All articles published in the Journal of Special Operations Medicine are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published without the prior written permission of Breakaway Media, LLC. Contact Editor@JSOMonline.org.

Documentation in Prolonged Field Care

Paul Loos, 18D¹*; Erik Glassman, MS, NRP²; Dan Doerr, 18D (Ret)³; Roger Dail, 18D⁴; Jeremy Pamplin, MD⁵, Douglas Powell, MD⁶; Jamie Riesberg, MD; Sean Keenan, MD⁸; Stacy Shackelford, MD⁹

This Role 1, prolonged field care (PFC) Clinical Practice Guideline (CPG) is intended to be used *after* Tactical Combat Casualty Care (TCCC) guidelines when evacuation to higher level of care is not immediately possible. A provider of PFC must first and foremost be an expert in TCCC. This CPG is meant to provide medical professionals who treat severely injured or sick patients in austere environments with recommendations for documentation that will allow them and subsequent providers along the evacuation chain to optimally manage complex, often unstable casualties. Recommendations follow a "minimum," "better," "best" format that provides alternate methods when optimal hospital options are unavailable.

Background

PFC frequently involves the care of complicated, critically injured or sick casualties who are normally managed in medical treatment facilities. For patients that survive the initial trauma or sickness, the biggest risk of death is from circulatory shock and its complications. All severely injured and sick patients must be closely monitored for signs of shock and decompensation because the best treatment for shock is early recognition, treatment of the cause, and resuscitation. One method used by intensive care units to monitor critical patients is *trending vital signs, physical exams*, and *fluid outputs* recorded on a flowsheet that facilitates recognition of changes that could mark the early signs of decompensation.

In the PFC environment, one of the few techniques available to the medical provider that is identical to those used in hospitals is documentation of key clinical trends. It is critical that Medics are trained on the interpretation of clinical trends. It is also essential that Medics cross-train nonmedical teammates to take and record vital signs, outputs, key exam findings, and interventions to free the medic to do other tasks as well as to sleep if care of the casualty is especially prolonged.

Documentation that can help the medic and successive caregivers manage complicated patients includes:

- TCCC Card, DD1380
- PFC flowsheet
- Telemedicine guide
- Handoff report

Finally, completion of the PFC after-action report (AAR) will contribute greatly to performance improvement to develop training, tools, and techniques for improving the care of casualties in austere environments.

Patient Demographics

While some casualties will be unable to provide name, identification number, date of birth (DOB), or other identifying information, every effort should be made to collect and document this information in order to facilitate the inclusion of prehospital documentation into the patient's medical record. This information not only helps the longitudinal care of casualties as they progress through the evacuation chain, it also provides the vital link to connect prehospital treatments delivered to survival and long-term outcomes in order to guide recommendations for improving trauma care.

Note: Medical treatment facilities use pseudonames assigned when a patient's real name is unknown. In such cases, every effort should be made to continue the same pseudoname through transfers of care. Prehospital documentation submitted after patient transfer, to include AARs, should use the same name or pseudoname assigned at the first treating MTF.

Documentation of Prehospital Care

- ➤ Goals: transmit important medical information to the next level of care, permanently record information vital to service members injured in combat, and contribute to performance improvement in prehospital care.
 - Minimum: TCCC Card DD1380
 - The DD1380 is organized as a MIST (Mechanism, Injuries, Signs and Symptoms, Treatments) report (Appendix A).

SFC Loos, 18D, USA, is noncommissioned officer in charge of Special Forces Medical Sergeant Surgery, Anesthesia, Records and Reports at the Joint Special Operations Medical Training Center, Special Warfare Medical Group at Fort Bragg, NC. ²Glassman, MS, NRP, is a medic and instructor with the Diplomatic Security Service Training Directorate's Operational Medicine Unit. ³SFC (Ret) Doerr is the medical instructor supervisor for the Special Operations Combat Medic Trauma III course, Fort Bragg, NC. ⁴SSG Dail, 18D, USA, is the senior 18D at 4th Battalion 3rd Special Forces Group (Airborne) and plans and implements numerous PFC training events. ⁵LTC Pamplin, MC, USA, is the director of virtual critical care and virtual health at Madigan Army Medical Center, Joint Base Lewis-McChord, WA. ⁶MAJ Powell, MC, USA, is an intensive care physician currently serving as the 4th Battalion 3rd Special Forces Group (Airborne) Surgeon and a staff intensivist at Womack Army Medical Center, Fort Bragg, NC. ⁷LTC Riesberg, MC, USA, is the 10th Special Forces Group (Airborne) Surgeon and is the coordinator for the Special Operations Medical Association Prolonged Field Care Working Group. ⁸COL Keenan, MC, USA, is Command Surgeon, Special Operations Command, Europe. He has previously served as Battalion Surgeon in both 1st and 3rd SFG (Airborne), and as Group Surgeon, 10th SFG (Airborne). He is a member of the Special Operations Medical Association Prolonged Field Care Working Group Steering Committee. ⁹Col Shackelford, MC, USAF, is chief of performance improvement, Joint Trauma System, San Antonio, TX.

^{*}Correspondence to paul.loos@socom.mil

All articles published in the Journal of Special Operations Medicine are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published without the prior written permission of Breakaway Media, LLC. Contact Editor@JSOMonline.org.
s received and include time of O The unclassified medical AAR should be accom-

- o Note the time casualty is received and include time of injury (if known and different from when received) and time of all key interventions (e.g., tourniquet, blood transfusion, tranexamic acid [TXA] dosing).
- List injuries and annotate on the diagram. Tourniquets and tourniquet times are also annotated on the diagram.
- O Vital signs, including mental status AVPU (alert or responsive to voice, pain, or unresponsive) and pain scale, should be recorded to the greatest extent possible—up to four sets of vital signs can be recorded on the TCCC card.
- o Document treatments to include external hemorrhage control, airway, breathing, fluids, medications, and other interventions on the reverse side of the TCCC card.

■ Better: PFC Flowsheet

As a follow-on to the TCCC card, the PFC flowsheet is used to document trends over time and is the most useful tool to recognize important clinical changes in complex casualties such as decompensation, response to resuscitation, development of complications, effectiveness of medications, etc. The PFC flowsheet is one of the most effective ways to improve the level of care provided in PFC situations.

- o When prehospital care transitions to PFC, documentation should transition from the TCCC card to the PFC flowsheet. There is no exact time for this transition to occur; however, once all of the available time blocks on the TCCC card are filled and evacuation to higher level of care is not imminent, then documentation can transition to the PFC flowsheet (Appendix B).
- The PFC flowsheet not only serves to document care and identify trends but also contains a checklist of interventions that may be needed through the included patient care and nursing care checklists. Such checklists can greatly aid task-saturated, fatigued Medics by providing a quick point of reference for important tasks that should be performed regularly to improve care and reduce the risk of complications to their patients.
- o The PFC flowsheet also includes:
 - Vital signs
 - Fluid input and output
 - Medication times, route, dose
 - Physical exam findings
 - Problem list
 - Treatment plan
 - Telemedicine call script

■ Best: AAR

- o An AAR should be completed after patient handoff.
- o In addition to the TCCC card and PFC flowsheet, a structured AAR is used to collect lessons learned and improve care. In cases where documentation is not able to be completed before patient handoff or was lost after handoff, the AAR can also serve as a supplement to the medical record.
- o TCCC and PFC AARs are available online (Appendix D).
- o TCCC or PFC AARs, along with any medical documentation not completed before patient handoff, should be completed within 24 hours of patient handoff and summited to the Joint Trauma System (JTS) prehospital organizational email box: usarmy. jbsa.medcom-aisr.list.jts-prehospital@mail.mil.

plished in addition to unit-required classified AARs.

Telemedicine Guide

➤ Goal: Facilitate communication between prehospital provider and telemedicine consultant.

Rehearsal of telemedicine consultation between prehospital providers and remote physician consultants has shown that communication is optimized when the caller completes a telemedicine guide or script before calling the consultant and uses it during the consultation. In addition to transmitting medical information to the consultant, it is important for the caller to provide information about the care context and a summary of capabilities currently available. An image of the casualty and an image of the care environment are helpful for remote consultants to understand the operational constraints faced by the local caregiver. Capabilities that are important to convey to remote consultants may include the training level of the provider, available medications, medical supplies, monitoring, ultrasound, etc. Reading or sending a photograph of a written capabilities list will more quickly orient the consultant to the operational environment of the caller and reduce time spent asking the caller for items that are not available. If urgent teleconsultation is needed, do not delay calling to fill out a guide sheet or send e-mails. For additional details, see Teleconsultation in prolonged field care position paper.1

- Minimum: read from TCCC card.
- Better: use telemedicine report incorporated in the PFC
- Best: use the Virtual Critical Care Consultation guide (Appendix C) and send a picture of casualty, capabilities, and vital sign trends to the consultant via email or text using appropriate operational security and protections of patient privacy.

Handoff Report

➤ Goal: Ensure safe transition to the next level of care. Adverse events may occur due to poor handover of a patient from one level of care to another. The PFC provider's job is not done until the receiving team understands the patient's condition and can begin to manage the patient appropriately.

Summarize in organized format:

- Overall condition of the patient: stable or unstable; better, same, or worse.
- Mechanism of injury or illness
- Injury(ies), current physical exam
- Vital signs to include trends and urine output
- Treatments (procedures, dressings, airway management, fluids, blood products, medications)
 - Minimum: written handoff report that follows the MIST format (e.g., TCCC Card).
 - Better: add the PFC flowsheet.
 - Best: add a dedicated handoff sheet (e.g., SBAR handoff report,² PFC handoff report³).

Electronic Documentation

Electronic documentation is the standard in hospitals and advanced field medical facilities. Devices such as the Tempus

All articles published in the Journal of Special Operations Medicine are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published without the prior written permission of Breakaway Media, LLC. Contact Editor@JSOMonline.org. Pro (Remote Diagnostic Technologies LTD, United Kingdom) Author Contributions

and BATDOK (USAF, 711 Human Performance Wing, OH) are devices designed for the operational environment that can compile detailed patient records that support many of the recommendations in this CPG. These and other similar devices and applications may improve the accuracy of patient records, reduce the burden of data entry for the prehospital provider, and provide other features to improve patient care such as critical value alarms and telemedicine communication. Where such devices are fielded and supported with network connectivity, their use for austere PFC environments is encouraged.

Disclosures

The authors have nothing to disclose.

All authors approved the final version of the manuscript.

References

- 1. Vasios W, Pamplin JC, Powell D, et al. Teleconsultation in prolonged field care. J Spec Oper Med. 2017:17(3);141-144.
- 2. Air Force Instruction 48-307, Volume 1, En Route Care and Aeromedical evacuation Medical Operations, 9 Jan 2017. http://static.e -publishing.af.mil/production/1/af_sg/publication/afi48-307v1/ afi48-307v1.pdf. Accessed 28 Dec 2017.
- 3. Prolonged Care MTF Handover Sheet. https://prolongedfieldcare. org. Accessed 28 Dec 2017.

Keywords: documentation; quidelines; prolonged field care

	APPENDIX A	Tactical	Combat	Casualty	Care	Card.	. DD	138
--	------------	----------	--------	----------	------	-------	------	-----

BATTLE ROST				
EVAC: 🗆 l	Jrgent 🗆 I	Priority 🖂		
NAME (Last, First):			LAST 4:	
GENDER: M F DATE	DD-MMM-YY):		TIME:	
SERVICE:UNIT:		AL	LERGIES: _	
Mechanism of Injury: (X a ☐ Artillery ☐ Blunt ☐ ☐ Landmine ☐ MVC ☐	Burn 🗆		enade □ G	SW 🗆 IED
njury: (Mark injuries with an X)	Č.			
TQ: R Arm	5	TQ: L Arm		1.5
ТҮРЕ:	-1	YPE:	_ \	S.
TIME:	8	ПМЕ:		18.
TQ: R Leg TYPE: TIME:		TQ: L Leg TYPE:		
Signs & Symptoms: (Fill in Time	the blank)			n _ ,
Pulse (Rate & Location)				
Blood Pressure	1	1	1	1
Respiratory Rate	-			
Pulse Ox % O2 Sat			L	
AVPU				
Pain Scale (0-10)		-		
DD Form 1380, JUN 2014			T	CCC CARD

	☐ Urgent ☐ F		utine	
reatments: (X all that ap	Junctional	Truncal	Ту	pe
Dressing-☐ Hemos	DOUBLEST CATTER STREET,	COLUMN TO SERVICE A N		
B: □O2 □Needle-D				
C:	Name	Volume	Route	Time
Fluid				
Blood Product				
MEDS:	Name	Dose	Route	Time
Analgesic (e.g., Ketamine, Fentanyl, Morphine)	0-2-2-2			
Antibiotic (e.g., Moxifloxacin, Ertapenem)				
Other (e.g., TXA)				
OTHER: Combat-P			□L) □S	plint
IOTES:				
FIRST RESPONDER NAME (Last, First):			LAST 4:	
DD Form 1380, JUN 201	4 (Back)		TC	CC CAF

Vitals g1h
Flush Saline Locks
Suction ET Tube
Reposition q2hx [30" Each sid
Change Blood Tube q4hxs
Oral Care / Hygeine q4hxs
Change Blood Tube q4hxs
Spotey Care q4hxs
Spotey Care q4hxs
Change Rath q8hxs
Change W Bag q24hxs Nursing Care Reminder Analgesia Sedation NG / OG Upgrade Airway Post Cric Checklist Vent w/ PEEP Hypothermia Tx X-Ray / Imaging PreOp Eval Newest version available at prolongedfieldcare.org **Prolonged Field Care Card** Respirations O ETC02

Newest version available at prolongedfieldcare.org

APPENDIX B Continued

All articles published in the Journal of Special Operations Medicine are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published without the prior written permission of Breakaway Media, LLC. Contact Editor@JSOMonline.org.

APPENDIX C Virtual Critical Care Consultation Guide

VIRTUAL CRITICAL CARE CONSULTATION (VC3) GUIDE - 2 2017 (v3.0) 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 dod.VC3@mail.mil
- 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: Commercial: +1 (210) 916 – VCCC (8222), DSN: (312) 429 – 8222 A: 253-968-1396 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) that occurred in (location)
The injury/start of care occurred hours ago. Anticipated evacuation time is (range)
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 EtCO ₂ 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 ***

All articles published in the Journal of Special Operations Medicine are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published without the prior written permission of Breakaway Media, LLC. Contact Editor@JSOMonline.org.

APPENDIX C Continued

Plans/Recor							
	TEM/PROBLEM		NDATION				
Ne	uro or problem	#1					
CV	or problem #2						
Pu	lm or problem #	13					
GI	or problem #4						
Re	nal or problem	#5					
En	docrine or prob	lem #6					
M	SK/ Wound or p	roblem #7					
Tu	bes, lines, drain	s or problem #8	ļ				
Pr	ophylaxis/preve	ntion or prob#9					
Ot	her						
TO-DO/ FOL	LOW-UP/TO-ST	OP	NOTE	S			
1.							
2.							
3.							
2. 3. 4. 5.							
3. 4. 5.							
3. 4. 5.	*** PAUSE PO	OINT, for <mark>Medic</mark>	·/Local Caregiver t	to ask clarificati	on questions/	'READBACI	(***
3. 4. 5. 6.			F/Local Caregiver t dications) !! IF POSSIE				
3. 4. 5. 6. Ava		es, equipment, me Central line	IO (location)	Other:	AND SEND VIA EN	MAIL BEFORE	CALLING !!
3. 4. 5. 6. Ava	illable "kit" (suppli IV Propaq	es, equipment, me Central line Tempus	IO (location) Foley	Other: Graduated uring	AND SEND VIA EN		
3. 4. 5. 6. IV access: Monitor:	illable "kit" (suppli IV Propaq Other:	es, equipment, me Central line Tempus	IO (location) Foley	Other: Graduated uring	AND SEND VIA EN	MAIL BEFORE	Exam Only
3. 4. 5. 6. Available and the second of the	illable "kit" (suppli IV Propaq Other:	es, equipment, me Central line Tempus	dications) !! IF POSSIE IO (location) Foley THIAB:	Other:Graduated urin:SAT#	al Pul	MAIL BEFORE	Exam Only
3. 4. 5. 6. IV access: Monitor:	IV Propaq Other: Tempus i2i ID: Web VTC Addr	es, equipment, me Central line Tempus	IO (location) Foley THIAB:	Other: Graduated uring	AND SEND VIA EN	IseOx only	Exam Only
3. 4. 5. 6. IV access: Monitor: Commo:	IV Propaq Other: Tempus i2i ID: Web VTC Addr	es, equipment, me Central line Tempus	IO (location) Foley THIAB:	Other: Graduated urin: SAT#	al Pul	IseOx only	Exam Only
3. 4. 5. 6. IV access: Monitor: Commo:	Ilable "kit" (suppli IV Propaq Other: Tempus i2i ID: Web VTC Addr Other (e.g. "Fa	es, equipment, me Central line Tempus ess ceTime, VSee, Skyp	IO (location) Foley THIAB: De, etc.):	Other:Graduated urin:SAT#	al Pul	IseOx only	Exam Only
Available	IV Propaq Other: Tempus i2i ID: Web VTC Addr Other (e.g. "Fa Plasma-Lyte Hetastarch	es, equipment, me Central line Tempus ess ceTime, VSee, Skyp LR	IO (location) Foley THIAB: De, etc.): Normal Saline	Other:Graduated urin:SAT#	AND SEND VIA EN	seOx only	Exam Only
3. 4. 5. 6. IV access: Monitor: Commo: IV Fluids: Colloids: Blood products	IV Propaq Other: Tempus i2i ID: Web VTC Addr Other (e.g. "Fa Plasma-Lyte Hetastarch Whole blood	es, equipment, me Central line Tempus ess ceTime, VSee, Skyp LR Albumin	IO (location) Foley THIAB: pe, etc.): Normal Saline Other:	Other:Graduated urin: SAT#3% saline	AND SEND VIA EN	seOx only	Exam Only
3. 4. 5. 6. IV access: Monitor: Commo: IV Fluids: Colloids: Blood products	IV Propaq Other: Tempus i2i ID: Web VTC Addr Other (e.g. "Fa Plasma-Lyte Hetastarch Whole blood	es, equipment, me Central line Tempus ess ceTime, VSee, Skyp LR Albumin PRBC me/route/dose	IO (location) Foley THIAB: pe, etc.): Normal Saline Other: Plasma Other opioid (na	Other:Graduated urin:SAT#	AND SEND VIA EN	IseOx only	Exam Only
3. 4. 5. 6. IV access: Monitor: Commo: IV Fluids: Colloids: Blood products	IV Propaq Other: Tempus i2i ID: Web VTC Addr Other (e.g. "Fa Plasma-Lyte Hetastarch Whole blood Antibiotics: nai Morphine IV/ P	es, equipment, me Central line Tempus ess ceTime, VSee, Skyp LR Albumin PRBC me/route/dose	IO (location) Foley THIAB: Pe, etc.): Normal Saline Other: Plasma Other opioid (na Ketam Diazer	Other:	al Pul Local Cell#_ Other:	IseOx only	Exam Only
3. 4. 5. 6.	IV Propaq Other: Tempus i2i ID: Web VTC Addr Other (e.g. "Fa Plasma-Lyte Hetastarch Whole blood Antibiotics: nai Morphine IV/ F Fentanyl IV/ PC Midazolam TXA	es, equipment, me Central line Tempus ess ceTime, VSee, Skyp LR Albumin PRBC me/route/dose DO (pop)	IO (location) Foley THIAB: Pe, etc.): Normal Saline Other: Plasma Other opioid (na Ketam Diazer Other(Other:	AND SEND VIA EN	IseOx only	Exam Only

APPENDIX D Online resources

Joint Trauma System Forms
http://www.usaisr.amedd.army.mil/10_jts.html

Joint Trauma System Clinical Practice Guidelines http://www.usaisr.amedd.army.mil/cpgs.html Prolonged Field Care https://prolongedfieldcare.org/ The Special Operations Medical Association's Official Journal

JOURNAL of SPECIAL OPERATIONS MEDICINE MEDICINE MEDICINE

THE JOURNAL FOR OPERATIONAL MEDICINE AND TACTICAL CASUALTY CARE



- Case Reports: Low Titer Group O Whole Blood Transfusion Protocol, Search and Rescue Corpsmen and Severely Injured Aviators, Hypothermia and DKA Challenges
- > In Brief: Shrail System Versus English Operating Table
- > Focus on REBOA
- > Collapsible Tube Model of Bleeding Control
- > Resilience in SOF, Intramuscular TXA in Tactical and Combat Settings
- > SOF Risk Reduction: Integration of ESRTs
- > Prehospital Ketamine Use During OEF
- > Blood Lead Toxicity in Multipurpose Military Dogs
- > Ocular Injuries and Cultural Influences in Afghanistan During OEF
- > Lead Exposure in the Special Operations Shooter, Screening Laboratory Studies for Heat Injury
- > Ongoing Series: Canine Medicine, Human Performance Optimization, Infectious Diseases, Injury Prevention, Law Enforcement & Tactical Medicine, Operational Medicine in the Austere Environment, Prolonged Field Care, SOFsono Ultrasound Series, Special Talk: An Interview, Uncoventional Medicine, Book Reviews, TacMed Updates, TCCC Updates, and more!

Dedicated to the Indomitable Spirit and Sacrifices of the SOF Medic