Austere Resuscitative and Surgical Care

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SOMSA 2019 Theme

“Embracing the Spectrum of SOF Medicine – Find the Gaps and Fill Them”
Death on the Battlefield

Death on the battlefield (2001-2011): Implications for the future of combat casualty care

Brian J. Eastridge, MD; Robert L. Mabry, MD; Peter Seguin, MD; Joyce Cantrell, MD; Terrill Tops, MD; Paul Uribe, MD; Olga Mallett; Tamara Zubko; Lynne Oetjen-Gerdes; Todd E. Rasmussen, MD; Frank K. Butler, MD; Russell S. Kotwal, MD; John B. Holcomb, MD; Charles Wade, PhD; Howard Champion, MD; Mimi Lawnick; Leon Moores, MD; and Lorne H. Blackbourne, MD.

Pre-MTF Death

FRENZY OF AUSTERE RESUSCITATIVE TEAMS

<table>
<thead>
<tr>
<th>Austere Team Name</th>
<th>Acronym</th>
<th>Branch</th>
<th>Manning Personnel</th>
<th>Est. Equipment Load</th>
<th>Est. Mission Capacity OR Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Resuscitation Teams</td>
<td>SRT</td>
<td>Joint</td>
<td>4-5 PA, surg, EM, CRNA, comm</td>
<td>350-1600 lbs</td>
<td>2-6 DCS consecutively</td>
</tr>
<tr>
<td>Golden Hour Offset Surgical Team</td>
<td>GHOST</td>
<td>Army</td>
<td>5-10 1-2x surg, 1-2x CRNA, ST, 1-2x RN, medic</td>
<td>4,500-7,000 lbs</td>
<td>2 DCS + 5 DCR/24 h; 3-4 DCS + 8 DCR/72 h</td>
</tr>
<tr>
<td>Forward Resuscitative Surgical Team</td>
<td>FRST</td>
<td>Army</td>
<td>10 Surg, ortho, EM, CRNA, CCRN, EMRN, ST, LPN, 68W, MSC</td>
<td>6000 lbs</td>
<td>2 DCS + 5 DCR/24 h; 3-4 DCS + 8 DCR/72 h</td>
</tr>
<tr>
<td>Expeditionary Resuscitative Surgical Team</td>
<td>ERST</td>
<td>Army</td>
<td>8 Surg, ortho, EM, CC, CRNA, CCRN, EMRN, ST</td>
<td>500-5,500 lbs</td>
<td>1-2 DCS + 2-3 DCR</td>
</tr>
<tr>
<td>Special Operations Resuscitation Team</td>
<td>SORT</td>
<td>Army</td>
<td>8 FS, CCRN, 3x SOC, rad, lab, PAD</td>
<td>900-6,500 lbs</td>
<td>2-3 DCR</td>
</tr>
<tr>
<td>Special Operations Surgical Team</td>
<td>SOST</td>
<td>Air Force</td>
<td>6 Surg, EM, CRNA, CCRN, RT, ST</td>
<td>500-5,500 lbs</td>
<td>2-10 DCS</td>
</tr>
<tr>
<td>Tactical Critical Care Evacuation Team</td>
<td>TCCET</td>
<td>Air Force</td>
<td>3 CC, CCRN, RT</td>
<td>200 lbs</td>
<td>3 DCR</td>
</tr>
<tr>
<td>Tactical Critical Care Evacuation Team-Enhanced</td>
<td>TCCET-E</td>
<td>Air Force</td>
<td>5 Surg, EM, 2x CRNA, ST</td>
<td>500 lbs</td>
<td>3-5 DCS</td>
</tr>
<tr>
<td>Ground Surgical Team</td>
<td>GST</td>
<td>Air Force</td>
<td>6 Surg, anesthesia, EM, CCRN, Surg Tech, MSC</td>
<td>500-600 lbs</td>
<td>3-5 DCS initial, 7-11 DCS extended</td>
</tr>
<tr>
<td>Damage Control Surgical Team</td>
<td>DCST</td>
<td>Navy</td>
<td>7 Surg, EM, CRNA, CCRN, EMRN, IDC, ST</td>
<td>500-5,500 lbs</td>
<td>2 DCS, 2-3 DCR</td>
</tr>
<tr>
<td>Expeditionary Resuscitative Surgical System</td>
<td>ERSS</td>
<td>Navy</td>
<td>9 Surg, EM, CRNA, EMRN, CCRN, IDC, 2x ST, corpsman</td>
<td>2500 lbs</td>
<td>4 DCS, 6 DCR</td>
</tr>
</tbody>
</table>
Austere Resuscitative and Surgical Care is advanced medical capability delivered by small teams with limited resources, often beyond traditional timelines of care, and bridges gaps in roles of care in order to enable forward military operations and mitigate risk to the force.
...with limited resources...

... often beyond traditional timelines of care...

... to enable forward military operations...
... and mitigate risk to the force.

Austere Resuscitative and Surgical Care
Clinical Practice Guideline

ARSC Mission Readiness

Clinical Expertise
- Experts in respective specialties.
- Deliberately selected.
- Work effectively as team members.
- Resilient to sustained stress.
- Work routinely as high-volume, best-quality trauma centers.
- Just in time training or ad hoc team composition is inadequate.

Tactical Proficiency
- Ability and resolve to defend themselves and their patients.
- Trained to operate in restricted environment, including tactical comms, blackout ops, SERE, etc.
- Set up or collapse compact surgical package in minutes.
- Mission planning is critical.
- Effective communication with ground force commander is key.
Clinical decision making depends on operational context.

- Availability of personnel, resources and blood products
- Security and mobility
- Patient holding capacity, additional casualties and evacuation capability
- Mass casualty scenarios
- Restrict interventions to damage control only
- Time and distance to next Role of Care

Operational objectives may trump clinical decision making.

Clinical example—
Carotid artery laceration

Clinical Example—
Abdominal Surgery
Clinical Example—MASCAL

Damage Control Surgery Principles

Non-compressible Truncal Hemorrhage
Logistical Considerations

Documentation

Ongoing Efforts

- SOF Surgery Teams WG
- JTS ARSC CPG approval and publication
- Operational Planning Guideline draft
- SOF surgical teams ISO resistance draft
- NATO SOST/Role 2 Forward (R2F) development
- Office of the Joint Staff Surgeon—Forward Resuscitative Care ISO Dispersed Operations DOTMLPPIP Change Request
Emerging Efforts

- Defense Committees on Trauma Advanced Resuscitative Care Working Group
- SOCOM SOF Surgical Teams Capabilities Based Assessment
- ARSC teams selection and manning article?
- Research– Outcomes and risks of ARSC teams
- NATO Vigorous Warrior 21

Image Credits

- Marc Northern, MD, SOST “Team Black”, 720th OSS, 24th STG, 24th SOW, AFSOC
- Justin Manley, MD, Deputy Surgeon, 24th SOW, AFSOC

Summary

- Small surgery teams have deployed in support of SOF for decades
  - Sometimes they’re SOF surgery teams, sometimes they are not
- Austere Resuscitative and Surgical Care defines the care environment
  - Small teams with limited resources
  - Often beyond traditional timelines of care
  - Bridge gaps in roles of care
- JTS CPG forthcoming
- More to follow
Questions?

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