

Teleconsultation in Prolonged Field Care Position Paper

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Introduction

Teleconsultation is one of the 10 core prolonged field care (PFC) capabilities.¹ Teleconsultation is commonly used across all fields of medicine to improve patient care. The variability of medical support across the spectrum of Special Operations Force (SOF) mandates the need for teleconsultation during PFC. SOF Medics and providers must have a plan to obtain expert medical consultation when caring for complex patients. Training is required for both local caregiver and consultant/expert to optimize effective teleconsultation.² Additionally, teleconsultation must be flexible and adaptable to the operational contexts of ruck, truck, house, plane.³ It is important to note: teleconsultation DOES NOT replace standard unit or operational reporting requirements for medical incidents and requests for evacuation.

This PFC teleconsultation position paper addresses the following topics using the **minimum, better, best** progression where applicable: *definitions, planning, training, technology, security, and advice to industry.*

Definitions

- **Asynchronous communication** – one-way (unidirectional, time delayed) communication. For example, a text or an e-mail message.
- **Synchronous communication** – two-way (bi-directional, real-time) communication. For example, a phone call or VideoTeleConference (VTC).
- **Extended consultation** – this concept reflects clinical engagement more than communication modality. This refers to a consultant/expert who remains engaged with the care of a local patient or local patients over time by monitoring physiologic vital signs, audio channel(s), video feed(s), or combinations of these technologies.
- **Local Caregiver** – The person (not necessarily someone with medical training) who is taking care of a patient and who initiates teleconsultation.
- **Consultant/Expert** – The clinician who receives the consult from the local caregiver. This may be a designated consultant in a formal system, or a validated and/or trusted expert provider chosen by the local caregiver.

Planning

Providers should develop a teleconsultation PACE (Primary, Alternate, Contingency, Emergency) plan before deploying. The PACE plan should address both WHO to call and HOW to communicate with them. The plan must remain flexible so that units can tailor it to the available local, theater, and strategic medical assets, and utilize organic commercial and tactical communications equipment.

Consultant/experts of a teleconsultation PACE plan may include, but are not limited to: surveyed and approved local hospitals, unit medical providers, Theater Special Operations Command (TSOC) medical providers, U.S. and coalition surgical and critical care evacuation team assets, and specialty consultants.

Organic commercial and tactical communications equipment are covered in the technology section.

Units should test and train both technology options and consultant/experts included in their PACE plan before deploying and should conduct communications checks with all elements of the PACE plan once deployed.

Training

Local caregivers and consultant/experts must be trained to provide optimal care using various telemedicine technologies: phone, VTC, remote ultrasound guidance, etc. This should consist of classroom training and practical exercises:

- Classroom training should incorporate a prepared teleconsultation script. Utilizing a script has proved to be a highly efficient way to effectively communicate complex casualties to expert consultants. A field-tested example of a teleconsultation script is available at <https://prolongedfieldcare.org>.
- Practical exercises should utilize the consultants/experts identified on the PACE plan and work with supporting documentation (e.g., flowsheets, scripts, capabilities worksheets) in the field as they apply to their patient(s).

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- Utilize the “PREP” mnemonic to optimize teleconsultation:
 - PREPARE: Optimal teleconsultation occurs when caregivers are prepared. Develop a PACE plan to utilize and refine during training events. Document patient care using flow sheets and call scripts familiar to both the local caregiver and consultants.
 - RECOGNIZE: Caregivers should be trained to make the call when they have a clinical question concerning a serious or critical patient beyond their training. Optimal treatment requires caregivers to recognize their limitations *early on* and call *before* treatable conditions become problematic.
 - EXECUTE: Send available patient information (images, flow sheets, call scripts) by email or text approximately 10 to 15 minutes ahead of the call when possible. Make the call using a script.
 - PERFORM: Understand the capabilities and limitations of the technology available. Perform training calls to the consultant(s) on the PACE plan developed for the mission, using communications equipment identical or similar to what will be used when deployed. Intentionally train with full and degraded communications. Perform after-action report (AAR) on these training calls to identify and fix any problems encountered in training.

Training scenarios should involve varying levels of patient complexity utilizing basic critical care methodology (sick/not sick and stable/unstable). Incorporating critically injured and complex patients into exercises before deploying has the highest operational payoff. Engaging the consultants during these exercises tests and validates resources, increases medical capabilities and confidence while building trust between all elements in the PACE plan. Time to prepare and conduct this training is limited and can be scaled using the following progression:

Minimum: Local caregiver prepares the MIST (Mechanism of injury, Injuries/Illness, Signs/Symptoms, and Treatments rendered and/or needed) and the teleconsultation script.

Better: Local caregiver trends the patient’s vital signs, examination, and interventions on a flowchart that can be sent to the consultant/expert and prepares a teleconsultation script complete with their capabilities and equipment available.

Best: Local caregiver and consultant/expert have a pre-existing teleconsultation training relationship and have an established protocol for scripted information exchange.

Technology

Technology is a tool used for teleconsultation. Use the best technology available that optimizes the consultation; however, do not waste precious time or resources establishing a VTC if lesser or more available technology is sufficient. For most routine cases, asynchronous consultation (e.g. e-mail) is often sufficient. For urgent and emergent cases, voice communications plus/minus images sent via e-mail or text is recommended. Videoteleconsultation is likely needed for procedural telementoring and, if needed, interactions between the consultant/expert and the patient (i.e., “direct-to-patient” virtual care). Teleconsultation is widely accessible and used daily in all environments without specialized communications equipment.² Use technology that is already available and used by SOF Medics: cell, radio, satellite phone or computer via voice, text, smartphone/tablet app, photo or video media. Encryption may

enhance security or protect patient information but is not a requirement at this time.

Minimum: Voice telephone connection with/without asynchronous media.

Better: Voice connection WITH concurrent email or photo exchange (i.e., send a photo of the call script, vital signs flowchart, the casualty/care environment, and available kit) closely followed by a phone call.

Best: Synchronous, real-time audio/video feeds with/without remote diagnostic equipment using the teleconsultation script as a guide.

Security

DO NOT DELAY teleconsultation due to an unsecure connection unless operational situations dictate otherwise. Traditional teleconsultation is UNCLASSIFIED and the local caregiver should maintain normal rules of operational security when utilizing unclassified networks. Consultants in standard medical systems typically DO NOT have means of secure communications. Maintaining patient privacy should be a priority, and many simple or available tools for communication meet patient privacy requirements. When sending patient information or images by open communication methods, patient identification should be limited to gender and age. Location can be generic addressing temperature (hot/warm/cold), surroundings (urban/rural), or environments (desert/tropical). Location to the level of continent or region can be useful for the consultant/expert to better identify diseases specific to certain areas (e.g., hemorrhagic fevers, malaria, etc.). Photographs should not include the face or identifiable scars or tattoos unless unavoidable due to location of injury. A full description for optimizing e-mail messages/consults is available at <https://prolongedfieldcare.org>.

Advice to Industry

Every effort should be made to incorporate existing technology. For example, new solutions should take advantage of cellphone-, tablet-, or computer-based technologies. This will reduce the need to purchase new or unique equipment. Power and weight limitations must be understood. New technology should be intuitive and scalable using the guidelines above. Data and information produced by any program or device should be exportable in existing and common formats available to all (e.g., PDF, MS Office, .CSV, etc.).

Disclaimer

The views expressed are those of the author(s) and do not reflect the official policy or position of the U.S. Army Medical Department, Department of the Army, Department of Defense, or the U.S. Government.

Disclosures

The authors have nothing to disclose.

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KEYWORDS: teleconsultation; prolonged field care

VIRTUAL CRITICAL CARE CONSULTATION (VC3) GUIDE – 8 July 2017 (v3)

To be used with Prolonged Field Care Card

1. Before calling, E-mail image of the casualty (wounds, environment, etc.), "capabilities" (back of page), & vital signs trends to your "Expert/Consultant"
2. If call not answered: a) call next number on PACE or call back in 5 – 10 min.
3. If unable to provide information due to operational security, state so.

P: (List the best phone numbers to call your Expert/Consultant)

A:

C:

E:

This is _____ I am a (job/ position) _____

My best contact info is: _____

YOUR best contact info is (Consultant's number): _____ Alternate e-mail: _____

*** PAUSE POINT to CONFIRM CONTACT INFO ***

I have a _____ year-old _____ (sex) _____ (active duty/foreign national/OGA,etc.), who has the following:

Mechanism of Injury or known diagnosis(es)

The injury/start of care occurred _____ hours ago. Anticipated evacuation time is (hours from now):

Injuries/Problems/Symptoms:

Treatments:

He/she is currently (circle) stable/ unstable, getting better/ getting worse/ getting worse rapidly

Known Medication Allergies/Past medical/Surgical history is:

I need help with (be specific if possible, i.e. "I need help reading this ECG," or "I need help stabilizing this patient," etc.)

Other Consultants have recommended:

*** PAUSE POINT for Remote Consultant to ask clarification questions ***

VITALS (current & trend as of _____): HR BP RR SpO2 EtCO2 Temp

UOP(ml/hr) over _____ (# hours) Mental Status (GCS/ AVPU)

EXAM: Neuro Ext/ MSK

Heart Pulses

Lungs Skin/ Wounds

Abd

LABS: ABG: Lactate: Other:

*** PAUSE POINT for Remote Consultant to ask clarification questions ***

Plans/Recommendations		
PRIORITY	SYSTEM/PROBLEM	RECOMMENDATION
	Neuro or problem #1	
	CV or problem #2	
	Pulm or problem #3	
	GI or problem #4	
	Renal or problem #5	
	Endocrine or problem #6	
	MSK/ Wound or problem #7	
	Tubes, lines, drains or problem #8	
	Prophylaxis/prevention or prob#9	
	Other	

TO-DO/ FOLLOW-UP/TO-STOP	NOTES
1.	
2.	
3.	
4.	
5.	
6.	

*** **PAUSE POINT, for Medic/Local Caregiver to ask clarification questions/READBACK*****

Available "kit" (supplies, equipment, medications) !! IF POSSIBLE PHOTOGRAPH AND SEND VIA EMAIL BEFORE CALLING !!

Commo:	Tempus i2i ID: _____ SAT#/Local Cell# _____						
	Other (FaceTime, VSee, Skype, WhatsApp ,etc.): _____						
IV access:	IV	Central line	IO (location)	Other: _____			
Monitor:	Propaq	Tempus	Foley	Graduated urinal	PulseOx only	Exam Only	
	Other: _____						
IV Fluids:	Plasma-Lyte	LR	Normal Saline	3% saline	Other: _____		
Colloids:	Hetastarch	Albumin	Other: _____				
Blood products:	Whole blood	PRBC	Plasma	FDP	Platelets	Other: _____	
Medications:	Antibiotics: name/route/dose _____						
	Morphine IV/ PO		Other opioid (name/ IV/ PO): _____				
	Fentanyl IV/ PO (pop)		Ketamine				
	Midazolam		Diazepam (IV/ PO)				
	TXA		Other(s): _____				
Airway/Breathing:	ETT	Cric kit	LMA	BVM	O2	Suction (type): _____ Ventilator(model): _____	
Miscellaneous:							



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