

PROLONGED FIELD CARE
TEACHING AND TRAINING RECOMMENDATIONS
March 2015

In response to some inquiries about how to train for PFC at the unit level, the Prolonged Field Care Working Group (PFC WG) wishes to share some recent lessons from unit-level training. This is necessarily limited by the experience of the authors, and reflects the recent shift over the past year of updating training practices developed during the past decade of conflict by US forces, to include training for medical care in remote and austere environments.

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INTRODUCTION

Prolonged Field Care (PFC) has been a topic of discussion over the past year in the Special Operations Forces (SOF) community as we have found ourselves looking to expand our medical focus in managing patients in austere environments, with limited resources, and limited or non-existent advanced surgical and/or medical support.

As part of this effort, the community has struggled with the reality of limited training time and, in some cases, limited resources, to adequately prepare both the individual medical provider, and their operational elements (the “Team”), for this challenge.

There are several aspects and trainees from a SOF perspective: the individual medic, their operational unit members (non-medics), and the unit’s leadership. A training evolution that involves a PFC scenario (a “full-mission profile” or FMP) over many hours can only be achieved with adequate medic and team preparation, to ensure maximum training value for time available.

Any training performed must be based on the persons being trained. Prior to any training evolution, the responsible parties must first decide on objectives of the training, then consider relevant factors such as time available, personnel to be trained, and resources available. The participants then delineate reasonable expectations and objectives for the training, based on these constraints.

PFC encompasses medical skills that are considered critical and essential (see PFC Working Group Position Paper: PFC Capabilities). Any providers attempting PFC training, either individual or as a Team, should have a working knowledge of basic PFC capabilities prior to attempting an FMP scenario. This may include individual medic training, familiarization with relevant equipment, and team task training. Past experience demonstrates the need for at least one full day of training in basic skills prior to attempting an FMP scenario.

Since most PFC scenarios build on a complex trauma patient, and the subject matter follows many of the initial management strategies of Tactical Combat Casualty Care (TCCC), any trainees, both medical and non-medical, must have a working knowledge of TCCC to ensure the best use of PFC training time. Stated another way, if you don’t know TCCC well, you cannot (and should not) reasonably train in PFC skills.

Medical scenarios can also be used in PFC training, but the level of non-medical team members’ participation has been observed to decline rapidly. Multiple patients during a scenario, or mix of trauma and complex medical patients may be

utilized, especially with a team of multiple medical providers or more advanced medical team members (physicians, physician's assistants (PA), or nurses). A mass casualty scenario both challenges the experienced providers and engages all members of the team.

In addition to the medical capabilities, teams of operators should include operational tasks. An example list of operational tasks is included in Appendix D. Additionally, Appendix E shows an example of an Execution Checklist. By incorporating operational tasks, non-medics will remain engaged throughout a long scenario, and this will exercise a full team's capabilities. By incorporating these non-medical core mission tasks, the leadership will then appreciate the non-medical training value and see the relevance of this training iteration.

A DOSE OF REALITY

- 1) A lone medical provider is at a tremendous disadvantage and will become task saturated quickly, managing even a single complex patient. High-risk missions (due to remoteness) may require two medics.
- 2) Task organization of non-medical team members may be the most important aspect of PFC training. A crisis is not the time to figure out a task list and personnel requirements.
- 3) Critical patients require care in a hospital with surgery, blood products, an ICU, and advanced imaging – no amount of pre-hospital equipment or training will change that. The outcome of PFC is evacuation, therefore this must be a training objective.
- 4) Caring for a PFC patient is extremely difficult, therefore telemedicine is not just a recommendation, it is the standard of care. The ideal telemedicine consultation is aimed at the trauma/ED team that will be receiving the patient. Once the contact is made, the responsibility to care for the patient is shared with the receiving physician, and standing orders should be provided. Consultation takes a tremendous burden off the lone provider and leverages the skills and knowledge of an entire trauma team to be applied to help the medic manage the sick patient.

PFC TRAINING OUTCOMES

The following training outcomes are very useful in explaining a PFC event to non-medical team members, especially the leadership. This is not simply medical training, this is pre-deployment rehearsal that leverages all the specialties of the team, and allows the leadership to war-game how they will manage a crisis. Here are some useful training "outcomes":

1. Critical tasks identified, friction points noted and mitigated
2. Execution Checklist created and disseminated to key leaders
3. Equipment checked/familiarized
4. Commo plan validated, phone numbers verified

5. Task organization created, critical roles assigned and finally, we exercise a...
6. Medical scenario

DO's:

- 1) Clearly identify the training objectives prior to Team training. Answer the question: Is this a pre-deployment rehearsal, is this team medical training, or is this individual medic PFC training?
- 2) Have realistic goals of what is achievable with the time and resources available. If it sounds complicated, it will probably be perceived that way. If the objective is to train the team prior to a deployment, it's probably better to have a simple mannequin-based exercise to rehearse task-org and the evacuation plan, than try to run a live tissue training (LTT) event.
- 3) Review individual Prolonged Field Care (PFC) skills and equipment prior to the event. Training is easily derailed by the need to stop and read the directions for a piece of unfamiliar gear.
- 4) Know who to call for medical and/or operational consultation, and practice making communication with these individuals during training events, if possible. Also, plan to have a role player or actual doctor prepared to receive the call (instead of simulating the call).
- 5) Create scenarios on injury patterns other than penetrating combat trauma – accidents happen all the time on deployments. Consider falls, burns, electrocution, head injuries, and sickness versus gunshot wounds. Some useful references may be the SOF Medic Handbook and PHTLS manuals.

DON'T:

- 1) Don't deploy without having hands on real trauma patients. **There is no substitute for practicing medicine and skills on real, critical patients in a controlled environment.** Medical providers who wish to become properly trained in PFC skills beyond familiarization, should seek additional medical rotations in medical training and treatment facilities
- 2) Don't expect to have all the answers. Remember that no medical provider knows all aspects of care with regards to the management of complex patients – if you are running the event, be realistic as to your own limitations.
- 3) Don't spend excessive training time driving around in the back of a vehicle providing "care." Although there are times when it may be useful to train in a moving vehicle, many scenarios place too much emphasis on this and simply get everyone car-sick.
- 4) Don't forget to exercise all components of PFC, to include: Patient Care, Tele-consultation, and Evacuation. Training scenarios often focus only on the medical skills and fail to address the logistics and organization required to evacuate the patient.

PFC TRAINING FOR MEDICAL PROVIDERS

PFC encompasses many skills received in initial medic or provider training. It is recognized, however, that many medics do not have the opportunity to maintain adequate medical skills in some areas required to manage complex patients. This knowledge must be obtained and maintained separately from unit training iterations. No short-term medical training scenario will adequately prepare a medical provider to become an expert in PFC. If you have specific concerns about skills that may have degraded among your medics, institute breaks or an “operational pause” during the PFC event to specifically address these issues with a 5 or 10 minute class. Here are some suggestions to ensure overall success:

- 1) Review TCCC protocols – make sure you are on the same page with your medics
- 2) Review basic pharmacology and have a working knowledge of all medications normally carried on missions. Use simulated medications for the event with the same concentrations that are actually carried to see how the medic will dilute and administer the medication.
- 3) Prepare your references and “smart books” to adequately develop your peripheral brain prior to attempting management of complex patients. We recommend the SOF Medic Handbook, PHTLS, a Wilderness Medicine text, and the USSOCOM Tactical Medical Emergency Protocols (TMEPs)
- 4) Review PFC-specific references as provided on websites such as:
 - a) SOMA website:
<http://www.specialoperationsmedicine.org/Pages/pfcresources.aspx>
 - b) PFC homepage: www.prolongedfieldcare.org

It is also recognized that there is no substitute for practicing medicine on actual patients. Certifications and courses are nice to obtain and seem to have a certain appeal to pre-hospital providers, but this is no substitute for managing live, critical patients in a supervised environment. Any provider that wishes to become much more knowledgeable on PFC skills and treatments should seek out hospital rotations that encompass emergency evaluation and care, surgical trauma team participation, and intensive care unit (ICU) management of patients. Medical Proficiency Training (MPT) rotations can be molded to encompass basic and critical PFC skills.

INCORPORATING NON-MEDICS AND LEADERSHIP

The cornerstone of a successful scenario and ultimately an effective team execution of PFC situations is planning and preparation throughout all phases of the training event. Prior to training or deploying, all Team members should be on the same page and know what to do if a PFC situation occurs. The overall mission of the team in this situation becomes the care and transportation of the patient. Part of planning for such situations will be prioritizing the care of the patient through a care plan or checklist developed by the medic.

Team leadership (non-medical personnel) should be heavily involved from the inception of the scenario, and continue through execution of the event. A scenario should be designed and modeled after anticipated upcoming mission parameters, using realistic and anticipated evacuation times and conditions. This provides relevance to the training, in the context of the actual anticipated mission or deployment. It has been witnessed that leadership that helps plan the training will be vested, and place more emphasis on participation and execution.

During the scenario and after the initial “emergency” phase, the care of the patient should be planned, prioritized and carried out in an organized manner. Creating a treatment and nursing care plan can greatly reduce mistakes and ensure comprehensive and continuing care of the patient. By trending vital signs and using checklists, the medic can anticipate the patient’s changing condition. Scheduled “rounding” on a planned cycle incorporating a detailed script, reviewing vital signs trends and each organ system of the patient and subsequent discussion, should initiate changes in care based on an intervention plan guided by parameters set early in the treatment course.

During the scenario, as participation and enthusiasm begin to wane, early assigned roles and responsibilities to team members, including leadership, will keep all team members occupied in realistic tasks. Adhering to the Execution Checklist will help guide overall actions of the team. Leaders can coordinate logistics including both acquiring needed supplies as well as a complicated CASEVAC. Plans should be made to give the medics and other team members needed breaks in order to drink water, eat, and rest. A rest plan initiated early, prior to the onset of exhaustion, with essential medic wake-up criteria, is essential to provide continuous quality care.

Planning should be emphasized through the entirety of the scenario, including the conclusion. Preparing a casualty and all of the equipment and supplies needed to sustain him on an extended evacuation, overland or in the air, is a considerable task than most medics and teams do not carefully consider until they are faced with it. Routes, country clearances, political situations as well as medical requirements such as sedation drugs, oxygen, and other med supplies, will all need to be considered. The proper preparation and enactment of these many factors are considered critical operational tasks. Proper completion of the scenario can be based on how well the team prepared the patient and environment for movement. If a team is lacking in preparation, contingencies in the scenario can be implemented to reinforce the importance of planning all details, both medical and non-medical, that lead to a successful CASEVAC.

A suggested list of operational tasks for consideration is presented in Appendix D. Appendix E shows an example of an Execution Checklist.

BEFORE YOU SET UP A TRAINING EVENT

Many training courses and SOF certifications include simulation of stressful scenarios to adequately prepare operators for realistic situations. It should be noted however, that incorporating additional stressors into a scenario may hinder retention of critical skills – especially those that are somewhat unfamiliar to the trainee. Additionally, working in a team environment with complex tasks may provide an adequate level of stress to emphasize attention and participation, without degrading learning and retention of new skills.

A crucial element of planning a training event is deciding if the training should be **formative** or **evaluative**:

- **Formative**: the training is a teaching/learning experience as the Team learns to conduct PFC
- **Evaluative**: the Team has the ability and knowledge to conduct successful PFC, and the training is designed to push, evaluate, and grade performance

Decide what you want to train, and what the end-points of the training should be. If your training objective is to train critical medical skills, take the time to ensure that members of the training iteration have this knowledge by the end of the iteration. This may mean that the operational scenario or pace of real-time operations may be somewhat degraded while the training is slowed down (i.e. an “administrative pause”) to instruct in critical skills. If there is an element of stress incorporated, intentional or unintentional, first-time learners of unfamiliar tasks (a non-medical practicing a new medical procedure, for instance) may easily become overwhelmed.

If the intent is to train operations and critical actions, specific medical training, especially of the medics, will likely not achieve all objectives during the scenario (the level of medicine exercised may be below what a medic would expect). Try to remain consistent with the intent of the trainees, as defined prior to the iteration. **There is a distinct difference in the level of medical training and expected objectives if you are training ONLY medical providers, vs. incorporating a non-medical team into the training.** Each type of training is valuable, and acceptance of the scenario by the team will be essential to ensure resources (time and money) are allocated to ensure the training is scheduled and successful. Remember, a Commander’s participation and endorsement, is ultimately critical to training success.

DEVELOPING CASUALTY SCENARIOS

Scenarios should be scripted well prior to the training. This includes detailed scripts for vital signs and responses of the patient (both subjective: how they act; and objective: actual numbers and variables measured by the medic or Team). A copy of this is provided to each patient to “follow” the patient through the scenario

in case, in the course of treatment, they are handed off to different providers and/or proctors through the course of the scenario.

When developing a wound profile, it is helpful to use a blunt trauma event that may include a number of different problems. Emphasize a “master problem list” to help the medic effectively anticipate potential problems before they become a major issue. For example, if the patient was in a motor vehicle collision or crash, and had a loss of consciousness, the medic should treat the patient as if they had a suspected closed head injury, listing that on the problem list to be ruled out, even though the scenario may not ultimately simulate a head injury patient. Too often, medics are accustomed to receiving patient feedback that confirms or denies the presence of an injury. Instead, intentionally give the medic vague answers that do not confirm or deny a diagnosis with patient.

All scenarios should be based in an operational context. This allows teams to relate and stay in the proper mindset for the exercise. Customize the operational context based on the units’ overall mission set. Plan for and practice patient movement during the exercise.

Ensure your patients are simulated as realistic as possible. The goal is to have the trainees receive as much feedback (vital signs, patient reaction to treatments, pain, etc.) from the patient or patient model as possible, with little or no cues, or “injects,” from the instructor or proctor. An example of an “inject” is a situation where the trainee checks the patient’s pulse, and the instructor states: “you have a rapid but weak pulse,” but the patient model does not actually display the stated vital sign. This realism is very difficult to achieve on most patient models, but the instructor and training developer should attempt to remove as many of these necessary “injects” as possible, and strive to have the patient model exhibit all of the patient’s feedback to the trainee. Depending on the patient model used in the training, the scenario developer should plan to invest an adequate amount of time preparing the role-player on necessary actions (when using live role-players) or programming the scenario (when using a High-fidelity simulator/mannequin).

Preparing the patient to deliver proper feedback to the trainee is an essential element that is often rushed through or inadequately developed. “Injects” subtract from the realism of the patient scenario, and runs the risk of instructor fatigue, leading to feedback short cuts (i.e. where the instructor states the physiology seen on an actual patient). Such statements are often definite and deliver affirmation to the trainee that might not exist on a true patient. In essence, these “injects” can remove the desired intellectual stress by unintentionally guiding the trainee to the correct treatment or patient care.

HOW LONG IS LONG ENOUGH TO BE “PROLONGED?”

PFC training is necessarily prolonged, however trainees’ motivation and attention, and, consequently, their retention, will wane with time. It is generally recognized

that 6-12 hour scenarios will provide both adequate “prolonged” training time, but also ensure adequate attention and, therefore, retention of necessary skills. Beyond 8-12 hours (or shorter if “off-cycle” training times are used), there is very little retention of complex skills and concepts. If, however, the intent of the trainers is to demonstrate the skills of work-cycle or the training designed to test the stamina of the team members, it can be designed as an endurance event, but there will be very little retention of complex medical skills.

Keep in mind that proctors will fatigue at about the same rate as the team and medics, so to adequately run a scenario, especially beyond 8-12 hours, a work-rest cycle must also be developed for the instructor and support staff. This can impose severe limitations on the training support as well.

We recommend that formative training be done in a time period that maximizes learning, such as a normal duty day. An evaluative training event meant to induce stress and possibly discover shortcomings due to fatigue and task saturation could more appropriately use off-cycle training times.

REQUIRED SUPPORT STAFF

A significant limiting factor for PFC training may be support staff. In general, you will need a one-to-one ratio of proctors to medical team members, and this is separate from any logistical support for the training. Keep in mind that casualty role models will be additional support staff, completely separate from proctors. Also, technical operators of manikins must be counted in the support staff.

In general, proctors must be more highly trained than the medical trainees to ensure adequate training. Medics/participants require realistic real-time feedback when evaluating and managing patients. Prepared vital signs that reflect physiologic process are invaluable. Not having these scripts prepared prior to provide feedback detracts from the training value, especially when training experienced medical providers.

(A DETAILED DISCUSSION OF DIFFERENT TRAINING MODELS CAN BE FOUND IN APPENDIX A: COMPARISON OF TRAINING MODELS)

TELEMEDICINE

Calling for consultation is an expected practice in the management of complex and critical patients. This type of communication is a skill that must be taught and practiced. There is both an operational task (making communication, which is a Team task that is inherent to all military operations) and a medical task implied in this critical skill. Every PFC scenario should exercise the communication aspect as a basic and essential component to the training.

Do not get bogged down with setting up an elaborate communications scenario, all you need is a phone and a physician on the other end. Email is better. Skype or Facetime is best. Use the chat function to pass and receive standing orders and to ensure closed loop communications. Devices that allow for real-time transmission of vital signs are only valuable if they will be part of your real-world comms plan AND if you have a base-station set up to receive the vital signs. Many PFC training events are derailed by overly elaborate comms plans that fail to achieve the training objective which was simply to make a phone call.

When possible, the medic should perform a teleconsultation to a physician who is not present at the event. This generates valuable, candid feedback regarding the clarity and organization of the call. Use of the master problem list is critical, and the medic should be discussing next steps for any anticipated problems.

Remember closed loop communications. If you receive guidance, repeat that guidance back to ensure it was clearly understood.

Ensure the provider has the necessary level of expertise to play along with the scenario. An ideal model for teleconsultation is a deployed surgical team, which will have all the required specialties to guide you through a difficult patient scenario. If you are using a role-player telemedicine physician and he or she is not a trauma specialist by trade, you can still gain useful feedback from them but do not expect them to know every answer you may be looking for. Remember, no single medical specialty will have all the answers.

REPLICATING STRESS

As stated earlier, careful consideration of the trainees, to include familiarity with the knowledge and execution of complex medical management, must be determined prior to the exercise. It is recognized that managing a critical patient, who is also a team member, will be a very stressful situation regardless of the proficiency of the team. This unique stress will be extremely hard to replicate in a training scenario, but, incorporating additional stress may be counter-productive to the overall gaining of new knowledge. If additional stress is deemed essential to the training, some recognized ways to reproduce stress are stated below.

1. Utilize operational variables during the training: sensory deprivation (low light, distracting noises, working on a moving platform) or heat or cold variance. Also, off-cycle training can be used, but keep in mind the distractors or fatigue induced may limit the retention of complex skills or tasks.
2. Incorporate the medical provider as a casualty, either critical or relatively minor injury (broken dominant arm), which forces the other team members to compensate in both medical judgment and skills performance.
3. Acknowledge inherent peer pressure, especially when the medical provider's Team is present. **This can be both a positive and negative experience.**

With adequate prior preparation, however, the medic can both demonstrate his competence, but also focus as a trainer for the non-medical members of his team.

4. Utilize realistic training models. Each has benefits and replicates some aspect of realism (see Appendix A). It must be recognized, however, that there is no substitute to adequately train for an actual Team member being critically wounded. This is a unique experience rarely encountered in the practice of medicine in fixed medical facilities.
5. Ensure a realistic patient model that delivers the desired feedback (vital signs, pain, physiology) with little or no “injects” needed from the instructor. This realism elevates desired stress as the trainee(s) strive to recognize the physiology, interpret trends, treat problems, and evaluate patient response.
6. Utilize telemedicine calls as an opportunity to put significant stress on the medical provider as this is a demonstration of his skill level and medical communication skills, sometimes in the presence of his teammates.

CONCLUSION

PFC full-mission profile scenarios should be considered a capstone event for medical training. Improper application of medical techniques during a scenario detracts from the patient flow and severely denigrates the overall training value. If basic medical skills are already mastered, the real benefit of caring for a critical patient over time can be appreciated and more complicated aspects of care, to include communication with higher authorities and clinical consultation, operational evacuation considerations, and advanced nursing skills can be practiced. This is especially critical for non-medical Team members participating.

Done properly, PFC training may be instituted as critical pre-mission training by your Command. The overall training value, both medical and operational (non-medical), is especially relevant, and may be mandated for all operational elements operating in austere environments. With Command support, training time and resources will be provided.

Further comments and observations from PFC-specific training are included in the Appendices following this recommendation paper.

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Appendix A: Comparison of Medical Training Models

Adapted from discussion during SOMSA 14 PFC pre-conference course, Tampa, FL, December, 2014

Live Tissue Training

Advantages:

1. Good task/skill trainer – especially for surgical wounds and procedures
2. Works best when used in conjunction with other simulation methods (skill/task trainers, moulage, mannequins)
3. Can elicit some emotive response/attachment in trainees

Disadvantages:

1. Decreased patient survivability over longer scenarios (due to drugs, environment, injury), especially with massive surgical wounds. Phased wounding can increase chances of prolonged survivability
2. Vital signs are dis-similar from true patients (due to drugs required for humane treatment/anesthesia and physiological differences)
3. May not be available to some facilities.
4. Need specific support staff and oversight (veterinary staff on hand, and institutional review Boards prior to use)
5. Logistically speaking, LTT is often such a cumbersome event that it takes away from the PFC training objectives

Computerized Mannequins (High-Fidelity simulators)

Note: Most major hospitals and military bases have a medical simulation center, therefore it may not be necessary to purchase these at the unit level.

Advantages:

1. Provide trending vital signs
2. Deliver accurate feedback (vital signs Δ)
3. Keeps trainees focused on the patient, not the instructor
4. Wide variety of models and features available

Disadvantages:

1. Expensive (if using high-cost high-fidelity simulators; rule of thumb: more lifelike and procedure capable = more cost)
2. Very maintenance intensive/expensive
3. Labor-intensive (requires mannequin operator(s) + instructor to run a scenario/simulation)
4. Requires power/battery/electricity to run scenario/simulation
5. Does not trigger an emotive response (i.e. “the Pucker Factor”) from the trainee
6. Does not discourage or provide negative feedback/consequence from rough handling

Mannequins (Low-Fidelity simulators)

Advantages:

1. Inexpensive and fairly rugged
2. Low maintenance requirement
3. Allow for training at any time in any environment
4. Do not require power to run a scenario/simulation

Disadvantages:

1. Do not trigger an emotive response (i.e. “the Pucker Factor”) from the trainee
2. Do not discourage or provide negative feedback/consequence from rough handling

Moulage (Live Role-player)

Advantages:

1. Patient discomfort is good feedback/learning point (If the patient communicates this to the other trainees and doesn’t just “tough it out”)
2. The trainee playing the patient receives good, first-hand experience on “how it feels” for a real patient
3. Medically trained role-players can deliver realistic feedback and can extend the enthusiasm/focus for a longer period (although first-hand experience of patient discomfort might be lost if the patient is not a trainee also, but merely a role-player)
4. “Cost” is significantly less than using other models, especially if using Team members or unit (assigned) medical or non-medical support staff

Disadvantages:

1. Focus and enthusiasm eventually wanes/decreases in longer scenarios
2. Additional support person needed to run the scenario

Cadaver

Advantages:

1. Good task/skill trainer
2. Best anatomic model
3. Will elicit some emotive response in trainees
4. Better simulates realism of patient in shock, instead of a healthy team mate, (ie flat veins)
5. Can do all treatments as on a live person; ventilation, NG, Foley, IO, chest tube, etc.

Disadvantages:

1. Most difficult logistics to deal with
2. May induce nausea for trainees
3. Cannot wound, must use removable moulage
4. Cost prohibitive, especially for multiple scenarios / large units
5. Proctor must use vital sign replicator or app required for treatment feedback
6. No pain response elicited

Hands-on or clinical care methods

Clinical/Hospital Rotations

1. Participants witness firsthand the highest level of care and best practice to emulate
2. Inexpensive, real training on live human patients
3. Controlled environment and ready access to proctors who are subject-matter experts

Live Telemedicine Training Calls

1. Engages and activates the medic/operator trainee
2. “Ups the game” for the medic/operator trainee
3. Can challenge ego and prevent over-confidence

Appendix B: AAR Comments from Conduct of PFC Training

December, 14 SOMSA Pre-conference Course Lessons Learned

1. Decide if the training should be **formative** or **evaluative**
 - a. Formative: the training is a teaching/learning experience as the Team learns to conduct PFC
 - b. Evaluative: the Team has the ability and knowledge to conduct successful PFC and the training is designed to push, evaluate, and grade performance
2. Considerations for scenario design
 - a. Teams should be proficient in TCCC prior to starting PFC training, otherwise too much time is spent re-training on TCCC
 - b. Adrenaline and motivation wane when the “work” becomes tedious
 - c. Tedious/mundane/administrative/nursing tasks become valuable training
 - d. Train with the Medic first, prior to PFC team training, in order to set the Medic up for success and reinforce his clout with the Team and build their trust in him
 - e. Use the training to reinforce and validate skills and abilities trained previously
 - f. Focus the scenario on the Team’s upcoming mission
 - i. Customize the scenario to train in worst-case problem they may face
 - ii. Have clear training objectives/goals specific to that Team
 - g. Have the Team identify and list their training goals
3. Engage critical thinking; go beyond just procedures and skills
 - a. Identify “critical actions” throughout the timeline and phases of the scenario
 - b. Critical actions or failure to perform them should have consequences and trigger changes in the patient for the better or worse
 - c. Have the Team “Choose your own adventure”, i.e. Make patient vitals trend according to treatments given/not given
 - d. Encourage a climate of “self-criticism” and encourage a realist self-evaluation of abilities and skills
 - e. Team should identify weaknesses to improve upon through training
4. Scenario Length - How long is too long? How long is long enough?
 - a. 3-4 hours seems to be the most appropriate for a learning/formative iteration
 - b. 6-8 hours seems to be the most appropriate for a training iteration
 - i. 4-7 hours can meet training objectives
 - ii. Consider scenario Start Times- Late, off-cycle start vs. early, mid-cycle start
 - iii. Late, off-cycle start times will push the stamina of the Team, especially the Medic

5. Sleep/Rest/Recharge Cycle
 - a. Medic will often fail to care for himself and will push through the training without eating, drink water, rest, etc.
 - b. Can be a valuable learning point for the Medic and the Team, who must look out for him
 - c. Guide the Team to have a plan to quickly and easily “refuel” the Medics or Operators conducting care
6. Instructor Maintenance:
 - a. A tired Instructor is often a poor teacher and evaluator
 - b. A fresh and energetic Instructor can help the Team maintain momentum and enthusiasm over longer scenarios as the Team tires and the work becomes tedious and boring
 - c. Switch Instructor(s) out to maintain momentum and effective teaching and evaluation
 - d. Have a planned-out and written patient case/scenario with a timeline and clearly identified critical actions throughout the phases of PFC
 - e. A good, well-written plan will facilitate Instructor handover
7. Scenario Stress: “The Pucker Factor”
 - a. Empathy and deep concern for the patient and the situation is difficult to induce in training
 - b. Putting the Medic on the spot in front of his Team and leadership can sometimes induce desired stress
 - c. Challenge trainee (both Medic and Operator) ego and confidence
 - i. Balance this with your goal of reinforcing Team’s confidence in the Medic and reinforcing his clout
 - ii. Don’t set the Medic up for failure, but if the Medic is incapable, that needs to be recognized
 - d. Clinical rotations in hospitals and clinics where the Medic (and Operator, if possible) is followed, evaluated, and judged by Doctors and patient families can induce positive stress
 - e. Simulation methods (LTT vs. Mannequin vs. Moulage) simply cannot provide a patient that triggers the “Pucker Factor”
 - f. The scenario might trigger a Pucker Factor
 - i. Challenge Medic and Operator abilities, knowledge, and skills in front of peers and leadership
 - ii. Induce a fear of failure
 - iii. Poor decisions or failure to perform needed interventions have consequences and cost the Team something
 - g. Video feedback and AAR can induce stress if the Team knows that actions and decisions will be reviewed publicly with criticism

Appendix C: PFC Training Teaching Points

AAR comments and observations from combined PFC exercise, (MMLAT) Fort Bragg, NC (Sep 26-Oct 3, 2014), and summary of AAR comments from individual team training at 10th SFG(A) (May-December, 2014)

1. All scenarios should be based in an operational context. This allows teams to relate and stay in the “proper” mindset for the exercise. Customize the operational context based on the units’ overall mission set. Consider patient movement during the exercise.
2. Uses of human role-players (can be teammates), live tissue models and manikins all have advantages and disadvantages. Role players that are trained for medical response are particularly effective. Good moulage definitely benefits the experience. Live tissue models are excellent for some procedures, but “backside support” can be prohibitive. See Appendix A “Comparison of training models”
3. Medics/participants require realistic real-time feedback when evaluating patients. Prepared vital signs that reflect physiologic process in invaluable. Not being prepared to provide this feedback definitely detracts from the training value.
4. Instructors must be at least as experienced as the medical personnel participating and must understand the physiology of the patients to ensure a quality experience. As close as possible, there should be 1:1 ratio of instructor:patient to provide real-time feedback.
5. Medical personnel should be afforded the time to prepare and pack their supplies with realistic mission preparation time.
6. Medical personnel should be afforded advanced training with expected techniques and equipment needed for the training, especially those items which may be unfamiliar to the medic. This includes training non-medical team members in TTPs of patient documentation, packaging, communications requirements, etc.
7. There is a distinct difference in the level of medical training and expected objectives if you are training ONLY medical providers, vs. incorporating a non-medical team into the training.
8. Prior to the exercise, planners should list critical skills, techniques and concepts that should be trained. Establishing Terminal Learning Objectives

will ensure critical tasks are covered. Some examples FOR MEDICAL PROVIDERS could be: tourniquet conversion, pain management and sedation (ketamine) drips, fresh whole blood transfusion, vital signs acquisition, trending and interpretation, foley catheter placement and monitoring urine output. For NON-MEDICAL providers: recording vital signs, calling for consultation or operational movement, practicing team TTP's in regards to reporting and movement, re-enforcing TCCC concepts and skills.

9. During the exercise, recognize those critical skills that need further training and practice. Take the time, either to slow down, or take an "administrative pause" to ensure those critical learning objectives are met.

10. PFC scenarios should be considered a capstone event for medical training. Improper application of medical techniques detracts from the patient flow. If basic medical skills are already mastered, the real benefit of caring for a critical patient over time can be appreciated and more complicated aspects of care, to include communication with higher authorities and clinical consultation, operational evacuation considerations, and advanced nursing skills can be practiced. THIS IS ESPECIALLY CRITICAL for non-medical team member participating. The trauma scenarios used in PFC training REQUIRE each team member is familiar and practiced in TCCC (and equipped with personal aid gear) PRIOR to the exercise.

APPENDIX D: PFC Operational Task List

- 1) Send SITREPS/exercise communications plan
 - a) When possible, have the responsible team members test the actual phone numbers they will need to call
 - b) Emphasize that the medic will be task saturated with medicine, he will not be involved in commo other than telemedicine
 - c) Exercise a commo check using your real-world telemedicine support line
- 2) Rehearse patient packaging and movement
 - a) Assign responsibility for preparing the vehicle
 - b) Determine exactly how many people you will need (driver, equipment gathering, litter carrying, commo)
 - c) Rehearse packaging a simulated patient
 - i) What is the plan for spinal injury?
 - ii) How will you allow the patient to sit up?
 - iii) Where will you gather blankets, sheets, pillows from?
- 3) Delineate task organization for patient treatment/nursing
 - a) This should not be done in the setting of a crisis
 - b) Team members should know exactly what their roles are and what steps they are responsible for
 - c) Designate personnel manager who will enforce sleep/rest cycles
- 4) Assignment of secondary/nursing assistant tasks
 - a) Airway team to assist in placing a definitive airway and take turns monitoring the airway, ET tube placement, how to properly hand ventilate the patient determine adequacy of ventilations
 - b) Recorder – familiarize him with the casualty card, clearly identify your expectations for him
 - c) Logistics – What material do you need gathered? What vehicle do you want used for transport? What equipment needs to accompany you and patient? What personal gear needs to be packed for you and the patient?
 - d) Walking Blood Bank Team – Locate the Blood type chart, gather equipment, familiarize with the FWB procedure and how to assist you (the blood draw is never delegated to non-medics), how to measure the capacity of the blood bag to ensure it is not over-filled, and how to discontinue the draw.
 - e) Nursing team –Familiarize your team with your nursing care to-do list and what parts take priority, what equipment will be needed, and how to assist you.
 - f) Commo – Who is responsible for getting in touch with the telemedicine line for you? Who will be recording SITREPs and passing them up to higher for you?
- 5) Develop work/rest cycle
 - a) The rest cycle is almost always neglected in training
 - b) Who will be the medical person in charge when you are taking a break?
 - c) What are the “wake-up” criteria?

- 6) Calculate and food/water requirements (real world and for the exercise)
- 7) Designate person responsible for route planning

Discuss the need for any country clearances or Embassy involvement if operations require trans-border movements or landing aircraft on contingency missions

- 8) Discuss the level of security that the team leadership wants to enact if there is an incident so that time is not wasted
 - a) Will you utilize a host nation security element/escort to the airfield?
 - b) Who is remaining at the camp for security and comms with higher?

APPENDIX E: Execution Checklist (This is only an example, developed based on specific mission criteria. Units must develop their own checklist that most closely reflects their intended mission set.)

- 1) Key Points of contact
 - a. Embassy Med POC
 - b. TSOC Surgeon's office
 - c. Home unit Med POC
 - d. Local evacuation provider
- 2) Incident occurs
 - a. 5 W's sent to all team members via text
 - b. Team Leader confirms situation is true emergency
 - c. TL begins call chain to give WARNO for possible CASEVAC
 - i. Team members
 - ii. Embassy
 - iii. TSOC – begins air movement coordination
 - iv. Unit
 - d. All available team members report to Med-room
 - e. Commo prepped to call receiving medical facility
 - f. Tm Sgt coordinates for intermediate ground or air transport
- 3) Casualty is received
 - a. Medic performs primary survey and declares patient status (Urgent, Priority, Routine)
 - b. Communicator records medic's report higher medical authority
 - c. Medic, Tm Leader, Tm Sgt have face to face meeting
 - i. Confirm patient status
 - ii. Detailed list of injuries
 - iii. Identify help needed
 - d. Tm Sgt prepares work-rest plan
 - e. Tm Sgt directs task organization of help
 - i. Primary Medic
 - ii. Alternate Medic
 - iii. Med helper 1
 - iv. Med helper 2
 - v. Commo 1
 - vi. Commo 2
 - vii. Logistics 1
 - viii. Logistics 2
- 4) Casualty prepped for ground transport
 - a. Supplies gathered for packaging
 - i. Suitable litter
 - ii. Padding
 - iii. Blankets, pillows, sheets
 - b. Sensitive items accounted for

- c. Personal belongings secured
 - i. Passport
 - ii. Wallet and mil-ID
 - iii. Phone and charger
- 5) Casualty prepped for air movement
 - a. Treatments re-checked
 - b. Vitals taken
 - c. Final telemed call
 - d. Equipment checklist confirmed
 - e. Identification and commo confirmed (medic and patient)
- 6) In-Flight care
- 7) Actions upon handover to higher medical authority