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

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Background

- The continuum of care within the military medical system may include multiple patient movements
- Inter-facility transports often follow advanced and post-operative care
- Further research into the needs for intra-theater transport of casualties is needed

Objective

- Describe clinical characteristics and in-flight events during in theater inter-facility transport

Methods

- Retrospective review of medical records of patients with confirmed transports from Role 2 to Role 3 facilities during 2007 to 2016
- Data collected:
  - Origin and destination
  - Flight times
  - Patient characteristics
  - Procedures
  - In-flight events

Results

- 17,959 total records, 50% with at least one inter-facility transfer
- 869 Role 2 to Role 3 mission records
- Top 3 origination facilities:
  - Shank (33%), Jalalabad (17%), and Ghazni (11%)
- Destination facilities:
  - Bagram (76.4%), Kandahar (14%), Bastion (10%), and Balad (<1%)

- 869 Records
- 85% Battle Injuries
- 37% Head Injuries
- 60% Lower Extremity Injuries

- Over half secondary to explosive device

- In-Flight Events
  - 33% Pain
  - 44% Respiratory
  - 8% Hemodynamic

- In-Flight Procedures
  - 28% Mechanical Ventilation
  - 16% Drain
  - 12% Arterial Line
  - 7% Central Line
  - 5% Chest Tube
  - 5% Wound Vacuum

- 25% received paralytics prior to flight
- 68 received a paralytic in-flight
- 30% received the most common in-flight analgesic, Fentanyl
- 4% continued blood products in flight

Limitations

- Retrospective, descriptive study
- Subjectivity despite trained data abstractors
- Analysis restricted to available data

Conclusion

- Inter-facility transports frequently have complex clinical care needs and include post-operative, ventilator, chest tube, wound vacuum, central line, arterial line, analgesic, and paralytic management.

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