Committee on Surgical Combat Casualty Care Position

Statement on Single-Surgeon Teams

This position paper addresses the risks associated with the evolving use of single-surgeon teams in the deployed environment.

- A single-surgeon team (SST) is a surgical team that consists of one qualified general surgeon.
- A qualified general surgeon is one with current and relevant trauma experience.
- There has been no standardization of this capability among the Services.
- Employment of an SST may carry more risk than fully understood.

Background

Hemorrhage is the most common mechanism of death resulting from potentially survivable battlefield injuries. Minimizing the time to hemorrhage control has driven the requirement for rapid access to surgical care on the battlefield. Over the last 10 years the size of the surgical teams providing resuscitative care and damage control surgery has decreased; smaller, more mobile teams are being deployed closer to the tactical environment where forces are actively engaged in combat activities. The demand for progressively smaller SSTs were not driven by evolutions in surgical practice, or improved survival rates, but rather out of a necessity to meet operational demands which exceed the available supply of surgeons.

Data exist that demonstrate a survival benefit associated with traditional multi-surgeon Role 2 surgical teams, but only limited outcome data exist for SSTs. Neither the training nor the composition of SSTs are standardized, and the smaller size of SSTs (4–8 personnel) limits capability and capacity more than traditional Role 2 surgical teams. While an optimal surgical team size has not been established, logic dictates a reduction in team size will cause a progressive degradation in capability and capacity. SSTs are typically tasked to provide Austere Resuscitative Surgical Care (ARSC) at the request of operational commanders who deem standard Role 2 capability and footprint would not be justified by the operational contingencies or surgeon availability. ARSC is defined as “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.”

The decision on whether or not to perform damage control surgery in austere conditions with limited resources requires significant experience in managing complex trauma patients.

Recommendations

Given the likely continued operational requirement for small mobile surgical teams, the CoSCCC, DCoT, and JTS endorse the following:

1. SSTs should not be used as a mitigation strategy in high-risk operational contingencies when a standard Role 2 team could be placed in the same area of operations.
2. Mobile SSTs located close to point of injury can provide rapid surgical response for a small number of casualties with minor-to-moderate injuries.
3. An SST, when compared to an equidistant multisurgeon team, will be less likely to save a critically injured casualty.
4. SST capability and capacity are very limited and lack redundancy in team capability compared to larger surgical teams; this impacts anesthesia, transfusion, critical care, and the ability for sustained clinical operations. It is unlikely that an SST can successfully manage more than one critical surgical patient at a time.
5. Casualties with complex injuries that SSTs are positioned to manage – i.e., intrathoracic or intra-abdominal hemorrhage – are less likely to be saved by an SST than a doctrinally-resourced Role 2 team.
6. The use of SSTs must take into account the system of care which supports the risks these teams are deployed to mitigate. For example, casualties who are rescued by an SST...
The CoSCCC, DCoT, and JTS recommend:

1. Operational planning should assume SSTs do not have holding capacity.
2. SSTs should have early evacuation and rapid resupply capabilities.
3. SSTs should be trained and equipped to provide warm whole blood-based resuscitation for its clinical and logistical benefits.
4. SST training and equipment should be standardized across the Services to facilitate interoperability.
5. SSTs should require cross-discipline training for skill redundancy in essential functions.
6. In order to maximize survivability, SST members must actively participate in team-based clinical exercises and combat casualty relevant clinical skill sustainment. Just-in-time clinical experiences in trauma care are not adequate to ensure clinical readiness.
7. SST members should be required to attend appropriate team-based tactical training. Just-in-time pre-deployment training is inadequate for safe team functioning in a tactical environment.
8. Ad hoc SST creation in theater or just prior to deployment should not occur due to the increased risk to mission, risk to force, and risk to SST members on the team.

References

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