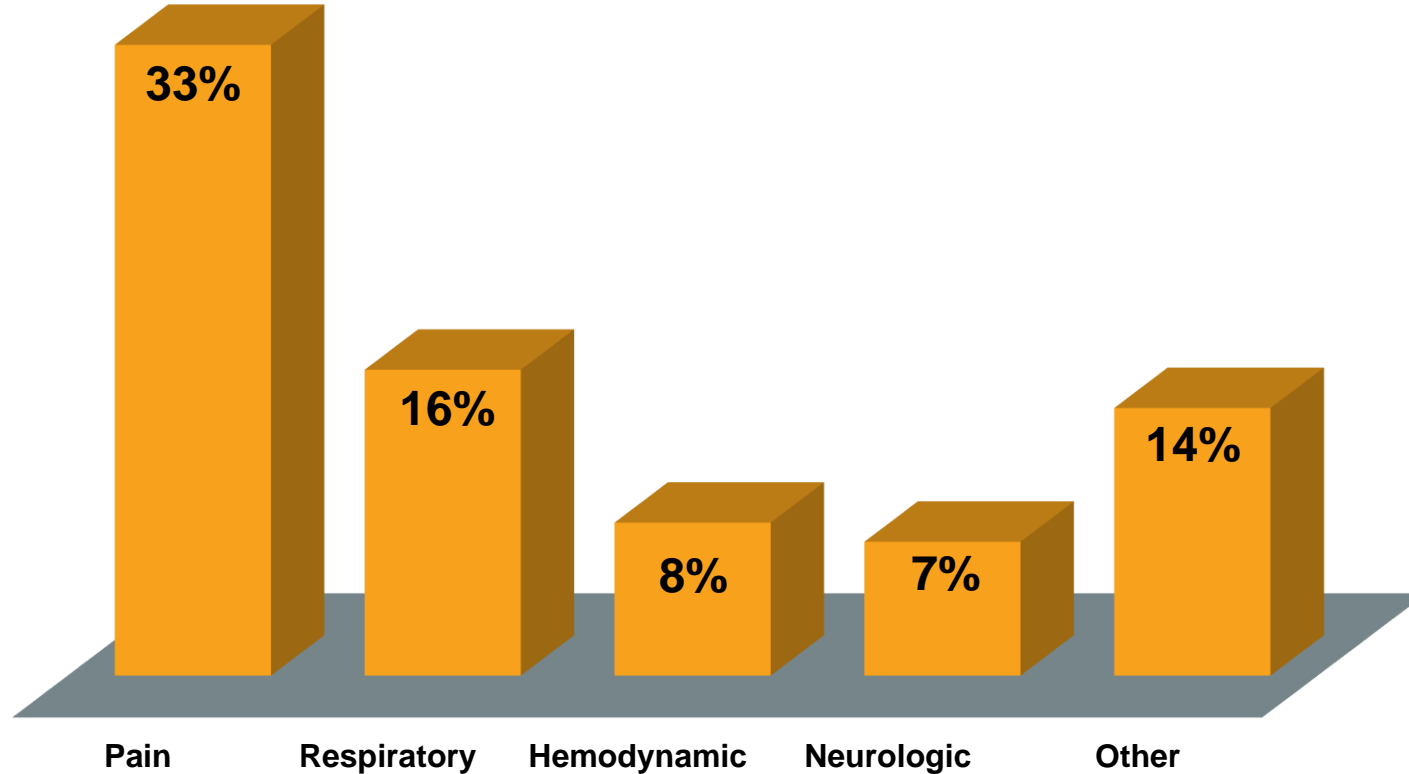
RESULTS

- In Flight events
 - Pain events (33%)
 - Respiratory Decompensation (16%)
 - Abnormal Hemodynamic event (8%)
- In flight Medications
 - Fentanyl (30%)
 - Paralytic (25%)



RESULTS

In-Flight Events



Other

- Cardiac
- Bleeding
- Renal/Urinary
- Medication Reaction
- Vomiting/Nausea
- Allergic
- Unable to get measure
- Weather
- Equipment Failure

Other Analgesic

- Vicodin
- Percocet

Other Sedative

- Valium
- Lorazepam

Paralytic

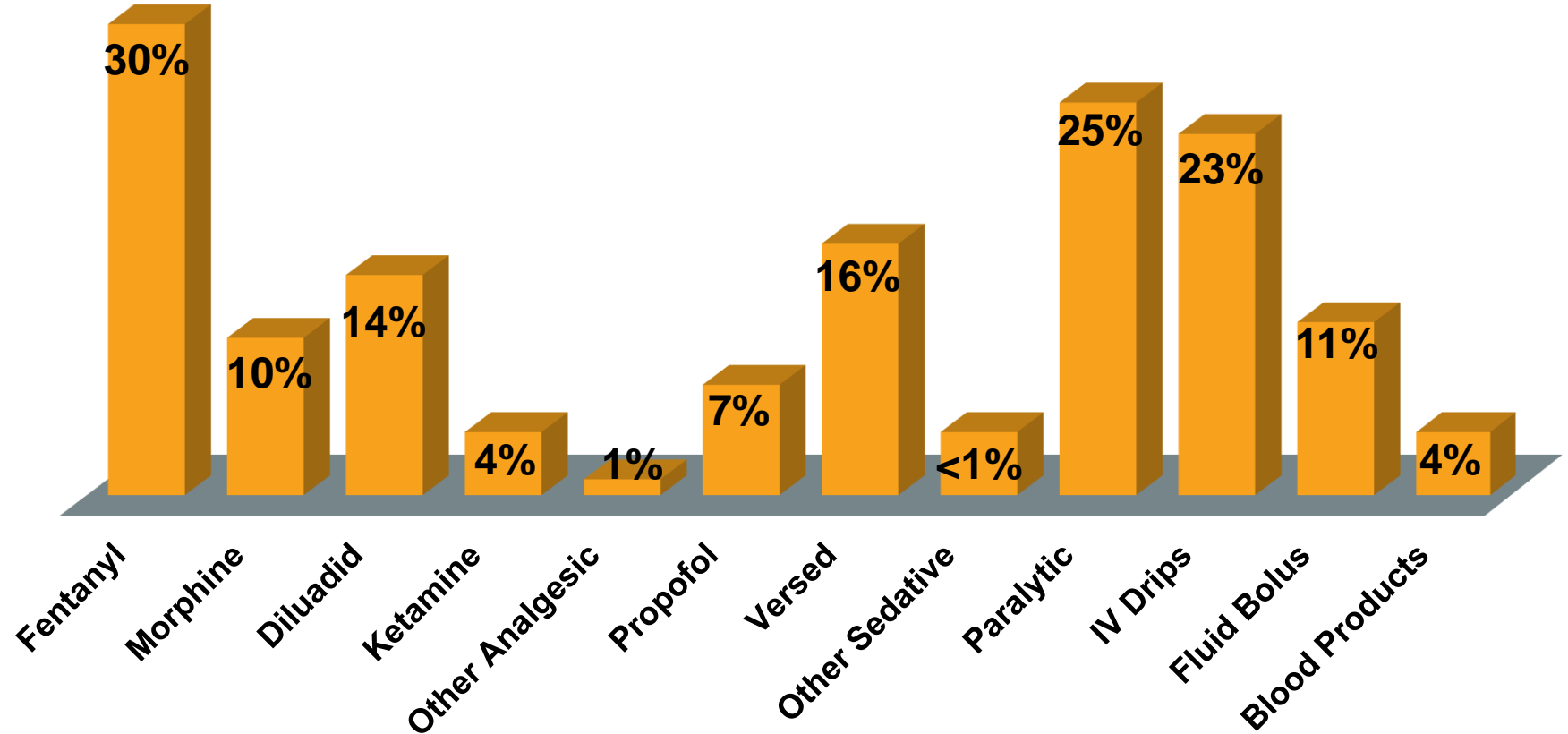
- Vecuronium
- Rocuronium
- Panceronium

*Medications Not Graphed

- Vasopressors
- Anti-seizure
- Anti-Coagulant
- Calcium
- Tylenol
- Solumedrol
- Narcan
- Decadron
- Sodium Bicarbonate

RESULTS

In-Flight Medications*

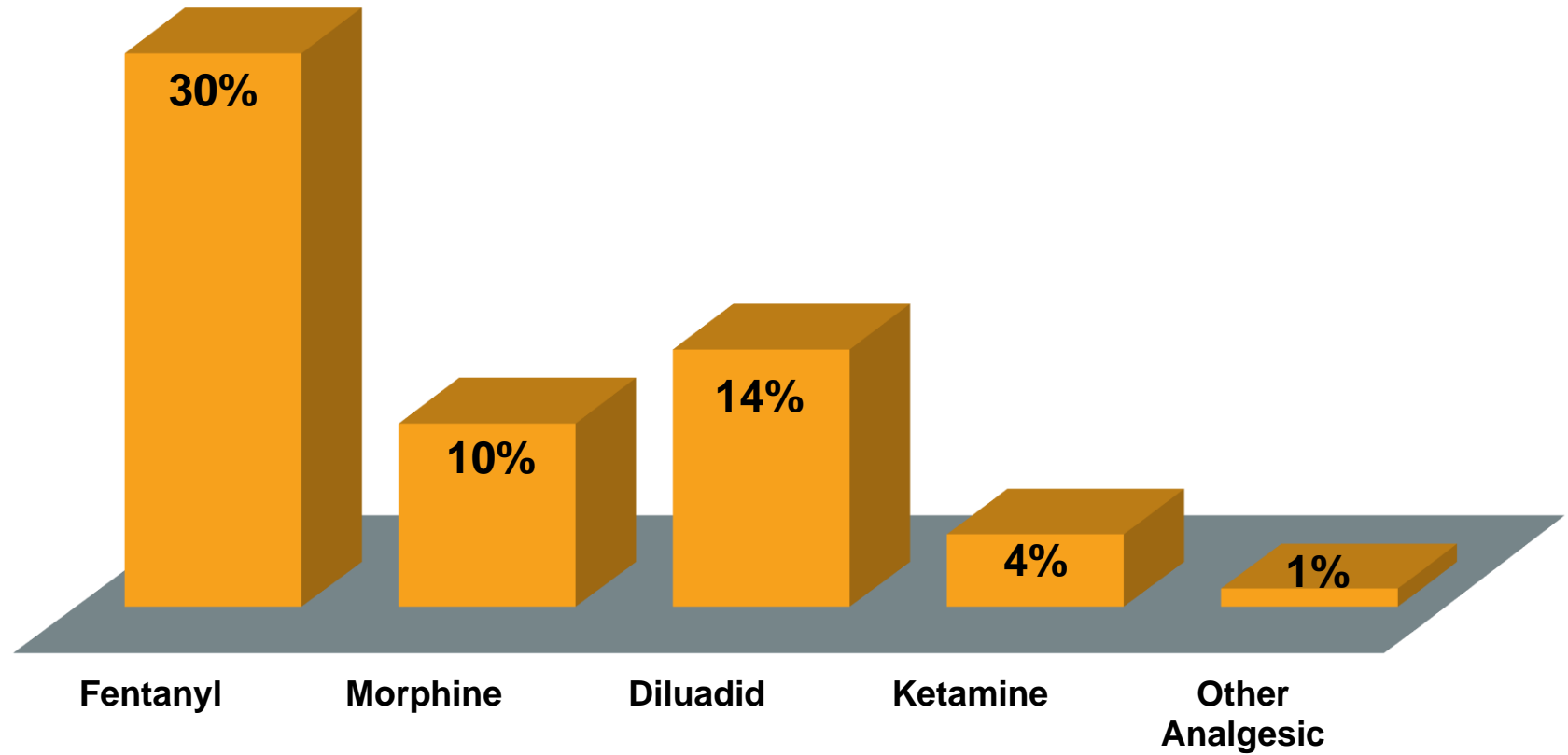


RESULTS

In-Flight Analgesics

Other Analgesic

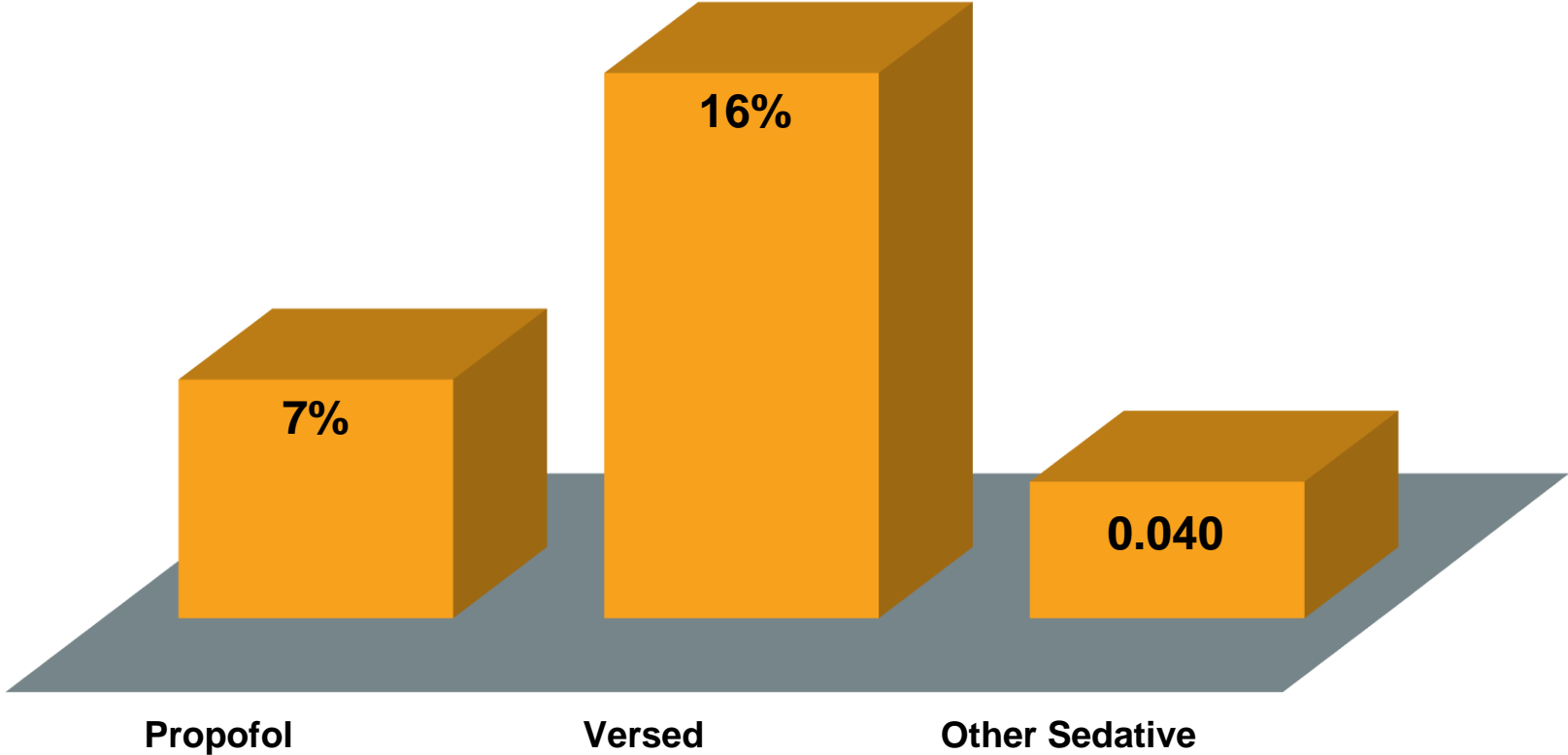
- Vicodin
- Percocet



RESULTS

In-Flight Sedatives

- Other Sedative
- Diazepam
 - Lorazepam



RESULTS

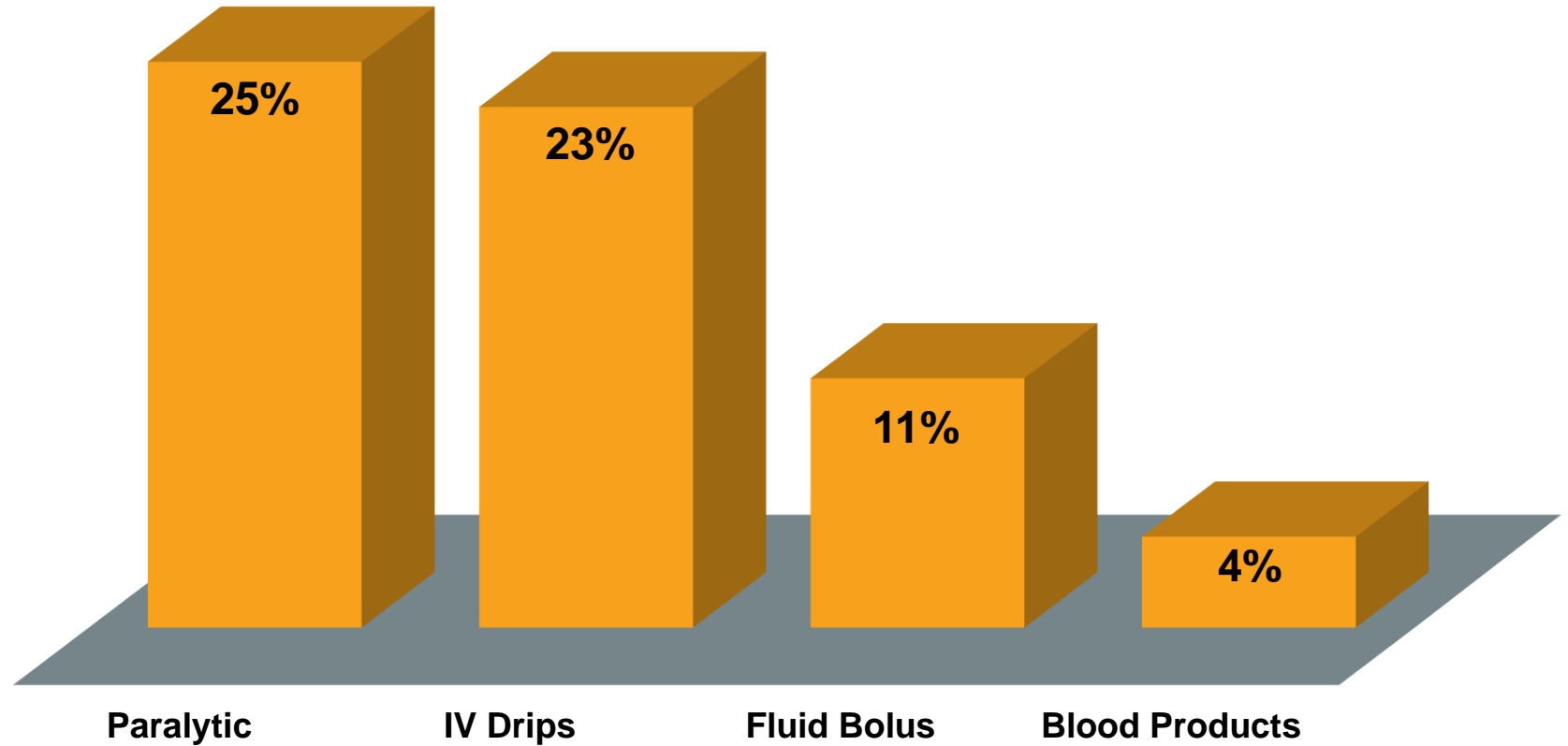
Paralytic

- Vecuronium
- Rocuronium
- Pancuronium

*Medications Not Graphed

- Vasopressors
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- Sodium Bicarbonate

In-Flight Other Medications*



CONCLUSION

Inter-facility transports frequently have complex clinical care needs and include:

- Post-operative
- Ventilator
- Chest tube
- Wound vacuum
- Central/arterial line
- Analgesic
- Paralytic management

LIMITATIONS



Retrospective,
descriptive study



Subjectivity despite
trained data
abstractors

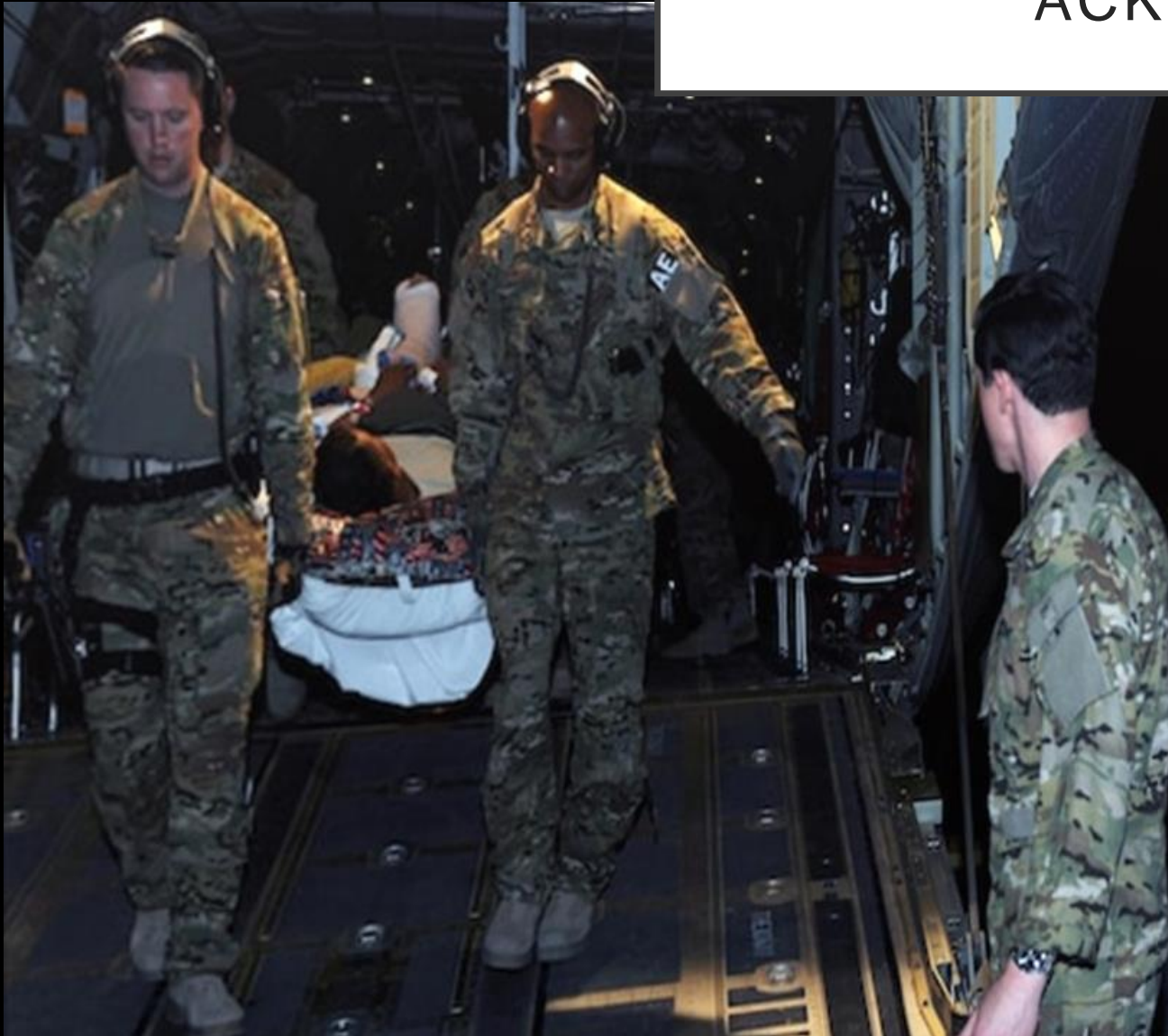


Need better
documentation and
timestamps



Understand benefits of
each timely
intervention

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- **USAISR**
- **DoD Trauma Registry**

ANY
QUESTIONS?



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