

**COSCCC/CoERCCC Combined Meeting
13-15th November 2019
San Antonio, TX**

Meeting Minutes Prepared by: Mr. Dominick Sestito

0700 Day #1 13 November 2019 COSCCC/CoERCCC Combined Meeting

1). Admin Remarks and Introductions (COL Jennifer Gurney/COL Cunningham): COL Gurney, Chair of the Defense Committee on Trauma (DCoT) and Chair of the Committee on Surgical, along with COL Cunningham, Chair for EnRoute Combat Casualty Care, convened the meeting and welcomed meeting participants. COL Gurney briefly reviewed the meeting's agenda and welcomed VIP guests and Invitees from both the Surgical and EnRoute Care specialties. Mr. Dominick Sestito discussed transportation and logistical information for participants.

COL Gurney discussed membership requirements, the Subcommittee Chair's roles and responsibilities and how the intent of the combined CoSCCC and CoERCCC meeting was to promote cross-functional lines of effort and to minimize redundancy in committee deliverables.

2). JTS Director's Perspective/ JTS under DHA Update (Col Shackelford): Col Shackelford discussed the recent U.S. News report titled "A Crack in the Armor" Surgeons Criticize the Military Health System". In addition she covered how "post major conflict" brings another round of scrutiny on the DOD's military trauma readiness skills, a cycle that has repeated itself since initially investigated by the Government Accounting Office following the Gulf War.

Col Shackelford then transitioned from introductions to the Integrated System of Readiness and Health, stating "There are multiple lines of effort in various stages of implementation to address trauma readiness gaps." Strong and consistent medical and non-medical leadership within the Defense Trauma Enterprise (DTE) is needed to advance and fund three critical lines of effort:

1. Increased Military-Civilian partnerships for skill sustainment
2. Standardized Trauma Training
3. Trauma Career Field Management

Increased Military and Civilian Partnerships are a key to skills sustainment, but alone can't solve the problem. Civilian trauma centers cannot provide enough true trauma workload to provide readiness for military General Surgeons as well as Trauma Surgeons (only 24 Trauma Centers with >2500 admissions and >175 GSWs). The KSA metric empowers clinician and their leadership to develop more robust clinical activity for all surgical specialties. There is also some concern about the ability for enlisted portion of the medical continuum to be allowed to maintain their skills in this model.

The military is a balance between unique experiences and sacrifice. In order to recruit and retain quality people, we have to offer more unique experiences and make the sacrifices less painful. The goal is not to duplicate civilian practice.

Col Shackelford closed by addressing Recent Military Medical Advances in : cold-stored whole blood (CS WB); fresh whole blood (FWB); Type O lo-titer (ROLO); tourniquet (TQ); tranexamic acid (TXA);

prolonged field care (PFC); resuscitative endovascular balloon occlusion of the aorta (REBOA); focused abdominal ultrasound for trauma (FAST); extracorporeal membrane oxygenation (ECMO); continuous renal replacement therapy (CRRT); and EnRoute care (ERC).

Col Shackelford finished with: "JTS can't turn this ship around by itself, it needs your help."

3). Deployed Surgeon Presentation (MAJ Julie Rizzo): MAJ Rizzo discussed her experience as a deployed surgeon. She focused on manning, training and how deployments without operative cases decreased combat trauma readiness within her Expeditionary Resuscitative Surgical Team (ERST). Her team only performed a total over 24 months = 1 operative case, 9 washouts.

Expeditionary Resuscitative Surgical Team:

Personnel

1. General Surgeon
2. Orthopaedic PA
3. CRNA
4. Emergency Medicine Physician
5. Medical Critical Care Physician
6. Emergency Medicine Nurse
7. Critical Care Nurse
8. Scrub Technician

The ERST was developed in Jan 2016 at request of OTSG to provide surgical, resuscitative and EnRoute critical care to special operations forces operating in austere locations; Augmented by SOF medic, NSW corpsman, Army medic, and basic CLS.

Mission- main focus was to support the SOF who are working with Host Nation forces fighting al-Shabaab, and to provide LLE, DCR, DCS to injured Americans and some HN forces in an AOR the size of the Eastern US Seaboard.

Challenges faced-

1. Resupply of Class VIII and blood
2. Limited/unreliable delivery schedule
3. Air Force ordering system
4. Limited storage space for supplies
5. Communication with local hospital
6. Data collection (education and training)
7. Civilian MEDROE

Take-away - Not enough general surgeons (AC/RC) and even fewer "mission-ready" surgeons; Deployments with no operative volume decreases the # of "mission ready" surgeons.

MAJ Rizzo- "We need to practice how they want us to "play"...Surgical support capability is a check in the box to get a CONOP signed off."

4). VIP Guest Speaker (General Paul Funk): General Funk presented live via VTC. He opened by reminding the committees that we are still at war and our enemy is "evil." GEN Funk displayed photos of

the type of IED's used to injury our deployed forces, and how our enemy does not abide by the rules of the Geneva Convention. GEN Funk went on to outline the decreased territories controlled by ISIS and how we are slowly gaining control and defeating our enemies in Iraq, Afghanistan and Syria through Partnerships. Specifically mentioned were training and equipping Iraqi Security Forces, Security Ops and Coalition Assistance.

GEN Funk presented the story of Chief Petty Officer Kenton Stacy, who COL Gurney treated during a deployment. He spoke to "The Power of our Nation in Action" as he outlined the scenario from POI throughout the medical continuum; the devastation of his injuries and how the efficiency and expertise of our Military Health System saved his life.

GEN Funk took Question and Answer from the committees.

COL Gurney opened by stating that she was prepared to take care of CPO Stacy because multiple deployments and a continuous trauma practice prepared her for that case. She stated that t she concerned regarding readiness with the current situation of low volume deployment and minimal trauma expose when not deployed.

Question/discussion – Capability vs. perceived capability as it applies to Operational Risk Management for Large Scale Combat Operations. How do we communicate to the Line leaders that the burden is tremendous and the medical community wants to be prepared in a time of crisis, but can't if there is not a focus on combat casualty care. The line leadership needs to ultimately own the combat casualty care mission in order to make significant changes, but they also need a better understanding of medical. GEN Funk acknowledged that the military needs to recruit and maintain a surgical force and that there need to be good and dedicated physicians for combat casualty care.

a) Dr. Holcomb – What is the action from the Operational Commander when a preventable death takes place on the battlefield?

Line leaders understand AARs, but they have not embraced the idea of accountability for preventable death on the battlefield, nor have they been ask by the command surgeons to do so. GEN Funk turned part of the conversation over to LTG Dingle who was receptive to the idea of looking at opportunities for improvement in battlefield outcomes and working closing with the operational force as well as DHA>

Col Shackelford ask GEN Funk to potentially help with mil civ partnerships by supporting two sources of funding not even in the queue for FY20.

1. Pandemic All Hands Act;
2. Defense wide review, neither of which are funded. These are two funding sources DHA needs to help with Mil/Civ partnerships and Trauma Sustainment training.

GEN Funk stated he was unaware of either funding sources but will look into them.

LTG Dingle responded- SECDEF 172 explores the opportunities of host nation care and identifies high trauma locations embedded in the AOR. We hear the call, but are searching for ways to meet the request.

GEN Funk closed with a call to all specialties to recruit, especially for Reserves.

5). VIP Guest Speaker (LTG R. Scott Dingle): LTG Dingle provided an overview of current and future trauma and surgical initiatives within Army Medicine in support of Large Scale Combat Operations. He intends to change what he can, identify what he can't change, and learn how he can help the JTS.

LTG Dingle outlined Army Medicine Vision and Priorities. Stating "we must stay nested and seize opportunities with synergistic efforts and teamwork."

Surgeons and the 5 R's listed below outline how they are empowering us to make change:

- **Ready:**
 - ICTLs and KSAs
- **Reformed**
 - Direct Support to DHA through 2022
 - MTF assignments will have dual support to DHA and operational units
- **Reorganized:**
 - PROFIS → Reverse PROFIS → **MTOE Assigned Personnel**
- **Responsive:**
 - Conversion to HCs, FHs and Med Dets → more modular and scalable capability
 - **Expeditionary Resuscitative Surgical Team (ERST)** → MEDCOM Support to AFRICOM Request for Forces (RFF) [8 PAX, 14x rotations thus far]
 - Expanding Role 3 in to **CTC rotations**
 - **Expeditionary Health Readiness Platform – Honduras (EHRP-H)** → MEDCOM Support to ARSOUTH [10 PAX, 5x rotations thus far]
 - **Global Health Engagement (GHE) Medical Readiness Training Exercise (MEDRETE)** → Regional Health Command Central (RHC-C) support to ARSOUTH [19-24 PAX]
 - **Medical Readiness Exercises (MEDREX)** in support of U.S. Army Africa (USARAF) 5x a year ICW Accord Series Exercises
- **Relevant:**
 - Our current and expanding civ-mil partnerships
 - **AMEDD Medical Skills Sustainment Program (AMSSP)**
 - **Army Military-Civilian Trauma Team Training (AMCT3)** → training partnerships to improve critical wartime trauma care and deliver vital medical training capabilities supporting the Total Force in MEDCOM OPORD 18-78 [5x PAX, 3 locations, 2-3 year assignment]
 - **Strategic Medical Asset Readiness and Training (SMART)** [111 PAX trained thus far, 3 locations, 2 week rotations, quarterly]

LTG Dingle – "We will change the future. We will get it right." He went on to explain how the law directs us to reform and reorganize. He added that some line officers do not understand trauma care and it's our job to correct them, but we can't get out in front of them or else we will cease to be relevant.

Inception of a Tiger Team – Army Ready Surgical Force Campaign Task Force (ARSFC TF)

Purpose: Gather, analyze, and synthesize information on the current state of critical combat surgical capability readiness IOT better understand the situation and problem, and identify what the command must accomplish, when and where it must be done and why.

Objective: **“Establish an effective skills sustainment enterprise”** between US Army MEDCOM/OTSG, named stakeholders, and civilian trauma centers, which serve as medical readiness (central management/sustainment) platforms for surgical skills sustainment for the Army.

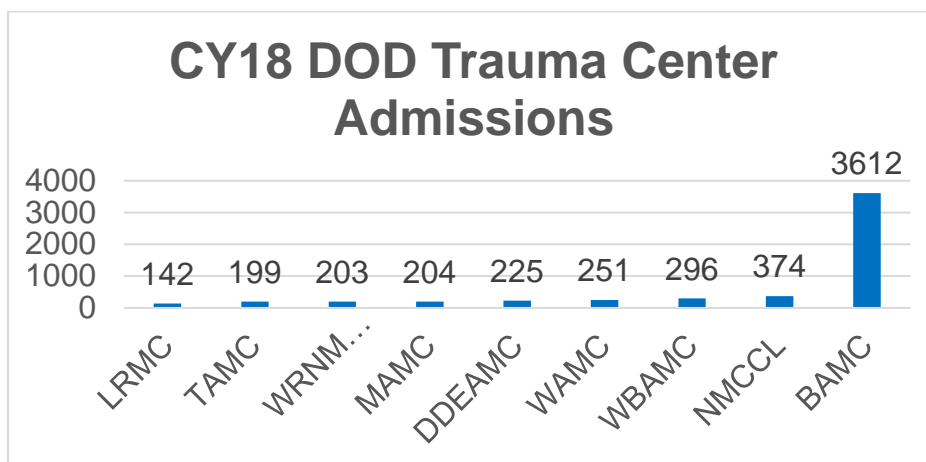
End State: Trauma surgeons and trauma teams that are Ready, Reformed, Reorganized, Responsive, and Relevant as the Army Establishes innovative **“enduring critical surgical sustainment capabilities. This will be accomplished through a synchronized management of Army Readiness initiatives, equally beneficial”** to Operational Forces, Army Medicine, the Military Health System (MHS), a National Trauma System, and other readiness platforms that support the Army's mission

23 Initiatives and 4 LOEs: (1) Readiness, (2) Recruit & Retain, (3) Professional Development, (4) Strategic Messaging.

Proposed Future Initiatives:

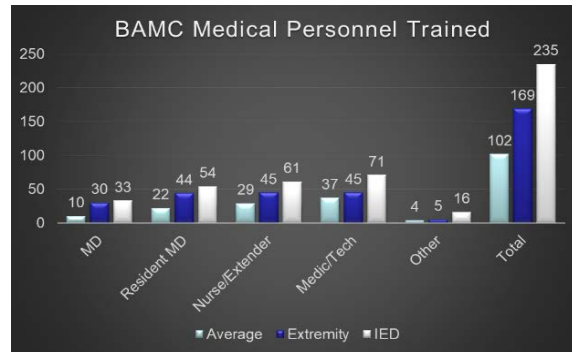
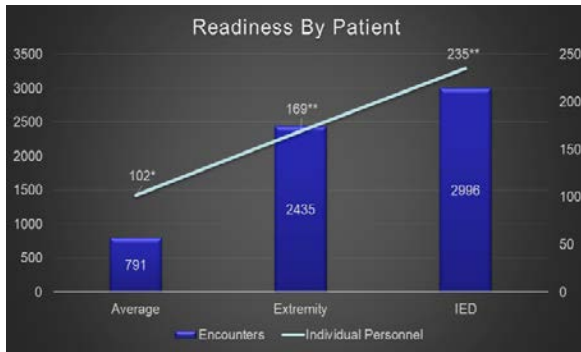
- 23 additional partnership sites for AMSSP (*Mil to Civ Expansion*)
- Partnership with American College of Surgeon Committee on Trauma
- Increase in multi-year specialty pay from ~\$4K to \$17K in annual compensation depending on specialty and number of contract years (*Final approval pending OSD(HA) signature*)
- Proposed policy adjustments to allow for more complex care to be performed at MTF
- Innovative surgical simulations training platforms
- Development of a Surgical Simulation Center of Excellence
- Role 3s at Combat Training Center (CTC) rotations

6). VIP Guest Speaker (BG Harter). BG Harter presented BAMC perspectives as the Commanding General for the Military's only Level 1 Trauma Center. BAMC treats 66% of trauma patients in the MHS.



BG Harter illustrated Surgery volume at the MTF to include Ortho, General Surgery, and Amputation, while providing optimal quality care through National Surgical Quality Improvement Programs (2019 Meritorious Hospital Award).

“BAMC is one of our solutions, and the door is open.” Our Trauma Mission = Strategic Readiness.



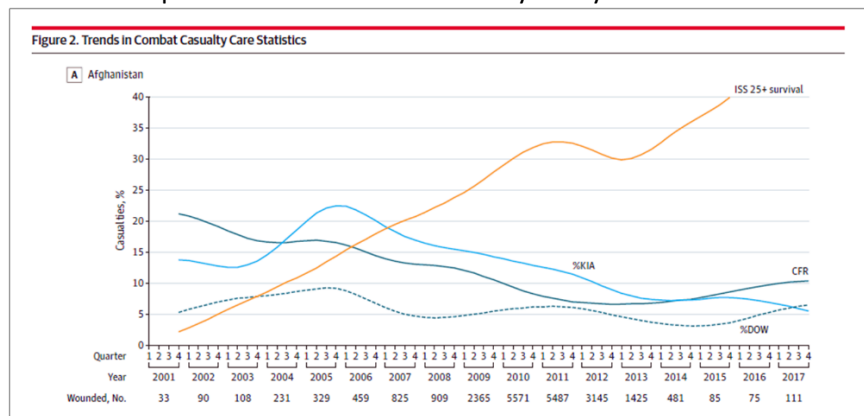
7). VIP Guest Speaker (LTG Ron Place): Opened with a discussion of the Mission and Vision of Defense Health Agency as it works with the Military Health System. LTG Place discussed the future role of DHA as a Combat Support Agency for the Combatant Commands and the Services in the support of potential Large Scale Combat Operations.

LTG Place – The line is asking for 10% cut. They pose the question why 10% of the budget needs to be spent on medical, when it can be reinvested in the “warfighter.”

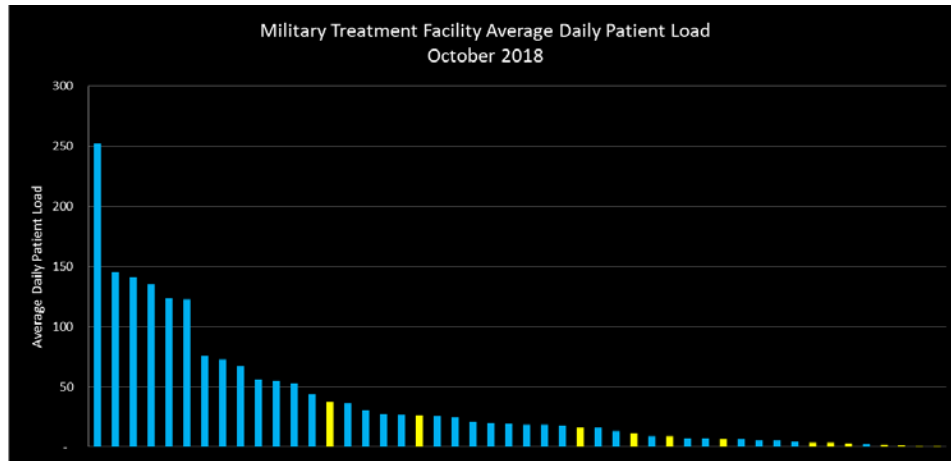
LTG Place – “We are really good as a community at observing, but we are not so good at learning.” He went on to discuss how sometimes a solution can be external, but sometimes it can also be found internally.

MHS Responsibilities:

1. Great Outcomes:
 - a. Our most important outcome is a medically ready force



2. Ready Medical Force:
 - a. Our MTFs sustain team-based currency and proficiency enabling a ready medical force
 - b. Don't forget our Enlisted Staff
 - c. We employ great people, not necessarily a “great system”
 - d. Need for systematic improvements



3. Satisfied Patients:
 - a. Our patients feel fortunate for MHS care that helps them achieve their goals
4. Fulfilled Staff:
 - a. Our staff feel joy and purpose working in the MHS

8). Trauma Consultant Updates– (COL Nessen, Lt Col Gavitt, CAPT Bradley): Consultants provided an update regarding each Service’s Trauma Management Strategy: training, retention, readiness, deployments recommendations with identified OPR. After this the floor was opened for discussion. Lt Col Gavitt and CAPT Bradley gave service number updates. COL Nessen discussed that the use of non-general surgeons, and non-trauma surgeons, to manage trauma was an ethical issue more than a manpower issue.

9). Senior Leader Round Table Discussion to generate gaps/ topics/issues - (LTG Place, LTG Dingle, BG Harter): Floor was opened for discussion/Q&A.

Q – Where can additional funding come from?

LTG Place – We need to show the value of our system. Why MHS should take money from the line and provide justification through a unified tri-service lexicon.

Q- MAP (M-TOE Assigned Personnel) System– Physicians and Nurses are no longer being assigned to hospitals, but instead assigned to deployable units. They may be completely remote from the unit. They will be ‘borrowed back’ or Reverse PROFIS to the hospitals.

LTG Dingle – Need to increase reverse PROFIS to ensure that providers are maintaining their skills in the MTFs. The NDAA empowered the services to increase readiness. It will be fixed but in transparency, we didn’t realize 2nd and 3rd order effects of the MAP system and we are seeing them now

Q- How do we improve Enlisted Training and Exposure to meet the needs of the deployable surgical capability?

LTG Dingle – ICTL’s (AOC Documentation). It is up to the units to meet requirements and to prioritize deployed locations. Conduct an honest assessment of rotations and assignments.

LTG Place – Define your currency. What did you do, what is the cost vs benefit? This needs to be captured in AAR's. Asset= is a very good course. We need to identify the appropriate simulator using the analogy of flight simulator verification. One training simulator as the standard. We have to want to be accountable in order to implement change.

Q- We discuss "team" vs. surgeon a lot here. How do we better integrate team training vs. surgeon specific?

LTG Place – This is the main reason we need to bring care to the MTF.

LTG Dingle – We need to show the impact on beneficiary care, cost that is associated with deployed personnel. Show the cost associated with training, and then define the minimum requirements to meet readiness.

Q- Reserves are in a critical state of manning. What is the way forward for sustainment?

LTG Dingle – We're resetting strategies on LSCO, but it is up to you, the committee, to help recruit and market your specialties. You are the greatest marketing resource we have.

Q- How do we better translate and define SOF surgical team capabilities?

LTG Dingle – Get the 4 stars like GEN Funk to "talk medical." If they are not informed, you can't expect them to listen and understand. Line officers are trained to think "war" not medical assets. You need to learn how to speak their language to have an understanding of the impact to mission/medical readiness.

Q- What are MTF's for?

LTG Place – GME. Strategic Depth ie. Emergency Medicine. I'll admit, many are not well integrated and are organized as an enterprise. We need to define career paths...how does it work? My question back to you is "What's the collective foundation?"

LTG Dingle - Each service protects their own "assets." We are creating our own demise by refusing to unify.

Q- Have we thought about field testing our planned Large Scale Combat Operations to validate and ensure our Oplan meets anticipated threats. Especially in reference to MEDEVAC coordination's...and do we have a contingency plan?

LTG Place – DHA does not have authority to regulate or move patients in Large Scale Combat Operations. I'll be honest in telling you we are aware "there are not enough beds in the American Military Health System."

LTG Dingle - "We can't solve this problem.. What we can do is plan, implement, staff and prioritize."

Takeaways: "Continue to Ring the Cow Bell" –LTG Dingle

Communicate with a universal "language of readiness." Need to use DODTR data to better describe the outcomes and capabilities of austere surgical teams. Need to provide CCMDs capabilities and give them

a better understanding of what 'surgical readiness' is. After Action Reports showing deficiencies, impact etc.

10) Large Scale Combat Operations Blood Plan- (COL Cap): COL Cap stated that in future near peer combat setting "Blood will be a challenge." Devastating weapons, A2AD: Lots of casualties; Delayed evacuation, long distances to definitive care; Small, mobile surgical facilities (less capability); Difficult resupply

Examples of neglect for definitive training:

- Trident Juncture, NATO's biggest exercise since Cold War:
 - No medical/blood exercise!
- Vigorous Warrior 2019, TTX for blood:
 - No experience in multinational setting
 - Poor C3
 - Supply/demand mismatch

Combat Deaths – Bleeding is a problem!

COL Cap discussed Whole Blood vs. Component Therapy. LTOWB is the simplest way to deliver the functionality of lost patient blood.

MAJOR CHANGE IN DOCTRINE: TYPE O WHOLE BLOOD IS UNIVERSAL (LOW anti-A/B TITERS, <1:256)
(Old doctrine: type-specific only)

Challenges beyond blood supply:

- Need growth factors (G-CSF, GM-CSF), leuko-reduced/irradiated blood
- Need trained personnel to manage combined injury casualties (hematologists in addition to surgery, anesthesia, ortho, EM, ID)

11) Crisis Standards of Care in Large Scale Combat Operations- (Col John Andrus): We currently move about 5-600 patients a month. Of those 80% are scheduled Military air transport. Majority of those moves are in CENTCOM.

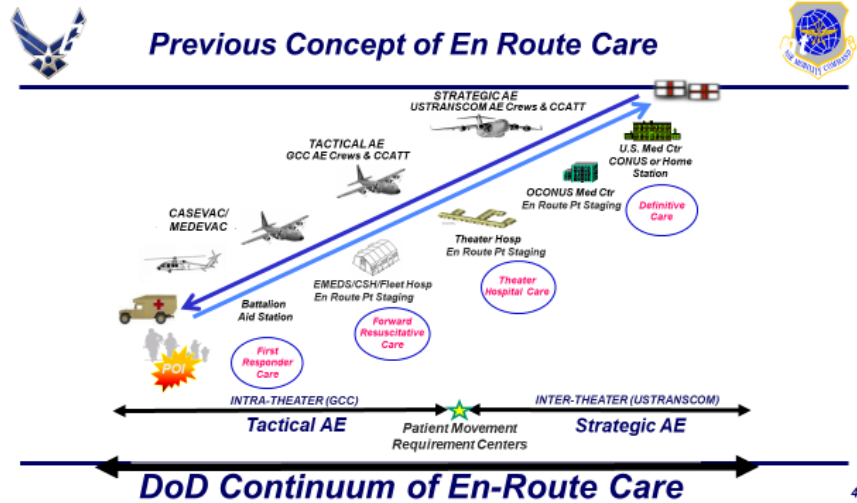
Key Concerns:

1. **Routes**
2. **Modes**
3. **Nodes**
4. **Providers**
5. **Access**
6. **Information**
7. **C2**

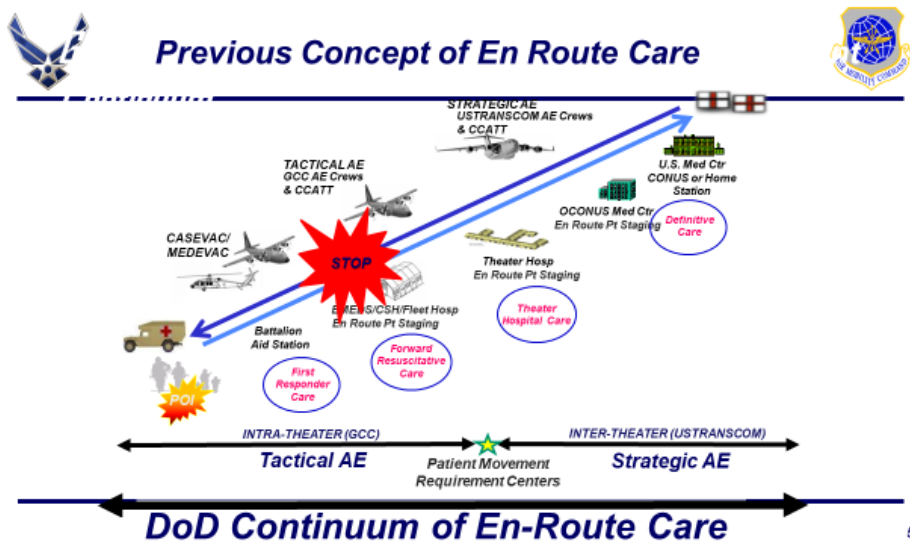
Nodes are readiness metrics based on CCATT. Changed to include ground enablers.

Large Scale Operations are based off Capacity, Capability and Readiness.

12) Crisis Operations –(Col Leslie Wood): We must develop appropriate mitigation strategies.



Crisis Operations in near peer multi-domain environment



Crisis Standards of Care

1. Framework for organizational common operating picture
2. Level of Care is directly related to resource availability and/or patient offload ability
3. Optimally leverage resources to do the "greatest good for the greatest number" in a high intensity resource constrained environment

Hurricane Katrina lessons learned inspired federal CSOC doctrine and state planning guides.

- Organizational lack of planning for catastrophe
 - Complex system with low fault tolerance
 - Medical personnel without guidance in a severely resource constrained environment
- Human performance/survival psychology
 - Higher cognitive functioning is less available during crisis situations and increases reliance on trained behaviors

- Complex systems with rigid rules reduce effective problem solving in novel situations
 - As casualty/resource ratio increases, clinical operations must shift from conventional care to functionally equivalent care through use of mitigation strategies to crisis care when overwhelmed
 - Different strategies needed along this continuum in order to do the “greatest good for the greatest number” of casualties
 - Strategies must be grounded in an ethical framework
 - Autonomy + Duty to Care >>>Distributive Justice + Duty to the Many
 - Legal framework must be developed to protect caregivers forced to make difficult resource allocation decisions

Current crisis Planning Limitations:

- Current medical doctrine assumes uniform standard of care
- Triage threshold for expectant category = medical futility
- No organizational experience with 3 degree triage and resource allocation decision-making Light and lean “sprint” mentality - assumes

Path Forward:

- CSOC organizational and legal framework inclusion in doctrine
- CSOC CPG
 - Ethical/legal framework
 - Care along the continuum
 - Mitigation strategies to deliver “functionally equivalent care”
 - Triage model incorporating evidence based clinical decision support using probable survivability
- CSOC principles incorporated into readiness training

This highlights one of the big due outs of timing of evacuation between operational needs and needs of the casualty which are not always in synch.

13) How DHA QI Can Improve Combat Casualty Care – (Dr. Paul Cordts): Dr. Cordts opened by defining QI, why we do it and how to do it:

- **What is QI?**
 - Organizational/personal commitment to never settle for average or low quality, in readiness, health, healthcare or cost.
- **Why QI?**
 - Everything changes; we are either improving or regressing, not staying the same.
- **How to do QI?**
 - Have to take action; quantify what you want to achieve. Understand you are going in the right direction. Set baselines, set goals, set timelines, etc.
 - Can you quantify today how you achieve value, how well you are doing today.

-80 Hospitals Recognized for “Meritorious” Performance | CY18 (ACS NSQIP)

- How did these centers receive recognition? This was not shared with other medical centers, and no “chain of success” on how to receive recognition was marketed??
- Are our hospitals readiness platforms?? We need to ask this!
 - o –TQIP Data /low volume and possibly skewed data

Ways Ahead:

- Establish DoD Combat Casualty Care/Trauma Center Consortium
- Bi-annual meetings of Trauma Surgeons/SCRs; share data; establish informal site visit program with civilian trauma experts
- Leverage central TQIP contract; aggregate, share and display risk-adjusted data; identify strengths/opportunities for improvement; enterprise approach
- Empower Critical Care and Trauma Clinical Community (CCCC) and Emergency Medicine Clinical Consortium (EMC2)
- Execute. Make recommendations, make decisions, adjust.

**We need to pull in Deployed Environment Data and conduct formal reviews = High Level MHS

14) DoD Preventable Death Reviews – (Lt Col Mazuchowski): Lt Col Mazuchowski discussed the Mission and Vision of AFMES and the JTS Monthly presentation which focuses on:

- Emphasis on injuries sustained and treatment observed
- Identify opportunities for improvement (OFI) in combat casualty care (i.e. catheter placement)
- No formal feedback/report on survivability or preventable death

DoD Preventable Death WG was established in 2017 by AFMES and JTS.

- Comprised of epidemiologists, forensic pathologists, physicians with operational experience, prehospital providers, and trauma surgeons
- Recommended that consideration be given to methodologies shown to improve reliability and reduce bias of preventable death determination

Lt Col Mazuchowski defines Trauma Lexicon terms associated with Preventable Death and differentiated between MOI, Cause of Death, and Manner of Death etc.)

Both KIA (killed in action) and DOW (died of wounds) fatalities died from injuries inflicted by an enemy force during combat operations and are classified as hostile homicides.

Presentation of Data – USSOCOM Fatality Study

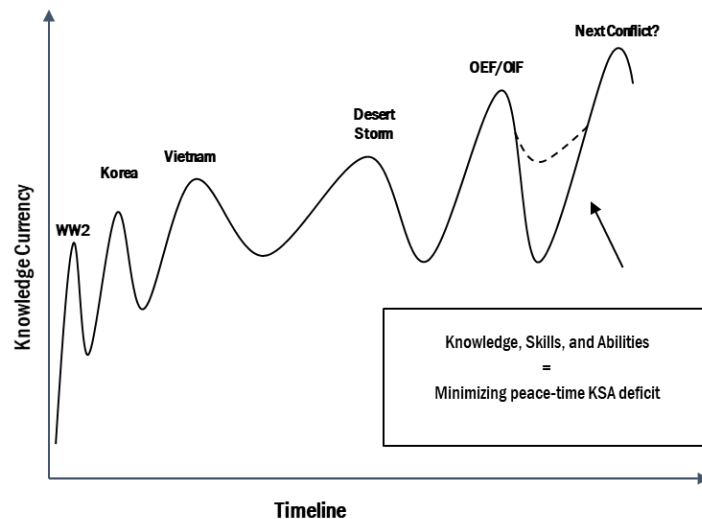
Conclusions:

- Methodology and taxonomy used to classify and sub-categorize disease and injury should follow a universally standardized lexicon to enable direct comparisons between studies.
- Operational posture (mounted vs dismounted) can provide context to circumstances surrounding the event.
- As accidents were second only to homicides, leaders and safety centers should review and refine injury prevention strategies.
- JTS and USSOCOM must optimize prehospital capabilities, hemorrhage control and blood transfusion, expeditious connection of patients to advanced resuscitative and surgical capabilities.
- Methodology and taxonomy used to classify and sub-categorize disease and injury should follow a universally standardized lexicon to enable direct comparisons between studies.
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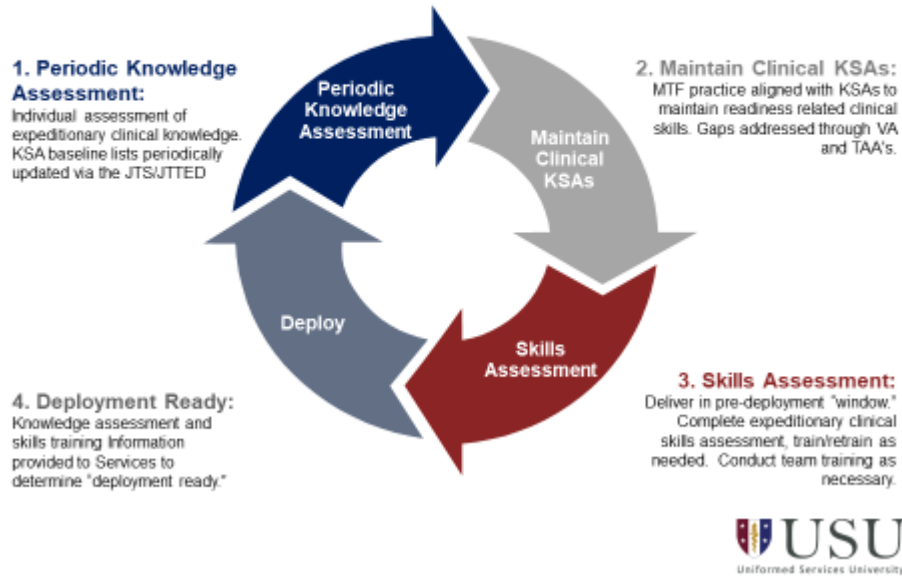
15) Clinical Readiness Program: Combat Casualty Care KSAs – (CAPT Elster/Dr Peggy Knudson):

The previous fragmented approach to expeditionary specialty skills training, refinement and retention was not sufficient to maintain critical wartime combat casualty care skill sets and has applicability to the civilian system.



- KSAs are the specialty-specific Knowledge, Skills, and Abilities utilized by the expeditionary clinician
- KSAs were developed by clinicians based on JTS CPGs, case registries, and relevant literature
- Mapping KSAs to peacetime workload yields a readiness indicator (KSA score) for each clinician, MTF, and market
- Scores do not determine deployment readiness, but they help Commanders make decisions regarding deployment by optimizing the readiness of their clinicians and MTF
- Built off of these KSAs, Knowledge and Skills Assessments provide additional measures to identify and address gaps prior to deployment

Clinical Readiness Lifecycle



Dr. Knudson - Civilian Trauma Partnerships Alone Can't Solve the Problem. Assuming 3 Surgeons at each Civilian Trauma Center could only generate 105 ready Surgeons out of 440 General Surgeons in the enterprise.

The Vision: A National Trauma Care System

A national strategy and joint military–civilian approach for improving trauma care is lacking. **A unified effort is needed** to ensure the delivery of optimal trauma care **to save the lives of Americans** injured within the United States and on the battlefield.

A national learning trauma care system would **ensure continuous improvement of trauma care best practices** in military and civilian sectors.

"Military and civilian trauma care will be optimized together, or not at all."

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10

- **Combat Casualty Care Readiness –**
- **DEPLOYMENT: Busy ops tempo/trauma cases**

- **PERMANENT ASSIGNMENT: Level 1 or 2 Military Trauma Center**
- **SCHEDULED ROTATIONS : Civilian Trauma Center: Military Civilian Partnerships**

***Periodic Assessment: Knowledge points/skills**

Military/Civilian Partnerships – The Time is now!

- **National Defense Authorization Act 2017/2018:** Calls for the establishment of a Joint Trauma Education and Training Directorate (JTET) to ensure readiness
- Authorizes expansion of existing MCP
- **Pandemic and All Hazards Preparedness and Advancing Innovation Act (PAHPAI)** provides the funding
- Creation of the Blue Book

Elster States: Ultimate Goal – Proficiency for all, Expertise for most, and Mastery by some.

– Zero Preventable Deaths.

16) Should we be using Vasopressors in Trauma?: AVERT Trial Summary and Discussion – (Dr. Matt Martin): Dr. Martin opened with discussion and dissemination of previously published articles in JAMA.

ALL hypotension is hemorrhage

- ONLY problem is an “empty tank”
- Filling up the tank is the solution
- Filling up the tank is the priority
- Vasopressor administration
 - Further vasoconstriction
 - Malperfusion, ischemia
 - Death

Traumatic Shock: The Reality

- ALL hypotension is hemorrhage
- ONLY problem is an “empty tank”
- Filling up the tank is the solution
- Filling up the tank is the priority
- Vasopressor administration
- Further vasoconstriction
- Malperfusion, ischemia
- Death

Critiques and Concerns in the Trial

- Highly select group – < 3% of patients screened
- Very small sample – underpowered
- No standardized resuscitation protocol
- One fixed dose + infusion approach
- Primary endpoint of MAP \geq 65
 - arbitrary, biased
 - Texas sharpshooter effect
- “Fragile” – low FI

Interpretation of Study/ Action

- Clear role for pressors in balanced resuscitation

- Vasopressin has strongest evidentiary support
- Mechanism(s) unclear – likely multiple
- Support perfusion/prevent collapse
- AVERT Trial showed fluid/blood sparing effects
 - ?DVT finding is real
- MOST IMPORTANTLY – clearly NOT harmful
- Additional military benefits

17) Day 1 Closing Statements by Col Shackelford/COL Gurney – Don't recreate the wheel and implement solutions we have already identified and initiated.

Courses of Action

1. Skills Sustainment
2. Career Field Management
3. KSA

Meeting adjourned at 1730

0700 Day #2 14 November 2019 Day 2 COSCCC/CoERCCC Combined Meeting

1). Administrative Remarks (COL Gurney): COL Gurney, Chair of the Committee on Surgical Combat Casualty Care (CoSCCC), convened the meeting. COL Gurney briefly reviewed the meeting's agenda for the day and the meeting began with the weekly Joint Trauma System combat Casualty Care Conference.

2). Continuing Medical Education Topic (Brigadier General Paul Friedrichs): BG Friedrichs opened by stating we as a Military Health system should be proud of how far we have come, the care we provide and the lives we have saved.

BG Friedrichs outlined the Joint Chiefs of Staff focus areas:

- Sustain our values
- Improve joint warfighting readiness
- Develop the Joint Force of the future
- Develop and empower Joint Force leaders
- Take care of our people and families

BG Friedrichs then spoke on the Globally Integrated Threat Environment. He went on to explain how global reach, may act collectively against the United States. He went on to say how the battle may cross multi-domains and will not respect individual country laws or borders.

Global Patient Movement will need to evolve. The expeditionary continuum of care we have relied on from 2003-2019 will not be feasible. The continuum will be contested, cyber degraded and we must distribute Expeditionary Operations.

“It’s time to return to our expeditionary roots...[our] expeditionary framework must be adapted and updated to support multi-domain operations of the 21st century.”-Gen Goldfein

0900 - Committee on Surgical Combat Casualty Care and Committee on EnRoute Combat Casualty Care broke the Joint Session and convened separately.

Committee on EnRoute Combat Casualty Care (Day #2 Presentation)

1). Administrative Remarks (COL Cunningham): COL Cunningham opened with thanking everyone for their critical involvement in the ERCCC. Acknowledging that the ERCCC had made limited progress since the last in person meeting. He then covered expectations:

- a) Sub-committees are expected to meet via tel-con or other electronic means at least every 2 months to discuss ongoing projects

- b) Timely updates to the ERCCC task tracker is a key tool for everyone to see where we are at and to get resources that are needed to keep things moving

- c) Members are expected to be active and contribute

- d) Mr. Rich is responsible to provide support for all the monthly meetings of the sub-committees

2). CASEVAC Vignette (SGT Matthew Gorgias): SGT Gorgias presented a briefing on his last deployment with 160th SOAR(A).

a) Background: ???

b) Medical Task Org:

- 3 Special Operations Flight Medics (SOFM) Across 3 Aircraft
- 2 Ground Force (GF) Medics on Target
- 1 GF Medic & 1 Pararescue (PJ) on QRF
- Role II FST w/ a Dustoff Platform
- C-130 with 2 SOFME’s

c) Situation and Execution:

- Helicopter Assault Force(HAF) conducted infil operations
- Returned to laager site to stage for exfil/contingency operations

d) Call for CASEVAC:

- Initial call - N+0:00 2 x US Personnel Cat A & Cat B
- Second call - N+0:02 1 x Additional US Personnel Cat C

- Third call - N+0:30 1 x Additional US Personnel Cat A

<u>Casualty 1 (Ground Force)</u>	<u>Casualty 2 (Ground Force)</u>	<u>Casualty 3 (Ground Force)</u>	<u>Casualty 4 (Ground Force)</u>
<p><u>Injuries:</u></p> <ul style="list-style-type: none"> ▪ <u>Shrapnel wound L Anterior Neck</u> 	<p><u>Injuries:</u></p> <ul style="list-style-type: none"> ▪ <u>Blast injury to the R Hip / R Leg / R Arm</u> 	<p><u>Injuries:</u></p> <ul style="list-style-type: none"> ▪ <u>Shrapnel injury to the Legs bilaterally</u> 	<p><u>Injuries:</u></p> <ul style="list-style-type: none"> ▪ <u>Shrapnel injury</u>
<p><u>Treatment:</u></p> <ul style="list-style-type: none"> ▪ <u>Pressure Dressing</u> ▪ <u>Cricothyroidotomy</u> ▪ <u>Emma: ~45 ETCO2/Respiratory</u> ▪ <u>18ga R AC</u> 	<p><u>Treatment:</u></p> <ul style="list-style-type: none"> ▪ <u>Tourniquets (Limb/Junctional)</u> ▪ <u>Pressure Dressing</u> ▪ <u>Blood</u> 	<p><u>Treatment:</u></p> <ul style="list-style-type: none"> ▪ <u>Pressure Dressings</u> ▪ <u>Pain Control</u> 	<p><u>Treatment:</u></p> <ul style="list-style-type: none"> ▪ <u>Pressing Dressings</u> ▪ <u>Pain Control</u>

- Exfil - N+1:45
- Return to MTF – N+2:15

e) Time line clarification:

- W/U to Target- 4 minutes
- W/U to Medical Treatment Facility - 25 minutes
- SOFM stepped off to facilitate Patient flow
- Followed first Casualty back onto the aircraft
- Primary Survey- Vital Signs, Reassessing Treatments, and the next treatment

f) PT Presentation:

g) Discussion points:

- GF Senior Medic Handoff
- End Tidal Monitoring Mid 40's- Treatment w/ reassessment and O2
- Additional Pain Medication- Ketamine and Versed
- Sternal IO w/ TXA and Blood
- Documentation
- Vital Signs
- Updates to Pilots
- Resupplying Medics in the back
- Invanz

h) Lessons Learned:

- Monitoring Systems
- Fluid Warmers
- O-Low Titer Programs / Whole Blood
- Dual Provider
- Cross Organizational Talk

3) MERCURY PI data update: (Kim Smith and Laura Runyan): Kim and Laura both presented insightful information that covered Aug-Dec 2018 Events.

a) Background:

The data covered was on Enroute rotary wing transport of casualties within the space of Operation Freedom Sentinel (OFS) and Operation Inherent Resolve (OIR) from 1 August 2018 to 31 December 2018.

The MERCURY currently contains data from 13,616 Enroute flight missions conducted from 2008 to now. This accounts for 10,954 distinct casualties. The data is abstracted from the patient care record (PCR) completed at the time of Enroute care. This may have been Enroute from the POI to the Role 2 or a transfer from Role 2 to Role 3.

Some interventions included in this report account for prior to arrival (PTA) of medevac interventions done at the POI or the role 2.

This data does not account for medical air evacuation or CCATT evacuation. This report includes data from a six month time period, future reports will be published after each quarter.

b) Specific PI Issues Encountered:

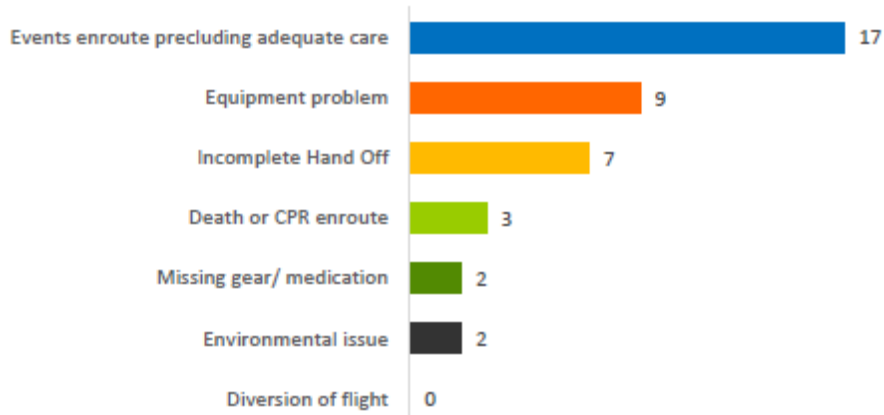
Performance Improvement Notes

465 of 472 casualties did not have TCCC cards accompanying them

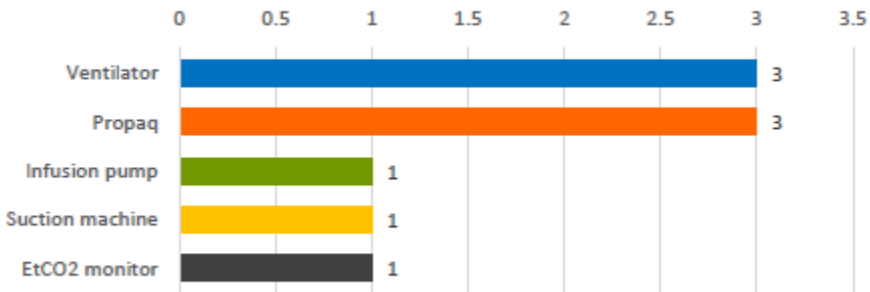
9 Episodes of equipment failure documented: most frequent was 3x ventilator failure (type undocumented) and 3x Propaq failure.

Events Enroute precluding patient care included too many casualties onboard to maneuver care, care triaged to most critical, short flight times, and indirect fire.

Documented Performance Improvement Issues

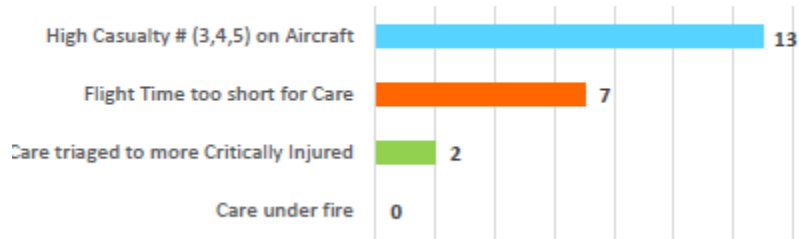


Equipment Problems/ Failures



Equipment models not specified

Challenges Documented in AAR Comments



Additional detailed information is available in the CoERCCC MERCuRY PI Data Briefing.

4) NATO Lexicon Challenges (LTCOL Adamson): LtCol Adamson covered challenges our NATO Allies have based on the often confusing medical lexicon that is in current publication in places like JP 4-02 (Joint Health Services).

a) There are many misconceptions that have been formed over the years based on different deployments across the coalition forces. These have caused different beliefs/norms/ and opinions on what even basic terms mean.

b) Examples from JP 4-02:

- “En Route Care normally involves transitory medical care, patient holding, and staging capabilities during transport from the POI or onset of disease, through successive roles of care, to an MTF that can meet the needs of the patient. Each Service component has organic vehicles that can be used for Patient Movement from POI to initial treatment at a MTF.” (1. CASEVAC, 2. MEDEVAC, 3. AE)
- “Patient Movement is the system that provides a continuum of care and coordinates the movement of patients from POI or onset of disease, through successive roles of care, to a MTF that can meet the needs of the patient.”
- “MEDEVAC is the system within the “forward/or tactical” area that provides the vital linkage between the roles of care and is performed by dedicated, standardized MEDEVAC platforms (ground and air ambulances), with medical professionals who provide the timely, efficient movement and ERC of the wounded, injured, or ill persons.”

c) Examples from NATO Standard AJP-4.10 (Allied Joint Doctrine for Medical Support):

- “MEDEVAC is the process of moving any person who is wounded, injured or ill under continuous medical supervision and care to or between medical treatment facilities. MEDEVAC is an integral part of the continuum of care and conducted during military operations by designated assets able to provide in transit care in accordance with prevailing medical standards at the same or a higher level as provided by the originating unit.”
- “In contrast to MEDEVAC, CASEVAC means unplanned or opportunistic movements of casualties not employing dedicated or designated medical capabilities. CASEVAC is neither a medical capability, nor a medical responsibility.”

- Forward MEDEVAC: from the CCP (or POI) to the initial MTF
- Tactical MEDEVAC: from one MTF to another within the JOA
- Strategic MEDEVAC: from intra-theatre MTFs, to a MTF outside the JOA

- 0 reference of en route care / ERC, 4 references patient movement

d) Additional thoughts:

Doctrine's contributions are as follows:

1. Provide a coherent vision of warfare.
2. Enhance operational effectiveness.

UK	Canada	Australia/NZ	USMC	NATO	US Army
Casualty Evacuation (ABCANZ)					
The evacuation of a patient in a platform of opportunity ... accepting the risk of limited in-transit care rather than delaying evacuation.	The evacuation of casualties without medical supervision	The process of moving any person who is wounded, injured or diseased to and/or between health facilities. (fence sitting)	The unregulated movement of casualties that can include movement both to and between medical treatment facilities	The non-medically supervised process of moving a person who is wounded, injured or ill.	The movement of casualties aboard nonmedical vehicles or aircraft without en route medical care.
Medical Evacuation					
The process of moving any person wounded, injured or ill under continuous medical supervision and care to or between MTFs in a designated platform equipped for role.	The evacuation of patients under medical supervision to a MTF	The rearward movement of a casualty with appropriately qualified health personnel (platform-specific).	The timely and efficient movement of the wounded, injured, or ill while providing en route medical care to and between medical treatment facilities	The medically supervised process of moving any person who is wounded, injured or ill to and/or between MTFs as an integral part of the treatment continuum.	The movement of the wounded, injured, or ill to and between MTFs on dedicated, properly marked medical platforms with en-route care provided by medical personnel.
En Route Care					
Not defined	Not defined	The care required to maintain the phase treatment initiated prior to evacuation and the sustainment of the patient's medical condition during evacuation	Continuation of the provision of care during movement between HSS capabilities in the continuum of care, without clinically compromising the patient's condition.	Not defined	The care required to maintain the phased treatment initiated prior to evacuation and the sustainment of the patient's medical condition during evacuation.

3. Provide a common frame of reference.
4. Provide a common professional language.
 - **Patient Movement** is the act of moving patients anywhere in theater or out of theater.
 - **En Route Care** is clinical (or medical) activity that occurs on an evacuation platform or while a patient is between POI and MTF or between MTFs.

e) A request from the Allied forces on evacuation lexicon:

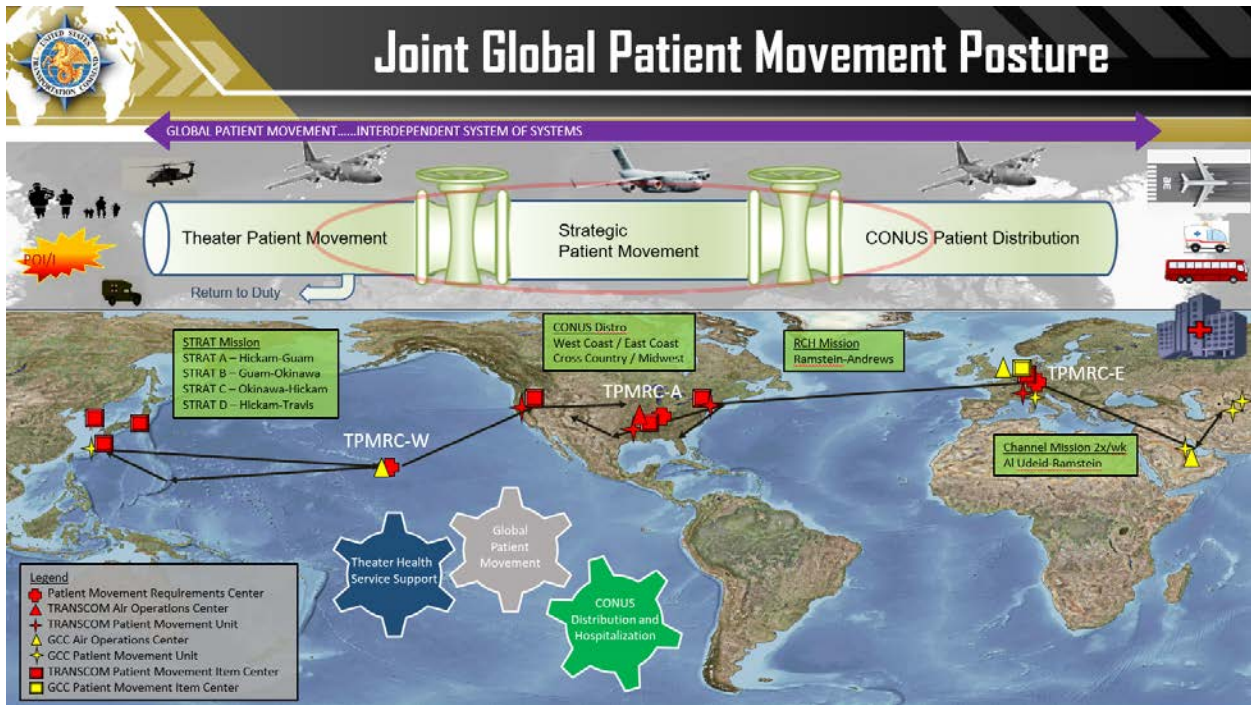
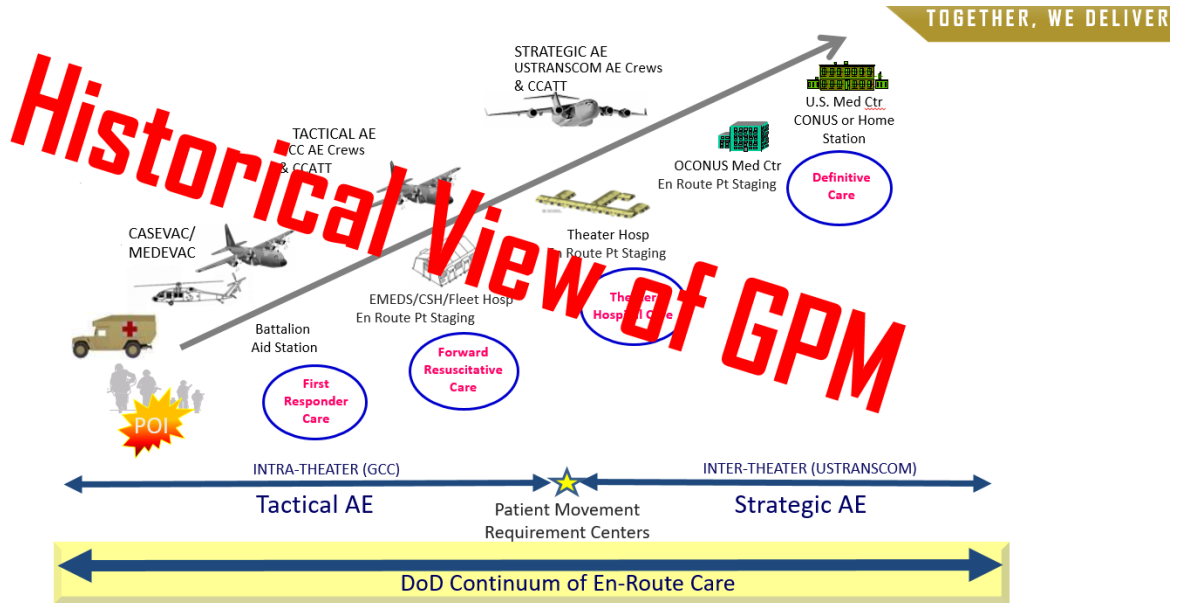
- A call to simplify, agree, publish, publicize...and comply
- Is CoERCCC the body to champion this?

5) Closing the Seams (LtCol Cieurzo): LtCol Cieurzo covered the issue of gaps between theater and strategic patient movement.

a) Background: There are four major areas for improvement of the gaps:

- Patient Movement Items (PMI)
- Regulation and Communication

- Recovering Patients to the Service
- Exercises



b) Potential solutions involve:

- Patient Movement Items (PMI)
 - Theater PMI Plans must mesh with the Strategic Plan
 - Adequate PMI in kind in Theater
- Regulation and Communication

- Patient Evacuation Coordination Cell CONOPS needs to be completed
- Recovering Patients to the Service
 - Soldier Transfer and Regulating Tracking Center (STARTC)
 - Other Services?
- Exercises
 - Realistic Patient Movement needed – Global Integrated Exercise High Interest Training Requirements
 - Involve the required agencies

We did the DA4700 project update by 1SG Coughlin for input

ECCN Deployed provider experience LTC Moreno and 2 other ECCN's discussing their case mix and balance of ECCN and FPC skill set

0930 Committee on Surgical Combat Casualty Care (Day #2)

1) **Recently Deployed Surgeon –(Lt Col Val Sams):** Lt Col Sams spoke on her recent experiences as a deployed Trauma Czar in CENTCOM. She spoke about her daily responsibilities, top three issues while deployed and summary and discussion of lessons learned.

Daily Responsibilities- 1. Daily Operations, 2. Manage Staffing, 3. Manage Case Volume

Top 3 Issues:

- Leadership construct and intra-theater communication
- Utilization of forward surgical and resuscitative teams
- Lack of continuum of care documentation and decision support

Effort to define US damage control surgery teams-

- Navy, AF, Army (+GHOST)
- Locations, mobility, manning, enablers, modularity, transport req't, training, blood, best suited
- DCST=capability/ 1-2 surgeons, 1 OR table, DCS 1 patient
- 13 in theater

Non-surgical teams

- CCATT
- SORT
- ARC?

Take aways- Trauma Czar/Director of COCOMs must be trained for their role and have clear guidance on their expectations upon arrival.

-What is the Policy?

-What is the intent?
CTS/JTS need to help define this

1000 CoSCCC broke into Sub-committee working groups

Austere Subcommittee: COL Jay Baker

Old Business

1. ARSC CPG—Published at JTS website 30 October 2019
 - Next steps—Format and submit for publication to Journal of Trauma concurrently with ARSC definition paper
 - Primary responsibility (PR): Jay Baker
 - Suspense: NLT 31 DEC 19
2. Operational planning guidance
 - Marc Northern leading final drafts, will circulate with ASTSC for approval
 - Plan to publish at Journal of Special Operations Medicine
 - PR: Marc Northern
 - Suspense: Completed prior to next CoSCCC, MAY 19
3. Special Operations Forces Baseline Intraoperability Standards (SOFBIS)
 - SOCOM Board of Command Surgeons (BOCS) meeting 16 SEP 19 sketched initial draft for capabilities requirement for SOF surgical teams with input from SOCOM Component Surgeons, TSOC Surgeons, Consultants for General and Trauma Surgery, and JTS Chief
 - Information Paper for COMSOCOM re: crisis in military surgery in draft. Will complete edits from DCOT meeting and staff with BOCS, Consultants, JTS, maybe others, then submit to COMSOCOM through SOCOM Surgeon.
 - PR: Jay Baker
 - Suspense: 15 DEC 19
 - Surgical teams SOFBIS in draft, pending staffing with BOCS, Consultants, JTS, SOCOM J3, SOCOM J8 then will submit for approval at SOCOM Requirements Evaluation Board (SOCREB). However, the process for approval is not yet clear.
 - PR: Jay Baker
 - Suspense: 30 MAR 19? (date of next BOCS)

New Business

1. Research
 - Co-meeting with Research Subcommittee, led by Matt Martin
Group consensus following discussion concluded that there is value to perform a retrospective review to simply describe what the available records show. A case report form will need to be developed, followed by review of available records.
 - Initial study questions are what is epidemiology, interventions, and outcomes?

- This should be followed by a prospective study and include operational questions such as how many missions were enabled by presence of austere surgical teams
 - Additionally, findings of research team will inform revision of data collection methods for austere surgical teams
- Education and Training Co-meeting
 - Discussion co-led by Shaun Brown and Jason Seery
 - The ERST training POI was developed primarily by JMAU and former JMAU personnel, has been taught successfully to multiple iterations of ERST
- Suspense:
 - Send to ASTSC members NLT 30 NOV 19
 - ASTSC members reply to Shaun Brown NLT 21 DEC 19
 - Submit for ASTSC vote NLT 31 JAN 20
 - Forward recommended ARSC POI to JTET (Jason Seery) NLT 28 FEB 20
- Austere Anesthesia CPG
 - Update and discussion led by Cary Carter
 - Working author group, about 20 pax from wide array of specialties
 - Registry doesn't identify type of anesthesia medication, only that it was done
 - COL Jeff Thompson redeployed, PCSing to LRMC in Jan, is conducting lit review
 - Outline is circulating now for comments, will consolidate next weeks
 - Ian is to review literature with Jeff T. after settled in Germany, maybe FEB, then assign lead authors for sections
 - Packing lists have been helpful with PFC CPGs
 - PR: Cary Carter
- Suspense:
 - Outline consolidated NLT 21 DEC 19
 - Literature review completed NLT 28 FEB 20
 - Section author assignments NLT 28 FEB 20
 - First draft completed NLT 31 MAR 20
 - Second draft completed NLT next CoSCCC meeting MAY 2020

Education & Training Subcommittee: COL Jason Seery

- Requirements
 - Standardize core trauma training curriculum
 - Enter into and coordinate Military-Civilian Partnerships for combat trauma teams
- Due Outs/ Request for Info:
 - I will link each focus area/volunteer with a JTETD lead POC to coordinate efforts:
 - Some members that were present didn't volunteer for a task. Will discuss with them later the need to participate in an assigned task or transition to a different SC.
 - Member can ask their colleagues to assist with work
- Follow up Plan:

- Will set up a monthly TCON to discuss progress on each project.

Operational Subcommittee: COL Kirby Gross

Old business:

-RWB Book – COL Gross will take for action

- R2 Readiness Report – 85% completed. COL Gross will finalize.

- Describe intention for unit commanders to assess team’s readiness in all domains of DOTMLPF-P. Requested by CENTCOM SG (COL Calder).
- Explained how this comprehensive document is the foundation for the JTS PI Team Pre-Deployment Readiness assessment for tracking purposes of team capabilities/training. Will be able to align this information with team outcomes in the future.
 - Will make the PI document obsolete. Process will be to ensure PI team gets a copy, but Theater TMD has primary responsibility for ensuring the teams meet expectations for readiness.
 - PI team can create a “report “ for key information for PI tracking and aggregation into JLLIS.

** DUE OUT – members send feedback to group NLT 27 NOV for consolidation by COL Gross. Then submit to COL Calder for concurrence and then forward to Brig Gen Friedrich’s for consideration to send to the other COCOM SGs.

** Deliverable: Position Paper: Optimal utilization of combatant command trauma surgeon (Suspense Christmas time frame, COL Gross will create a draft and COL Gurney can then enhance)

- Clearly define role/responsibilities; expectations of rank to understand operational “language” (e.g. DOTMLPF-P)
- Provide guidance to the COCOMs of the benefit of having this position to improve the delivery of surgical capabilities in each Theater
- Balance supply and demand. A deliverable of creating this position may reduce the number of deployed surgeons to fill this slot.

** Define: “what is an OPERATION?” IVC injury v wash out.....wide spectrum. Life-saving surgery vs the 7 surgical procedures defined by CDID for FRST. What #/type of personnel required for each of the critical DC surgeries? Standard terms.....

Succession Plan – COL Gross retires Early 2020. Shane willing to take Chair and Ted will serve as Vice-Chair.

Research Subcommittee: Dr. Matt Martin (co-chair)

Items Discussed and Plans/Goals:

1. Austere Surgical Teams Study – met in conjunction with the Austere Surgery group and discussed plans for retrospective review of all available patient data from ASTs that are currently available in the DODTR and supporting databases.

- a. subgroup identified to review sample records and create data collection form
 - b. subgroup identified to perform chart review/abstraction once collection form finalized
 - c. study to be led by COL Gurney and COL Schreiber
2. DODTR Access and Use – discussed the difficulty in obtaining DODTR data, identifying which IRB is the responsible entity, and processing of requests for research data.
 - a. clarify DODTR application process, particularly for non-JTS personnel and for non-DOD personnel
 - b. identify currently responsible IRB for review of research submissions
 - c. additional 900+ SOST records to be abstracted and entered into the DODTR, and will provide a much more robust data set than what is currently available
 3. “Hot Topics and Breaking News” program – much discussion at this meeting following the presentation/discussion of the AVERT Trial results, and discussed making this a regular feature of the COSCCC meetings.
 - a. Request addition of scheduled short block of time at all COSCCC meetings to present and discuss several recently published major studies that are relevant to combat trauma care.
 - b. Speaker and articles/topics to be identified by the Chair of the Research Subcommittee, and with input from all subcommittee members.
 4. Need for routine mandatory data collection and reporting from all patient encounters by DOD forward military treatment facilities and teams, including all “austere surgical teams”.
 - a. recommend making this one of the top policy/operational efforts of the COSCCC

1330 Day #2 – CoSCCC and CoERCCC reconvened after lunch for a group presentation

3). Strategy to Avoid Excessive Oxygen (SAVE-O2) for Combat Casualty Care –(Col Vik Bebart): Col Bebart spoke on the Knowledge Gap/Needs on hyperoxia, reviews on Current literature and a USSOCOM Normoxia/USAMRDC Normoxia multicenter trial (SAVE-O2) Project Summary.

Gap: Limited data on optimal oxygen titration targets in critically injured patients.

Conclusions: ...1 in 5 casualties overall, 1 in 3 intubated, and almost 1 in 2 TBI casualties had documented hyperoxia.

Avoiding unnecessary O2 supplementation may

1. Have material impact on preserving this scarce resource (logistics and cost)
2. Avoid potential detrimental clinical effects from supraphysiologic oxygen concentrations.

A systematic review of oxygenation and clinical outcomes to inform oxygen targets in critically ill trauma patients.

Conclusions:

- Lower oxygen/ normoxia → improved outcomes
- Few trauma specific articles; No high quality/RCT data
- Supports need for trauma-specific studies/RCTs, particularly beyond TBI
- Overall association between lower oxygen/ normoxia and improved clinical outcomes
- Few trauma specific articles

- 14 out of 17 related exclusively to TBI
 - No high quality/RCT data
- Supports need for further trauma-specific studies/RCTs, particularly beyond TBI

Multicenter Normoxia Trial (JWMP)

- Goal: definitive, trauma/CCC-specific evidence to inform CPG and oxygen requirements
 - Particularly important for ERC/PFC
 - Focus on polytrauma
- Design: cluster randomized, stepped wedge implementation trial (8 sites, n~6240 patients); Trauma surgeons at Site Co-PIs
- Human subjects issues: minimal risk, waiver of informed consent (efficient, cost savings)

We are looking at in-hospital outcomes only in these projects. The TBI project would allow us to look at longer-term (6 month) functional outcomes, which is of interest to the DoD.

1400 CoSCCC Day #2 Presentations/ CoERCCC broke into Subcommittees

Committee on EnRoute Combat Casualty Care (Day #2 Subcommittee minutes)

1) After a brief discussion on current direction of efforts for the committee the ERCCC broke into subcommittee working groups.

Our main efforts to work on

1. Trauma lexicon recommendations to JP 4-02 IAW MMPM JROCM concerning ERC capability levels and PECC capabilities
2. Timing of evacuation recommendation and impact to mission and patient outcomes for Early Entry Operations/Expeditionary operations, LCSO(Large scale combat operations as current doctrine) and MDO(multidomain operations as developing concept not yet doctrine)
3. Completion of DA4700
4. Completion of the ERC top ten research efforts paper
5. CPG on ERC blood administration and review of interfacility transport to accommodate updates in ERC capability levels

(Get talking points from slide Cord needs to send to Tom)

2) Products/Research Priorities (COL Cap/Col Jennifer Hatzfeld/ Mr. George Hildebrandt):

a) Development of TOs and technical objectives for Strat plans (JPC):

Leads: MAJ Gardner and Mr. Hildebrandt

Status: Complete

b) Top 10 Research Priorities:

Leads: COL Cap & COL Hatzfeld

Status: Currently in Draft format, final review and expect completion Feb 2020.

c) Advocate for FY22-26 POM Research Funding:

Leads: MAJ Gardner, and Lt Col Maddry

Status: Working to gather data and present information NLT Apr 2020.

d) Editorial Paper for Standardizing Equipment:

Leads: Dr. Bebart and COL Hatzfeld

Status: Paper identifying CoERCCC as body of SME's that can assist with identifying appropriate En Route Care items, utilizing the research group to provide the scientific background; Aligns with Priority #3 from CoERCCC

3) Documentation and Pt Transfer (1SG Coughlin):

a) Develop new DA 4700:

Leads: 1SG Coughlin and Bruce Tarpey

Status: Development complete and awaiting final administrative fixes. Due to go out for ERCCC vote end of November.

b) Update How-To/Instructions for 4700:

Leads: 1SG Coughlin and Bruce Tarpey

Status: Pending development. Will be able to publish nearly simultaneous to 4700 approval.

c) Partner to include 4700 guidance in Documentation CPG

Leads: 1SG Coughlin and Nikki Selby

Status: Edits entered into comprehensive documentation CPG. Updates needed pending completion/approval of new 4700

d) Develop methods to enable early ERC provider passing of information to receiving MTF's to enhance transition of care:

Leads: 1SG Matt Harmon and Shane Runyon

Status: Early concepts identified. Requires communication with EM physicians to determine information needs.

e) ERC Provider updates to "prep for Evacuation" step of TCCC guidelines

Leads: SFC (P) Hernandez and Shawn Anderson

Status: Army Combat Paramedic program refining update recommendations. Requires coordination with CoTCCC for implementation into TCCC guidelines

f) How to document video to include 4700 and 1380

Leads: 1SG Coughlin

Status: Awaiting completion and approval of DA 4700 before initiating

g) Develop end-user updates to Mercury PI form based on updated 4700

Leads: ?

Status: Sample updates and Sub-committee development. Also must include Equipment and JPSR data

h) Partner with T&E committee to develop action plan for JPSR education and expanded utilization

Leads: Jamie Eastman

Status: Early concepts identified.

4) Policy and Doctrine (Col Mark D. Ervin & John Leasiolagi):

a) Readiness policy recommendation and DRRS reporting on Service Specific Enroute care capability

Leads: Col Ervin and HMCS Leasiolagi

Status: Coordinating with other working groups

b) Documentation- “mandatory pre-hospital medical documentation” BLUF: A similar version of the draft SOCOM policy should be adopted by the COCOMs.

Leads: Ervin and Leasiolagi

Status: Coordinating with other working groups

c) Casualty Evacuation and Medical Evacuation – CoERCCC needs to agree on a joint definition of those two terms. Capabilities can be defined within the service.

Leads: Col Ervin and HMCS Leasiolagi

Status: Working on approval package submission for inclusion in JP-04

d) ERC capabilities levels

Leads: Col Ervin and HMCS Leasiolagi

Status: Evaluating CAMTS and TCCC for applicable definitions

e) Position paper on the impact of added ERC capabilities to reduce risk associated with reduced forward DCR/DCS presence.

Leads: Col Ervin and HMCS Leasiolagi

Status: Review Rand AFRICOM Rescue study and other literature review

5) Education and Training (LCDR Erik Hardy / HMC Wayne Papalski):

a) Paramedic for USN SAR Medical Technician

Leads: HMC Papalski, CAPT Walrath, and HMC Roy

Status: Completed and in the POM for FY22

b) Push education on documentation of 4700. Secondary updated the Navy's way of reporting to send all reports to the JTS.

Leads: HMC Roy, CAPT Walrath and HMC Papalski

Status: Completed and now awaiting data changes from 2017 to now... to show if there has been an improvement.

c) Sharing gear requirements associated with ERC tasks list across services, ultimately leading to the Navy approval of funded AMAL's

Leads: HM1 Chernenko, HMC Roy and HMC Papalski

Status: Completed and AMAL is signed off by PAC FLT and USFF, at NAVMEDLOGCOM being built

d) Provide inputs to redo the memo from House Affairs DHP memo on casualty requirements as listed in JRCOM 026-12 dated 27 Feb. 2012

Leads: HMC Papalski and Mr. Eastman

Status: Sending work completed so far to Policy and Doctrine Subcommittee

e) Email curriculum leads at each training site for introduction to the T&E sub-group. Additionally, sending the MERCURY data to school houses to show "real time fleet feedback" to improve QA/QI

Leads: Mr. Eastman and LCDR Hardy

Status: Drafting email

f) Create/Provide Packaging and Loading video/pictures

Leads: LCDR Hardy, Mr. Eastman and HMC Roy

Status: Emailing Script to Tom

g) Create/Provide Hoisting video/pictures

Leads: HMC Papalski and 1SG Buatti

Status: Emailing Script to Tom

h) Create/Provide video on how to document

Leads: LCDR Hardy

Status: Initial concept done and need to coordinate with Documentation and Pt Transfer Subcommittee to prevent duplicated effort.

6) Clinical Practice Guidelines and PI (CAPT (sel) Ben Walrath and SFC Jared Voller):

a) Review and provide inputs to 11 CPGs from TRANSCOM

Leads: CAPT Walrath and 1SG Voller

Status: No update on this was provided to the subcommittee during CoERCCC. However, these are inputs from TRANSCOM regarding aeromedical considerations for flight for revision of existing JTS CPGs, not input for new CPGs. Col Wood and Col Strilka volunteer to review and present to next subcommittee meeting, TCON?

b) Review and provide inputs for 44 CPG on En Route Care considerations

Leads: CAPT Walrath and 1SG Voller

Status: No update on this was provided to the subcommittee during CoERCCC. However, regular TCONS of a Subcommittee WG to work through this. Mr Thomas Rich willing to facilitate scheduling.

c) Create a Quick Reference Tri-Service Handbook

Leads: CAPT Walrath and 1SG Voller

Status: No update on this was provided to the subcommittee during CoERCCC

d) Patient Packaging CPG

Leads: CAPT Parrot

Status: Discussion was had during the Subcommittee meeting on whether this needed to be a self-standing CPG or embedded in the Inter-Facility Transport CPG

e) Blood Transfusion (Pre-hospital) CPG

Leads: 1SG Voller and PI team

Status: Ready for an E-Vote of the Committee NLT mid-Dec

f) Ventilation management CPG

Leads: MSgt Whitmore

Status: No update

g) Behavioral Health CPG

Leads: Walrath and Voller

Status: Parallel efforts occurring within AF. Interest in synchronization prompted email introduction of principles, who will report back to the Committee by next meeting as to whether scopes will allow convergence of efforts

h) Prehospital En Route Care Protocols - Converge tri-service protocol to have a JTS endorsed model for standing medical orders for medics in the field

Leads: CAPT Walrath and 1SG Voller

Status: 2/3 signatories for tri-service medic protocols are in the Subcommittee and felt this was an opportunity to align practice and improve inter-operability. CAPT Walrath and Col Wood to reach out to signatory counterparts to determine feasibility of this PI effort

i) Consider Crisis Standard of Care CPG or concept inclusion into Mass Casualty CPG

Leads: Walrath and Voller

Status: Col Wood to make request of this concept through formal JTS process

(More data available on the CoERCCC Task Tracker)

1415 CoSCCC Presentations Day #2

4). DHA CC Operating Model and Critical Care / Trauma Clinical Community (CCCC) Overview –(LTC(P)

Wylan Peterson: LTC(P) Peterson discussed the purpose of MHS Clinical Communities: To enable frontline clinicians to drive MHS-wide performance improvements in readiness and health; empower MHS Clinical Communities to create conditions for high reliability at the point of care (processes, standards, metrics); hold ourselves accountable to MHS standards and clinical outcomes.


How Clinical Communities can Change the MHS:

- Drive **improvement from the bottom up** by empowering frontline clinicians to identify opportunities to improve and providing them support to pursue their ideas
- **Leadership from senior clinicians** who endorse and promote identified advancements in care delivery throughout Clinical Communities across the MHS
- Deliver **faster and more streamlined decision making** to MHS Governance bodies, through the Enterprise Solutions Board (ESB)
- **Standardize care delivery where appropriate** across Services and DHA by sharing and disseminating leading practices
- **Streamline the workloads** of existing Working Groups and TSWAGs to achieve greater efficiency toward established goals

LTC(P) Peterson then presented an overview of DHA CCCC:

Critical Care/Trauma Clinical Community (CCCC) Overview

<p style="text-align: center;">1 – Description</p> <ul style="list-style-type: none"> CCCC stood up in MAR 2019; includes voting membership from Tri-Services and market representative (currently NCR). Purpose: To define, prioritize, and implement initiatives that enable readiness by decreasing variation and improving outcomes associated with critical care, emergency services, and trauma treatment and service delivery in the MHS. Voting members represent Services' trauma, emergency medicine, and critical care communities. Other SMEs participate as advisory members. 	<p style="text-align: center;">2 – Recent Actions (Past quarter)</p> <ul style="list-style-type: none"> Standardizing Service and MTF guidelines / standard operating procedures (SOPs) to reduce healthcare-associated infection (HAI) in enterprise ICUs selected as top CCCC priority in AUG 19. Developed and coordinating charter through DHA CC governance (including input from JTS). CCCC endorsing Joint Tele-Critical Care Network (JTCCN) hub site expansion (SEP 19). Scoping several other initiatives, including: Crash Cart standardization; development of an Emergency Medical Services DHA-P; and the Surgical Critical Care Initiative (SCCI) sepsis early detection tool pilot at WRNMMC. 								
<p style="text-align: center;">3 – Performance or Implementation Data</p> <ul style="list-style-type: none"> BAMC CCCC leaders and infection control POCs conducted preliminary analysis of local CLABSI and CAUTI rate trends in ICU (8-year lookback). Examining existing CCCC-related measures on MHS Dashboard (CLABSI, CAUTI) for fidelity and comparability with infection control data at MTF sites (BAMC, WRNMMC). Planning further engagement with JTS re: readiness and Knowledge, Skills, and Abilities (KSAs) for trauma surgeons. 	<p style="text-align: center;">4 – Collaboration with MHS Partners</p> <ul style="list-style-type: none"> CCCC includes membership from Tri-Service clinician community (market and MTF leaders), multiple DHA directorates, and aligned SME working groups. Representation from/partnerships with following communities: <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> EMS community</td> <td><input type="checkbox"/> Joint Trauma System</td> </tr> <tr> <td><input type="checkbox"/> Trauma surgeons</td> <td><input type="checkbox"/> Joint Tele-Critical Care Network</td> </tr> <tr> <td><input type="checkbox"/> Critical care community</td> <td><input type="checkbox"/> MHS GENESIS / Emergency Medicine</td> </tr> <tr> <td><input type="checkbox"/> Infection control (DHA and MTFs)</td> <td></td> </tr> </table> 	<input type="checkbox"/> EMS community	<input type="checkbox"/> Joint Trauma System	<input type="checkbox"/> Trauma surgeons	<input type="checkbox"/> Joint Tele-Critical Care Network	<input type="checkbox"/> Critical care community	<input type="checkbox"/> MHS GENESIS / Emergency Medicine	<input type="checkbox"/> Infection control (DHA and MTFs)	
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<input type="checkbox"/> Infection control (DHA and MTFs)									



MILITARY HEALTH SYSTEM (MHS)

Pre-Decisional Deliberative Matter – For Official Use Only Within DoD

10

5). Joint Trauma Education and Trauma Branch-Update –(COL Jason Seery): COL Seery discussed the top 3 priorities for the JTET-B-

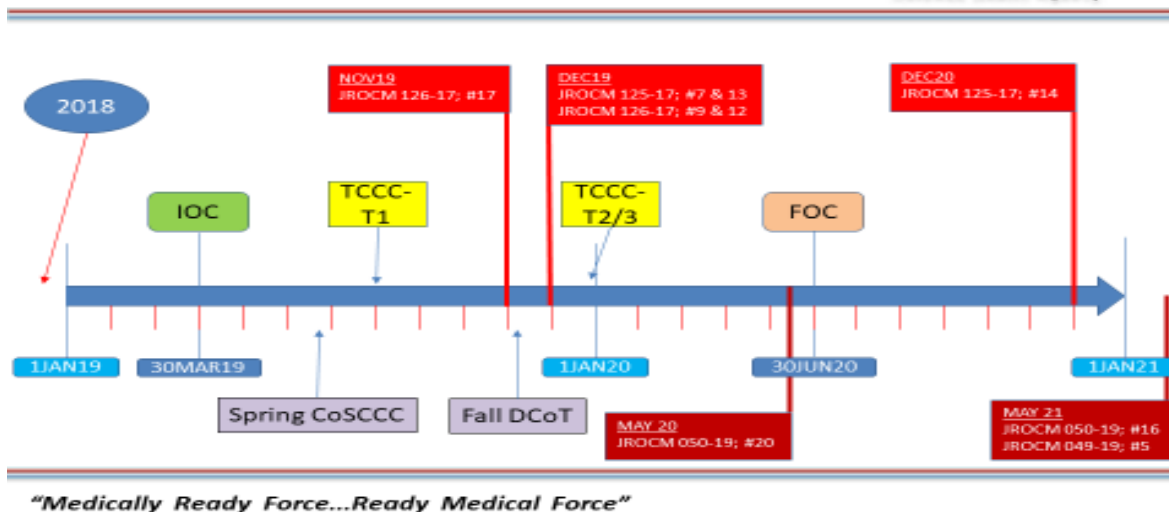
1. Core Trauma Course Standardization
2. Military-Civilian Partnerships
3. Trauma Career Management/Pathway.

SECDEF shall establish a Joint Trauma Education and Training as dictated by Section 708 of the 2017 NDAA. He also highlighted the JTS Organizational Assessment Report:

The mission of the JTET: Improve trauma readiness and outcomes through standardized evidence-driven education and training.

The vision of the JTET: Every Soldier, Sailor, Airman and Marine injured on the battlefield or in any theater of operations will be provided with the optimum chance for survival and maximum potential for functional recovery.

JTET Timeline



"Medically Ready Force...Ready Medical Force"

JTET to ensure 'traumatologists' of the Armed Forces maintain readiness and are able to rapidly deploy for future armed conflict.

6). EMERGENCY WAR SURGERY COURSE (EWSC) UPDATE – (LTC John Graybill): LTC Graybill outlined the current course structure:

- **Didactics**
 - 23 lectures over 1.5 days.
- **ASSET (Cadaver)**
 - 1 day
- **Additional procedures (Cadaver)**
 - Same day as ASSET
 - External fixator placement
 - Craniotomy/Craniectomy
 - Lateral canthotomy
- **Components ATOM (Porcine)**
 - 0.5 – 1 days
- **+/- REBOA teaching on a RATT trainer from Prytime**
 - 0.5 day
 - Not a formal BEST course

- Focus of KSA curricula –desired knowledge base; Promotes Standardization of Military Trauma Education.
- Each class aims to educate 20-25 students.
- ASSET+ and MHSPACS M-Curriculum geared specifically towards General Surgeons and their Subspecialties
- Now a requirement as per the Army ICTL (Individualized Competency Task List)

7). Special Operations Forces Baseline Interoperability Standards (SOFBIS) for SOF Surgical Teams – (COL Jay Baker): COL Baker stated USSOCOM 350-29 Special Operations Forces Baseline Interoperability Standards (SOFBIS) addresses medics only...There is no Requirement for SOF surgical teams.

BOCS is preparing an Information Paper through SOCOM Surgeon for COMSOCOM re: crisis in military surgery due to—

- Poor surgeon readiness 2° to low volumes + low acuity at MTFs + deployments
- Reduced manning in AC and RC
- Salary disparity
- Poor talent management
- SOFBIS defines the minimum capability
- Does not define specific requirements for manning, training or equipping
- Does not describe a doctrinal basis of allocation, i.e. by Service Component nor by TSOC employment
- Does not describe required quantity of SOF surgical teams matched against Current or Future Operations

Ways Forward:

- Information Paper
 - Finish IP with recommendations and submit to COMSOCOM
 - May distribute similar versions to other GCC Commanders
- SOFBIS
 - Work with BOCS, Consultants, SOCOM Surgeon's office and SOCOM J3 + J8 to finalize SOF Surgical Teams SOFBIS
 - Present for approval to Special Operations Command Requirements Evaluation Board (SOCREB)?

8). Closing Remark –(COL Jen Gurney): COL Gurney addressed the definition of “punctuated equilibrium” as it applies to the DCoT...episodes of rapid speciation between long periods of little or no change.

Meeting adjourned at 1724

0700 15 November 2019 Day 3 COSCCC/CoERCCC Combined Meeting

1). Recently Deployed Surgeon Presentation – (CPT Anat Shukla): CPT Shukla just returned a few days ago from a 9 month deployment as a flight surgeon and Role I provider at Forward Operating Base Dahlke, in Logar Afghanistan. He shared some of my perspectives on a MASCAL that occurred on their FOB.

Overview of Trauma at FOB Dahlke:

- 109 indirect fire attacks on the FOB which were the most in the last 5 years
- 3 MASCALs
- 15 Traumas via ground MEDEVAC
- 64 Air MEDEVACs performed with 108 patients

A rocket hitting one of our tents on 10 AUG led to one of our 3 MASCALS. On August 10, 2019 at 1240, a single Taliban rocket, launched at a low angle hit a tent. MASCAL call goes out over the loud speaker. The result would be 34 US casualties.

Distribution of assets:

- Role I Facility (West Dahlke)
 - Flight Surgeon – CPT Anant Shukla
 - Paramedic - SSG Martin Keasal
 - 2 Junior Medics (Aviation)
 - 4 Junior Medics (Infantry)
 - FLA (Mobile Role I capability)
- Role II Facility, FRST (East Dahlke)
 - EM – MAJ Matt Nilan
 - GS – MAJ Quinton Hatch
 - OS – CPT Chase Dukes
 - Ghost – LTC Peter Kreishman
 - 4 Paramedics
 - 18Ds

Keys to Success:

- (Experience) Role I senior medic with multiple previous deployments and MASCAL experience;
- USUHS Bushmaster experience
- Multiple rehearsals with both simulated and real IDF
- Weekly CPG reviews with Role II
- Hands on training and talks with medics
- Integration of a medical component within every battle drill run at Forward Operating Base Dahlke
- Mobile Role I implementation
- Task Force Apocalypse ensured 100% completion of tactical combat casualty care (TCCC) prior to and within 90 days of our deployment
- Provided TCCC training to infantry soldiers and contractors

Challenges and Changes that could have made a difference:

- Equipment
 - FLA (Mobile Role 1): frequent breakdowns
 - Radios: difficulty in communication when at POI
- Travel with SOG to the POI
- Hard Line communication with Role II if casualty was brought to Role

Doing more...

- Pre arrange medications (TXA/Antibiotics/ Pain medications)

2). Adapting Lessons Learned from Foreign Disaster Response for Future Peer-to-Peer Wartime Environments – (HMC Wayne Papalski): HMC Papalski presented on humanitarian relief following hurricane Dorian (CAT 5) in the Bahamas.

The U.S. Navy was tasked to provide humanitarian relief effort via Helicopter Sea Combat (HSC) and Helicopter Mine Countermeasure (HM) Squadrons.

Missions: Eight SAR/TACEVAC mission with 108 survivors treated/recovered and Transported.

- 417 passenger transports
- 29,000 pounds of food and water delivered
- 203,850 pounds of cargo

It was not uncommon for HSC crews flying relief missions to be out for over 16 hours. While average flight times ranged from eight to ten hours, there were logistical, fueling, on-deck, and mission planning times that came into play. And a specific issue of being inadequately manned for the scope of this mission.

Lessons Learned:

-Operations:

- o For the first time in Naval History, an operational rotary wing mission was conducted from a CONUS base to an OCONUS AOR
- o Early operations with the limited communications caused all relief assets to be confused on what was the actual tasking
- o Not having the supplies that HSC commands SHALL have to meet the ALS capability per instructions and doctrine puts all patients/casualties at risk.
- o Early operations with the limited communications caused all relief assets to be confused on what was the actual tasking.
- o Fueling Concerns
 - The single fuel source in the island environment was a crippling factor in all decision making for missions.

-Communications

- o While communications at the home base were up and functioning, every flight had periods of zero communications with command and control in the high tempo airspace. Crews were forced to make on- the-fly mission updates when service became available, putting persons at risk if there was an emergency or urgent tasking.

Potential for similar peer-to-peer type efforts:

“The lessons learned during the Hurricane Dorian relief effort in a non-threat environment, can be adapted to the Indo-Pacific AOR for potential wartime operations. Given the recent hurricane relief effort, it could be argued that crews are not ready to operate remotely in a hostile environment from an island base with limited communications, fuel, command and control, and information on medical/injuries. While there was no direct threat during Hurricane Dorian, not being able to have a Naval Ship near the AOR made remote operations and communications and control aspects even more difficult. Relief crews were constantly left in periods of no communications, which in a threat environment could directly impact mission effectiveness and safety.”

“The most important part of the initial response is being mission ready. Currently, the well documented problem within the HSC community is the Force Health Protection and TACEVAC response not being mission ready. Crippled with no funding, Commands are failing to meet the doctrine of being

Advanced Life Support capable. Not having medical supplies such as appropriate monitors, point of injury consumables, ventilators, and required medications to treat casualties will continue to put lives at risk... now and for the next fight!"

3). VIP Guest Speaker INDOPACOM Surgeon -(RDML Louis Tripoli): RDML Tripoli opened exemplifying the size of INDOPACOM and the responsibilities of the AOR Prime Service Area(PSA) for PACOM identifying 9 Hospitals, 10 major Clinics, and 18 Clinics. **"Zero Avoidable Casualties"**

Evolution of INDOPACOM JTTS:

- 2012 - working group for concept development of JTTS based on CENTCOM model
- 2013 - JTTS Charter signed by PACOM Chief of Staff
- 2014 - Working groups
 - IM/IT
 - Clinical Ops
- 2015 formal execution of JTTS Charter written into PACOM Theater Campaign Order (FY 2016) and tasked to USARPAC for implementation. IOC by OCT 2016
- 2016 TCO : JTTS FOC by OCT 2017
- 2016 DoDI 6040.47 Joint Trauma System establishes COCOM Trauma System
- Monthly Trauma Conferences

Korean Peninsula is not equipped to meet Whole Blood needs in a Large Scale Combat Operation. Armed Services Blood Program (ASBPD) is aware of CCMD priority.

- Insufficient number of prescreened donors for the Emergency WBB Program
- No Blood donor Center
- South Korean Blood Supply has not been assessed for Food and Drug Administration (FDA) equivalency/comparability
- DHA should place high on priority list of countries to be assessed for equivalency

ASBPD (DHA) is diligently working on a procedural instruction that will contain the process for Assessment of Foreign National Blood Supplies for Comparability

Planning ahead:

- Trauma capabilities assessment in December 2018. Planning review in 2020.
- Privileges for US providers (Surgeons) at Ajou University Hospital (Korea)
- Trauma Training – IPC
- Navy Medicine initiatives
- Low Titer O Whole Blood (LTOWB) from CONUS blood centers will arrive on KPEN this month to bridge the platelet gap for trauma related events

RDML Tripoli – We need to understand metrics on how we assess progress. To understand how Trauma Systems are created/maintained and how can I advocate for them??

-DRRS

We need to get the "word" to COCOMS if there is "Too much risk"

RDML Tripoli – I challenge you to join the INDOPACOM community/ assessment. This is the opportunity for DHA to participate in progress to create joint policy.

Current Gap: Capability vs. Casualty estimates

RDML Tripoli – Guam?? TTC?? How do we do this? Help me assess and create the requirements.

4). Influence of Time to Transport to a Higher Level Facility on the Clinical Outcomes of US Combat Casualties with TBI: A Multicenter 7-Year Study – (Lt Col Joseph Maddry/ Col Deb Malone): Lt Col Maddry and Col Malone co-presented.

Traumatic brain injury (TBI) is a leading cause of death and disability worldwide with mortality rates as high as 30%. Patients with TBI are at high risk for secondary injury and need to be transported to definitive care expeditiously. The physiologic effects of aeromedical evacuation are not well understood and may compound risk for secondary injury. US Air Force Critical Care Air Transport Teams (CCATTs) are responsible for the transport of the majority of critical patients out of theater to higher levels of care. The team must prepare and stabilize the patient prior to movement while considering the risks versus potential benefits of transport.

Specific list of covariates in logistic regression model:

- Time to transport (2 days vs. 1 day, 3+days vs. 1 day)
- Additional flights in theater (yes vs. no)
- ISS
- Polytrauma (yes vs. no)
- Head/neck AIS > 3 (yes vs. no)
- Blast injury (yes vs. no)
- Cranial fractures (yes vs. no)
- Intracranial hemorrhage (yes vs. no)
- Bone frags or foreign bodies present (yes vs. no)
- Days at Role IV MTF
- Pre-flight blood (yes vs. no)
- Pre-flight abdominal, extremity, head surgery (yes vs. no)
-

Patients with intracranial hemorrhage, bone frags present more likely to be transported earlier

Later (3+day) transports had lower SpO₂ (but only marginally so), and were more likely to have abdominal or extremity surgery and receive blood products pre-flight

Early (1day) transports more likely to receive vasopressors and paralytics in flight

After adjusting for demographics, additional flights, injury severity, and injury type, Compared to the 1day group:

- Both the 2day and 3day groups were about twice as likely to return to duty/be discharged home
- Both the 2day and 3day groups were about half as likely to be ventilated at discharge
- The 3day group had 70% lower odds of being ventilated at discharge with a GCS of 8 or lower
- The 3day group had 30% lower odds of mortality
-

When looking at changes from pre-flight to in-flight, the No CAR group experienced a significant increase in the proportion of patients who had:

- Low SpO2 (1% to 7%)
- High SBP (2% to 11%)
- Low PaO2 (12% to 19%)

...whereas the CAR group did not experience a significant change.

*note: the PaO2 bars for the CAR group *look* significant, but because of the low count of patients with a CAR (n=81) the difference was not statistically significant (in other words, that 11% to 20% jump was actually only 7 patients)

Limitations:

- Other factors contributing to CCATT patient movement decisions
- Potential for missing data due to lack of documentation
- Survival bias
- Subjectivity despite trained abstractors
- Outcomes only cover period recorded in DoDTR (Role IV or Role V)

Conclusions:

- Most patients with moderate/severe TBI are evacuated from theater within two days of injury
- Most patients survived and continued to receive medical care
- Shorter time to transport associated with fewer hospital/ICU days
- Longer time to transport associated with
 - Increased odds of discharged to home
 - Decreased odds of mortality
 - Decreased odd of poor discharge disposition

5). DHA-PI 6040.03, Joint Trauma Lexicon and Joint Publication 4-02, Health Service Support – (Mr. Ed Whitt): Mr. Whitt explains the importance of DoD Directive 5136.13, DHA to Standardization of a healthcare delivery system supports the Military Health System’s goals of improved readiness, better health, better care, and lower cost.

Trauma Lexicon Authorities and Responsibilities:

- Director DHA:
 - Exercises oversight and provides direction on the DHA-PI
 - Oversees implementation of the DHA-PI
 - Coordinates with SGs of MILDEPS on Trauma Lexicon issues
- Surgeon Generals of the MILDEPs:
 - ID primary AO to serve as focal point for Joint Trauma lexicon
 - Implement effective trauma lexicon support
 - Recommend terms through DCoTs
 - Review and update current Service regulations and training plans to reflect trauma terms and definitions

Next Steps

- DCoTs follow the process outlined in the Joint Trauma Lexicon DHA-PI
- DCoTs make trauma lexicon at least an annual topic of discussion
- DCoTs (Tactical, EnRoute, and Surgical) conduct a focused review of the JP 4-02

- DCoTs provide recommendations via a DD 818 Comment Resolution Matrix (CRM)
- JTS coordinate with OJSS and USTRANSCOM to revise JP 4-02

6). Large Scale Combat Operations from the Research Perspective – (Dr. Therese West): Dr. West explains the function of CCCRP as a requirement-driven, medical research & development program. “Long Term Scientific and Technological Solutions for Combat Casualty Care”

Current Research Initiatives:

- **Field device to determine anatomic location of hemorrhage**
- **Device to non-invasively measure cerebral perfusion/ detect EDH, SDH, ICH**
- **Automated cranial decompression**
- Non-neuro-invasive neuro-assessment devices to determine RTD decisions in the battlefield
- Non-opioid analgesia solutions with limited side effects
- Optimal analgesia solutions for TBI patients
- **Rapid pain management solutions that do not compromise cognition or affect hemodynamics**
- Automated anesthetic capabilities that can be implemented at Role 1/PFC
- Tool to enable regional nerve blocks at Role 1 with limited training
- **New long-lasting (>2 hr.) analgesics for prolonged care**
- High fidelity cricothyrotomy/airway model
- **Tactical cricothyrotomy kit with functional field suction**
- Tactical medical light
- High fidelity hearing protection
- Improved hemostatic pressure bandages
- **Hemorrhage control drugs**
- Ligation/surgical repair capabilities at POI
- AI/Decision support tools for effective tourniquet conversion
- **Advanced external skeletal fixation/ exoskeleton**
- **Diagnostics and therapeutics for compartment syndrome**
- Field amputation
- **Autonomous critical care support systems for unmanned evacuation platforms**
- Gas mask with airway access for trauma care
- MOPP-4 with fluid resuscitation capability

Projects should consider the varied expertise levels of the medical providers and the possible diverse environmental conditions.

A focus is on enhancing capabilities at the point of greatest need, including life-saving interventions to be rendered immediately post-injury, during periods of prolonged care in theater, and during transport/en route care within and from theater.

Medical materiel solutions are encouraged to include characteristics relevant to military use in austere, combat environments.

7). Putting it all in Perspective –(Col Stacy Shackelford): The JTS Chief closed the conference with a summation of the JTS mission and due outs moving forward. She recognized DMRTI as an official branch included under the JTS.

-IAW DoDI 6040.47, CCDRs: Plan for and develop an integrated CTS: The CTS is a regional trauma system that can be scaled to contingency requirements identified by the CCMD. The CTS may maintain operations between contingency operations to sustain capability for rapid expansion and adaptation based on the CCMD's requirements. The CTS operates with the developmental guidance, operational support, and clinical oversight of the JTS in the JTS's capacity as DCoE for trauma care and trauma systems.

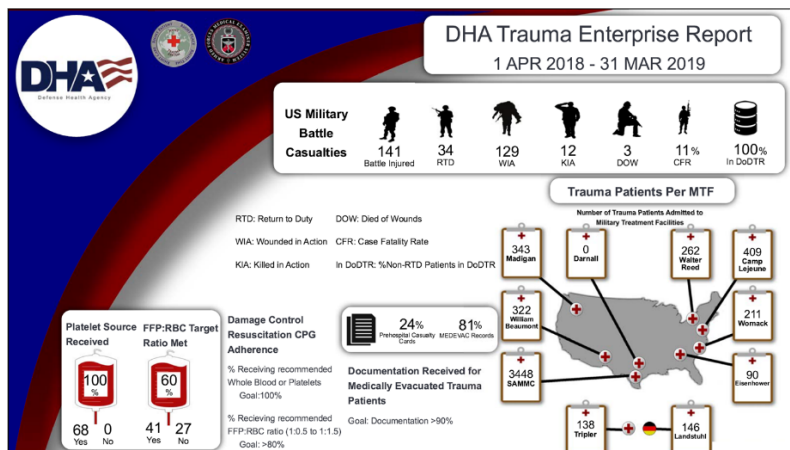
DoDI 6040.47 Purpose statement: Establishes an integrated Combatant Command (CCMD) Trauma System (CTS) modeled after the Joint Theater Trauma System (JTTS), and a requirement to input data into the DoDTR to support unique CCMD mission requirements.

SOCOM differences:

- Not geographic—overlap with geographic CCMDs in each AOR
- Documentation and AARs may be done on classified networks
- Majority of casualties currently are from SOCOM
- SOCOM medical assets are separate from TF MED--it is challenging for SOCOM medical assets to integrate into the PI system that is led by the trauma medical director of TF MED since there is no command relationship.
- SOCOM surgical teams report to SOJTF SG (non-surgeon) lack of clinical oversight
- Logistics—bypass acquisition processes

Col Shackelford highlighted and reminded us of just some of the “recent” accomplishments in Military Medicine. “We are making a difference.”

- CS WB: cold-stored whole blood
- FWB: fresh whole blood
- ROLO: Type O lo-titer
- TQ: tourniquet
- TXA: tranexamic acid
- PFC: prolonged field care
- REBOA: resuscitative endovascular balloon occlusion of the aorta
- FAST: focused abdominal ultrasound for trauma
- ECMO: extracorporeal membrane oxygenation
- CRRT: continuous renal replacement therapy
- ERC: EnRoute care



CCMD SG staff + JTS 107 SME responses, 1 Mar 2019 (Stars identify a request for standardization from the CCMD SG staff and operational SMEs from the Defense Committee on Trauma)

UNCLASSIFIED

**CCMD SG staff + JTS
107 SME responses, 1 Mar 2019**



Top 10 CURRENT Battlefield Issues	
1. Improve capability and capacity for Whole Blood transfusion throughout the continuum. Consider JCIDS	★
2. Improve ways to sustain trauma skills. MRSS JROCM	
3. Recruit and retain medical personnel to support operations. NDAA17 708d	
4. Facilitate documentation and data collection. DTE JROCM	
5. Standardize trauma care training across the Services. ★	
6. Facilitate interoperability and standardization of devices for patient movement items (monitors and materiel products) throughout the continuum. ★	★
7. Standardize joint evacuation platforms and communication plans. ★	★
8. Optimal number, mix, and training of personnel for variety of missions/scenarios. ★	★
9. Improve capability and capacity for FDP transfusion throughout the continuum. ASBP, MEDLOG	
10. Relationship between time to definitive care and outcomes - validating and clarifying the "golden hour" concept. JTS Analysis, Planning	

Integrated Standardization

BLUF: *The JTS assessed (how?) that the three most critical capabilities necessary for interoperability of trauma care across the Joint Force are:*

- (1) *Joint POI Care*
- (2) *Joint Role 2 Capabilities*
- (3) *Joint Intra-theater patient movement*

Col Shackelford referenced a study performed on Time to Surgical Care:

-This Kaplan Meier survival curve followed all 5,269 US military casualties for the 1st 24 hours from the time of injury. 72% of the total deaths within 24 hours occurred within the 1st hour, and 95% occurred within 4 hours after injury.

-Patients whose hospital care began within 1 hour of injury had a 60% reduction in mortality relative to patients with longer evacuation delays.

- For evacuation delays only 1-30 minutes longer, mortality was not significantly reduced.

Casualties with the most severe injuries had already died within the first hour

Col Shackelford introduced the group to the DoDTR Dashboard: The dashboard has the potential capability to allow near real-time visualization of DoDTR Data. The implementation of this to the committee members is not yet determined.

Col Shackelford displayed the future staffing and JTS/CTS composition moving forward to include AD, GS, SEA, PI Director and a Trauma Care Operations Director.

Col Shackelford BLUF Committee action items:

- Surgical Skills:
 - Mil/Civ-MTF Care
 - Standardization of Curriculum
 - Career Field Management
- Disseminate JROCM List
- DRRS-Our way to report to the DoD Line (Tom Rich has for action)
- Joint Medical Estimate
 - Unified Tri-service language
 - Clear verbiage about where risk lies
 - 21 domains (Gaps) Ex. TCCC Training
- Write guideline for Surgical Team
 - Risk mitigation (Golden Hour)
 - Clarify the “ask (Cord/Jay Baker)
 - Create risk matrix
- Integrate standardization
 - Align equip and train (POI/ERC/Role 2/3)
- Establish trauma assessment/ interact with 2CRO exercise
 - Trauma capability = assessment
- Long Range evac- Poll SME opinion pair with literature review and creation of decision matrix

The conference closed with a brief summation of the Due outs/ Action Items from each of the sub-committee Chairs for both Surgical and EnRoute Care.

Sub-Committee Action Items

Austere

- Austere Anesthesia CPG
- ERST training POI with intent to standardize and offer training for other austere surgery teams

CPG

New Projects

- Prehospital En Route Care Protocols
- Converge Tri-Service protocols
- Behavioral Health CPG
- Align parallel efforts

CPGs in process

- Prehospital Blood Transfusion
- Ventilation Management

- Patient Packaging

CPG Updates

- Inter-facility Transfer

Research

- Publish CoERCCC Research Priority Manuscript (Cap/Hatzfeld)
 - 1 Dec: Final WG revisions
 - 31 Dec: Submit for JTS & PAO approval
 - 1 Feb: Submit to journal(s)

Pursue additional ERC Research Funding

- Submit to JPC-6 POM plan (Gardner)
- Submit priorities to DHA (Maddry)
- Follow-up on NIH NIBIB 'Frontiers in Medical Devices' Event held March 2019/connect with CoERCCC (Rodriquez)

- Austere Surgical Teams Study

Review sample records and create data collection form

Operational

- R2 Readiness Report
- Position Paper: Optimal utilization of combatant command trauma surgeon
- Joint solution for surgical teams (terminology, capabilities, and equipment/SKOs)
- Define: "what is an OPERATION?"

**1430 Meeting Adjourned – Projected dates for Next Meeting CoERCCC 18-19th May 2020/
CoSCCC 20-21st May 2020.**

Jennifer Gurney, MD FACS
COL, MC, USA
Chair, Defense Committees on Trauma

Enclosure (1) – Meeting Attendance

JTS Staff:

Col Stack Shackelford JTS Chief

Dr. Mary Ann Spott JTS Deputy Director

Mr. Dallas Burelison JTS Chief Administrator

COL Jennifer Gurney DCoT Chief

Mr. Dominick Sestito (SCCC)

COL Cord Cunningham (ERC)

Dr. Russ Kotwal (Spec Projects)

Mr. Tom Rich (ERC)

Ms. Liz Mann-Salinas (PI)

Dr. Jud Janak (Epi)

Matt Adams (Ed&Tr)

Larry Crozier (PI)

Kim Smith (PI)

Laura Runyan (PI)

Paul Garcia (ED&Tr)

Ed Whitt (Pubs)

Trevor Gipper (Media)

Sean Keenan (PFC)

Harold Montgomery (CoTCCC)

Domenique Greydanus (QAAC)

Larry Crozier (PI)

LtCol Edward Mazuchowski (AFMES)

Chet Kharod (Spec Projects)

Lisa McFarlan (PI)

Bruce Tarpey (MEDEVAC)

VIP Guest Speakers:

GEN Paul Funk (VTC)

LTG Ron Place

LTG Raymond Dingle

BG Wendy Harter

BG Paul Friedrichs

RDML Louis Tripoli

CoSCCC Voting Members:

COL Jay Baker

LTC Tyson Becker

CAPT Randy Bell (Dial In)

CAPT Virginia Blackman

COL Andre Cap

COL Jason Corley

COL (R) Brian Eastridge

CAPT Ted Edson

CAPT Eric Elster

Col Mark Ervin

LTC Colin Frament

COL Tamara Funari

COL Kirby Gross

Maj Andrew Hall

LCDR Jonathan Hamrick

SMSgt Melissa Johnson

CDR Michael Kearns

Maj Justin Manley

MAJ Alexander Merkle

CAPT (R) Margaret Moore

SMSgt Jose Arias-Patino

CDR Travis Polk

Col Jay Sampson

LTC Jason Seery

LTC Eric Verwiebe

Col Evelyn Yao

Surgical Subject Matter Experts:

Dr. Don Marion

Dr. John Holcomb

Dr. Paul Cordts

Dr. Don Jenkins

Dr. Peggy Knudson

Dr. Leopoldo Cancio

Dr Matt Martin

Additional Guests (Surgical):

SGT Matthew Gorgias

LT Col Cubby Gardner

COL (R) Vik Bebart

Lt Col Chris Cieurzo

CPT Ryan Sinteff

Steven Adamson

COL Patrick Osborn

Paul Allen

Amber Malloy

Michael Charlton

LTC (R) Richard Caldwell

Richard Slusher

LTC Chris Graybill

COL (R) Sandra Wanek

LTC Shaun Brown

LTC Chris Van Fosson
SSG Ricky Ditzel
SFC Kyle Specht
Russell Moore
Therese West
LTC Wylan Peterson
Anat Shukla
Col Debra Malone
CDR Shane Jensen
MAJ Cary Carter
MAJ Brian Smedick
COL Bonnie Hartstein
SFC Andrew Procter
COL Douglas Soderdahl
Lt Col Valerie Sams
LT Col James Webb
COL Matt Griffith
MAJ Tiffany Bilderback
Sylvain Cardin
CDR Jacob Glaser
LTC Matt Douglas
Tammy Crowder
MAJ Lecreshia Shields
LTC Katherine Markell

CoERCCC Voting Members:

CDR Jeff Alton
Col John Andrus
Lt Col Daniel Brown
SFC Joseph Buatti
Maj Lindsey Cantrell
HMC Michael Chernenko
MSG Branden Coughlin

1LT Jamie Eastman
Col Mark Ervin
LT Dana Fliegler
TSgt Jerediah Fontanos
COL Tamar Funari
Lt Col Alan Guhlke
LCDR Erik Hardy
1SG Matthew Harmon
Col Jennifer Hatzfeld
SFC Joseph Hernandez
George Hildebrandt
MAJ John Houk
MAJ Donald Keen
SCPO John Leasiolagi
Lt Col Joseph Maddry
MAJ Kevin Mayberry
SMSgt Oladayo Oladokun
HMC Wayne Papalski
CAPT Justice Parrott
Dario Rodriguez
HMC Richmond Roy
LT Col Shane Runyon
Col Richard Strilka
MSG Jared Voller
CAPT Ben Walrath
Col Leslie Wood

Additional Guests (EnRoute):

LTC Kathleen Samsey
SFC Hunter Black
COL Ramey Wilson
Col Michael Wirt
LTC Gustavo Moreno