

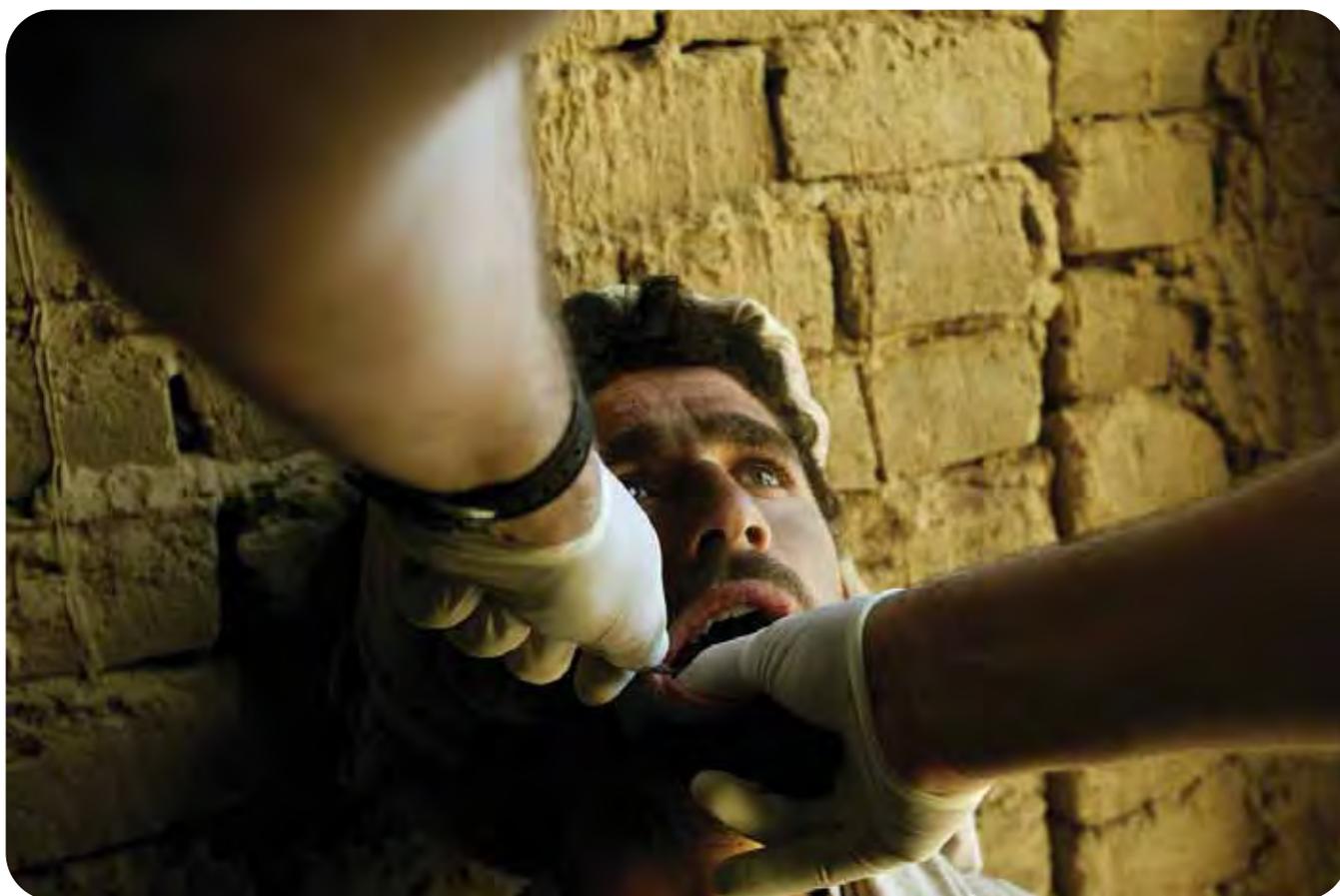
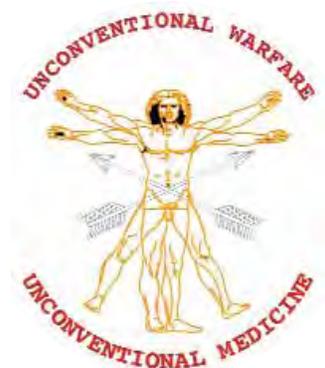
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Volume 5, Edition 2

# Journal of Special Operations Medicine

A Peer Reviewed Journal for SOF Medical Professionals



**Dedicated to the Indomitable Spirit & Sacrifices of the SOF Medic**

# COVER

A Special Forces doctor treats a patient's mouth during a sick call for local Afghans in southern Afghanistan.



## From the Editor

The Journal of Special Operations Medicine is an authorized official quarterly publication of the United States Special Operations Command, MacDill Air Force Base, Florida. It is not a product of the *Special Operations Medical Association (SOMA)*. Our mission is to promote the professional development of Special Operations medical personnel by providing a forum for the examination of the latest advancements in medicine.

**DISCLOSURE STATEMENT:** THE VIEWS CONTAINED HEREIN ARE THOSE OF THE AUTHORS AND DO NOT NECESSARILY REFLECT THE OFFICIAL DEPARTMENT OF DEFENSE POSITION. THE UNITED STATES SPECIAL OPERATIONS COMMAND AND THE JOURNAL OF SPECIAL OPERATIONS MEDICINE DO NOT HOLD THEMSELVES RESPONSIBLE FOR STATEMENTS OR PRODUCTS DISCUSSED IN THE ARTICLES. UNLESS SO STATED, MATERIAL IN THE JSOM DOES NOT REFLECT THE ENDORSEMENT, OFFICIAL ATTITUDE, OR POSITION OF THE USSOCOM-SG OR OF THE EDITORIAL BOARD.

Articles, photos, artwork, and letters are invited, as are comments and criticism, and should be addressed to Editor, Journal of Special Operations Medicine, USSOCOM, SOC-SG, 7701 Tampa Point Blvd., MacDill AFB, FL 33621-5323. Telephone: DSN 299-5442, commercial: (813) 828-5442, fax: -2568; e-mail [JSOM@socom.mil](mailto:JSOM@socom.mil).

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SOMA members receive the JSOM as part of membership. Please note, if you are a SOMA member and are not receiving the subscription, you can contact SOMA through [www.specialoperationsmedicalassociation.org](http://www.specialoperationsmedicalassociation.org) or contact MSG Russell Justice at [justicer@soc.mil](mailto:justicer@soc.mil). SOMA provides a very valuable means of obtaining CME, as well as an annual gathering of SOF medical folks to share current issues.

For JSOM readers who do not fall into either of the above mentioned categories, the JSOM to be available as a paid subscription from the Superintendent of Documents, U.S. Government Printing Office (GPO), for only \$30 a year.

Don't forget, we are also online through the Joint Special Operations University to all DoD employees at <http://www.hurlburt.af.mil/jsou>. On the left you will have several tabs; you must first "log-in" and then go to "publications." Scroll down until you get to the JSOM and click on the picture. From this site, you can link straight to the Government Printing Office to subscribe to the JSOM. We are working with the JSOU to have a SOCOM-SG medical site, we will keep you posted as that progresses.

We are now into our fifth year of publication and continue to need your article submissions and photos. They are what keep the JSOM going and they're what makes this journal so unique. It is a sharing of your lives and missions as you go forth as instruments of national foreign policy. We can't do it without your input; you are what the journal is all about!

The JSOM remains the tool that spans all the SOF services and shares medical information and experiences unique to this community. The JSOM continues to survive because of the generous and time-consuming contributions sent in by physicians and SOF medics, both current and retired, as well as researchers. We need your help! Get published in a peer-review journal NOW! See General Rules of Submission in the back of this journal. We are always looking for SOF-related articles from current and/or former SOF medical veterans. We need you to submit articles that deal with trauma, orthopedic injuries, infectious disease processes, and/or environment and wilderness medicine. More than anything, we need you to write CME articles. Help keep each other current in your re-licensure requirements. Don't forget to send photos to accompany the articles or alone to be included in the photo gallery associated with medical guys and/or training. If you have contributions great or small... send them our way. Our E-mail is: [JSOM@socom.mil](mailto:JSOM@socom.mil).

WHAT'S NEW -- We are now serial indexed with the Library of Congress. We are awaiting approval of our application to be indexed with the National Library of Medicine. The committee meets in June. If we are approved, and I feel confident that we will be, the JSOM will be searchable in MEDLINE/PubMed.

Don't forget to do your CMEs!!!! Please note our new test format. Thanks to CPT Steve Briggs for the great idea, please let us know how you like it. Remember, our CMEs are for all SF medics, PJs, and SEAL corpsmen as well as physicians, PAs, and nurses. We offer them to you in coordination with the Uniformed Services University of Health Sciences (USUHS).

Enjoy this edition of the journal, send us your feedback, and get those article submissions in to us now!

Maj Michelle DuGuay

# From the Surgeon



Frank Butler, MD  
CAPT, USN  
HQ USSOCOM Command Surgeon

## KUDOS

I had a chance to visit with the USASOC liaison officers MSG Dan Thompson and SFC Martin Thompson (AKA “The Thompson Twins”) at Walter Reed on a recent trip to DC. USASOC established these positions as well as one at Landstuhl to provide help to our SOF wounded warriors with both health care and administrative issues during their hospitalization. This is a great initiative. Seeing first-hand the positive impact that our SOF liaison officers have on the wounded Soldiers and their families was a moving experience. Their presence serves as a reminder that our hospitalized personnel remain valued members of the SOF family.

Lt Col Jim Lorraine will be retired by the time this edition of the JSOM comes out. Jim had a brief but exceptionally successful tour as Deputy Command Surgeon. There is nobody around who can make things happen in the worlds of manpower, budgets, and medical planning better than Jim. The office is going to miss him badly.

The Critical Task List (CTL) for the Special Operations Combat Medic (SOCM) course was approved and signed by General Brown on 9 March. This CTL implements the vision that the SOF medical community adopted several years ago to go beyond the curriculum used by civilian paramedics and develop a SOCM curriculum that better reflects the skill set needed to provide medical care in Special Operations settings. Congratulations to everyone involved in this process (Requirements Board, Component Surgeons and Senior Enlisted Advisors, the USSOCOM Medical Training Department, Master Chief Welt, and MSgt Bob McCumsey) for all of their efforts – this was a great team accomplishment. Everyone’s contributions were much appreciated and critical to the excellent final product that we obtained.

## SOCM CRITICAL TASK LIST

The Critical Task List for the SOCM course is USSOCOM’s approach to fulfilling its statutory responsibility to provide an interoperable standard for Special Operations medical training. General Brown’s letter acknowledges that SOCM training will be accomplished both at the Pararescue School at Kirtland AFB as well as at the Joint Special Operations Medical Training Center at Fort Bragg. Having a second schoolhouse engaged in SOCM training will help greatly in assuring that we are able to meet the increased post-September 11th demand for SOF combat medics. Although each schoolhouse will translate the Critical Task List into a Plan of Instruction independently, the CTL will provide for a common skill set for all SOCM medics.

The CTL letter’s recognition of five national standards for specific areas of medical practice in SOF (Advanced Cardiac Life Support, Basic Life Support, Pediatric Emergencies for Prehospital Providers, Prehospital Trauma Life Support for trauma encountered in non-tactical environments, and the military medicine chapter of the PHTLS Manual for Tactical Combat Casualty Care) is a major advance. The letter directs that updates be made in the curricula in the SOCM schoolhouses both now and whenever these five standards change in the future. This practice expands the successful approach to standardized updates used in such courses as ACLS and ATLS to prehospital trauma care in SOF.

## **TACTICAL MEDICAL EMERGENCIES**

I want to highlight one area in the Critical Task List letter that is a new undertaking for SOF medicine – tactical medical emergencies (TME). In the preliminary staffing of the letter with the Components, an area that required special attention was “sick call” medicine and treatment of medical emergencies. Some SOF medics (e.g., Air Force PJs and SEAL 8492 Corpsmen) are not recognized by their services as being able to treat patients with medical (as opposed to traumatic) disorders without direct oversight. In the SOF environment, however, with its emphasis on small unit operations, it is common for a non-independent duty medic to be the only medical asset present in units operating in very remote areas – no Combat Support Hospital, no physician, no PA, no 18-D or SEAL 8491. How do we deal with medical emergencies that occur in this setting?

Thanks to CAPT Andy Woods at NAVSPECWARCOM for being the first person to propose the excellent solution to this question that has been designated “Tactical Medical Emergencies.” The SOF medical community has identified 41 conditions that non-independent duty SOF medics should be able to identify and provide initial management for if they are in an austere environment with no access to a medical treatment facility or independent-duty providers. The caveats are that they treat the conditions according to the established protocols and contact a physician for consultation as soon as practical. This is a solid concept that mirrors the well-accepted practice in the civilian sector of having paramedics administer medications in the prehospital setting for cardiac emergencies. Many lives have been saved in civilian communities due to paramedic intervention in emergency situations and many lives and missions may be saved in future SOF operations as SOCM medics are provided with the capability to treat a full spectrum of life and mission-threatening emergencies if the situation demands it. A very special thanks to MSgt Bob McCumsey for his many hours of formatting the TME into its current user friendly format.

A question has come up regarding whether or not SOF physicians and independent duty medics are required to use these protocols in treating patients with the medical disorders covered in the Tactical Medical Emergency protocols. The one-word answer to this question is “no.” These protocols are intended to be used by SOCM medics in austere environments. Physicians, PAs, and independent duty medics may have a wider range of diagnostic and therapeutic options available and are free to use them. That said – these protocols have gotten a close look by the SOF medical community and selected consultants and are a good starting point for *anybody* treating medical emergencies in an austere environment. The TME protocols are published in their entirety in this edition of the JSOM. These protocols will be reviewed and updated next year, so if you think you’ve got a better way to treat one of these disorders or if you have new protocols that you think should be added – don’t be afraid to step up. Your point of contact in our office is CPT Steve Briggs (briggs@socom.mil).

## **PREDEPLOYMENT TCCC TRAINING IN SOF**

A last item to mention is the USSOCOM message (date/time group 222016Z March 05) on the topic of Tactical Combat Casualty Care (TCCC) training and equipment. The TCCC Transition Initiative has been providing deploying SOF units who request it with TCCC training and newly-recommended combat trauma equipment for the last six months. There has been recent congressional and DoD-level interest in this topic that has made it evident that we need to ensure that everyone deploying in support of combat operations has this training and equipment prior to departure. Current CENTCOM guidance already calls for every combatant to have a Combat Application Tourniquet™ (CATS™) and a hemostatic dressing in the Central Command area of operations. Implied in their requirement is the need for everyone to also be trained in the appropriate indications for and use of these devices. The USSOCOM message establishes a SOF requirement for this equipment and training, as well as the other measures outlined in the current TCCC guidelines contained in Chapter 16 of the PHTLS Manual (Hextend® as a resuscitation fluid, battlefield antibiotics, etc.). The training needs to be provided for *all* unit personnel – there is no guarantee that there will be a medic available to treat every casualty sustained on Special Operations missions. The goal is no preventable deaths occurring in wounded SOF personnel. A point of emphasis with respect to this message is that there is not a requirement for every deploying SOF unit to obtain their TCCC training through the Institute for Surgical Research (ISR) training teams employed by the Transition Initiative. Many SOF units have established their own TCCC training cells and courses (the Rangers come immediately to mind) and don’t need an outside assist. The ISR TCCC Transition Initiative team is there for the SOF units that need it.

# Meet Your JSOM Staff

## EXECUTIVE EDITOR

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CAPT Frank Butler graduated from Basic Underwater Demolition/SEAL training in 1972 as a member of Class 64 and subsequently served as a platoon commander in both Underwater Demolition Team Twelve and SEAL Team One. After attending medical school at the Medical College of Georgia, he did his internship in Family Practice at Naval Hospital Jacksonville. CAPT Butler spent five years as a Diving Medical Research officer at the Navy Experimental Diving Unit in Panama City, where he helped to develop many of the diving techniques and procedures used by the Navy SEAL teams today. He then did a residency in Ophthalmology at the National Naval Medical Center in

Bethesda, where he was Chief Resident in 1989. CAPT Butler was then assigned to the Naval Hospital Pensacola where he was Chief of Ophthalmology from 1989 to 1994. He assumed the duties of Director of Biomedical Research for the Naval Special Warfare Command in 1989 as well. He was transferred to his current position as Command Surgeon, U.S. Special Operations Command, in March 2004.

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Maj DuGuay joined the Army Reserve in 1987 and served as a nurse in a Combat Support Hospital unit for three years before switching services in 1990 to become an Air Force C-130 Flight Nurse. She is currently an IMA reservist attached to the SOCOM/SG office where she is in charge of management, production and publication of the JSOM. Maj DuGuay has a Bachelors in Nursing and a Masters in Business Administration/Management. Her career includes being a flight nurse in both the military and private sector, 15 years of clinical experience in emergency and critical care nursing as well as being an EMT and a legal nurse consultant. She also served as the military liaison

to her Disaster Medical Assistance Team (DMAT.) Prior to the SG office, Maj DuGuay's experience at USSO-COM includes an assignment in the Center for Force Structure, Resources, Requirements, and Strategic Assessments.

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COL Anderson enlisted in 20th SFG(ABN) in 1965 and separated in 1972 as SFC, MOS 12B4S (SF Engineer) and 91B4S(SF Medic). He received his Bachelor of Science in Psychology and PA certificate in 1975. He obtained his MD and PhD in medical anthropology at the University of Florida. COL Anderson is board certified in Internal Medicine; his experiences include primary care, critical care internal medicine, and Chief of Emergency Medicine. He was Chief of Internal Medicine for the 344 MASH, USAR, 1990 to 1993; Battalion Surgeon, 2/12 SFGA, 1993 to 1994; Group Surgeon, 19th SFGA, 1994 to 2000;

HHC, USACAPOC Public Health Team Chief, 2000 to 2001; EMS Medical Director for three EMSs; and a member of New Mexico State EMS Licensing Board until mobilized in Jan 2002. COL Anderson is the Associate Dean (Army), Joint Special Operations Medical Training Center, USAJFK, Special Warfare Center and Schools, Ft Bragg, NC.

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Rocky Farr, MD  
COL, USA  
Command Surgeon

# USASOC



By the time you read this, we will be in or near the next summer PCS season with units moving back and forth to and from the wars and also new Army Medical Department (AMEDD) personnel arriving at units to learn to be part of SOF. We have the smallest turnover rate among medical officers that I can remember. This is a product of now having all board certified medical officers who stay longer rather than depart after two short years to pursue their residencies. I would also like to think that the said officers are happy in their SOF assignments and want to stay. It also means since the rate was small in summer 2005 that the turnover rate in summer 2006 will be quite large. New AMEDD officers are always a training challenge and a longer than ever pipeline. It is not just airborne and flight surgeon training anymore.

I would like to focus mainly on training issues in this edition of our medical journal. The sustainment training seats for 18Ds and SOCMs have been tight lately. They were cut by USSOCOM (not the surgeon) because we did not fill all the seats they were paying for. MSG Rodriguez is working on a plan to get the number of training seats INCREASED. For now, get a "hard" Army Training Requirements and Resources System (ATRRS) seat as soon as you can and do NOT wait until you are nearly expired to go to SOFMSSP, or whatever it is now called. The argument that everyone was busy at the war and could not attend did not work; an empty seat is an empty seat. The only way to get more seats is to keep them filled and overfilled.

I just briefed in the Joint Special Operations University's Joint Special Operations Medical Officers Orientation Course at Hurlburt Air Force Base, Florida where I saw students from various units within our command, including my office, attending the course. The course is a broad overview to SOF and a chance to meet some of our Navy and Air Force brethren. The next day I visited the U.S. Navy Diving and Salvage Training Center (NDSTC) in Panama City to see our three Diving Medical Officer Course (DMO) students, Majors Czarnik (3rd SFGA), Haight (5th SFGA), and Mandry (20th SFGA) all who were doing well. We have managed to get more medical officers and physician assistants through this nine-week training than ever before. The Army Engineer Detachment at NDSTC has offered to do a "pre-DMO" for new officers to the community that are going en route to DMO as part of a PCS move from MEDDAC to SOF.

While discussing training, I would like to also discuss "Non-Trauma Module" (NTM) medical training. USAFC 350-1 requires NTM training annually, but the actual content I leave to the individual group surgeons to determine for themselves. This gives them the freedom to highlight and focus on whatever subjects that they think important to their group's mission. Popular subjects include veterinary, dental, and preventive medicine. I just came from the 20th Special Forces Group's NTM. They have continually had a very strong program and have definitely set the standard for NTMs among all the groups, both active and reserve component. This year they tasked their 2nd Battalion and its surgeon, MAJ Chris Mandry, to plan and stage it over a three-day drill weekend near Jackson, Mississippi. The weekend's training was all great, all relevant, well done, and

just plain fun. I learned a lot about farrier skills, food preparation skills, and more dental than I ever wanted to know. Actual teeth were extracted, horses packed and shod, and post-mortem food inspections conducted. The veterinarians nearly outnumbered the patients and doctors (assorted Medical Corps, Veterinary Corps and Dental Corps) Mandry, Czarnik, Goldsmith, Powell, Bosworth, Mason, Cello, and Allison, all taught excellent classes and practical exercises. NTM completion, when forwarded to my training section office, will be entered into the new 18D page in MODS/MEDPROS.

Another training opportunity is the Tactical Combat Casualty Care Committee's (TCCC) "just-in-time training" for deploying units. There is a message from USSOCOM that states that the TCCC concepts will be used in this command and those units without an "internal program" may want to use this Institute of Surgical Research (ISR) based team to complete these requirements. Feel free to discuss this with my training office. The Army and CENTCOM are starting to mandate the carrying of tourniquets in theater; we do live in interesting times. The TCCC training brings new medical items with them. One comment concerning live tissue training (which is going well): The USASOC Commanding General has issued a policy letter quite some time ago that requires all such training be approved through USASOC at some level (see USASOC and/or USAS-FC 350-1 also). That includes going to another command's LTT, another service's LTT, and civilian courses with LTT also.

Several Soldiers are departing my office this summer. No, not me! (I go over 38 years service in 12 days.) LTC Paul Dakin, my command veterinarian and long-suffering S-1 assignment officer will depart for a command in the Pacific. Paul, thanks for all you have done for the command. Major Jason Wieman, Chief, USASOC Preventive Medicine, departs for the 1st Cavalry Division at Fort Hood, Texas to become their division surgeon. Jason is an officer this community definitely wants back. SFC(P) Brian Allen seems to have figured out a way to do even less work by becoming a medical student and probably a second lieutenant and will depart for a while, but we will get him back. Most of the general officers in headquarters are changing out this summer, so that will most probably bring some changes that will trickle down—stay tuned!

Lastly, it is not too early to start planning now for how to get a TDY funded to the weekend USASOC Surgeon's Conference and the follow-on Special Operations Medical Association conference this coming December. See details at [www.specialoperationsmedicalassociation.org](http://www.specialoperationsmedicalassociation.org). My standing offer of funding the TDY for anyone who writes a paper to present that is accepted and that I consider worthy, still stands.



# NAVSPECWARCOM



Edward Woods, MD  
CAPT, USN  
Command Surgeon



## TOURNIQUETS AND TECHNOLOGY

Good medical care does not occur in a vacuum. The time tested care that is rendered in hospital, clinics, and on the battlefield had its genesis before the time of Hippocrates in ancient Greece. It is taken for granted until it is needed and then criticized when it is not enough. The medical practitioners in this day and age are, like the military, a reflection of our society and are shaped by perceptions and values. Like most professions we are always looking for the next big thing whether it is a cure for the common cold, a cure for cancer, or a new tourniquet that beats all tourniquets. The recently adopted Combat Application Tourniquet (CAT) is a good thing. It is high speed, low drag, and it works well according to the Institute of Surgical Research at Brook Army Hospital that tested it. From the perception standpoint it is the winner hands down. Presently it has attracted much attention after being adopted by SOF to be included in the Navy Special Warfare Authorized Medical Allowance List (AMAL). Simply stated, the CAT is the best. The time tested simple cravat and windless tourniquet that we have known and loved all these years is also the best. It is dirt cheap, fits with a low profile in a SEAL blowout kit, stops bleeding when applied correctly, and can save lives. An operator with a trained understanding of how the cravat and windlass works can, in a pinch, create a tourniquet from raw materials. The cravat has other uses as a sling and bandage. A recent visit to a Naval Special Warfare medical facility revealed drawers filled with tourniquet devices that work well except that operators had instead chosen something that meets standards and their needs. You heard me right. The best tourniquet is the one that works and is adopted by the operators. So why do we need two different tourniquets? Simply stated, so that the SEAL and SWCC corpsmen and medics have options that work. Long after all the fanfare over the CAT has subsided the SEAL and SWCC operators who use them will still have the option of using the simple cravat and windlass to save lives. There is little doubt in my mind that the cravat and windless will be around in the same form long after the CAT Mark VI is introduced. I hope that the super whamadyne tourniquets we use in the future will do nothing but get better and better but the simple cravat and windless and the knowledge to use it will forever remain a basic SOF medical truth.



# AFSOC



Dan Wyman, MD  
Col, USAF  
Command Surgeon

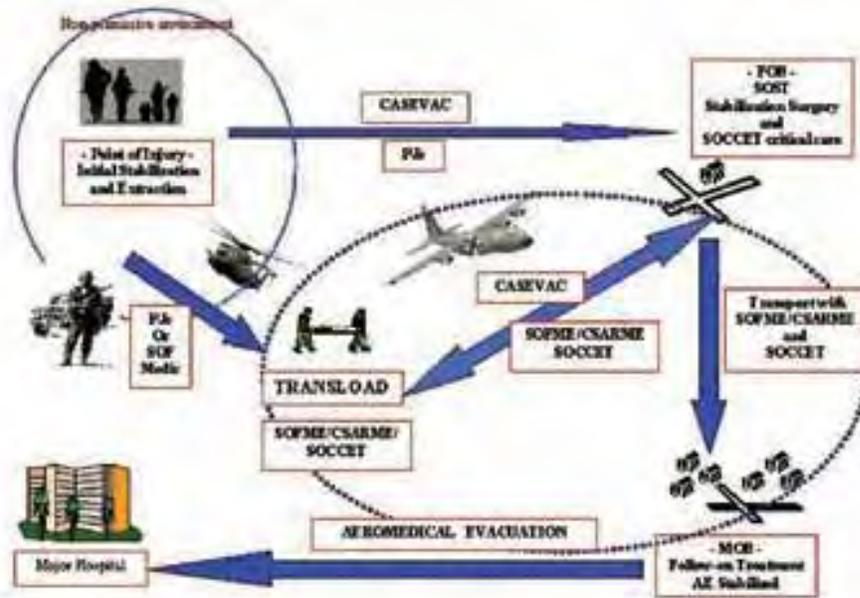
By the time this article appears in print, Air Force TTP 3-42.6, *USAF Medical Support for Special Operations Forces*, should be published and on the streets. This document has been about a year in the writing/reviewing/critiquing/rewriting stages and I would like to thank our HQ AFSOC/SG staff as well as countless members of our medical community for all their efforts. This revision is essentially a comprehensive rewrite of the previous document and I believe all AFSOC medics should spend a few minutes reviewing it. Do not hesitate to contact us with any questions, concerns, and comments. Like just about every document written today, by the time it's published, real world events can make some portions outdated.

The new TTP covers SOF missions and operational environments (Chapter 1); organizations, roles, and responsibilities (Chapter 2); command, control, and communications (Chapter 3); employment of medical support for SOF (Chapter 4); planning considerations (Chapter 5); medical logistics and war reserve materiel (Chapter 6); and training (Chapter 7). Attachment 2 provides a listing of all AFSOC medical personnel UTCs; Attachment 3, a listing of all AFSOC medical equipment UTCs; and Attachment 4, a listing of all AFSOC Pararescue (PJ) medical equipment UTCs.

I would like to take a few moments to discuss Attachment 5, CASEVAC/Transload Evacuation Process. This attachment is just one page with two diagrams, the first of which I have copied below. While this "cartoon" appears very simplistic, I am convinced that it is key to the success of AFSOC medical operations. Our first charge as medics is to ensure our forces are fit to fight and to prevent casualties. We all take this charge very seriously, expending significant resources making our warriors the most dominant fighting force in the world. However, despite all our best efforts, when the bullets start flying, even our most prepared and protected operators suffer casualties. And when this occurs, it is paramount that we (AFSOC medics) make every effort to save life, limb, and eyesight and restore the health of our fighting force as effectively and efficiently as possible. This starts with care at the point of injury and continues through all the levels of care and casualty evacuation (CASEVAC). Thus it is paramount we get it right! And we get it right when everyone understands their respective roles and responsibilities and then trains and executes.

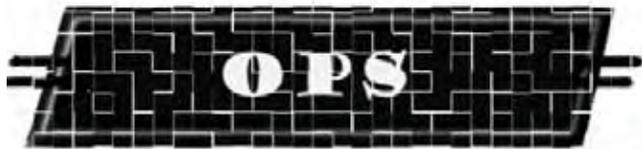
In the non-permissive environment, point-of-injury care is provided by Self-Aid/Buddy Care and our combat medics, PJs. The care provided by our PJs on the battlefield is life/limb/eyesight saving tactical emergency and trauma medicine, stabilization, and then evacuation. Initial evacuation is typically to a SOF FOL/FOB where our SOF Medical Element (SOFME) and Special Ops Surgical Team (SOST) are positioned to provide the next level of care. When the PJs need to be rapidly returned to the fight or when the point of injury is a significant distance from the FOL/FOB medics (greater than two hours transport time), then a transload and transfer of patients is necessary. This transload should be accomplished in a secure location close to the battlefield. During a typical hot transload, the patients are transferred from a rotary wing platform

(under PJ medical care) to a fixed wing SOF aircraft and to the SOFME and Special Ops Critical Care Evacuation Team (SOC CET). The SOFME and SOC CET medical personnel are specifically trained in the delivery of advanced medical care within the aeromedical environment. Following patient stabilization by the SOF medics at the FOL/FOB (which may require stabilization surgery and intensive care medicine) the patient is transported via aircraft/vehicle of opportunity by the SOFME/SOC CET to a MOB with Level 3 medical facility. At this point our patients are in the hands of our fellow non-SOF medics (EMEDS, CASH, etc.) who will provide follow-on advanced stabilization medical care and then transport via the aeromedical evacuation system.



I know this process appears simplistic – it is!! But its success relies on everyone understanding his/her role and responsibilities and training, training, training, then executing! As Lt Gen Taylor, the AF/SG, is fond of stating...“execution is the chariot of genius.”

Once again let me say that I stand in awe of the incredible capability that AFSOC medicine brings to the fight. Simply put, you are the best! AFSOC Medical Operations – Anytime, Anywhere. Take care and may God bless you and keep you safe!



MAJ Chris Coley; LT Shawn Wood  
Medical Plans, Operation & Logistics

We recently underwent a significant turnover of personnel in the Ops Section. LTC Will Schiek departed back in November 2004 and I finally got on board in January. I am excited to be here and continue the great work that LTC Schiek did in the Ops arena. Also, with the departure of COL Heintz last year, Lt Col Jim Lorraine moved into the Deputy Surgeon position until his retirement in May 2005. Maj Tim Dykens joined the Surgeon's Office in January as the Manpower, Projects, and Resources Officer. He is coming from Special Operations Command – Pacific and brings a wealth of knowledge and experience.

The Ops Section is actively engaged in the stand-up of a SOCOM Joint Task Force capable of deploying anywhere in the world to provide a command and control element for special operations. We continue to conduct numerous exercises to validate the JTF concept and task list.

Recently, one of the most significant issues for our community is in the area of Medical Logistics. I have included some information on the Combat Applications Tourniquet and chitosan dressing from LT Shawn Wood.

#### **CONTROL OF TOURNIQUET DISTRIBUTION**

The U.S. Army Medical Materiel Command Southwest Asia (USAMMC SWA) received DoD priority for the fielding of the Combat Application Tourniquet (CAT) and will serve as the focal point for the CENTCOM AOR for requisitions and distribution to deployed Soldiers. They have placed an order for 175,000 CATs. That volume will consume current production through July 2005. Beginning in August 2005, the priority of fill will be to deploying Soldiers. Based on the production goal of 96,000 per month and the large numbers of deploying Soldiers, this action will receive intensive management through September 2005.

On 6 April 2005, Defense Supply Center - Philadelphia (DSCP), Service logistics representatives, USAMMC-SWA, and Mr. Doug Polson, USSOCOM Defense Logistics Agency (DLA) LNO, conducted a teleconference to discuss the control of CAT requisitions. At this teleconference, DLA decided that USSOCOM components deployed (1st priority) or deploying (2nd priority) receive the same priority as USAMMC SWA. This should be a relatively small quantity in relation to the USAMMC SWA requirement and will ensure that the unique requirements of USSOCOM get identified separately from the AOR.

In order to receive concurrent priority, each component was requested to provide Mr. Doug Polson and the USSOCOM Surgeon's Office (LT Wood) with a definitive list of requirements through September 2005. These requirements were to be identified by 8 April 2005. As of the writing of this article, we have requests for about 23,625 tourniquets.

#### **HEMORRHAGE CONTROL BANDAGES**

Currently, USSOCOM has Chitosan bandages in the SOF Supply Activity. If you have requirements, submit your requests to LT Shawn Wood. The submission format is on the SSAVIE website <https://ssavie.sofsa.mil/ssavie/log1.asp>



Mr. Bob Clayton

The USSOCOM Biomedical Initiatives Steering Committee (BISC) meeting for March was cancelled. Program administration and selection will be conducted electronically and will be reported in the next edition of the Journal,

**Update on the next edition of the Special Operations Medical Handbook (SOFMHB)**

Funding for the next edition of the SOFMHB is being coordinated through the Office of the Surgeon General, U.S. Army, for FY06. The Army Medical Department Center and School (AMEDDC&S) has expressed an interest in utilizing the content of the SOFMHB, so arrangements are underway to facilitate this project. The U.S. Army Telemedicine and Advanced Technology Research Center will provide the program management for the effort with the Advanced Medical Test and Support Center (AMTSC) as project coordinator; USSOCOM and the AMEDD C&S will provide the user oversight and expertise. For those of you not familiar with the 2001 edition of the SOFMHB, a group of approximately 60 medical specialties were asked to write chapters or portions of the handbook. Based upon the guidance of the USSOCOM Command Surgeon, a deadline of 1 June 2001 was established. The intent of the handbook was to provide both the medic/corpsman and the operator the ability to use the handbook to provide care in austere settings. It was also designed to provide a crossover of equipment and operational information that may be needed when operating in a joint environment. Currently the handbook is 655 pages, printed on a water-proof, tear-proof stock, with ring binders so that the handbook can be reduced in size based upon the desires of the user.

It is anticipated that a strategy meeting will be held in May to discuss the results of the Gap Assessment and to start the planning process to complete this project. I will provide another update after the May meeting.



CPT Steve Briggs, PA-C  
MSgt Bob McCumsey, EMT-P, IDMT

### **ADVANCED TACTICAL PRACTITIONER (ATP) TRAINING UPDATE**

On 14 February 2005, the Command Surgeon briefed the USSOCOM Commander on eight issues that this office identified as high priority in medical support of the Global War on Terrorism (GWOT). All eight of these issues deal with training concerns. They are:

- 1) Commander's approval for the new Special Operations Combat Medic critical task list to be implemented at the Joint Special Operations Medical Training Center (JSOMTC).
- 2) Determine where SOF Pararescue Specialist (PJ) training will be conducted.
- 3) Special Operations Combat Medic Skills Sustainment (SOCMSSC) based on the Special Operations Combat Medic (SOCM) Course.
- 4) Funding both the Requirements Board (RB) and the Curriculum Examination Board (CEB).
- 5) Funding revised SOCM oversight, certification, initial testing, and evaluation.
- 6) Continuous support for the *Journal of Special Operations Medicine (JSOM)*.
- 7) Web-based medical distance learning capability for USSOCOM.
- 8) Dean and Senior Enlisted Advisor (SEA) billets at the JSOMTC.

The Commander approved all our objectives. Attached is a copy of the SOCM critical task list for implementation at the JSOMTC and Kirtland AFB before September 2005. This task list will allow the PJs to train at either Ft. Bragg or Kirtland AFB, as long as the critical task list is covered within the curriculum and they pass the final Advanced Tactical Practitioner (ATP) certification examination. SOCMSSC training objectives will focus on sustaining SOCM critical tasks identified as the most critical perishable skills, and will have Requirements Board and component input.

The Commander agreed that the RB and CEB, USSOCOM oversight of ATP certification process, and web-based medical distance learning capability were all valid concepts. We will submit them for the 2008 - 2013 Program Objective Memorandum (POM) cycle. The current costs for conducting the RBs and CEBs is absorbed by the USSOCOM Chief of Staff and the Command Surgeon's office.

The Commander concurred with the training value of the *JSOM*, which will continue to be funded.

Finally, the JSOMTC Dean and Senior Enlisted Advisor positions are mandated by USSOCOM Directive 40-2, Joint Special Operations Medical Training. General Brown's guidance was that USSOCOM will provide billets for these two positions and have input into the selection process for future deans and senior enlisted advisors (nominative to CG,USAJFKSWCS).

The CEB met in December during the Special Operations Medical Association (SOMA) conference. At the request of CAPT Butler, they reviewed and gave their professional input on forty-one medical protocols for the Special Operations Combat Medics. Let me take a minute to explain the reasons and thoughts behind these protocols. A Navy 8491, independent duty corpsman (IDC), Air Force 4N0X1C, independent duty medical technician (IDMT), or as an Army 18D, Special Forces Medical Sergeant, each has a skill set spelled out that is of greater scope than a non-independent duty medic's (i.e., 91W/4N0X1/8492/SOCM). In the past, non-independent duty medics have never been authorized by their services to practice medicine without direct supervision. This is not to say that they have not been given latitude by their physicians or physician assistants to do so. The objectives of these protocols are two-fold. First, these protocols expand the scope of those non-independent medics to operate independently, in an austere field environment, where there is no direct supervision, as long as they adhere to protocols. USSOCOM is explicitly telling SOCM level medics to be trained and equipped to treat these emergencies under protocol. The second objective of these protocols is to limit the number of medications and to standardize those that our SOF medics carry. These protocols will be evaluated and changed as requirements and technology evolve.

In April, the CEB met to finalize the test bank that we will use for certification of the USSOCOM Advanced Tactical Practitioner. At present we have over 5,000 questions which we will soon start “beta testing.” If you are interested in being a participant in this process, please contact this office for further information. Beta testing is scheduled to start in July or August. At this same meeting, the CEB and RB looked at the critical task list and recommended which tasks should be incorporated into SOCMSSC recertification.

We have included the protocols and a crossword puzzle at the end for entertainment and continuing education. Please review and understand that some of the recommended drugs may not be a first-line drug of choice in other literature. Some feedback already is that these medications are not carried or stocked in some formularies or in some medical equipment sets. The answer is to train and equip to the interoperable standard established by the Commander, USSOCOM. Another question posed was why not teach a class of medication and allow the medic the option to pick within that class. While this is a valid approach for individuals authorized to treat medical conditions independently, SOCMs need to work under physician-established protocols, just as paramedics do when administering medications to cardiac emergency patients.

Finally, on the topic of CEUs: Many SOF medics have inquired as to who is in control of setting up the venue for SOF education during SOMA. Many feel that the topics taught are more for the benefit of pulling in doctors and international attendance and not for the original intended audience. As we are the credentialing body for CEUs for the enlisted medics, I have asked the president of SOMA to give us a say in what subjects are taught at the conference. Please get in touch with this office and let us know what the requirements are, or if you have a SOF topic you would like to present at SOMA, so that we can relay them to the SOMA board. Remember, most of the classes are locked into the schedule four to six months out, so don’t delay your input!

We have two new web addresses for you to communicate with this office.

They are [ATP@socom.mil](mailto:ATP@socom.mil) (Green/Unclassified) or [ATP@hqsocom.socom.smil.mil](mailto:ATP@hqsocom.socom.smil.mil) (Red/Classified)

This will be the address that you can use to provide us any personal information that changes. Please provide us the following information: (In the subject header please put “last name/personal update”)

Last and First Name	Rank
Unit	Unit Telephone Number
Military Email	Civilian Email (Optional)
SOCM Class graduation date	SOCMSSC Class (last date)

Please feel free to contact us and keep us informed about any medical issues or concerns that you might have. We will add you to our list of contacts and send you any medical updates when they are sent out.

CPT Steve Briggs  
Chief, Education & Training

The following list of personnel have authored, co-authored, or contributed in developing the critical task list for the new Advanced Tactical Practitioner (ATP) certification. Those with their name bolded have also authored, co-authored, or contributed in the development of the ATP's Tactical Medical Emergency (TME) protocols.

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**FINANCIAL DISCLOSURE:** The authors of the TME Protocols reported that this presentation will include discussion of commercial products. However, they have had no significant financial relationship with a commercial entity whose products are related to the subject matter of the topic they will be addressing or a commercial supporter of this educational activity.



**UNITED STATES SPECIAL OPERATIONS COMMAND**  
OFFICE OF THE COMMANDER  
7701 TAMPA POINT BOULEVARD  
MACDILL AIR FORCE BASE, FLORIDA 33621-5323

9 March 2005

**MEMORANDUM FOR**

**COMMANDER, UNITED STATES ARMY SPECIAL OPERATIONS COMMAND,  
FORT BRAGG, NC 28307-5000**

**COMMANDER, NAVAL SPECIAL WARFARE COMMAND, 2000 TRIDENT WAY,  
SAN DIEGO, CA 92155-5037**

**COMMANDER, AIR FORCE SPECIAL OPERATIONS COMMAND, 100 BARTLEY  
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**COMMANDER, JOINT SPECIAL OPERATIONS COMMAND, P.O. BOX 70239, FORT  
BRAGG, NC 28307-5000**

**SUBJECT: Special Operations Combat Medic Course Critical Task List**

**1 References:**

- a. USSOCOM COS msg DTG 181541Z Feb 03
- b. USSOCOM Directive 40-2 dtd 22 January 2004
- c. USSOCOM COS Memo of 26 July 04

2. Reference (a) stated United States Special Operations Command's (USSOCOM) intent to shift from combat medical training guided by the Department of Transportation and National Registry of Emergency Medical Technicians (NREMT) Paramedic program to a SOF-defined Special Operations curriculum. Training provided to our combat medical personnel will be more closely focused on the SOF operational environment and certification/recertification procedures could be better structured to meet SOF requirements. The Emergency Medical Technician-Basic portion of the curriculum will be retained.

3. Reference (b) established the USSOCOM Board of Regents (BOR) as the defining authority for the Special Operations Combat Medic (SOCM) course. The BOR is composed of the Chiefs of Staff of the four USSOCOM components. The office of the USSOCOM Command Surgeon is responsible for presenting a Critical Task List (CTL) to the BOR. This was done in reference (c). This letter and the attached CTL represent the results of that staffing.

SOCC

SUBJECT: Special Operations Combat Medic Course Critical Task List (CTL)

4. Enclosure (1) is the CTL for the SOCM course approved by the BOR. There are currently two locations providing training for SOF combat medical personnel: the Joint Special Operations Medical Training Center (JSOMTC) at Fort Bragg, NC; and the Pararescueman School at Kirtland AFB, NM. Commander, USASOC, will ensure that the SOCM course at the JSOMTC contains all of the elements in the SOCM CTL. Commander, AFSOC, will coordinate with Commander, Air Force Education and Training Command to ensure that all of the elements of the SOCM CTL are present in the Pararescueman Course. If this is not feasible, then SOF Pararescuemen will need to be taught the elements contained in the SOCM CTL but not taught in the Pararescueman course in another venue before being certified as SOCM trained. Any additional skills not specified by the SOCM CTL but deemed essential by SOF components will fall into the prerogative of the components that want them to teach as service-specific follow-on training modules.

5. Certain areas of medical practice have well-accepted national standards to which SOF medicine should conform. Preliminary coordination with component surgeons indicated that the SOCM curriculum should adhere to these national standards in the following specific areas.

- a. The Advanced Cardiac Life Support (ACLS) course for emergency cardiac care.
- b. The Basic Life Support (BLS) course for cardiopulmonary resuscitation.
- c. The Pediatric Education for Pre-hospital Providers (PEPP) course for pediatric emergencies.
- d. The Pre-hospital Trauma Life Support (PHTLS) manual for non-tactical trauma care.
- e. Chapter 16 of the PHTLS Manual for Tactical Combat Casualty Care (TCCC)

6. The BOR concurred with this recommendation. Adopting recognized national standards has three advantages.

- a. The BOR is relieved of the difficult task of trying to define a separate SOF standard of care for these specific areas.
- b. SOF medicine will be practiced to the standards endorsed by the nationally recognized experts in these areas of care.

SOCC

SUBJECT: Special Operations Combat Medic Course Critical Task List (CTL)

c. The SOCM curriculum can and should be updated as soon as the above standards are modified without waiting for the next SOCM curriculum/POI review. Commander, USASOC, and Commander, AFSOC, will ensure that the POI for both the SOCM course and refresher training reflects the information contained in the most current version of the standards noted both presently and whenever the national standard noted above are updated in the future.

7. The module on clinical medicine as handed down from the Requirements Board required further definition. Preliminary staffing with component surgeons resulted in the revised module as shown in the CTL. This is a critical item in that not all SOCMs are envisioned by their services as being trained or authorized to provide independent diagnosis and treatment of diseases except in the specific scope of practice as defined by enclosure (1). It was the opinion of both operators and component surgeons that in cases where no other medical assets are present and the SOCM is presented with life or mission-threatening medical disorders that could feasibly be diagnosed and treated in austere environments, he should have both the training and the medications to do so. Although this will give SOCMs authorization to treat a number of medical conditions not currently within the scope of any military non-independent duty practitioner, the disorders covered in attachment (2) "Tactical Medical Emergencies" would be treated by SOCMs under protocol and with physician consultation if communications make this possible.

8. The items covered in paragraphs (3-5) should be incorporated into the SOCM curricula with every effort made to avoid increasing the length of the SOCM course or resources required.

9. Combat medics are those trained primarily to provide direct support of combat operations. It is the intent of USSOCOM that all enlisted medical providers who may be called upon to treat combat trauma casualties or medical emergencies in a prehospital tactical setting be trained in the SOCM course at the JSOMTC or Kirtland.

10. The new SOCM CTL as described above will be implemented into SOCM POIs by September 2005 and taught in any SOCM courses commencing after that date.

2 Encls  
as

  
BRYAN D. BROWN  
General, U.S. Army  
Commander

Special Operations Combat Medic Critical Task List  
10 Sept 2004

**Basic Sciences**

- Medical terminology
- Anatomy and physiology
- Medical math
- Pathology and physiology

**Joint Operational Medicine**

- Diving and aerospace medicine
- NBC Warfare
- Preventive medicine
- Defense health surveillance system
- Medical mission planning

**Basic Dental Emergency Procedures**

- Basic dental procedures
- Examine oral cavity
- Manage fractured and avulsed teeth
- Manage a periodontal abscess
- Manage a periapical abscess
- Perform dental extractions
- Administer local dental anesthesia
- Manage complications of dental extractions
- Place temporary filling

**Environmental Injuries**

- Manage a heat casualty
- Treat a casualty for insect bites and stings
- Treat a casualty for snakebite
- Manage near-drowning
- Environmental toxicology
- Manage electrical and lightning injuries
- Treat a casualty for cold injury
- Manage high altitude illness
- Manage allergic reactions

**Pharmacology**

- Antibiotic protocols
- Manage pain
- Dispense common fluid/electrolyte solutions
- Administer medications
- Pharmacology
- Dispense a medication

**Special Operations Combat Medic Critical Task List (Continued)**  
**10 Sept 2004**

**Emergency Cardiac Care**

- Basic life support for health care providers (BLS-C)
- Advanced cardiac life support (ACLS)
- Pediatric Emergencies for Prehospital Providers (PEPP)

**Clinical Medicine (Revised)**

- Treatment of common illnesses with over-the-counter medications
- Recognition of medical emergencies
- Diagnosis and Initial Management of Specific Medical Emergencies
- Sports Medicine

**Clinical Skills**

- Perform local and regional anesthesia
- Wound care management
- Determine death
- Initiate a saline lock
- Communicate with the patient
- Perform urinary catheter care
- Measure a patient's intake and output
- Remove foreign body from external auditory canal
- Obtain a blood specimen using a vacutainer
- Employ sternal intraosseous infusion device
- Perform the surgical hand and arm scrub
- Perform pulse oximetry monitoring
- Perform a sterile dressing change
- Put on sterile gown and gloves
- Drain abscesses
- Perform suturing
- Write a SOAP note
- Perform a complete physical examination
- Administer oxygen therapy
- Perform urinary catheterization
- Establish a sterile field
- Perform nasogastric intubation
- Manage a patient with an intravenous infusion
- Ventilate a patient with a bag-valve-mask system
- Intubate a patient
- Maintain a patient's airway
- Employ an esophageal intubation detector
- Perform exhaled carbon dioxide monitoring
- Initiate an intravenous infusion

**Special Operations Combat Medic Critical Task List (Continued)**  
**10 Sept 2004**

**Trauma**

- Manage hemorrhagic/hypovolemic shock
- Initial assessment and management of trauma
- Perform Tactical Combat Casualty Care
- Manage trauma of the genitourinary tract
- Trauma system and mechanism of injury
- Manage a burned casualty
- Triage casualties on a conventional battlefield
- Advanced airway management
- Manage head and neck trauma
- Perform rapid assessment of trauma
- Trauma drugs
- Hemorrhage control
- Detailed physical exam
- Manage thoracic trauma
- Manage abdominal trauma
- Manage spinal trauma
- Manage extremity trauma

# CE/CME ARTICLE

US SPECIAL OPERATIONS COMMAND  
TACTICAL MEDICAL EMERGENCIES PROTOCOLS  
For SPECIAL OPERATIONS ADVANCED TACTICAL PRACTITIONERS  
(ATPs)

COMPLETE TEXT  
March 8, 2005



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## PREFACE

Management of medical emergencies is best accomplished by appropriately trained physicians in an Emergency Department setting. Special Operations combat medics (SOCMs), however, may often find themselves in austere tactical environments where evacuation of a teammate to an MTF for a medical emergency would entail either significant delays to treatment or compromise of the unit's mission. Although SOCM-trained medics are not routinely authorized by the services to treat non-traumatic emergencies, in many SOF situations, training SOCMs to treat at least some medical emergencies may result in both improved outcome for the individual and an improved probability of mission success. The disorders chosen have one of the following properties in common: they are relatively common; they are acute in onset; the SOCM is able to provide at least initial therapy that may favorably alter the eventual outcome; and the condition is one that is either life-threatening or could adversely effect the mission readiness of the SOF operator.

The protocols outlined in the following pages carry the following assumptions:

- A. The SOCM medic is in an austere environment where a medical treatment facility or a unit sick call capability is not available. If a medical treatment facility or a medic authorized to treat patients independently is available, then the patient should be seen in those settings rather than by a SOCM medic.
- B. The individual to be treated is a team member, a coalition partner, or a detainee.
- C. Immediate evacuation may not be possible and, even if it is, may still entail significant delays to definitive treatment. The medical problem may worsen significantly if treatment is delayed.
- D. The SOCM will contact a consulting physician as soon as feasible.
- E. SOCM treatment will be done under the appropriate protocol.
- F. Medication regimens are designed to minimize the number of medications the SOCMs are required to learn and carry and medications have been used for multiple conditions when feasible without compromising care.
- G. Appropriate documentation of diagnosis and treatment rendered in the patient's medical record will be accomplished when the unit returns to forward operating base.
- H. Note these protocols are not designed to allow SOCM medics to conduct Medical/Civic Action (MEDCAP) missions independently.
- I. Evacuation recommendations are based on the appropriate therapy per protocol being initiated on diagnosis.
- J. The definitions of Urgent, Priority, and Routine evacuations are based on the times found in Joint Publication 4-02.2 of 2, 4, and 24 hours respectively.

## OBJECTIVES

1. As Special Operations combat medics (SOCMs), the reader will be able to demonstrate the new standard management of Tactical Medical Emergencies (TMEs).
2. With the knowledge of these TME protocols, while working in an austere environment where a medical treatment facility or a unit sick call capability is not available, the SOCM will have guidelines to provide an initial treatment IAW set standards of care that may favorably alter the eventual outcome of the chosen disorders.
3. With the knowledge of these TME protocols, the SOCM will be able to positively correct the acute onset of a condition that is either life-threatening or could adversely effect the mission readiness of the SOF operator.

**CME/CNE:** This activity has been awarded **1.5** Category 1 credit toward the AMA Physician's Recognition Award (Continuing Medical Education Credit) and **1.8** Nursing Contact Hours. The crossword puzzle activity is on **pages 71-76**. Please complete the puzzle and the evaluation form and either mail or fax it to us. We also would like you to let us know how you liked this kind of test by filling out the Readership Survey on page 77.

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## Acute Behavioral Changes (Includes Psychosis, Depression and Suicidal Impulses)

### SPECIAL CONSIDERATIONS:

1. In a tactical setting consider sleep deprivation as a cause.
2. Possible etiologies are numerous and include prior head trauma, metabolic and endocrine disease processes, environmental toxins, infections, combat stress disorder, and pharmaceutical agents (e.g. mefloquine).

### SIGNS AND SYMPTOMS:

1. Acute behavioral changes include withdrawal, depression, aggression, confusion, or other behavioral patterns atypical for the individual.
2. Psychosis is an acute change in mental status characterized by altered sensory perceptions that are not congruent with reality:
  - A. Auditory and/or visual hallucinations
  - B. May include violent or paranoid behavior
  - C. Disorganized speech patterns are common

### MANAGEMENT:

1. Remove all weapons or potential weapons from patient and treating medic.  

2. For acute agitation, combativeness, or violent behavior, restrain patient with at least four individuals and give Valium (diazepam) 10 mg IM.



3. **DO NOT GIVE VALIUM IF MENINGITIS IS SUSPECTED OR IF THERE IS A DECREASE IN MENTAL STATUS.**



4. Repeat Valium (diazepam) once if needed after 30 minutes.
5. If meningitis is suspected, use the *Meningitis* protocol.
6. Consider giving contents of 1 sugar packet sublingually to treat for possible hypoglycemia.
7. Place patient in safe environment under continuous surveillance.
8. If sedated or restrained, maintain constant vigilance for a change in the hemodynamic status or loss of airway reflexes.

### DISPOSITION:

1. Urgent Evacuation

## Acute Mountain Sickness (AMS)

### **SPECIAL CONSIDERATIONS:**

1. Usually occurs at altitudes of 8,000ft. and higher.
2. Preceded by 6-12 hour latent period after ascent.
3. Can avoid onset by limiting initial ascent to no higher than 8,000ft., then 1,000ft. per day thereafter.

### **SIGNS AND SYMPTOMS:**

1. Generally benign and self-limited but symptoms may become debilitating.
2. Headache
3. Nausea/vomiting
4. Insomnia
5. No correlation with fitness level (likely genetic predisposition).

### **MANAGEMENT:**

1. Halt ascent. 
2. Diamox (acetazolamide) 250mg PO BID 
3. Tylenol (acetaminophen) 1000mg PO q6h for relief of pain 
4. Zofran (ondansetron) 4mg IV undiluted administered over 2-5 minutes or 1M BID for nausea and vomiting 
5.  In a severe case of AMS or if patient is allergic to sulfa, give Decadron (dexamethasone) 8 mg IM/IV initially, followed by 4mg IM, IV, or PO q6h for 3 days.
6. Descend 1,500ft. or more for severe or refractory cases if tactically feasible.
7. PO or IV hydration per *Dehydration* protocol PRN

### **DISPOSITION:**

1. Most cases are relatively mild, resolve in 2-3 days, and do not require evacuation. Remain vigilant for signs of HACE (altered mental status and ataxia) or HAPE (dyspnea at rest). See *individual protocols for management of these diseases.*

## Anaphylactic Reaction

### SPECIAL CONSIDERATIONS:

1. Acute, widely distributed form of shock which occurs within minutes of exposure to an allergen.
2. Primary causes include insect envenomation, medications, and food allergies.
3. Death can result from airway compromise, inability to ventilate, or cardiovascular collapse.
4. The medic's responsibility is to know if members in the unit have such a condition. Moreover, the medic must also ensure that the member has some sort of anaphylaxis kit and is trained to use it.

### SIGNS AND SYMPTOMS:

1. Wheezing
2. Dyspnea
3. Stridor (laryngeal edema)
4. Angioedema
5. Hypotension
6. Cardiac dysrhythmias

### MANAGEMENT:



1. Epinephrine is the mainstay of therapy  
A. 0.5 mg (0.5 ml of 1:1000 subcutaneously or IM (DO NOT USE intravenously)).  
B. Repeat x 1 in five minutes if symptoms persist.



2. Benadryl (diphenhydramine) 50mg IM

3. IV access with normal saline TKO



4. Decadron (dexamethasone) 8 mg IM/IV

5. Prednisone 60mg PO qd for 5 days then stop (do not give for more than five days because of adrenal suppression)

6. Oxygen (if available)

7. Pulse oximetry monitoring

8. Be prepared to intubate and ventilate in case of respiratory failure;  
1-2 Liters normal saline bolus hypotension; then titrate to establish systolic blood pressure > 90 mmHg or normal radial pulse if BP cuff not available.

### DISPOSITION:

1. If signs and symptoms resolve completely, monitor for 6 hours. Evacuation is not required if patient remains stable.
2. Urgent evacuation for severe cases not responsive to initial therapy or recurrence of symptoms during the 6 hour observation period.

## Asthma (Reactive Airway Disease)

### **SPECIAL CONSIDERATIONS:**

1. Pulmonary disorder characterized by bronchiolar hyper-responsiveness and narrowing of the distal airways.
2. SOF patients may mask early signs and symptoms due to physical fitness, but may worsen suddenly later on.
3. Pulse oximetry hemoglobin oxygen saturation should be greater than 96% unless patient is at altitude.
4. Other disorders to consider: anaphylactic reaction, spontaneous pneumothorax, HAPE, and pulmonary embolism.
5. May see acute exacerbations of asthma with changes in geographic locations due to varying allergen levels in the environment.

### **SIGNS AND SYMPTOMS:**

1. Wheezing
2. Dyspnea
3. Respiratory distress

### **MANAGEMENT:**

1.  Epinephrine 0.5mg (0.5ml of 1:1000 solution) SubQ or IM  
(DO NOT INJECT INTRAVENOUSLY) May repeat x 1 dose in 5-10 minutes.
2.  Albuterol (metered dose inhaler – works better with use of spacer) 4 to 6 puffs q10 min until symptoms improve

3. IV access with saline lock

4.  Decadron (dexamethasone) 8mg IV or IM

5. Oxygen (if available)

6. Pulse oximetry monitoring

7.  Prednisone 60mg PO QD for 5 days then stop (do not give for more than five days because of adrenal suppression.)

8. Field intubation is not indicated for this disorder.

9. If there is superimposed fever, chest pain, and cough, treat per *Pneumonia* protocol.

### **DISPOSITION:**

1. If responds to management, observe for 4 hours and return to duty if there is decreased wheezing upon auscultation, increased ease of respiration, and normal oxygen saturation.
2. If poor response to therapy, arrange *Urgent* evacuation.

## Back Pain (Acute, Non-traumatic, Severe)

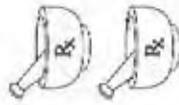
### SPECIAL CONSIDERATIONS:

1. Usually previous history of back pain
2. Generally musculoskeletal in etiology
3. Often associated with heavy lifting or unaccustomed physical activity

### SIGNS AND SYMPTOMS:

1. Onset of acute back pain – often poorly localized
2. Worse with movement
3. Pain radiating down one of the legs is usually caused by a herniated intervertebral disc.
4. May be accompanied by neurological symptoms in legs:
  - A. Weakness
  - B. Numbness
5. Pain is often severe and debilitating.

### MANAGEMENT:



1. Tylenol (acetaminophen) 1000mg PO q6h for relief of pain
2. If the above therapy is unsuccessful after 24 hours, consider using Valium (diazepam) 10mg IM/ IV. Repeat once after 24 hours if needed.
3. Cold compress to painful area for 20-25 minutes tid, followed by stretching
4. Minimize activity initially, but encourage a gradual return to full mobility as soon as tolerated.
5. Avoid high impact exercises (vigorous calisthenics) or other vigorous exercise until fully recovered.
6. If back pain is accompanied by fever and/ or urinary symptoms treat as per *Pyelonephritis* protocol.

### DISPOSITION:

1. Evacuation is often not required if the back pain responds to therapy.
2. *Routine* evacuation for severe cases not responding to therapy.
3. *Urgent* evacuation for patients with lower extremity weakness or numbness.

# Cellulitis

## **SPECIAL CONSIDERATIONS:**

1. Superficial bacterial skin infection.
2. Often secondary to trauma or scratching other skin lesions.
3. Generally begins about 24 hours following a break in the skin, but more serious types of cellulitis may be seen as early as 6-8 hours following animal or human bites

## **SIGNS AND SYMPTOMS:**

1. Painful, erythematous, slightly raised lesion with well-demarcated borders
2. Fever may or may not be present.
3. Typically erythema spreads without treatment
4. Rapidly spreading and very painful infections suggest the possibility of necrotizing fasciitis, a life-threatening infection of the deeper tissues, and should be treated per the bacterial *Sevixis* protocol.

## **MANAGEMENT:**



1. Levaquin (levofloxacin) 500 mg PO QD for 10 days
2. Clean and dress wound and surrounding area.
3. Use a marker to demarcate the border of the infection and re-evaluate in 24 hours.
4. If possible, limit activity until infection clears.
5. For cellulitis not responding to above therapy, use Rocephin (ceftriaxone) 1gm IV/IM BID, and continue with PO Levaquin therapy.

## **DISPOSITION:**

1. Re-evaluate daily and watch for progression of erythema while on antibiotics.
2. Typically evacuation is not needed, but *Priority* evacuation should be initiated if improvement is not seen within 24-48 hours or if infection continues to worsen on antibiotics.

## Constipation/Fecal Impaction

### SPECIAL CONSIDERATIONS:

1. Often seen with change of rations in the field.
2. Differential diagnosis includes acute appendicitis, volvulus, ruptured diverticulum, bowel obstruction, and pancreatitis.
3. Acute onset, severe pain, point tenderness, and fever point to etiologies other than constipation and fecal impaction.

### SIGNS AND SYMPTOMS:

1. Recent history of infrequent passage of hard, dry stools or straining at defecation
2. Abdominal pain, typically poorly localized and cramping
3. If pain becomes severe and is associated with nausea/vomiting and complete lack of flatus or stools, consider a bowel obstruction.

### MANAGEMENT:

1.  Dulcolax (bisacodyl) 10mg PO TID as needed to initiate bowel movement
2.  Tylenol (acetaminophen) 1000mg PO q6h for relief of pain (*no narcotics – they cause constipation*).
3. For impacted stool or no relief with above measures, give normal saline enema with 500ml per rectum (use lubricated IV tubing).
4. If above measures fail, perform digital rectal examination to check for fecal impaction. If fecal impaction is present perform digital disimpaction.
5. Increase PO fluid intake
6. Increase fiber (fruits, bran, and vegetables) in diet if possible.

### DISPOSITION:

1. Evacuation is usually not required for this condition.
2. *Routine* evacuation if no response to therapy.
3. If severe pain, rigid board-like abdomen, fever, and/or rebound tenderness develop, treat per the *Surgical Abdomen* protocol.

## Contact Dermatitis (Poison Ivy and Oak)

### SPECIAL CONSIDERATIONS:

1. Insect bite(s) as a differential diagnosis - are also accompanied by itching, but have discrete red papular lesions(s).
2. Cellulitis as a differential diagnosis- is bright red, painful, not pruritic, and typically becomes steadily worse without antibiotics.
3. Fungal infection as a differential diagnosis - is not always pruritic; infections sites(s) slowly enlarge without therapy.

### SIGNS AND SYMPTOMS:

1. Acute onset
2. Skin erythema
3. Intense itching (pruritis)
4. May see edema, papules, vesicles, bullae, discharge, and/or crusting.

### MANAGEMENT:

1. Change clothes when possible and bag original clothes until they can be machine washed.
2. Wash area with mild soap and water to remove resin from skin.
3.  Mycolog (nystatin / triamcinolone) cream TID
4. Apply cold wet compress to affected area to help decrease itching.
5. Benadryl (diphenhydramine) 50mg IM or PO 
6.  In severe cases, add prednisone 60mg PO QD for 5 days then stop (do not give prednisone for more than five days because of adrenal suppression.)

### DISPOSITION:

1. Evacuation is not needed for mild cases.
2. Priority evacuation for severe symptoms, intra-oral or eye involvement, or >50% body surface area (BSA) involvement care.
3. Monitor for secondary infection; treat as per *Cellulitis* protocol if suspected on the basis of increasing pain, redness, or purulent crusting.

## Contact Lens-Related Corneal Abrasions or Over-wear Syndrome

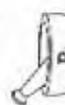
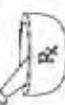
### **SPECIAL CONSIDERATIONS:**

1. These abrasions are at a high risk for development of a corneal ulcer. They should not be patched and require more intensive antibiotic therapy.

### **SIGNS AND SYMPTOMS:**

1. H/O contact lens wear
2. Eye pain
3. Eye redness
4. Tearing
5. Blurred vision
6. Light sensitivity
7. Fluorescein positive (bright yellow area of the cornea after applying fluorescein and examining the eye with a cobalt blue light source) or SPK (multiple small bright yellow dots)
8. No white or grey spot on cornea

### **MANAGEMENT:**

1.  Zymar (gatifloxacin) 0.3% drops – 1 drop in the affected eye q2h while awake
2.  Voltaren (diclofenac) 0.1% drops – 1 drop QID in the affected eye PRN eye pain
3.  Tylenol (acetaminophen) 1000mg PO q6h PRN pain
4. No patching
5. Reduce light exposure, stay indoors if possible - sunglasses if not.
6. Monitor daily for signs and symptoms of a corneal ulcer (increasing pain and development of a white or grey spot at abrasion site).
7. Check with fluorescein drops daily—abrasions should get progressively smaller. Continue antibiotic drops until 24 hours after cornea becomes fluorescein negative (no bright yellow spot).

### **DISPOSITION:**

1. Evacuation may not be needed if improving with treatment.
2. Treat per *Corneal Ulcer* protocol if condition worsens: increasing pain and redness and/or development of a white or grey spot on cornea.

# Corneal abrasion

## SPECIAL CONSIDERATIONS:

1. A corneal abrasion is a traumatic disruption of the epithelial covering of the cornea.
2. The three major concerns with this disorder are the intense eye pain that accompanies it, the possibility of a secondary infection (corneal ulcer), and a careful evaluation of the eye for findings that suggest a possible ruptured globe.

## SIGNS AND SYMPTOMS:

1. H/O eye trauma
2. Eye pain
3. Eye redness
4. Tearing
5. Blurred vision
6. Light sensitivity
7. Fluorescein positive (bright yellow area of the cornea after applying fluorescein and examining the eye with a cobalt blue light source).
8. No white or grey spot on cornea (suggests corneal ulcer)
9. Check for signs of ruptured globe
  - A. Blood in the anterior chamber
  - B. Bulging subconjunctival hemorrhage (chemosis)
  - C. Peaked pupil

## MANAGEMENT:

1.  Rx Zymar (gatifloxacin) 0.3% drops – 1 drop in the affected eye QID
2.  Rx Voltaren (diclofenac) 0.1% drops – 1 drop QID in the affected eye PRN eye pain
3.  Rx Tylenol (acetaminophen) 1000mg PO q6h PRN pain
4. Reduce light exposure; stay indoors if possible - sunglasses if not.
5. Monitor daily for signs and symptoms of a corneal ulcer (increasing pain and development of a white or grey spot at abrasion site).
6. Check with fluorescein drops daily—abrasions should get progressively smaller. Continue antibiotic drops until 24 hours after cornea becomes fluorescein negative (no bright yellow spot).

## DISPOSITION:

1. Evacuation may not be needed if improving with treatment.
2. Healing of the abrasion usually takes 2-3 days.
3. *Routine* Evacuation if not responding to therapy.
4. *Priority* evacuation if corneal ulcer develops and treatment per that protocol.
5. *Urgent* evacuation, eye shield, and Levaquin (levofloxacin) 500mg PO QD if there is a suspected ruptured globe.

# Corneal Ulcer

## **SPECIAL CONSIDERATIONS:**

1. A corneal ulcer is a microbial infection of the cornea (most commonly bacterial).
2. This is a vision-threatening condition and must be treated very aggressively.

## **SIGNS AND SYMPTOMS:**

1. History of eye trauma or contact lens wear
2. Eye pain – typically becoming worse over several days
3. Eye redness
4. Tearing
5. Blurred vision
6. Light sensitivity
7. Fluorescein positive (bright yellow area of the cornea after applying fluorescein and examining the eye with a cobalt blue light source)
8. White or gray spot on cornea (usually need tangential penlight exam to see)

## **MANAGEMENT:**



1. Zymar (gatifloxacin) 0.3% drops 1 drop in the affected eye q5min for 5 doses, then 1 drop in the affected eye q30 min for 6 hours, then, 1 drop in the affected eye QH AROUND THE CLOCK UNTIL AND DURING EVACUATION



2. Scopolamine 0.25% drops 1 drop in the affected eye BID



3. Tylenol (acetaminophen) 1000mg PO q6h PRN pain

4. No patching

5. Reduce light exposure (stay indoors if possible – sunglasses if not)

6. Discontinue contact lens use in the unaffected eye.

## **DISPOSITION:**

1. *Priority* evacuation, continue medications during evacuation. Condition may worsen rapidly if antibiotic drops stopped.

## Cough

### **SPECIAL CONSIDERATIONS:**

1. Usually viral etiology, but may also occur with high altitude pulmonary edema (HAPE) and pneumonia.

### **SIGNS AND SYMPTOMS:**

1. Cough with or without scant sputum production.
2. Often accompanied by other signs and symptoms of upper respiratory tract infection (i.e. sore throat and rhinorrhea).

### **MANAGEMENT:**

1. Treat symptomatically when the findings on history and physical do not suggest pneumonia.



2. Tesslon (benzonatate) perles 100mg PO TID as needed to control cough
3. Albuterol Metered Dose Inhaler 3-4 puffs q4h may also help control coughing
4. Force PO hydration.
5. Avoid respiratory irritants (smoke, aerosols, etc).

### **DISPOSITION:**

1. Evacuation is usually not required.
2. Treat as *Pneumonia* if accompanied by fever, chest pain, dyspnea, and/ or colored sputum (green, dark yellow or red-tinged).

## Cutaneous Abscess

### **SPECIAL CONSIDERATIONS:**

1. Do not attempt I&D in the tactical setting unless:
  - A. The abscess is clearly red, hot, and tender to the touch.
  - B. The abscess is on a location other than eyelid, neck, or face and is superficial.
  - C. Local anesthesia with lidocaine 1% without epinephrine is available.
  - D. Betadine and sterile gloves are available.
2. Written informed consent is not necessary, but a verbal consent should be witnessed by another team member.

### **SIGNS AND SYMPTOMS:**

1. Pain
2. Erythema
3. Warmth
4. Tenderness
5. Swelling
6. Fluctuance

### **MANAGEMENT:**

1. Warm compresses TID for mild or early abscesses.
2.  Levaquin (levofloxacin) 500mg PO QD for 10 days
3. Incise and drain (I&D) if discomfort is severe:
  - A. Establish sterile incision site with betadine.
  - B.  Local anesthesia using Lidocaine 1% without epinephrine.
  - C. Incise with scalpel making an opening no larger than necessary to allow purulent material to drain freely.
  - D. Incision should be parallel to skin tension lines if feasible.
  - E. Leave wound open - DO NOT SUTURE THE SITE.
  - F. Bandage over site with wound checks daily.

### **DISPOSITION:**

1. Evacuation is usually not required.
2. Infection precautions and daily checks of wounds site.
3. If condition is worsening (spreading erythema, increasing pain, fever) then patient needs to be treated as per *Cellulitis* protocol and evacuated as *Priority*.

## Deep Venous Thrombosis (DVT)

### SPECIAL CONSIDERATIONS:

1. DVT is a potentially life threatening condition, in which a clot is present in the large veins of a leg. This clot may dislodge and become localized in the pulmonary system (pulmonary embolism).
2. May occur in young adults secondary to trauma, long airplane rides, altitude exposures, and genetic predisposition.
3. Low dose anticoagulants acceptable here because of rapid evacuation to medical treatment facility.
4. May be confused with a ruptured Baker's cyst in a tactical setting.

### SIGNS AND SYMPTOMS:

1. History of preceding air travel, trauma, birth control pill use (especially smokers), or family history of DVT
2. Usually seen in the lower extremities but may occur in any of the deep veins
3. Pain and swelling in the lower extremities (often the calf muscles)
4. May have palpable venous "cord"
5. Warmth over affected area
6. Increased pain in the affected calf muscles with dorsiflexion of the foot

### MANAGEMENT:



1. Lovenox (enoxaparin) 80mg Sub-Q BID
2. Monitor patient with pulse oximetry (sudden decrease in oxygen saturation suggests a pulmonary embolism)
3. Immobilize the patient.

### DISPOSITION:

1. *Priority* evacuation if no respiratory distress.
2. If respiratory distress and chest pain develop, treat per the *Pulmonary Embolism* protocol.

# Dehydration

## SPECIAL CONSIDERATIONS:

1. Troops in the field are often chronically dehydrated.
2. Prolonged missions, acute diarrhea (gastroenteritis), viral/bacterial infections, and environmental factors (heat stress or working hard) all may exacerbate the dehydration.

## SIGNS AND SYMPTOMS:

1. Lightheadedness (worse with sudden standing)
2. Mild headache (especially in the morning)
3. Dry mucosa (mouth, nose, and eyes)
4. Decreased urinary frequency and volume
5. Dark urine
6. Degradation in performance
7. Poor skin turgor

## MANAGEMENT:

1. Increase oral fluids if tolerated.
  - A. Use carbohydrate/electrolyte drink mixes for fluid replacement if available.
  - B. If water is to be used as a replacement fluid, add World Health Organization (WHO) rehydration packets if available.
2. If unable to tolerate PO fluids, use normal saline (NS) IV for rehydration. Use an initial bolus of 2 liters NS, followed by an infusion rate of 250-500ml per hour until signs and symptoms of dehydration are reversed.
3. If nausea, vomiting, and/or diarrhea are present, treat per the *Gastroenteritis* protocol.
4. Switch to PO fluids when tolerated.
5. Titrate rehydration to establish normal urinary frequency and volume, restoration of pale urine color, restoration of normal skin turgor, and restoration of mucosal moisture.

## DISPOSITION:

1. Monitor closely for recurrence of dehydration.
2. If signs and symptoms resolve with treatment, no evacuation is needed.
3. If dehydration persists, *Priority* evacuation.

## Dislocated LASIK Corneal Flap

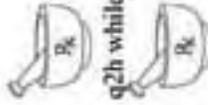
### **SPECIAL CONSIDERATIONS:**

1. Check for this condition after any eye trauma in a post-LASIK patient.

### **SIGNS AND SYMPTOMS:**

1. H/O LASIK in the affected eye
2. H/O eye trauma
3. Eye pain
4. Eye redness
5. Tearing
6. Marked decrease in vision
7. Light sensitivity – eye usually kept closed
8. Can often see displaced flap on penlight exam
9. Fluorescein positive (bright yellow area of the cornea after applying fluorescein and examining the eye with a cobalt blue light source)

### **MANAGEMENT:**



1. Zymar (gatifloxacin) 0.3% drops – 1 drop in the affected eye q2h while awake
2. Tylenol (acetaminophen) 1000mg PO q6h PRN pain
3. Preservative-free artificial tears every 15-30 minutes to lubricate the corneal flap.
4. Do not attempt to manipulate or reposition the flap.

### **DISPOSITION:**

1. Urgent evacuation for surgical repair.

# Epiglottitis

## **SPECIAL CONSIDERATIONS:**

1. First symptom is severe sore throat.
2. Progresses to swelling of epiglottis and possible airway obstruction.
3. This is a relatively uncommon disorder.

## **SIGNS AND SYMPTOMS:**

1. Sore throat
2. Difficulty speaking and swallowing
3. Drooling
4. Respiratory distress
5. Erythematous pharynx on exam

## **MANAGEMENT:**

1. Place patient in a sitting up position or a position of comfort.
2. IV access  

3. Rocephin (ceftriaxone) 2gm IV or IM q12h  

4. Decadron (dexamethasone) 8mg IV or IM once
5. Pulse oximetry monitoring
6. Oxygen if available – humidify if possible
7. Try not to manipulate the airway of patients with acute epiglottitis unless necessary. Let the patient protect his own airway if at all possible.
8. If airway intervention is felt to be indicated, make a single attempt at intubation if feasible (the epiglottitis is not swollen to the extent that visualization of cords is not possible)
9. If intubation is attempted, do not attempt the procedure more than once. If intubation has failed, the next step is a cricothyrotomy (using lidocaine if conscious).

## **DISPOSITION:**

1. Urgent evacuation

# Epistaxis

## **SPECIAL CONSIDERATIONS:**

1. Common at altitude and in desert environments due to mucosal drying.
2. May be anterior or posterior.
3. Posterior epistaxis may be difficult to stop and may cause respiratory distress due to blood flowing into the airway. This type of epistaxis is uncommon in young healthy adults. It is more commonly seen in older, hypertensive patients.

## **SIGNS AND SYMPTOMS:**

1. Nosebleed
2. Often previous H/O nosebleeds

## **MANAGEMENT OF ANTERIOR EPISTAXIS:**

1. Clear airway (if required) by having patient sit up and lean forward.  

2. Afrin (oxymetazoline) nasal spray 2 squirts in each nostril then pinch anterior area of nose firmly for full 10 minutes **WITHOUT RELASING PRESSURE**  

3. Insert Afrin-soaked nasal sponge along floor of nasal cavity if number 2 is unsuccessful.
4. Remove Afrin nasal sponge the next day if bleeding is controlled and no evacuation is required.
5. IV access via saline lock or NS TKO if indicated by severity of nose bleed.

## **DISPOSITION:**

1. Evacuation may not be required if epistaxis is mild, anterior, and resolves with treatment.
2. *Urgent* evacuation for severe epistaxis not responding to therapy or causing respiratory distress.

## Fungal Skin Infection

### **SPECIAL CONSIDERATIONS:**

1. Insect bite(s) as a differential diagnosis - are also accompanied by itching, but have discrete red papular lesion(s).
2. Cellulitis as a differential diagnosis - is bright red, painful, not pruritic, and typically becomes steadily worse without antibiotics.
3. Acute contact dermatitis as a differential diagnosis - is diagnosed by sudden onset of intense itching, skin erythema, and a history of environmental exposure.
4. Poison Ivy and Oak as a differential diagnosis - skin erythema present and is intensively pruritic.

### **SIGNS AND SYMPTOMS:**

1. Skin erythema
2. Pruritis is variable
3. Slow spreading
4. Borders of lesion(s) are generally irregular and/or circumferential.
5. Often initially diagnosed as contact dermatitis but gets worse with use of steroids (those without antifungal agent added).
6. Most common sites of infection are feet ("athlete's foot" or tinea pedis), groin ("jock itch" or tinea cruris), scalp (tinea capitis), and torso or extremities ("ring worm" or tinea corporis).

### **MANAGEMENT:**

1.  Mycolog (nystatin/triamcinolone) cream to affected area TID until one week after lesion is resolved
2.  In moderate to severe cases, use Diflucan (fluconazole) 150mg PO once per week for two weeks (total of two doses).

### **DISPOSITION:**

1. Evacuation is usually not required for this condition.

# Gastroenteritis

## **SPECIAL CONSIDERATIONS:**

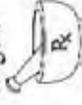
1. Etiology of acute diarrhea is often viral but bacterial or parasitic infections are common in the deployed environment.
2. Emerging fluoroquinolone resistance among enteropathogenic *E. coli* makes azithromycin the new primary agent for therapy.
3. Consider antibiotic-related diarrhea if on antibiotics at onset.

## **SIGNS AND SYMPTOMS:**

1. Acute onset of nausea, vomiting, and diarrhea
2. Fever may or may not be present

## **MANAGEMENT:**

1.  Imodium (loperamide) 4mg PO initially, then 2mg PO after every loose bowel movement with a maximum dose of 8mg per day
2.  Zofran (ondansetron) 4mg IV undiluted administered over 2-5 minutes or IM BID for nausea and/or vomiting

3.  If diarrhea persists for greater than 24 hours, give Zithromax (azithromycin) 500mg PO QD for 3 days.
4. Orally hydrate with carbohydrate/electrolyte fortified fluids if tolerated. Use normal drinking water as a secondary fluid replacement if CHO/electrolyte fluids are unavailable. Add World Health Organization (WHO) electrolyte rehydration packages to water if available.
5. IV rehydration using normal saline if intolerant of oral fluids; titrate fluid intake to regain normal urination frequency, urine color, and good skin turgor. 
6.  If diarrhea lasts for over 3 days treat the patient as having Giardia (also effective treatment for amebiasis), and give Tindamax (tinidazole) 2gm PO QD for 3 days.

## **DISPOSITION:**

1. Evacuation is usually not required if the condition responds to therapy.
2. If dehydration occurs despite above therapy, evacuate as *Priority*.
3. Antibiotic-related diarrhea should be evacuated as *Priority*.
4. Grossly bloody stools or circulatory compromise requires *Urgent* evacuation.
5. Monitor hydration status by observing urinary frequency, urine color, and skin turgor.

# Headache

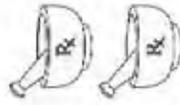
## **SPECIAL CONSIDERATIONS:**

1. A common and usually benign disorder
2. The differential diagnosis for the acute headache is large and includes disorders that encompass the spectrum of minor to severe underlying disorders.
3. Exposure to smokeless propellants containing nitrates or other battlefield toxins from fumes may cause acute headaches.

## **SIGNS AND SYMPTOMS:**

1. If the headache is atypical for the patient, check for elevated blood pressure (if possible), fever, neck rigidity, visual symptoms, mental status changes, neurological weakness, hydration, and time of last meal.

## **MANAGEMENT:**



1. Tylenol (acetaminophen) 1000mg PO q6h for relief of pain
2. If headache is accompanied by nausea & vomiting, use Zofran (ondansetron) 4mg IV undiluted administered over 2-5 minutes or IM BID.
3. Oxygen (if available) and if other therapies ineffective
4. PO or IV hydration if dehydration is suspected as a cause
5. If at altitude, consider acute mountain sickness (AMS) and treat accordingly.

## **DISPOSITION:**

1. Evacuation is usually not required if the headache responds to therapy.
2. Acute headache in the presence of fever, severe nausea and vomiting, mental status changes, focal neurological signs, or preceding seizures, loss of consciousness, or a history of "it's the worst headache in my life" constitutes a true emergency and requires *Urgent* evacuation. Also consider *Urgent* evacuation for anyone without a prior history of headaches if their pain is severe.

## High Altitude Cerebral Edema (HACE)

### SPECIAL CONSIDERATIONS:

1. Rare below 11,500 ft.
2. Headache is common at altitude. Ataxia and altered mental status at altitude are HACE until proven otherwise.

### SIGNS AND SYMPTOMS:

1. Unsteady, wide, and unbalanced (ataxic) gait
2. Altered mental status
3. Headache
4. Nausea and vomiting
5. Hallucinations
6. Disorientation
7. Typically preceded by AMS signs and symptoms
8. Cranial nerve palsy
9. Hemiparesis
10. Unconsciousness

### MANAGEMENT:

1. Immediately descend 3000ft.
2.  Decadron (dexamethasone) 8mg IM / IV initially, then 4mg IV / IM q6h
3. Oxygen if available
4. Pulse oximetry monitoring
5.  Individuals with HACE should not be left alone and especially not be allowed to descend alone.
6. If available, use a GAMOV bag in 1 hour treatment sessions with bag inflated to a pressure of 2 psi (approximately 100mm Hg) above ambient pressure. Four or five sessions are typical for effective treatment.

### DISPOSITION:

1. Urgent evacuation

## High Altitude Pulmonary Edema (HAPE)

### **SPECIAL CONSIDERATIONS:**

1. Caused by the hypoxia of altitude, HAPE is the most common cause of death from altitude illness.
2. Usually occurs above 8,000 ft.; respiratory distress at high altitude is HAPE until proven otherwise.

### **SIGNS AND SYMPTOMS:**

1. Dry cough
2. Dyspnea at rest
3. Symptoms of AMS
4. Late symptoms include:
  - A. Gurgling on auscultation
  - B. Blood tinged sputum (hemoptysis)
  - C. Generalized weakness
  - D. Severe respiratory distress

### **MANAGEMENT:**

1. Descend 1500–3000 ft.
2. Pulse oximetry monitoring
3.  Nifedipine 10mg PO; repeat q6h if blood pressure is stable and descent is not possible.
4.  Decadron (dexamethasone) 8mg IV / IM initially, then 4mg q6h
5. Oxygen 6-10 liters/min if available
6. If available, use a GAMOV bag in 1 hour treatment sessions with bag inflated to a pressure of 2 psi (approximately 100mm Hg) above ambient pressure. Four or five sessions are typical for effective treatment.

### **DISPOSITION:**

1. Evacuation may not be required if good response to therapy.
2. Do not re-ascend in a tactical setting.
3. Avoid vigorous activity for 3-5 days.
4. *Priority* evacuation for patients that worsen despite therapy.

# Ingrown Toenail

## **SPECIAL CONSIDERATIONS:**

1. Typically caused by trimming toenails in a curved fashion which impinges the lateral nail fold.
2. Other causes include nail deformity, tight fitting shoes, and rotational deformity of toes.
3. Can occur in any toe of the foot but usually occurs in the big toe.

## **SIGNS AND SYMPTOMS:**

1. Pain, edema, hyperkeratosis, and erythema of the lateral nail fold
2. Pressure over the affected nail margin increases the pain.

## **MANAGEMENT:**

1. Partial toenail removal:
  - A. Clean the site with soap, water, and betadine.
  - B.  Perform a digital block using lidocaine 1% without epinephrine.
  - C. Apply a tourniquet at the base of the toe.
  - D. Stabilize the toe in the nondominant hand and remove the lateral quarter of the nail toward the cuticle, using a sharp scissors with upward pressure.
  - E. Separate the nail from the underlying matrix and grasp it with a hemostat or forceps, removing the free piece by twisting it toward the remaining nail.

- F. Curette the posterior and lateral nail grooves to remove any debris.
- G. Remove the tourniquet if one was used.
- H. Control bleeding and dry the underlying nail bed.



2.  Bactroban (mupirocin) 2% ointment to exposed nail bed.

3. Dress the area with a nonadherent dressing followed by a dry sterile dressing.

4. Instruct the patient to wash the area daily.

5. Recheck wound and change dressing daily.

6. Instruct patient to wear less constricting shoes and to trim their nails straight across.



7.  Tylenol (acetaminophen) 1000mg PO q6h PRN pain



8. Systemic antibiotics are typically not needed in these procedures; however, consider using Levaquin (levofloxacin) 500mg PO QD for 10 days in the tactical setting if an infection is suspected (increasing pain, redness, and swelling).

## **DISPOSITION:**

1. Evacuation is usually not required if the condition responds to therapy.
2. The nail bed may have serous drainage for several weeks.

# Malaria

## SPECIAL CONSIDERATIONS:

1. Presence or recent presence in a malaria area
2. +/- H/O non-compliance with malaria meds and other personal protective measures
3. More gradual onset, recurrent pattern of fever, myalgias, and absence of stiff neck help differentiate this from meningitis.

## SIGNS AND SYMPTOMS:

1. H/O presence or recent presence in area with malaria
2. Recurrent episodes of chills, high fevers, sweats
3. Headaches
4. Myalgias

## MANAGEMENT:

1.  Malarone (atovaquone 250mg/proguanil 100 mg) 4 tabs daily for 3 days with food
2.  Tylenol (acetaminophen) 1000mg PO q6h PRN pain
3. Consider meningitis in evaluating the patient – treat for both disorders if meningitis is suspected.

## DISPOSITION:

1. Routine evacuation

# Meningitis

## **SPECIAL CONSIDERATIONS:**

1. A life-threatening infection of the meninges (outer linings) of the central nervous system.
2. May be bacterial, viral, or fungal. The bacterial type may cause death in hours, even in previously healthy young adults, if not treated aggressively with appropriate antibiotics.

## **SIGNS AND SYMPTOMS:**

1. Classic features include:
  - A. Severe headache
  - B. High fever
  - C. Pain with any neck movement, particularly forward flexion
  - D. Altered mental status
2. May also see:
  - A. Photophobia
  - B. Nausea and vomiting
  - C. Malaise
  - D. Seizures
3. Positive Brudzinski (pain on head and neck flexion) and Kernig's (neck pain with hip and knee flexion) signs

## **MANAGEMENT:**

1. If this diagnosis is suspected, treatment should be initiated immediately.
2. IV access 
3. Rocephin (ceftriaxone) 2gm IV q12h (IM route possible alternative but prefer IV route) 
4. Decadron (dexamethasone) 8mg IV q6h (IM route possible alternative but prefer IV route) 
5. Tylenol (acetaminophen) 1000mg PO q6h for relief of pain and fever if able to take PO meds
6. If seizures occur, use Seizure protocol.

## **DISPOSITION:**

1. Urgent evacuation
2. Consider prophylactic antibiotic treatment for other team members after consultation with physician.

## Myocardial Infarction (MI)

### SPECIAL CONSIDERATIONS:

1. This treatment protocols assumes no access to ACLS monitoring and defibrillation equipment.
2. The Special Operations Combat Medic (SOCM) typically does not carry most ACLS medications when deployed in tactical operational environments.
3. Myocardial infarctions (heart attacks) usually occur in patients over 40, but may occasionally be seen in younger individuals.
4. Nitroglycerin removed from protocol on advice of consultants due to lack of documented proof of reduced mortality and potential for decreasing blood pressure and heart rate in inferior MIs.
5. Beta blockers were also not felt to significantly improve likely outcome in the tactical setting.

### SIGNS AND SYMPTOMS:

1. H/O hypertension, diabetes, smoking, elevated cholesterol, obesity, family history of MI at a young age are all risk factors.
2. Substernal chest pain which may radiate to left arm or jaw.
3. Pain often described as pressure or squeezing.
4. Dyspnea
5. Diaphoresis (sweating)

### MANAGEMENT:

1.  Aspirin (ASA) 325mg – chew to speed absorption
2.  IV access
3.  Morphine sulfate 4mg IV initially, then 2mg q5-15min as needed for pain relief
4. Oxygen (if available)
5. Pulse oximetry monitoring

### DISPOSITION:

1. Urgent evacuation
2. The evacuation package should include personnel certified in ACLS and an evacuation platform with ACLS equipment and medications.

## Otitis Externa

### SPECIAL CONSIDERATIONS:

1. Infection of external ear canal
2. Often called “swimmer’s ear” and commonly occurs after repeated head immersion.
3. Ophthalmic antibiotic drops are used to minimize number of medications carried and to prevent possible instillation of ear drops into the eye.

### SIGNS AND SYMPTOMS:

1. Ear pain – increased by external ear movement
2. Pruritis
3. Possible exudate in external ear canal
4. Pain with movement of ear is highly suggestive
5. Decreased auditory acuity
6. Sensation of fullness and moisture in ear
7. Pain, swelling, and erythema of ear and periauricular area in severe cases

### MANAGEMENT:

1.  Zymar (gatifloxacin) ophthalmic drops – 4 gtts in affected ear q2h while awake. Ensure patient maintains head position for 5 minutes so meds do not drain out of site.
2. Form a wick from a sterile dry dressing, and place into ear canal.
3.  Tylenol (acetaminophen) 1000mg PO q6h for relief of pain
4.  If signs and symptoms worsen, use Levaquin (levofloxacin) 500mg PO QD for 10 days.
5. No internal hearing protection until symptoms resolve.

### DISPOSITION:

1. For simple cases, no evacuation is necessary.
2. *Priority* evacuation for “malignant” otitis externa signs and symptoms:
  - A. Severe headache
  - B. Otorrhea (purulent drainage from ear)
  - C. Cranial nerve palsy

## Otitis Media

### **SPECIAL CONSIDERATIONS:**

1. Infection of the middle ear which may be viral or bacterial in etiology.
2. Increased pressure in the middle ear may cause intense pain and may result in rupture of the tympanic membrane (associated with sudden decrease in pain and drainage from ear canal).
3. The Special Operations Combat Medic (SOCM) typically may not carry an ophthalmoscope when deployed in tactical operational environments. Significant ear pain not accompanied by pain with passive movement of the external ear constitutes a presumptive diagnosis of otitis media in the tactical setting.
4. May follow air travel or ascents in mountainous terrain due to changes in ambient pressure.
5. If a patient has a history of being near a blast, consider a perforated TM.
6. Otitis Media in the SOF population is likely to be associated with changes of atmospheric pressure or a URI.

### **SIGNS AND SYMPTOMS:**

1. Ear pain
2. Decreased auditory acuity
3. Sensation of fullness in the ear
4. Often present in the setting of an upper respiratory infection
5. May progress to rupture of the tympanic membrane with or without treatment.
6. Erythema and bulging of the tympanic membrane are hallmarks signs of this disease, but these findings are often not useful for diagnosis in the tactical environment.

### **MANAGEMENT:**

1.  Levaquin (levofloxacin) 500mg PO QD for 10 days
2.  Tylenol (acetaminophen) 1000mg PO q6h for relief of pain
3.  Afrin (oxymetazoline) nasal spray two squirts per nostril BID (maximum 3 day use)

### **DISPOSITION:**

1. For uncomplicated cases, no evacuation is necessary.
2. *Routine* evacuation for complicated cases not responding to therapy or involving a ruptured TM.

# Pneumonia

## SPECIAL CONSIDERATIONS:

1. Consider also high altitude pulmonary edema (HAPE) at high altitudes.
2. Consider also pulmonary embolism (PE) and pneumothorax (fever and productive cough are atypical for these).
3. Patient may already be on doxycycline for malarial prophylaxis so assume causative organism to be doxycycline resistant.

## SIGNS AND SYMPTOMS:

1. Fever
2. Productive cough, especially with dark yellow, red tinged, or greenish sputum
3. Chest pain
4. Rales may be present and breath sounds may be decreased over the affected lung.
5. Dyspnea may be present in severe cases.

## MANAGEMENT:

1.  Mild cases: Zithromax (azithromycin) 500mg PO first dose and then 250mg QD for 4 days
2.  More severe cases: Rocephin (ceftriaxone) 2gm q12h IM or IV
3.  Tylenol (acetaminophen) 1000mg PO q6h PRN pain and/or fever
4. Pulse oximetry monitoring
5. Oxygen for hypoxic patients (if available)
6. Descend 1,500 – 3,000 ft. if at high altitude

## DISPOSITION:

1. Urgent evacuation for severe dyspnea.
2. Priority evacuation otherwise.

## Pulmonary Embolus

### **SPECIAL CONSIDERATIONS:**

1. Usually preceded by deep venous thrombosis (DVT) with lower leg pain and a history of trauma or long periods in sitting positions (e.g. aircraft flights).
2. Easy to confuse with heart attack so treat patient as having a myocardial infarction.
3. Patient with this condition may also have history of long bone or pelvic fracture.
4. Acute onset differentiates from high altitude pulmonary edema (HAPE) and pneumonia.
5. Lack of wheezing differentiates from asthma.

### **SIGNS AND SYMPTOMS:**

1. Sudden onset of dyspnea
2. Localized chest pain (on either side)
3. Tachypnea (rapid breathing)
4. Diaphoresis (sweating)
5. Decreased oxygen saturation on pulse oximetry
6. Full breath sounds with no wheezing
7. No prominent cough
8. No fever
9. Often lower extremity pain, swelling, and tenderness

### **MANAGEMENT:**

1. Treat patient using the *Myocardial Infarction* protocol.
2. If at altitude greater than 8,000ft., descend 1500–3000ft. to treat for possible HAPE.

### **DISPOSITION:**

1. Urgent evacuation

# Pyelonephritis

## **SPECIAL CONSIDERATIONS:**

1. May be associated with preceding lower urinary tract obstruction or infection.
2. May proceed to life-threatening systemic infection.

## **SIGNS AND SYMPTOMS:**

1. May have preceding UTI S/S
2. Back pain
3. Flank pain
4. Nausea/vomiting
5. Costovertebral angle tenderness
6. Fever

## **MANAGEMENT:**

1.  Levaquin (levofloxacin) 500mg PO QD for seven days, if able to take PO
2.  Rocephin (ceftriaxone) 1gm BID IV or IM if unable to take PO or not responding to levofloxacin within 24-48 hours
3.  Tylenol (acetaminophen) 1000mg PO q6h PRN pain
4.  Zofran (ondansetron) 4mg IV undiluted administered over 2 to 5 minutes or IM BID for nausea and/ or vomiting
5. Force PO hydration
6. IV hydration with normal saline (NS) at 250cc/hr if unable to tolerate PO fluids

## **DISPOSITION:**

1. *Priority* evacuation

# Seizures

## **SPECIAL CONSIDERATIONS:**

1. May be caused by injury, infection, toxins, and structural abnormalities of the central nervous system (CNS).
2. Normal respirations do not occur during generalized convulsions.
3. Seizures may cause multiple secondary problems including:
  - A. Rhabdomyolysis
  - B. Lactic acidosis due to prolonged hypoxemia during seizure
  - C. Aspiration pneumonia and respiratory distress
4. Diazepam is the medication selected to treat seizures in the tactical setting because it comes pre-mixed, is stable for long periods at room temperature, and works rapidly.

## **SIGNS AND SYMPTOMS:**

1. Generalized seizure
2. +/- H/O previous seizures
3. +/- H/O recent head trauma
4. +/- H/O evidence of CNS infection
5. +/- H/O preceding headaches

## **MANAGEMENT:**

1. Avoid trauma to patient during the seizure.  

2. Valium (diazepam) 5-10mg IV (inject no more than 5mg per minute) for ongoing seizures (consider intraosseous (IO) access if needed.) May repeat in 15 minutes for continuing seizures up to maximum dose of 30mg.  

3. If no IV or IO access, give 10mg Valium (diazepam) IM initially, and then repeat q15min as needed up to a total of 30mg.

4. Do not attempt to force an object into the mouth to open airway.
5. Open the airway as soon as possible after seizure subsides.
6. Pulse oximetry monitoring
7. Apply oxygen if available and oxygen saturation is below 90%.
8. If seizures are accompanied by fever, consider meningitis and treat per *Meningitis* protocol.
9. Place either 1 tube Glucose 15 (oral glucose gel) or contents of a sugar packet sublingually to treat for possible hypoglycemia.

## **DISPOSITION:**

1. Urgent evacuation

## Sepsis/Septic Shock

### SPECIAL CONSIDERATIONS:

1. Sepsis is a form of severe, life-threatening bacterial blood infection caused by an overwhelming bacterial infection.
2. Rapid onset - death may occur within 4-6 hours without antibiotic therapy.

### SIGNS AND SYMPTOMS:

1. Hypotension
2. Fever
3. Tachycardia
4. Altered mental status
5. Dyspnea
6. May see skin rash (purpura)

### MANAGEMENT:

1. Start an IV (May need intraosseous infusion device - IV may be hard to start in a patient with shock.)  

2. Rocephin (ceftriaxone) 2gm IV as soon as IV started and then q12h
3. If patient is hypotensive (by blood pressure measurement or weak radial pulse), give 2 liters of normal saline IV fluid bolus.
4.  Epinephrine 0.5mg (0.5ml of 1:1,000 solution) SubQ or IM (DO NOT give IV) for hypotension. Repeat once after initial fluid bolus for continued hypotension.
5. Repeat 2 liter normal saline bolus if required for continued hypotension, then titrate fluids to maintain systolic blood pressure >90 mmHg or palpable radial pulse. Some patients require 10 liters of crystalloids within the first 24 hours.
6. Watch for decreased mental status and be prepared to manage airway.

### DISPOSITION:

1. Urgent evacuation

# Septic Arthritis

## **SPECIAL CONSIDERATIONS:**

1. May result from penetrating trauma (especially animal or human bites), gonorrhea, or iatrogenic causes (i.e. attempted aspiration of joint effusion).
2. Consider also an acute joint effusion due to blunt trauma or overuse (usually less red and no fever).

## **SIGNS AND SYMPTOMS:**

1. H/O adjacent penetrating trauma or infection
2. Single red, swollen joint
3. Fever
4. Pain

## **MANAGEMENT:**

1. IV access  Rk
2. Rocephin (ceftriaxone) 2gm IV or IM BID  Rk
3. Tylenol (acetaminophen) 1000mg PO q6h PRN pain

## **DISPOSITION:**

1. *Priority* evacuation

## Smoke Inhalation

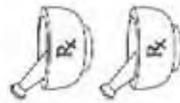
### **SPECIAL CONSIDERATIONS:**

1. More common after closed-space exposures to fire.
2. Consider possibility of carbon monoxide (CO) poisoning and need for hyperbaric oxygen in all significant cases of smoke inhalation.
3. Normal oxygen saturation by pulse oximetry DOES NOT rule out the possibility of CO poisoning.
4. Consider possibility of airway burns and need for early intubation in the presence of face or neck burns.
5. Consider possibility of other inhaled toxins.

### **SIGNS AND SYMPTOMS:**

1. H/O smoke exposure
2. Burns
3. Coughing
4. Respiratory distress (may be delayed in onset)

### **MANAGEMENT:**



1. Albuterol by metered dose inhaler 2 to 4 puffs q4 to 6h
2. Decadron (dexamethasone) 8mg IV or IM QD for two days
3. Pulse oximetry monitoring (does not rule out CO poisoning)
4. Apply oxygen if available and oxygen saturation is below 90%.
5. Consider the use of early intubation or cricothyrotomy if significant burns suspected.

### **DISPOSITION:**

1. *Urgent* evacuation for respiratory distress.
2. *Priority* evacuation if not in distress but significant inhalation suspected.

## Spontaneous Pneumothorax

### **SPECIAL CONSIDERATIONS:**

1. Usually results from anatomic abnormalities of lung, genetic predisposition, or smoking.
2. Consider also: anaphylaxis, pulmonary embolism, high altitude pulmonary edema (HAPE), asthma, and pneumonia.
3. More common in tall, thin individuals.

### **SIGNS AND SYMPTOMS:**

1. Often H/O smoking
2. Spontaneous unilateral chest pain
3. Dyspnea – typically mild
4. No wheezing
5. Decreased breath sounds on affected side
6. No fever or productive cough
7. No leg pain or swelling

### **MANAGEMENT:**

1. Pulse oximetry monitoring
2. Oxygen if available (use oxygen for all suspected spontaneous pneumothoraces - may help speed resolution)
3. Consider needle decompression for suspected tension pneumothorax if respiratory distress.
4. Descend 1500 to 3000ft. if at altitude and HAPE is a possibility.
5. Consider tube thoracostomy if needle decompression unsuccessful for suspected tension pneumothorax and patient's respiratory status worsening.
6. Monitor respiratory status closely while waiting for evacuation.

### **DISPOSITION:**

1. *Urgent* evacuation for significant respiratory distress despite therapy.
2. *Priority* evacuation for patients whose respiratory status is stable.

## Subungual Hematoma

### **SPECIAL CONSIDERATIONS:**

1. A collection of blood under a nail: typically occurs after trauma to fingernail or toenail.

### **SIGNS AND SYMPTOMS:**

1. Pain from the affected nail
2. Purplish-black discoloration under the nail

### **MANAGEMENT:**

1. Can be treated by the application of a heated paper clip to the nail bed directly over the discolored area until the underlying blood has been released and the pressure is relieved.
2. A large bore needle can be used for the same purpose if a paper clip is unavailable. Make sure that it is introduced into the affected nail with a gentle but sustained rotating motion.
3. Gentle pressure on the affected nail may help to evacuate more blood.
4.  Tylenol (acetaminophen) 1000mg PO q6h for relief PRN pain
5. If a fracture is suspected, consider taping the injured finger or toe to an adjacent toe or finger, or consider splinting the injured digit with either an improvised or a commercial splint.

### **DISPOSITION:**

1. Evacuation should not be required for this injury if the subungual hematoma is successfully treated.

## Sudden Loss of Consciousness (without seizures)

### **SPECIAL CONSIDERATIONS:**

1. The most common cause of loss of consciousness (LOC) in healthy adults is orthostatic hypotension (associated with sudden standing) or vasovagal syncope (associated with sudden adverse stimulus – injections are a common cause).
2. Consider hypoglycemia, anaphylactic reaction, medication, recreational drug use, head trauma, and intracranial bleeding in addition to #1.

### **SIGNS AND SYMPTOMS:**

1. Unconsciousness

### **MANAGEMENT:**

1. Management of orthostatic hypotension and vasovagal syncope is accomplished by placing the patient in a supine position and ensuring that the airway is open. Patients experiencing these two disorders should regain consciousness within a few seconds. If they don't, consider other etiologies and proceed to the steps below.
2. Place either 1 tube Glucose 15 (oral glucose gel) or contents of one packet of sugar sublingually.
3. IV access 
4. Narcan (naloxone) 0.8mg IV. May be repeated in 5 minute intervals to a maximum dose of 10mg.
5. If no response, treat for *Anaphylaxis* per protocol.
6. Pulse oximetry monitoring
7. Oxygen (if available)

### **DISPOSITION:**

1. Urgent evacuation, unless loss of consciousness judged due to orthostatic hypotension or vasovagal hypotension.
2. The evacuation package should include personnel certified in Advanced Cardiac Life Support (ACLS), and a transport vehicle with equipment, supplies, and medications necessary for ACLS care.

## Surgical Abdomen

### **SPECIAL CONSIDERATIONS:**

1. Common causes in young healthy adults include appendicitis, volvulus, and ruptured diverticulum.
2. Consider constipation/ fecal impaction as a potential cause of abdominal pain.

### **SIGNS AND SYMPTOMS:**

1. Severe, persistent or worsening abdominal pain is the key sign.
2. Rigid abdomen
3. Rebound abdominal tenderness
4. Fever
5. Diarrhea is not typical but can be present with appendicitis.
6. Absence of bowel sounds

### **MANAGEMENT:**

1. Start IV with normal saline (NS) at 150cc/hr.  

2. Ceftriaxone (ceftriaxone) 2gm IV q12h  

3. Keep patient NPO  

4. Tylenol (acetaminophen) 1000mg PO q6h PRN pain (OK to take with sip of water)  

5. Zofran (ondansetron) 4mg IV undiluted administered over 2 to 5 minutes or IM BID for nausea/vomiting  

6. For severe pain, use Fentanyl 400mcg oral transcutaneous lozenge by (attempt to discuss treatment with receiving surgeon before use.) This medication needs to be well documented when used.  


### **DISPOSITION:**

1. Urgent evacuation to a surgical facility.

## Urinary Tract Infection

### **SPECIAL CONSIDERATIONS:**

1. More common in females.
2. More common in factual settings with dehydration and/ or kidney stones.
3. Symptoms may be confused with a sexually transmitted disease (STD). Azithromycin has been added to the treatment regimen to treat for possible STDs.

### **SIGNS AND SYMPTOMS:**

1. Dysuria
2. No costovertebral angle tenderness
3. Urinary urgency and frequency
4. No back or flank pain (these would suggest pyelonephritis)
5. No fever (also would suggest pyelonephritis)
6. Cloudy, malodorous, or dark urine may be present
7. Suprapubic discomfort

### **MANAGEMENT:**

1.  Levaquin (levofloxacin) 500mg PO QD for 3 days
2.  Zithromax (azithromycin) 1000mg one time dose
3.  Tylenol (acetaminophen) 1000mg q6h PRN pain
4. If fever, back pain, flank pain, and/or costovertebral angle tenderness develop, suspect pyelonephritis and treat per that protocol.
5. Force PO hydration

### **DISPOSITION:**

1. Usually responds to therapy – evacuation not required if it does
2. Routine evacuation for worsening signs and symptoms

# Infectious Disease Discovered in Colombian Military Working Dogs

Michael E. McCown, DVM

## ABSTRACT

During a recent deployment to Colombia, a Special Forces group (Airborne) veterinarian conducted disease surveillance confirming the presence of a transmissible tick-borne disease, Ehrlichiosis (rickettsial organism *Ehrlichia canis*), in several Colombian military working dogs (MWDs). This article describes the tests that were conducted, results of those tests, and what impact these findings will have on future Special Forces planning and mission preparedness.

This article was approved by the 7th SFG Commander, JAG, and the S-2.  
They found no issues with it's publication.

**Disclosure Statement:** The views contained herein are those of the author and do not necessarily reflect the official Department of Defense position. The United States Special Operations Command and the Journal of Special Operations Medicine do not hold themselves responsible for statements or products discussed in the article. Unless so stated, material in the JSOM does not reflect the endorsement, official attitude, or position of the USSOCOM-SG or of the Editorial Board.

## INTRODUCTION

For the Special Forces veterinarian, part of the mission is to plan and provide training to Special Forces medics (MOS 18D). During May 2004, I deployed to Colombia, South America, to provide refresher and sustainment training to the 18Ds deployed. The primary goal was to provide valuable training to the medics while conducting a veterinary disease surveillance study, concentrating on infectious and zoonotic diseases.

Being a better-prepared unit comes from consistent medical surveillance, paramount to the expanding military operations of today. Particularly important is the knowledge of endemic and emerging infectious and zoonotic diseases, which may cause troop health decline and possible mission failure. These diseases should be known, if possible, prior to deploying into the AO or at the very least soon after arrival. Working with our ODAs and, specifically with the 18Ds, during a deployment to Colombia, South America, I formulated a mission to conduct a disease surveillance study.

## MISSION EXECUTION

The mission focus was to conduct a veterinary infectious and zoonotic disease surveillance study on as many animals as possible within our vicinity in order to yield an appropriate sample size. The next consideration was to find easily accessible

animals without compromising our Soldiers' safety. Utilizing the abundant supply of stray dogs cluttering the streets crossed our minds. They are all over the place and are sure to be carriers of a variety of diseases. Well, that thought was nixed when it became apparent that these dogs did not fit into that easily accessible category. These dogs were abundant but very wary of approaching American Soldiers. So, I focused on the Colombian military animals, specifically the working dogs, to give us some answers. These dogs were well-trained animals, easily accessible, and better yet, they were in close contact with the host-nation Soldiers as well as our Soldiers. The Colombia MWDs fit perfect - if they came up positive for an infectious or zoonotic disease, then there is a distinct chance that the Soldiers could also be infected or were in danger of becoming infected.

The next step was to develop a hypothesis based on the tests we could run. The plan was to perform physical exams, collect fecal samples to test for internal parasites, and collect blood to test for heartworms and *E. canis*. The hypothesis was that the Colombian MWDs would be infested by fleas and ticks, be infected with a host of internal parasites, and be heartworm positive due to the climate and the abundance of mosquitoes. The results or findings would be important in that host-nation and American Soldiers could be affected by fleas and ticks, be

infected with internal parasites, or be infected with a tick-borne disease by close contact with these MWDs. If any of the tests came back positive, we could educate host-nation and American Soldiers and then treat infected dogs and Soldiers.

Our team visited several Colombian military posts throughout the country. At each site, the medic coordinated with the Colombian MWD unit. The typical duties of a Colombian MWD are to detect explosives or narcotics at vehicle checkpoints. Each site had anywhere from four to 16 MWDs, ranging



CPT McCown alongside Colombian MWDs and handlers assigned to the Brigada Especial Contra El Narcotrafizo, Larandia, Colombia.



Colombian MWD with a right ear hematoma caused by trauma while training.

from 14 months to five years of age. Breeds included German Shepherd, Belgian Malinois, Labrador Retriever, and German Pointer, among other mixes. The Colombian Soldiers assigned to these dogs kept them in excellent condition. The Soldiers and the dogs were bonded through training, real-world missions, and constant care. The handlers were more than happy to help us with our sample collections. And, of course, they took the opportunity to ask questions about their dog's sores, cuts, decreased energy, decreased appetite, and so on. At one site, the medic and I were able to perform a surgery to repair an infected ear hematoma in a MWD that was unwilling to work due to the pain and decreased energy.



Close-up of surgical repair of hematoma. The 18D cut, flushed, and sutured while assisting the vet.



Field expedient surgical repair of ear hematoma in an 18D's aid room with a draw-over anesthetic unit. The team 18D and warrant ex-18D are assisting the vet.



Post-op recovery. Note that the SAM splint from the 18D aid bag is used for extra bandage security.

## RESULTS

Blood and fecal samples were packaged and tested upon return to our fixed facilities. The fecal tests showed no internal parasites in any fecal samples collected. Likewise, the blood tests did not detect heartworm antigen. The blood tests did, however, indicate strong presence of *E. canis* in many MWDs. The positive results came from MWDs in military sites in remote areas and close to thick jungles. With no use of repellent, I was surprised the MWDs were not infested with a huge amount of fleas or ticks. The ticks, however small in numbers,

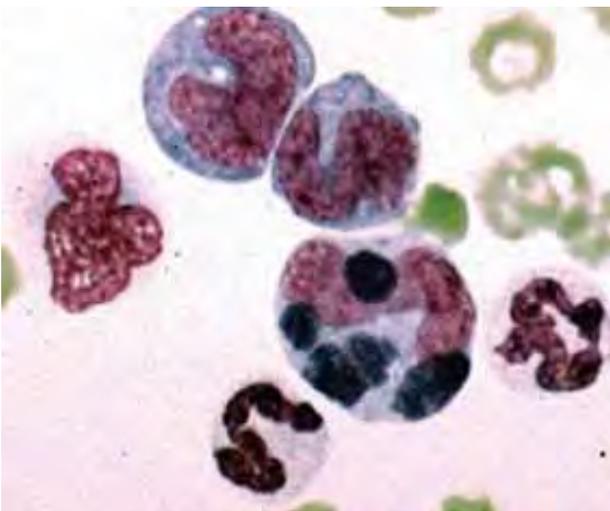


Photo of Ehrlichia canis seen within the cytoplasm of a monocyte (buffy coat smear, Wright stain):  
(<http://www.vet.uga.edu/vpp/clerk/Bockino/Fig1.jpg>)

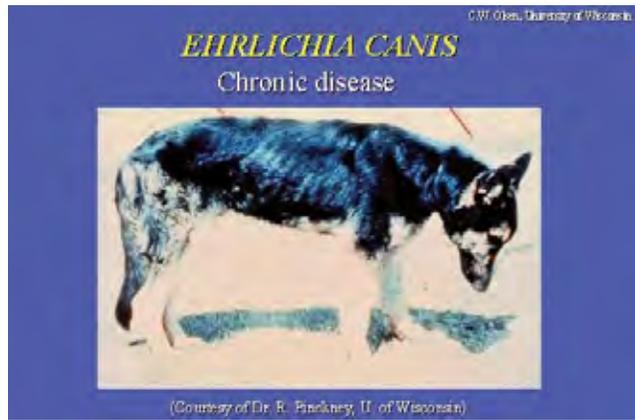


Photo of chronic canine *Ehrlichia canis*

became that much more important once the infectious tick-borne disease, *E. canis*, was detected. Moreover, these sites had the highest number of MWDs and the closest interactions of host-nation and American Soldiers. This transmittable infectious disease had now become an important finding in our veterinary disease surveillance study.

## DISCUSSION

Blood test results demonstrated tick-borne infectious disease - one that has infected military dogs and could infect American and Colombian troops. These dogs' blood tests came back positive for *E. canis*, also known as *tropical pancytopenia*. This organism is the cause of classical ehrlichiosis in dogs. Its target is the host's monocytes and it is transmitted by ticks, predominately *Rhipicephalus sanguineus*, otherwise known as the "brown dog tick." The 18D



Photo of Brown Dog Tick:  
([http://www.tpwd.state.tx.us/tick/ticks/amrs\\_brown\\_dog\\_tick.htm](http://www.tpwd.state.tx.us/tick/ticks/amrs_brown_dog_tick.htm))

should be aware of the signs of this infectious disease in dogs as humans may display similar signs. Signs in dogs can be categorized as acute (or early disease), subclinical (no outward signs of disease), and chronic (long-standing infection). In the acute phase, infected dogs are febrile, anorexic, lethargic, and may have lymphadenopathy and thrombocytopenia beginning one to three weeks post-exposure. In this phase, human and canine ehrlichiosis mimic Rocky Mountain Spotted Fever.<sup>1</sup> Therefore, the 18D will likely see nonspecific signs like lethargy, weight loss, and fever in a soldier with ehrlichiosis. Most dogs recover from the acute phase, but others progress to the subacute phase. This phase

is characterized by hypergammaglobulinemia, thrombocytopenia, and anemia lasting months to years. Dogs in the chronic phase display chronic weight loss and lethargy due to the underlying pancytopenia, bone marrow suppression, and hemorrhage.<sup>2</sup>

The 18D can diagnose canine ehrlichiosis with the IDEXX Canine SNAP® 3Dx® Test<sup>3</sup> - a commercial ELISA “snap test.” A few drops of blood are needed to perform this 8-minute test, which also tests for heartworm and Lyme disease. The 18D should consult with the group veterinarian for suspected canine ehrlichiosis and the battalion or group surgeon for suspected human ehrlichiosis. Tick prevention with DEET is the mainstay against human ehrlichiosis. Malarial preventive with doxycycline 100 mg orally daily may help prevent human ehrlichiosis. Diagnosis in humans is difficult and is usually based on non-specific clinical signs (such as fever, lethargy, weight loss) and exposure to ticks. Soldiers may be treated with doxycycline at 100mg twice daily for a minimum of seven days.<sup>4</sup>

The bottom line is that Ehrlichia species are endemic in the United States and occur worldwide,<sup>5</sup> making it a disease the 18D will probably encounter. The organisms exist commonly in tropical and subtropical climates. However, transmission is possible wherever ticks are present, which includes many of the countries American troops are deployed.

## CONCLUSION

The impact of finding an infectious disease in Colombian MWDs will affect future planning and mission preparedness for units deploying to Colombia. As part of this future planning with these findings and new knowledge, we must now determine the next course of action or plan for a future date.

Our plan would best work if it is multi-faceted: treat the infected MWDs; provide MWDs with flea and tick repellent and long lasting, effective kill products (i.e., Frontline® Plus); educate Colombian MWD handlers on proper husbandry; educate American and Colombian Soldiers about tick-borne disease as well as other transmittable infectious and zoonotic diseases of concern; provide tick repellent to our troops deploying to these outlying sites; and examine all Soldiers with symptoms of tick-borne disease.

In regards to Ehrlichia-positive Colombian

military working dogs, I recommend treating all affected dogs with doxycycline (5-10 mg/kg PO for 10-14 days), applying Frontline® topically on a monthly basis, requiring American and host-nation Soldiers to utilize tick repellent (DEET), and educating American and host-nation Soldiers on prevention, signs/symptoms, and treatment of human ehrlichiosis and other infectious and zoonotic diseases.

In regards to the finding that Colombian military working dogs were negative for heartworms and internal (gastrointestinal) parasites, I recommend a good preventive medicine program to prevent an outbreak of internal parasites. Heartgard® Plus administration on a monthly basis would not hurt the working dogs and would help if they were exposed to mosquitoes carrying immature heartworm larva or after ingesting parasite eggs in the environment

For the fleas and ticks on Colombian MWDs, I recommend applying Frontline® Plus on a monthly basis.

All these items could be purchased and pushed with the deploying unit and medics. The goal would be to show the value in purchasing these items for future self-sustainment. Education training could be accomplished by deploying group medical professionals once the new unit and teams are in place. These group medical professionals can also develop training packets/videos to aid in this education process.

Our multi-faceted plan would serve four primary goals or purposes: 1) improve the safety and well being of American and host-nation Soldiers performing duties in Colombia by increasing awareness of ehrlichiosis as a health threat. 2) take advantage of a great rapport-building opportunity. 3) improve the health and performance of the Colombian military working dogs. These narcotic and explosive detecting dogs are invaluable in the fight against Colombia's narcoterrorism. 4) integrate this report's findings into future mission planning.

With a plan in place and our goals in mind, we look forward to the future in Colombia. Likewise, we will be even more mindful of other opportunities to perform veterinary disease surveillance throughout the different countries that we may deploy to in the future.

**HISTORICAL NOTE:** Ehrlichia, also known as tropi-

cal pancytopenia, first emerged in military working dogs during the Vietnam War. Over 300 dogs died and countless others were affected by ehrlichia during their service in southwest Asia.<sup>6</sup> Likewise, an unknown number of service members most definitely experienced the debilitating affects of this transmissible tick-borne disease.

**References**

1. Aiello S, ed: The Merck Veterinary Manual, Eighth Edition. Whitehouse Station, NJ: Merck & Co., Inc.; 1998: 562.
2. Ehrlichiosis - Ehrlichia canis in dogs. <http://www.vetmed.wisc.edu/pbs/zoonoses/Ehrlichia/ehrcanisdogs.html>.
3. IDEXX Laboratories In-House Tests. <http://www.idexx.com/animalhealth/testkits/3dx/>.
4. Pecini R. Human Ehrlichiosis: An Emerging Tick-Borne Infection. New York State Council of Health-system Pharmacists.
5. Aiello S, ed: The Merck Veterinary Manual, Eighth Edition. Whitehouse Station, NJ: Merck & Co., Inc.; 1998: 562.
6. Ehrlichiosis - Ehrlichia canis in dogs. <http://www.vetmed.wisc.edu/pbs/zoonoses/Ehrlichia/ehrcanisdogs.html>.

**Endnote:** The following was used as a reference throughout the article.

Aiello S, ed: The Merck Veterinary Manual, Eighth Edition. Whitehouse Station, NJ: Merck & Co., Inc.; 1998: 44, 51, 562-564, 681, 924, 1209, 1734.

A special thanks to all of the medics and all of the 7th

SFG(A) personnel that assisted in this project.



CPT McCown is a graduate of the University of Florida College of Veterinary Medicine. He enlisted in the U.S. Army in 1993 and obtained a commission in 2001. He is currently assigned as the Group Veterinary Surgeon, 7th SFG(A), Fort Bragg, NC. CPT McCown is also the 7th SFG(A) Group Med Training OIC responsible for the group medical training to include 18D sustainment training. He will be the CJSOTF Veterinary Surgeon while deployed in support of OEF.



Columbian MWD with Colombian soldados assigned at Seravena, Columbia.



CPT McCown performing an exam and obtaining samples from Columbian MWD. Columbian MWD handler and SF medical personnel look on.



18D-ODA medic, CPT McCown, and the Columbian MWD kennel master.



**Please be sure to return the completed puzzle as well as the  
Continuing Education Evaluation Form**



**Editor's Note: All two word answers have a blank space between them in the crossword puzzle.**

**Across**

5. Incision and drainage is the treatment of choice for this condition. (two words)
7. This is the number one symptom of a urinary tract infection.
9. This condition has an acute onset of nausea, vomiting, and diarrhea; fever may or may not be present.
10. This condition is caused by the hypoxia of altitude and is the most common cause of death from altitude illness. It usually occurs above 8,000 ft; respiratory distress at high altitude is \_\_\_\_\_ until proven otherwise. (abbrev)
11. Sore throat, difficulty speaking and swallowing, drooling, respiratory distress, and erythematous pharynx on exam are signs and symptoms of:
12. This condition may result from penetrating trauma (especially animal or human bites), gonorrhea, or iatrogenic causes (i.e., attempted aspiration of joint effusion). (two words)
17. Antibiotic of choice for epiglottitis is \_\_\_\_\_ 2gm IV or IM q12h. (brand name)
18. Erythema and bulging of the tympanic membrane are hallmarks signs of this disease, but these findings are often not useful for diagnosis in the tactical environment. (two words)
19. This condition may be caused by bacteria, virus, or fungus. The bacterial type may cause death in hours, even in previously healthy young adults, if not treated aggressively with appropriate antibiotics.
20. If headache is accompanied by nausea and vomiting, use \_\_\_\_\_ 4mg IV undiluted administered over 2 to 5 minutes or IM BID. (brand name)
25. This condition displays recurrent episodes of chills, high fevers, sweats, headaches, and myalgias.
26. May be caused by injury, infection, toxins, and/or structural abnormalities of the central nervous system (CNS). (plural)
29. Usually preceded by deep venous thrombosis (DVT) with lower leg pain and a history of trauma or long periods in sitting positions (e.g., aircraft flights). This condition can be easily confused with heart attack so patient must be treated as if they are having a myocardial infarction. Patient with this condition may also have history of long bone or pelvic fracture. The acute onset differentiates diagnosis from high altitude pulmonary edema (HAPE) and pneumonia. Lack of wheezing differentiates from asthma. This is an Urgent evacuation. (two words)
31. The signs and symptoms of this condition are unilateral chest pain, dyspnea, and decreased breath sounds on affected side.
32. In a severe case of AMS, or if patient is allergic to sulfa, give \_\_\_\_\_ 8 mg IM/IV initially, followed by 4mg IM, IV, or PO q6h for 3 days. (brand name)
34. This condition is rare below 11,500 ft. (abbrev)
36. This condition has an acute onset of skin erythema with intense itching. Edema, papules, vesicles, bullae, and/or crusting may be seen. (two words)
37. Generally musculoskeletal in etiology, but consider pyelonephritis in the differential if the individual has fever or symptoms of UTI.

## Down

1. Back pain, dysuria, flank pain, and nausea/vomiting are some of the signs and symptoms seen in:
2. Common at altitude and in desert environments due to drying of the nasal mucosa.
3. An infection of the external ear canal is often called “swimmer’s ear” and commonly occurs after repeated head immersion. (two words)
4. A form of severe, life-threatening bacterial blood infection caused by an overwhelming bacterial infection. Onset is rapid-death may occur within 4 to 6 hours without antibiotic therapy.
6. Primary causes of this life-threatening disorder include insect envenomation, medications, and food allergies. (two words)
8. Lightheadedness, worse with sudden standing; mild headache, especially in the morning; dry mucosa (mouth, nose, and eyes); decreased urinary frequency and volume; dark urine; degradation in performance, and poor skin turgor are all symptoms of this condition.
13. Drug of choice for this condition is Dulcolax (bisacodyl).
14. The three major concerns with this disorder are the intense eye pain that accompanies it, the possibility of a secondary infection (corneal ulcer), and a careful evaluation of the eye for findings that might suggest a possible ruptured globe. (two words)
15. The primary drug of choice in anaphylactic reaction is \_\_\_\_\_.
16. A surgical abdomen requires what type of evacuation to a surgical facility?
21. This condition is hallmarked by productive cough, especially with dark yellow, red tinged, or greenish sputum, and chest pain. Rales may be present, and breath sounds may be decreased over the affected side.
22. This medication is indicated for control of seizures in the tactical environment. (brand name)
23. This is a potentially life threatening condition, in which a clot is present in the large veins of a leg. This clot may dislodge and become localized in the pulmonary system. (deep venous\_\_\_\_\_)
24. A common respiratory symptom of myocardial infarction.
27. A medication used in the treatment of contact lens-related corneal abrasions or Overwear Syndrome is \_\_\_\_\_0.3% drops -1 drop in the affected eye q2h while awake. (brand name)
28. This symptom usually has viral etiology, but may also occur with high altitude pulmonary edema (HAPE) and pneumonia. (abbrev)
30. Pulmonary disorder characterized by bronchiolar hyper-responsiveness and narrowing of the distal airways.
33. A vision threatening bacterial infection of the cornea. (two words)
35. Painful, erythematous, slightly raised skin area with well-demarcated borders. Fever may or may not be present. Typically erythema spreads without treatment.

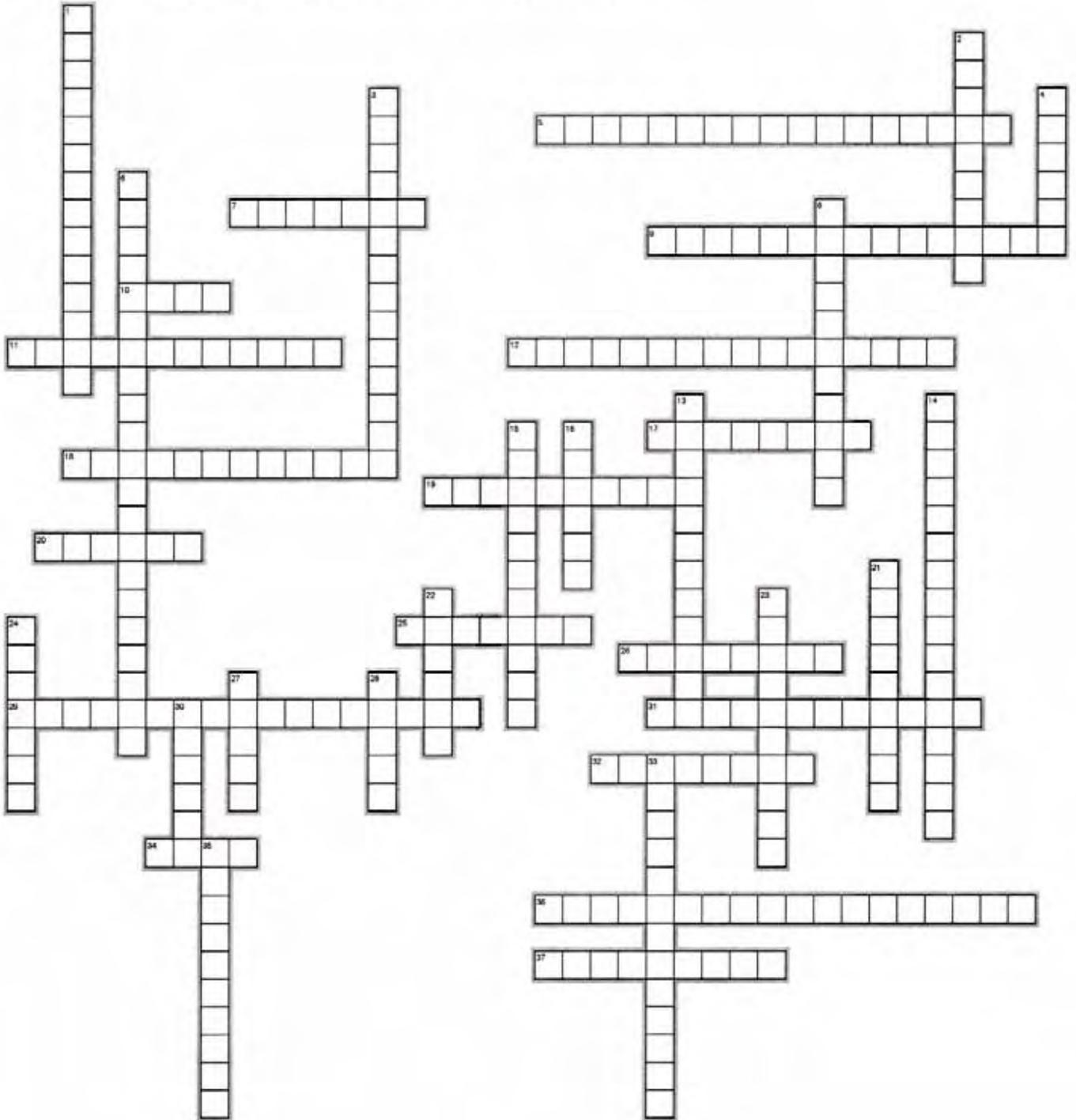
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# ABSTRACTS OF CURRENT LITERATURE

## CAFFEINE EFFECTS ON RECOVERY SLEEP FOLLOWING 27H TOTAL SLEEP DEPRIVATION

**AUTHOR(S):** Cynthia M. LaJambe; Gary H. Kamimori; Gregory Belenky; Thomas J. Balkin

**SOURCE:** Aviation, Space, and Environmental Medicine Volume 76, Number 2, Page: 108 -- 113

**PUBLISHER:** Aerospace Medical Association

**ABSTRACT:** LaJambe CM, Kamimori GH, Belenky G, Balkin TJ. Caffeine effects on recovery sleep following 27h total sleep deprivation. Aviation, Space, and Environmental Medicine 2005; 76:108-113.

**Introduction:** Caffeine is widely used to reverse alertness and performance decrements. However, caffeine's effects on subsequent recovery sleep and post-recovery performance are not well documented and, therefore, were evaluated. **Methods:** Six habitually low (LC: = 100 mg · d<sup>-1</sup>) and three habitually high (HC: = 400 mg · d<sup>-1</sup>) caffeine users completed a randomized crossover design. After 20 h of wakefulness, repeated doses of caffeine gum [0 (placebo) mg, 100 (low dose) mg, or 300 (high dose) mg] were administered at 03:00, 05:00, and 07:00. At 10:00 (27 h sleep deprivation) subjects slept for 8 h, followed by Psychomotor Vigilance Task (PVT) administration at 33 and 65 min post-awakening. **Results:** Low dose caffeine increased stage 1 minutes only. However, high dose caffeine impaired sleep maintenance (reduced total sleep time/increased wake) and reduced sleep depth (increased stage 1 minutes/percentage and slow-wave sleep (SWS) latency, and reduced SWS minutes during the first third of the sleep period). With high dose caffeine, LC users had less SWS percentage as compared with HC users. The HC users had reduced stage two percentage with high dose caffeine as compared with placebo and low dose caffeine. Caffeine dose and habitual caffeine use did not influence post-recovery sleep PVT performance. **Discussion:** Caffeine exerts mild deleterious dose-response effects on recovery sleep following total sleep deprivation, primarily early in the sleep period, with potential recovery from these effects after sufficient sleep as suggested by lack of post-recovery sleep performance deficits. Habitual caffeine use appears to minimally reduce caffeine effects. Reprint & Copyright© 2003 by the Aerospace Medical Association.

## COMPARISON OF NASAL TAMPONS FOR THE TREATMENT OF EPISTAXIS IN THE EMERGENCY DEPARTMENT: A RANDOMIZED CONTROLLED TRIAL

**AUTHOR(S):** Adam J. Singer, MD; Michelle Blanda, MD; Kerry Cronin, MD; Melina LoGiudice-Khwaja, MD; Janet Gulla, RN; Jill Bradshaw, BA; Arnold Katz, MD

**SOURCE:** Annals of Emergency Medicine Volume: 45, Number 2, February 2005, Page: 134 -- 139

**PUBLISHER:** Mosby

**ABSTRACT:** The Practice of Emergency Medicine / Original Research.

**Study objective:** Nasal tampons are commonly used to stop bleeding, yet their insertion is painful. We compare the pain of insertion and removal of two commonly used nasal tampons.

**Methods:** This was a prospective randomized controlled trial in one urban and one suburban emergency department (ED). Subjects were a convenience sample of adult ED patients with active epistaxis requiring insertion of a nasal tampon, regardless of coagulation status. Pretreatment of the nasal mucosa was performed using an aerosolized lidocaine-Neo-Syneprine combination. Patients were randomized to tamponade with a single Rapid Rhino or Rhino Rocket nasal tampon. The pain and ease of insertion and success of tamponade were recorded. Tampon removal was performed after one to three days, and the pain and ease of removal, as well as the presence of any bleeding, were noted. Patients rated pain of insertion and removal on a previously validated 100-mm visual analogue pain scale (100=worst pain). Physician ease of insertion and removal was recorded on a 5-point Likert scale. Continuous data are presented as means and 95% confidence intervals (CIs). **Results:** We evaluated 40 patients evenly distributed between study groups and sites. Median patient age was 61 years (interquartile range 48 to 79 years), and 33% were female patients. Coagulopathy was present in 10 (25%) patients. Baseline characteristics were similar in both treatment groups. The mean pain of insertion of the Rapid Rhino (30 mm, 95% CI 18 to 41 mm) was significantly less than with the Rhino Rocket (48 mm, 95% CI 34 to 61 mm; mean difference 18 mm, 95% CI

1 to 35 mm). The mean pain of removal of the Rapid Rhino (11 mm, 95% CI 1 to 21 mm) was also lower than with the Rhino Rocket (23 mm, 95% CI 13 to 33 mm; mean difference 12 mm, 95% CI -1 to 25 mm). The Rapid Rhino was also easier to insert and remove and had a lower incidence of recurrent bleeding after removal than the Rhino Rocket. Rates of successful tamponade were similar in the 2 groups. **Conclusion:** The Rapid Rhino nasal tampon is less painful to insert and easier to remove than the Rhino Rocket, whereas both are similarly effective at stopping nosebleeds.

### **ACUTE MYOCARDIAL INFARCTION AFTER OVER-THE-COUNTER USE OF PSEUDOEPHEDRINE**

**AUTHOR(S):** Alex F. Manini, MD; Christopher Kabrhel, MD; Todd W. Thomsen, MD

**SOURCE:** Annals of Emergency Medicine Volume: 45, Number 2, February 2005, Page: 213 -- 216

**PUBLISHER:** Mosby

**ABSTRACT:** Pseudoephedrine is a commonly used over-the-counter decongestant with sympathomimetic activity. We present the case of a previously healthy young man who had an acute myocardial infarction 45 minutes after ingesting the recommended dose of an over-the-counter cold remedy containing pseudoephedrine. Elevations of cardiac-specific creatinine kinase and cardiac troponin I confirmed the diagnosis. Cardiac catheterization 8 hours later revealed normal coronary arteries, suggesting a mechanism of vasospasm. Cardiac magnetic resonance imaging confirmed findings of regional myocardial infarction. This case highlights a potential danger of pseudoephedrine even when used by otherwise healthy individuals.

### **HEMORRHAGE CONTROL IN THE BATTLEFIELD: ROLE OF NEW HEMOSTATIC AGENTS**

**AUTHOR(S):** Hasan B. Alam, MD; COL David Burns' MC; LCDR Joseph A. DaCorta, MHA MSC (Ret.); CDR Peter Rhee, MC

**SOURCE:** Military Medicine Volume: 170, Number 1, January 2005, Page: 63 -- 69

**PUBLISHER:** RADM Frederic G. Sanford, MC USN (Ret), Executive Director

**ABSTRACT:** Uncontrolled hemorrhage is the leading cause of preventable combat-related deaths. The vast majority of these deaths occur in the field before the injured can be transported to a treatment facility. Early control of hemorrhage remains the most effective strategy for treating combat casualties. A number of hemostatic agents have recently been deployed to the warfront that can be used to arrest bleeding before surgical control of the source. The purpose of this article is to summarize the background information regarding these hemostatic agents, indications, and rationale for their use, and characteristics of these products that may impact effectiveness.

### **EVALUATION OF COMMERCIALLY AVAILABLE FLUID-WARMING DEVICES FOR USE IN FORWARD SURGICAL AND COMBAT AREAS**

**AUTHOR(S):** Michael A. Dubick, PhD; Daniel E. Brooks, BS; Joseph M. Macaitis, BS; Terry G. Bice, BS; Aimee R. Moreau, MS; COL John B. Holcomb, MC

**SOURCE:** Military Medicine Volume: 170, Number 1, January 2005, Page: 76 -- 82

**PUBLISHER:** RADM Frederic G. Sanford, MC USN (Ret), Executive Director

**ABSTRACT:** The fluid-warming capabilities of four individual fluid warmers, i.e., Level 1, FMS 2000, Thermal Angel, and Ranger, were compared to evaluate their potential for medical use in forward military echelons of care. Lactated Ringer's solution (LR) and Hextend at room temperature (20°C) or refrigerated temperature (4-7°C) and packed red blood cells at 4°C to 7°C were used with each warmer at two different flow rates. The FMS 2000 consistently warmed all fluids to approximately 37°C, regardless of the starting temperature or flow rate. The Level 1 and Ranger also efficiently warmed all fluids except cold LR to approximately 37°C. The Thermal Angel generally warmed room temperature fluid, cold Hextend, and packed red blood cells to at least 33°C to 34°C but could not warm cold LR. The clinical standard is to have fluids warmed to 32°C at a minimum and more preferably to 34°C to 35°C. Of the fluid warmers tested, only the Thermal Angel failed to achieve such a temperature in warming cold LR. Data from the present study suggest the Ranger and FMS 2000 to be operationally adaptable to at least echelons one and two, respectively, whereas far forward use of the Thermal Angel has limitations.



The following is an excerpt from a speech by Heather Wilson, R-N.M., at the Republican National Convention:

Thank you and thank you to my friends from New Mexico.

I am honored to be here with you tonight to salute our Soldiers, our Sailors, our Airmen and our Marines. We are proud of every one of them and blessed by their service to America.

I want to tell you about one of them. Jason Cunningham grew up in Farmington, New Mexico. He joined the military and became an elite Air Force pararescue jumper. In March of 2002, Jason was in Afghanistan when a Navy SEAL was knocked out of a helicopter hit by a rocket propelled grenade. Jason and his team went in to try to rescue him. When his own helicopter was shot down in the vicious firefight, Jason began treating the wounded and moving them out of the line of fire. He was going back and forth treating the wounded when he was shot. As his own life ebbed away, he told his buddies how to keep the others alive.

On the north side of a ridge near a grove of evergreen trees in Arlington National Cemetery, an Air Force honor guard carried Airman Jason Cunningham to his final resting place. To the south, two cranes lined the sky where crews worked feverishly to heal the jagged scar in the Pentagon. Jason Cunningham died for a cause worth fighting for. Jason chose to put on the uniform. He knew the risks, and he did it anyway. He knew what he might leave behind — a lifetime of dreams, and love, and two beautiful little girls.

Where does the courage come from? Where do we find men and women like this? We find them in Carlsbad, New Mexico and Cleveland, Ohio. We find them in Colorado Springs, Colorado and Tampa, Florida, and Houston, Texas. We are a nation of courage, called upon at this moment in history to lead other nations and to carry burdens that no other nation can carry.

May God bless our men and women in the military and may God bless the United States of America. We would like all veterans and members of the military here in the hall to stand during the segment highlighting your service branch. And at the end we want all veterans and military personnel to stand so we can salute you.

### *Special Ops Medics Test Joint Capabilities*

*By Joanna Hawkins*

USASOC Public Affairs

Appeared in the April 2005 *Tip of the Spear*

A first-of-its-kind joint Special Operations Forces medical training initiative was held in conjunction with a Company C, 528th Special Operations Support Battalion (Airborne) training exercise. Medical elements from the Air Force Special Operations Command joined Soldiers from the 528th during the weeklong exercise. It combined Army Level I and Level II combat treatment capabilities with Air Force surgical and enroute intensive care.

According to MAJ LoryKay Wheeler, Special Operations Support Command (Airborne) surgeon, the 528th Level I medical facilities handle emergency medical treatment and advanced trauma life support. It also provides a sick call and preventive medicine capability to units operating in the area of operations. Each team consists of nine medical personnel, including a physician's assistant, seven medics and a preventive medicine specialist.

A Level II joint medical capability already existed "unofficially" within the U.S. Special Operations Command, Wheeler said.

The addition of Level II facilities provides SOCOM a more robust initial entry patient care facility. The Level II team can fall in on any Level I capable unit and will provide four intensive care (ventilator capable) patient beds and six additional beds for regular patient holding.

In addition, the Level II team provides laboratory services, digital X-ray, ultrasound and dental capabilities to the supported SOF. Ten medical personnel, including a critical care nurse, two licensed practical nurses, one Special Operations Combat Medic, one X-ray technician, one laboratory technician, one patient administration specialist, one medical logistics non-commissioned officer and a biomedical equipment repair specialist, make up the Level II team.

In the near future, with additions planned in a new personnel-manning document, the 528th will have the capability to field two separate Level II teams. “During the planning and development of the Level II team, we wanted to ensure the team was fully modular to provide the right medical care at the right time,” Wheeler said. The team can be task organized to meet any mission requirements and can be augmented with a veterinarian, veterinarian technician and an environmental science officer based on the mission.

Combining all components of a Level I facility plus resuscitative surgical capabilities make up a joint SOF Level II medical facility.

During a recent deployment to Iraq, the 528th used its treatment and patient holding in conjunction with the U.S. Army Special Forces Command (Airborne) dental capabilities. AFSOC added its surgical and critical care evacuation capabilities. This combination proved highly effective and provided excellent medical care for Soldiers, according to Wheeler.

Wheeler said in May she began working with AFSOC and suggested that the medical capability be handled jointly. “This way, SOF would have a joint Level II medical facility with resuscitative abilities,” she said.

The Air Force added elements to the exercise too. The Air Force Special Operations Surgical Team (SOST) conducts “damage control” surgeries, according to SOST Chief Lt Col Mark Ervin. The SOST team includes: a general surgeon, an orthopedic surgeon, an anesthesiologist, a surgical technician and an emergency room physician.

Level II facilities include Air Force Special Operations Critical Care and Evacuation Teams, or SOCCET. This three-person team, including a respiratory therapist, critical care nurse, and critical care physician, evacuate post-surgery patients to higher levels of care. Ervin said the joint medical training is the first of a series of training exercises intended to test and validate proven methods. “This is round one, making sure the puzzle pieces fit,” he said.





*Correspondence*  
*Letters to the Editor & Apologies to the Readers*

Len Blessing received this from a medic who just returned from Mosul Iraq with the Stryker Brigade. He stated “The impact SF medics have had on people is far reaching in more ways than imaginable - this being one of them. “

Harry Smith - the finest Special Forces Medic I have ever known

Dear Guys,

I am now home from Iraq as most of you may know from my previous message/update. For several months I've had the inclination to write my feelings about Harry Smith and the tremendous impact he has had in my life. Now that I can look back on my recent combat tour in retrospect, I can gage Harry's influence in better context.

There was hardly a day in Iraq that I did not either think of Harry Smith or use something I learned from Harry Smith - or both. Harry consistently had the ability to use minimal resources to accomplish maximum results. He could operate the most sophisticated lab equipment on his regular job, but then use some impressive expedient technique on drill weekends or AT.

I remember vividly working with Harry in the aftermath of Hurricane Andrew. It was that operation, and Harry's example there, that helped motivate me to attend medical school and become an Emergency Physician. Harry always dealt with patients in the most friendly and professional manner. More than that, he was able to provide us more junior medics the necessary skills to do the same thing. My own career in academic medicine was motivated in large part by Harry's excellence and joy in medical education when teaching us medics.

To this day virtually every patient I see (especially Soldiers) benefits from Harry's contribution to me and my professional progression. From the simplest finger cut or trivial toe stub, to the direst cardiac arrest or desperate gun shot wound, some part of Harry Smith is there helping me provide the best possible care to everyone. When I'm under the most stressful of conditions I often remember that Harry Smith never once became unraveled or lost the smallest degree of control in all the years I had the pleasure of working with him.

When I was in Iraq, Harry wrote me an e-mail and commented that he wished he could be there with me. Believe me, I would have *loved* to have Harry Smith over there to work with, even more than some of the doctors the Army sent to us. I replied to Harry's message that in spirit he *was* over there because everything I did (and still do) in medicine can be credited in some part to him.

No words of thanks can ever express the gratitude I feel towards Harry Smith, but I feel obliged to say “Thank You Harry” nonetheless. Harry - you are *still* the best Special Forces Medic I have ever known and I will continue to tell everybody I can.

Dan C. Godbee, MD

The JSOM contacted Dr. Godbee regarding this letter and he informed us that Harry joined the Army in 1968 and went through training as an SF medic in the old “dog” lab that existed back then. He had already earned a degree in Medical Technology prior to entering the Army, and had worked briefly in Georgia (his home state) as a lab tech before entering active duty in 1968.

During dog lab, Harry's qualifications (and his skills) were noted by the staff and he was asked to stay on as an instructor after he graduated the SF Medic course. He did (both graduate and stay on), and worked as the primary laboratory instructor at the school. After finishing active duty, Harry joined the 11th Special Forces Group (USAR) back in Georgia. He stayed in B Company, 3rd Battalion, 11th SFG(A) until it was inactivated in 1994. In his civilian job, Harry worked at the VA Hospital in Dublin, Georgia Chief of Medical Technology and Director of the Blood Bank.

Sorry for my delay but wanted to compliment you and the JSOM team on another great JSOM-Fall 2004. This journal has truly evolved into a great educational-training tool that can be utilized not only by our SOF family but throughout the entire joint, interagency, and multi-national arena. I continue to use the JSOM at the staff college and use it a Portsmouth NMC with other doctors and med personnel.

Thank you for allowing me to stay on your editorial team.

Cheers

COL Bill Davis



## Commentary

The following commentary is in response to “Invited Commentary” regarding the article *The Esophageal-Tracheal Combitube: A review of the device and its application in the SOF environment* by Bob Hesse, RN, NREMT-P, I/C, Troy R. Johnson, MD, Dan S. Mosely, MD, Andre M. Pennardt, MD, which appeared in the *JSOM* Winter 2005;5(1):29-37.

We greatly appreciated the commentaries by Drs. Anderson and Mabry in response to our article. We offer the following comments in response.

Dr. Anderson’s suggestion that we are advocating a deviation from accepted airway management practices appears somewhat misleading. We suggested that the Combitube should be considered as a rescue or bridging device or as a primary device when ET tube placement is impractical. This position is consistent with the description in *Rosen’s Emergency Medicine*, 5th Edition (2002), which states the Combitube® “has also been used as a rescue device or as a primary intubating device in difficult airways that have precluded ET intubation.” We fully recognize and recommend that endotracheal intubation should be used primarily to establish a definitive airway whenever possible.

As far as Dr. Anderson’s comments regarding confirmation of Combitube® placement are concerned, many SOF medics already carry an aspiration bulb syringe. This device is currently the primary option to verify correct placement of endotracheal tubes aboard rotary wing aircraft due to high ambient noise levels. Additionally, it is also beneficial in low-light, tactical settings. We did not recommend end-tidal CO<sub>2</sub> monitors, but rather end-tidal CO<sub>2</sub> detectors, which utilize a simple litmus colorimetric test to confirm placement. Neither of these devices utilizes batteries, LCD screens, or circuits that are subject to environmental conditions. Both of these devices utilize little space, weigh a few ounces each, and are easy and simple to use.

Dr. Anderson’s comment on the utilization of nasopharyngeal and oropharyngeal airways being adequate “until more definitive airway evaluation and management is possible” is not supported for adult populations by any quoted medical literature that we could find. Additionally, the argument that the Combitube® cannot be forced down the throat of a conscious patient, whereas direct laryngoscopy and endotracheal intubation in an awake patient would be possible, is highly suspect. Both procedures would be difficult, if not impossible, on a conscious patient. Furthermore it is somewhat irrelevant since we did not advocate the Combitube® as a primary airway management technique, but rather as an option for situations when attempts at intubation or cricothyroidotomy fail or are impractical.

While MSG Miller’s “train of thought” is quoted as advocating a 90-plus percent successful blind placement of the Combitube® as “Ranger-acceptable,” we would argue that the addition of an aspiration bulb syringe to the SOF medic’s kit would not significantly impact on combat speed and lightness of load. It certainly seems a small price to pay to prevent a mortality rate of almost 1 in 10 casualties by failing to recognize improper placement of the Combitube® or an ET tube.

We would consider the incident of the partial dental plate dislodgment by placement of the Combitube® and resulting in esophageal perforation as a rare complication. Certainly, anecdotal cases with complications resulting from endotracheal intubation or cricothyroidotomy could equally be presented. All invasive procedures carry a certain risk of complications. The comment about most emergency physicians and some anesthesiologists being unfamiliar with removal procedures for the Combitube® argues for re-education of receiving physicians, rather than disuse of this device. While the management of gastric sewage may be an issue, physicians need to be prepared to deal with such problems using suction devices and gastric decompression using a nasogastric tube regardless of the airway management technique employed.

The medic does not gain any flexibility from carrying a laryngoscope and endotracheal tube, contrary to the commentary by Dr. Anderson. This only gives the medic the possibility of establishing a definitive airway as we have advocated, rather than a device to control the airway when other, more definitive management techniques have failed.

We concur with Dr. Mabry's comments that additional studies are required to further validate the value of the Combitube® in the SOF setting. We would suggest that the Combitube® can be placed in the tactical environment more easily and with significantly less complications than performing a cricothyroidotomy. All of the authors have personally witnessed periodic difficulties with trauma surgeons and emergency medicine physicians performing open cricothyroidotomy in a well-lit emergency department. We feel that the Combitube® definitely fills a need in the SOF medic's airway management armamentarium when more definitive techniques have either failed or are impractical.

Thank you,  
Bob Hesse  
Troy Johnson  
Dan Mosley  
Andre Pennardt

**Colonel Anderson replies:** A recent position paper from the Difficult Airway Society, cited by the National Guidelines Clearinghouse <http://www.guideline.gov/>, states that injury from the standard size Combitube® is a very real problem. The DAS guidelines suggest that a size "small" Combitube® may be less traumatic in all patients who are Combitube® candidates. See <http://www.das.uk.com/guidelines/guidelineshome.html>. A cricothyrotomy is still rescue airway of choice for SOF in combat (see PHTLS Chapter 16, titled Military Medicine). The Combitube® and other alternate airway devices deserve consideration when appropriate.





I send my respect and admiration to you military and civilian “action guys” who unselfishly provide outstanding medical support in challenging situations overseas and in the U.S. to protect our freedoms and keep us safe. Our OPTEMPO is high and will remain so for the foreseeable future. Mission accomplishment will remain a significant physical, emotional, and mental challenge. Outstanding medical support will become even more exacting and complex. No matter how busy you are, remember to take care of yourself and your family; there are many ways to do this.

I participate in a variety of AARs and here are a few nuggets:

- First responder care is excellent, but we should always find ways to improve it.
- Tactical Combat Casualty Care doctrine (Thanks, CAPT Butler) is becoming the DoD standard.
- Surgical teams need to be more proactive in addressing “trauma’s terrible triad” of hypothermia, coagulopathy and acidosis.
- More efforts will be made to enhance enroute casualty care at the tactical level for both (ground and rotary wing evacuation).

Thanks to all of our speakers, attendees and vendors who made the last SOMA meeting an outstanding professional, educational, and fun event! All of our members should have received notification about this year’s conference scheduled for 12 - 15 Dec 05 in Tampa at the new Marriott Waterside Hotel. Their phone number is (813) 221-4900 or (800) 228-9290. If you are a member and have not received a postcard notification of the event, please contact Russ Justice ([justicer@earthlink.net](mailto:justicer@earthlink.net)) or Dale Hamilton ([Dale.Hamilton@med.va.gov](mailto:Dale.Hamilton@med.va.gov)).

Yes, we know that we have challenges with our web site, [www.specialoperationsmedicalassociation.org](http://www.specialoperationsmedicalassociation.org). We are working to update and improve the site!

We are still looking for outstanding speakers for this year’s conference. Please contact Robert Harrington ([RHarrin256@aol.com](mailto:RHarrin256@aol.com)) or me ([almoloff@dmrti.army.mil](mailto:almoloff@dmrti.army.mil)) with the information. We also seek ways to make the SOMA conference better; please send your suggestions to me.

I look forward to seeing all of you in December in Tampa.

ALAN L. MOLOFF  
COL, MC USA  
SOMA President



## Tactical Element Courses

For additional information on the following courses offered by Tactical Element, please visit us online at [www.tacticalelement.cc](http://www.tacticalelement.cc). Course announcements and course registration forms may be obtained by e-mailing a request to [info@tacticalelement.cc](mailto:info@tacticalelement.cc).

### 2005 TRAINING COURSES, DATES, AND LOCATIONS

#### Tactical Emergency Medical Operator

**20-24 JUN 05**

Camp Blanding Training Site  
Starke, Florida

**8-12 AUG 05**

Butler County Community College  
Public Safety Training Facility  
Butler, Pennsylvania

**5-9 SEP 05**

Army National Guard Maneuver Training Center  
Camp Ripley  
Little Falls, Minnesota

**12-16 SEP 05**

Camp Blanding Training Site  
Starke, Florida

**5-9 DEC 05**

Camp Blanding Training Site  
Starke, Florida

Tactical Emergency Medical Operator (TEMO) is a five day program of instruction preparing law enforcement officers, security specialist, fire fighters, and emergency medical services personnel assigned to and/or supporting law enforcement and/or military special operations in a multitude of urban, rural, austere, and remote environments. TEMO targets operators and support personnel of tactical operations or special operations teams, delivered in 48 hours of day and night operations comprised of classroom lecture and practicum, followed by field training exercises. TEMO continues forward regardless the weather. How you train is how you perform!

Course topics include but are not limited to:

- Advanced Airway Techniques
- Anti-Personnel Devices (including Improvised Explosive Devices)
- Aspects of Wound Ballistics
- Tactical Operations (TACOPS)
- Command and Control (C2)
- Tactical Operations
- Urban Combat Skills
- Rural Combat Skills
- Medical Force Protection
- Role and Responsibilities of the Tactical Emergency Medical Operator
- Load-out and Equipment Considerations
- Mission Development
- Pre-Mission Medical Threat Assessment
- Remote Assessment / Remote Mentoring
- Tactical Combat Casualty Care

### **Tactical Search and Rescue (TACSAR)**

#### **12-16 DEC 05**

Minnesota Army National Guard Maneuver Training Center  
Camp Ripley  
Little Falls, Minnesota

Tactical Search and Rescue (TACSAR) provides the knowledge, skills, responsibilities, and the equipment required for operators who are assigned to field operations during a tactical search and rescue mission. The TACSAR program of instruction also provides student with field training exercises and missions where the students are required to possess the prescribed equipment during daylight and nighttime field operations. Four major areas of instruction include: survival, search, rescue, self-aid and casualty care. Casualty care and self-aid focus on the rural austere tactical environments.

Furthermore, TACSAR provides training for new operators and allows them to accumulate the required clothing and equipment needed for tactical search and rescue operations. The program also gives the student practical experience during simulated search and rescue operations. In many cases TACSAR provides as an excellent refresher course for the more experienced operator including leadership.

TACSAR is a five day, full dress, full load-out program of instruction and targets medical operators and non-medical operators, delivered in forty-five (45) hours of day and night operations comprised of field lecture and practicum. In addition to receiving the Tactical Element Certificate of Training, students also earn the American Safety & Health Institute two year Wilderness First Aid certification. The outdoors is the classroom regardless the weather. How you train is how you perform!

Course topics include; however, are not limited to:

- Patrolling (mounted or dismounted)
- Anti-Personnel Device (APD) Recognition
- Camouflage, Cover, & Concealment
- Load-out and Equipment Considerations
- Rural Tactical Environmental & Preventative Medicine
- Land Navigation (LANDNAV)
- Basic Survival Skills
- Rural Combat Skills
- Mission Development / Preparedness

- Pre-Mission Medical Threat Assessment
- Tactical Search and Rescue
- Tactical Combat Casualty Care
- Casualty Extraction
- Casualty Evacuation (CASEVAC)

TACSAR is offered in two specific presentations:

Dismounted (ground special/tactical operations teams)

Mounted (posse or equine unit)

## **Special Operations Casualty Management**

### **21-23 JUN 05**

Camp Blanding Training Site

Starke, Florida

### **6-8 SEP 05**

Minnesota Army National Guard Maneuver Training Center

Camp Ripley

Little Falls, Minnesota

### **13-15 SEP 05**

Camp Blanding Training Site

Starke, Florida

### **6-8 DEC 05**

Camp Blanding Training Site

Starke, Florida

### **13-15 DEC 05**

Minnesota Army National Guard Maneuver Training Center

Camp Ripley

Little Falls, Minnesota

Special Operations Casualty Management (SOCM) is an intense three day program of instruction providing the tactical operator possessing limited or no prior medical training the necessary concepts and skills to deliver casualty care during special operations. With the potential for effective hostile fire/threat, the Special Operations Casualty Management course enables the non-medical personnel to apply practical lifesaving techniques and basic level medical knowledge, skills, and equipment familiarity required to mitigate casualty care until the arrival of advanced medical care or until the casualty can be safely extracted to a receiving medical treatment facility.

Personnel may be required to respond immediately to any casualty situation during tactical operations. This training is particularly applicable to personnel deployed to remote sites or operating in denied environments including small unit tactical operations. This training provides instruction and practical application of casualty assessment, identification, and treatment of common traumatic injuries, and management of common operational medical considerations.

Training consists of twenty-four (24) hours of instruction. Skill labs follow lectures to reinforce the modular instruction. Training also includes essential skills utilization in scenarios frequently encountered during the individual's performance of duty, as well as practical skills applications during performance labs.

## Protective Operations Medical Specialist

### 3-7 OCT 05

Butler County Community College  
Public Safety Training Facility  
Butler, Pennsylvania

Protective Operations Medical Specialist (POMS) is a 40-hour program of instruction preparing medical personnel to address casualty care in the protective operations environment conducive of domestic environments and international.

This course was specifically developed as a result of actions encountered by Operator/Medics of Tactical Element while on assignment in Iraq and to prepare personnel desiring to deploy to protective operations teams.

The severe lack of resources available to protective operations personnel adds an incredible burden to the already dangerous conditions encountered by teams as they are tasked with protecting executive principals and assets. This forces the prospective protective operations medical specialist to prepare for the worst possible conditions.

The student will experience intense training in both non-tactical and tactical environments as it applies to protection and casualty care of principals, team members, and mass casualty (MASCAL) incidents.

Course objectives include but are not limited to:

- Medical oversight
- Protective operations medical support
- Load-out and equipment considerations
- Security advances
- Route surveys
- Pre-mission medical threat assessment
- Travel medicine
- Ballistic wounding
- Tactical combat casualty care
- Casualty extraction and evacuation (CASEVAC)
- Entry and exit drills
- Case studies

# SOF RELATED BOOK LIST

The following is an compiled list of SOF related books recommended for your reading by those who were there. The list is complements of Len Blessing with the assistance of all of you. If anyone has other books they would like to add to the list, let us know. I have not read each selection personally. Its intent is to present a concise list of the vast array of reading material available that pertains to the mission of Special Operations - both past and present.

Every attempt is made to maintain the list's integrity with respected and legitimate works. Readers who feel a selection does not merit inclusion are encouraged to contact me with disputes. I also strongly encourage readers to write a short review for the books they have read and/or have personal first hand knowledge concerning a specific selection. This will help maintain a high degree of content validity.

I am happy to submit your comments/reviews on your behalf if you prefer to not write directly to the JSOM editor staff. I can be contacted at lenblessing@comcast.net.

Len Blessing

TITLE	AUTHOR
00:19:57	Dave F Stafford
A Concise History of U.S. Army Special Operations Forces, with Lineage and Insignia	Geoffrey T Barker
A Tear For Somalia (Written by a Brit who married a Somali woman while serving as a member of the British Camel Corps after the end of WWII. Not a history, but it does give insight into Somali society.)	Douglas T Collins
A Very Short War (About the last gunfight and the last sacrifices of the Vietnam-era war in the recovery of the crew and ship SS Mayaguez in 1975.)	John F Guilmartin Jr
About Face	David H Hackworth (Col)
Advice and Support: The Early Years	Ronald H Spector
Airborne and "Special Forces" (non-fiction, good quick references, especially for family or civilians)	Hans Halberstadt
American Guerrilla (WW II U.S. led guerrillas in Phillipines)	Unknown
Band of Brothers (A great story about "E" Company, 506th PIR, 101st ABN Division in WWII.)	Stephen Ambrose
Battle for the Central Highlands: A Special Forces Story	George E Dooley
Beyond Nam Dong	Roger Donlon
Black Eagles (Fiction)	Larry Collins
Blackburns Headhunters (Part of a series of books on the area from Turkey to Tibet. Well researched and an excellent view of the region, its history, and various societies that live within the region.)	COL Donald Blackburn
Blackjack -33: With Special Forces in the Viet Cong Forbidden Zone	James C Donahue
Blackjack -34 (Previously titled "No Greater Love")	James C Donahue
Bravo Two Zero	Andy McNab
Break Contact Continue Mission (Fiction)	Raymond D Harris
Bunard: Diary of a Green Beret	Larry Crile
Che Guevarra on Guerrilla Warfare	Ernesto Gueverra
Code Name Bright Light	George J Veith
Code Name:Copperhead	Joe R Garner (SGM Ret)
Covert Warrior	Warner Smith
Danger Close (Non-fiction. SF member charged with murder in a bar fight within 3 days of graduation from the Q Course.)	Mike Yon
Edward Lansdale: The Unquiet American	Cecil B Currey
Elite Warrior	Lance Q Zedric

<b>TITLE</b>	<b>AUTHOR</b>
Fighting Men: Stories of Soldiering	Jim Morris
Fire Your FPL's	Mike Di Rocco
Five Fingers	Gayle Rivers
Five Years To Freedom	James N Rowe
Flags of our Fathers	James Bradley & Ron Powers
Foreign Devils on the Silk Road	Peter Hopkirk
(Part of a series of books on the area from Turkey to Tibet. Well researched and an excellent view of the region, its history, and various societies that live within the region.)	
From OSS to Green Berets	Aron Bank (COL Ret)
Ghost Soldiers: The Epic Account of World War II's Most Dramatic Mission	Hampton Sides
(Ranger operation to free POWs in the Philippines)	
Greatest Rescue Mission	
(Ranger operation to free POWs in the Philippines)	
Green Berets At War	Shelby L Stanton
Green Berets at War: U.S. Army Special Forces in Asia 1956-1975	Shelby L Stanton
Green Berets in the Vanguard: Inside Special Forces 1953-1963	Chalmers Archer Jr
Guerrilla Warfare: On Guerrilla Warfare	Mao Tse tung
Hard To Forget	Steven M Yedinak
Hazardous Duty	Jack Singlaub (MG Ret)
Hazardous Duty	David H Hackworth (COL) & Tom Mathews
	Bernard Fall
Hell In A Very Small Place	
(Siege of Dien Bien Phu)	
Ho Chi Minh: A Life	William J Durker
Hunting The Jackal	Billy Waugh
In The Village of the Man	Loyd Little
Inside Al Qaeda, Global Network of Terror	Rohan Gunaratna
Inside Delta Force: The story of America's elite counterterrorist unit	Eric L Haney
Inside the Green Berets: The First Thirty Years	Charles M Simpson III
It Doesn't Take A Hero	Norman H Schwarzkopf (GEN Ret) & Peter Petre
	Mark Bowden
Killing Pablo: The Hunt for the World's Greatest Outlaw	
(Read by current SF medic that knows some of the guys involved in getting Pablo; told him that the book is pretty accurate, except what happened in the actual killing.)	
Knights Cross	E M Nathanson & Aaron Bank (COL Ret)
Laos: War and Revolution	Nina S Adams (Ed)
Like Hidden Fire	Peter Hopkirk
(Part of a series of books on the area from Turkey to Tibet. Well researched and an excellent view of the region, its history, and various societies that live within the region.)	
Logistical Support of Special Operations Forces During Operations Desert Shield and Desert Storm	Donald W Betts
Long Shadows	Kent White
(Fiction)	
Lost Crusade: America's Secret Cambodian Mercenaries	Peter Scott
Lost Crusader: The Secret Wars of CIA Director William Colby	John Prados
Love and Duty	Ben & Anne Purcell
MAC-V-SOG Command History Vol. I & II	Charles F Reske
Medal Of Honor	Roy P Benavidez
Memories Of Maggie: Martha Raye: A Legend Spanning Three Wars	Noonie Fortin
Mike Force	LH Burrus
Mobile Guerrilla Force: Wth the Special Forces in Warzon D	James C Donahue
My American Journey	Colin Powell (GEN Ret) & Joseph E Persico
	Richard S Drury
My Secret War	Thomas B Bennett
Night Jungle Operations	

<b>TITLE</b>	<b>AUTHOR</b>
Night of the Silver Stars: The Battle of Lang Vei No Surrender (Japanese soldier who evaded capture and survived 30 years in the Philippines; it's a great book about perseverance and commitment to warrior ideals.)	William R Phillips Hiroo Onoda
Once A Warrior King: Memories of an Officer in Vietnam	David Donovan
One Day Too Long	Timothy N Castle
O O T W Target Cuba	Robin Moore & JC Lamb
Operation Vulture	John Prados
OSS to Green Berets	Aaron Bank (COL Ret)
Parthian Shot	Loyd Little
Pathfinder: First In, Last Out (A very well written account of Richie Burns' first tour in RVN, during which he provided support to a Mike Force mission, and which describes other activities very similar to SF missions during the war.)	Richard C Burns
Peoples' War, Peoples' Army	Vo Nguyen Giap
Perilous Options: Special Operations as an Instrument of U.S. Foreign Policy	Lucien S Vandenbroucke
Phantom Warriors, Book II	Gary A Linderer
Phantom Warriors: LRRPs, LRP's, and Rangers in Vietnam, Book I	Gary A Linderer
Prairie Fire (Fiction)	Kent White
Presidents' Secret Wars: CIA and Pentagon Covert Operations from World War II Through the Persian Gulf	John Prados
Project Omega: Eye of the Beast	Ernie Acre
Rangers at War: Combat Recon in Vietnam	Shelby L Stanton
Reflections Of A Warrior	Franklin D Miller
Rescue Of River City	Drew Dix
Return of The Enola Gay	Paul W Tibbets
Return With Honor	Scott O'Grady (Capt) & Jeff Coplon
Setting the East Ablaze (Part of a series of books on the area from Turkey to Tibet. Well researched and an excellent view of the region, its history, and various societies that live within the region.)	Peter Hopkirk
Seven Pillars of Wisdom (Middle East insight)	TE Lawrence
SF Bibliography: Collection of articles and other readings with Special Forces topics	Radix Press/Dan Godbee
Shadow War: Special Operations and Low Intensity Conflict	HT Hayden
Shadow Warriors: Inside the Special Forces	Carl Stiner & Tomy Koltz
Sideshow (The U.S., Khymer Rouge, & Cambodia)	Robert Showcross
Silent Birdmen (281st AHC pilot account; Project Delta Ops in Ashau Valley.)	Al Rampone
Slow Walk In A Sad Rain	John P McAfee
SOG and SOG Photo Book	John Plaster
SOG: Volume I, II, III and IV	Harve Saal
Soldier Under 3 Flags	HA Gill III
Soldier Under Three Flags The Exploits of Special Forces Captain Larry A. Thorne	HA Gill III
SPEC OPS: Case Studies in Special Operations Warfare: Theory and Practice	William H McRaven
Special Forces 1941-1987	LeRoy Thompson
Special Forces of the U.S. Army	Ian Sutherland
Special Forces, the U.S. Army's experts in Unconventional Warfare	Caroll B Colby
Special Forces: A guided tour of U.S. Army Special Forces	Tom Clancy & John Gresham

<b>TITLE</b>	<b>AUTHOR</b>
Special Men and Special Missions: Inside American Special Operations Forces, 1945 to the Present	Joel Nadel & JR Wright
Spies And Commandos	Kenneth Conboy
Stolen Valor	B G Burkett & Glenna Whitley
Strategy and Policy Background Umbrella Concept for Low Intensity Conflict	Alex & Hamilton Booz
Street Without Joy (French in Indochina; Good groundwork for SF in Vietnam)	Bernard B Fall
Taking The High Ground: Military Moments With GOD	Jeff O'Leary (Col)
Talking with Victor Charlie: An Interrogator's Story	Sedgwick D Tourison Jr
Tam Phu	Leigh Wade
The Barking Deer (Fiction)	Jonathan Rubin
The Blood Road: The Ho Chi Minh Trail and the Vietnam War	John Prados
The Chindit War (Good section on Merrill's Marauders)	Shelford Bidwell
The Company They Keep	Anna Simons
The Devil's Brigade	Robert H Adleman
The Devil's Guard (A non-SF book; a good read and supposedly historically accurate. Covers the war from the viewpoint of the ex-Nazi's who were in the French Foreign Legion fighting the Viet Minh.)	George R Elford
The Dying Place (Fiction)	David A Maurer
The Great Game (Part of a series of books on the area from Turkey to Tibet. Well researched and an excellent view of the region, its history, and various societies that live within the region.)	Peter Hopkirk
The Green Berets	Robin Moore
The Green Berets in Vietnam, 1961-71	Francis J Kelly
The Hidden History of the Vietnam War	John Prados
The Last Confucian	Denis Warner
The Making of a Quagmire	David Halberstam
The Montagnards of South Vietnam	Robert L Mole
The New Legions	Donald Duncan
The One That Got Away (This is the other half of the Bravo Two-Zerostory [a very good read on human endurance and tenacity].)	Chris Ryan
The Politics of Heroin in SE Asia (Essential reference for understanding the Golden Triangle.)	Alfred McCoy
The Protected Will Never Know	Leigh Wade
The Price of Exit (Helicopter pilot, Lam Son 719 and CCN)	Tom Marshall
The Raid	Benjamin F Schemmer
The Ravens (The classic about our Bird Dog brothers)	Christopher Robbins
The Rescue Of Bat-21	Darrel D Whitcomb
The Road to Arnhem: A Screaming Eagle in Holland	Donald R Burgett
The Secret War Against Hanoi: The Untold Story of Spies, Saboteurs and Covert Warriors in North Vietnam	Richard H Shultz Jr
The Secret Wars: A Guide to Sources in English, Volume II, Intelligence, Propaganda and Psychological Warfare, Covert Operations, 1945-1980	Myron J Smith
The Sorrow of War: A Novel of North Vietnam (This is a work of fiction with many facts written by a NVA Officer.)	Bao Ninh
Tiger the Lurp Dog (Fiction)	Kenneth Miller
Tragedy in Paradise: A Country Doctor at War in Laos	Charles Weldon, MD

<b>TITLE</b>	<b>AUTHOR</b>
Trespassers on the Roof of the World (Part of a series of books on the area from Turkey to Tibet. Well researched and an excellent view of the region, its history, and various societies that live within the region.)	Peter Hopkirk
Umbrella Concept for Low Intensity Conflict	Alex & Hamilton Booz
Unconventional Operations Forces of Special Operations	Mark D Boyatt
Uneasy Warrior	Vincent Coppola
U.S. Army Special Forces 1952-84	Gordon L Rottman
U.S. Army Handbook for North Vietnam Dept. of Army: 550-57	
U.S. Army Handbook for Cambodia Dept. of Army: DA Pam: 550-50	
U.S. Army Handbook for Laos Dept. of Army: DA Pam: 550-58	
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U.S. Army Handbook: Minority Groups in the Republic of Vietnam: Ethnographic Series Dept. of Army:DA Pam: 550-105	
U.S. Army Special Operations in World War II	David W Hogan Jr
U.S. Special Forces	Peter McDonald
Urgent Fury: The Battle for Grenada	Mark Adkin
Valley of Decision: The Siege of Khe Sanh	John Prados
Vietnam Above The Tree Tops: A Forward Air Controller Reports	John F Flanagan
Vietnam in American Literature	Philip H Melling
Vietnam Military Lore: Legends, Shadow and Heroes	Ray E Bows (MSG Ret)
Vietnam Order of Battle: A Complete, Illustrated Reference to the U.S. Army and Allied Ground Forces in Vietnam, 1961 - 1973	Shelby Stanton
Vietnam Studies: Command and Control 1950-1969	Maj Gen George Eckhardt
Vietnam: A History	Stanley Karnow
Vietnam: The Origins of Revolution	John T McAlister Jr
Vietnam: The Secret War	Kevin M Generous
War Stories of the Green Berets: The Vietnam Experience	Hans Halberstadt
War Story	Jim Morris
We Were Soldiers Once And Young	Harold G Moore ( LTG) & Joseph L Galloway
Who's Who From MACV-SOG	Stephen Sherman

# Med Quiz

## Picture This....

Gabriella Cardoza-Favarato, MD

Daniel J. Schissel, MD

Upon return from a long ten-hour reconnaissance mission, one of your troops takes off his boots and socks and says, “Hey, doc—my feet get really itchy when I take off my shoes and socks, and the skin between my toes is all wet and cracked. Do I have a foot fungus?” He denies any other rashes. He is on no medications, has no drug allergies, is a nonsmoker, and is otherwise in good health.

How would you describe the morphology of your patient’s primary and secondary lesions?



What is your differential diagnosis of toe web spaces that are dry, scaly, and fissured, or white, macerated, and soggy? Has the rash extended out of the web space and onto the plantar or dorsal aspect of the foot? Is a scaly advancing border or a vesicular eruption present?<sup>1</sup> These questions will help you in narrowing the differential diagnosis.

Evaluation of your patient back at the FOB with your unit surgeon revealed no fluorescence of the toe web spaces with a Wood’s lamp. A potassium hydroxide preparation test (KOH) yielded translucent, branching, filamentous structures (hyphae) that are uniform in width, with lines of separation (septa) spanning the width at irregular intervals.



## Answers:

### Morphology of primary and secondary lesions:

Interdigital tinea pedis: moist patch of erythema, maceration, peeling, fissuring and erosion of toe webs (third and fourth web spaces most commonly involved) as noted in first photo.<sup>2</sup>

Moccasin tinea pedis: well demarcated erythematous patches with minute papules on margin, fine white scaling, and hyperkeratosis (confined to heels, soles, and lateral borders of the feet) as noted in third photo.<sup>2</sup>

Inflammatory/bullous tinea pedis: vesicles or bullae filled with clear fluid.<sup>2</sup>

Ulcerative tinea pedis: extension of interdigital tinea pedis onto dorsal and plantar foot due to maceration and secondary bacterial infection.<sup>2</sup>

### Distribution:

One or both feet may be involved with any pattern; bilateral involvement more common; interdigital most common between 4th and 5th toes; moccasin involves the sole; bullous involves sole, instep, and web spaces.<sup>2</sup>

### Differential Diagnosis:

Interdigital: erythrasma, impetigo, pitted keratolysis, *Candida* intertrigo, *Pseudomonas aeruginosa*, or other bacterial web space infection.<sup>2</sup>

Moccasin: psoriasis vulgaris, eczematous dermatitis (dyshidrotic, atopic, allergic, contact), pitted keratolysis, various keratodermas.<sup>2</sup>

Inflammatory/bullous disease: bullous impetigo, allergic contact dermatitis, dyshidrotic eczema, bullous disease.<sup>2</sup>

### Tinea pedis (athlete's foot)

Tinea pedis is a fungal infection of the foot. Tinea infections are caused by the dermatophytes *Microsporum*, *Trichophyton*, and *Epidermophyton*, commonly referred to as ringworm fungi. They usually infect only the upper layer of skin (stratum corneum or keratin layer), hair, and nails; in an immunocompromised host, they can cause deep local invasion and dissemination.<sup>1</sup> Tinea infections are highly common, especially in our deployed military members. The estimated lifetime risk of acquiring a tinea infection (dermatophytosis) is between 10-20% for those not exposed to the elements and environments of our deployed military members, and therefore the incidence will be much higher in our deployed population.<sup>3,5</sup> Occasionally, humans are infected by zoophilic or geophilic species, which tend to cause more severe inflammation and symptoms of itching and burning.<sup>1</sup>

The feet are the most common area infected by dermatophytes. The warm sweaty environment of feet inside socks and boots promotes fungal growth. Community bathrooms create an ideal location for repeated exposure to infected material as their floors are often host to fungal elements. These fungi are ubiquitous.<sup>1</sup>

Clinically, most fungal infections are formed in the toe webs or soles. Warmth and moisture between toes encourages growth of the fungus. The macerated pattern occurs from an interaction of bacteria and fungus.<sup>1</sup> Plantar hyperkeratotic or moccasin-type tinea pedis is a more chronic form of tinea. The sole of the foot is covered with a fine, silvery scale and the skin is pink, tender, and often pruritic. The hands may also be infected.<sup>1</sup> Acute vesicular tinea pedis may evolve from a web space infection; vesicles develop on the sole or dorsum of the foot and may fuse into bullae. A second wave of vesicles may occur at the same or distant site; they are itchy sterile vesicles and represent an allergic response to the dermatophyte and are termed dermatophytid or id reaction.<sup>1</sup>



Always confirm the diagnosis of tinea with a KOH preparation; a sample can be taken from the roof of a vesicle, from an advancing scaly border, or from web spaces (for a review of the KOH procedure see the video on your Special Operations Medical Manual CD).<sup>1</sup> A Wood's lamp does not aid in the diagnosis of tinea pedis itself but is very useful in identifying secondary bacterial infections and should be part of your standard evaluation. Culture is rarely indicated for diagnosis and treatment of this condition but should be considered in those cases that don't respond to conservative treatment.

Treatment depends on presentation and degree of inflammation. Most tinea pedis infections respond to four weeks of topical treatment, whereas a widespread infection will require systemic treatment. Any secondary bacterial infection should be treated with topical or oral antibiotics based on severity.

The most commonly used topical antifungal treatments are the allylamines and azoles (imidazoles, triazoles); their mechanism of action involves disruption of ergosterol biosynthesis, a vital part of the cell membrane of fungi, thereby leading to increased permeability and causing cell lysis. Allylamines include terbinafine and naftifine; these agents are applied once daily and are recommended for use in the deployed setting. Naftifine has intrinsic anti-inflammatory properties equivalent to 1% hydrocortisone.<sup>3</sup> The azoles consist of the imidazoles (clotrimazole, ketoconazole, miconazole, bifonazole, oxiconazole, sulconazole) and triazoles (flucanazole, itraconazole, voriconazole); these agents are applied twice daily. The azoles as a class have antibacterial effect against some Gram-positive bacteria.<sup>3</sup> Sulconazole has some antibacterial activity against Gram-positive *Staphylococcus aureus*, *Staphylococcus epidermidis*, and *Streptococcus faecalis*.<sup>4</sup> Oxiconazole has anti-inflammatory effects without the risk factors associated with steroid use (for example, skin atrophy).<sup>4</sup> Other topical agents not in the above classes include tolnaftate, haloprogin, and ciclopirox, all applied twice daily, and butenafine, applied once daily. Other less-used agents include griseofulvin and undecylenic acids and salts.<sup>4</sup> The hyperkeratotic, moccasin-type tinea of the plantar surface typically responds slowly to topical therapy and may require systemic treatment with an antifungal, such as terbinafine.<sup>1</sup> For up to date information concerning dosage regimens, please review relevant product monographs and package inserts.

Recurrence is prevented by keeping feet and web spaces dry, changing socks frequently, applying powder to feet, wearing wider shoes, and expanding the toe space with lamb's wool.<sup>1</sup> For those individuals with underlying hyperhidrosis, aluminum chloride (Drysol) solution applied to the soles of the feet every other night is recommended. Shoes should be alternated every two to three days to air them out. Feet should be dried thoroughly after showers, especially between the toes. The nail can become a reservoir for dermatophytes and may necessitate treatment. Despite all the above measures, reinfection is very common.<sup>4</sup>

If you are deployed and have a concern about a puzzling skin lesion, you can email your clinical photos and, with the aid of your SOF manual, a concise morphologic description of the difficulty to our Operational Tele dermatology site at [derm.consult@us.army.mil](mailto:derm.consult@us.army.mil) or to [Daniel.Schissel@US.Army.Mil](mailto:Daniel.Schissel@US.Army.Mil). The lesion you describe just may make its way to **Picture This...** As always, thanks for all you do.

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Capt Gabriella Cardoza-Favarato is a 1999 graduate of the Uniformed Services University of the Health Sciences. She completed her internship and residency training with the family practice department of David Grant Medical Center, Travis AFB, CA. She served as a family practitioner at Edwards AFB, CA. She subsequently completed the Aerospace Medicine Primary course at Brooks AFB, TX and returned to Edwards AFB, where she is serving as a flight surgeon; she is currently deployed in support of OIF/OEF.



LTC Daniel Schissel is a 1993 graduate of the Uniformed Service University of the Health Sciences. He completed his internship with the family practice department at Fort Bragg in 1994. He then served as the 2/10th Special Forces Group (Airborne) and followed on as the 10th SFG(A) Group Surgeon. He completed his residency training in dermatology at the Brooke Army Medical Center in 1999. LTC Schissel is presently station in Heidelberg, Germany as a staff physician and the European Regional Medical Command Dermatology Consultant. He has authored the dermatology section of the new SOF manual, serves on the USSOCOM Medical Curriculum and Examinations Board, and is the U.S. Army Aviation Dermatology Consultant.

## *Photo Gallery*

A series of photographs by doctors LTC George E. Peoples, LTC James R. Jezior, and COL Craig D. Shriver, portrays a medical care team in Iraq and the injuries they confronted. The doctors are assigned to Walter Reed Army Medical Center, Washington, D.C. The images previously appeared in the New England Journal of Medicine, *Caring for the Wounded in Iraq - A Photo Essay*. New England Journal of Medicine 2004;351(24):2476-80.



Radiograph of mangled leg from blast injury.



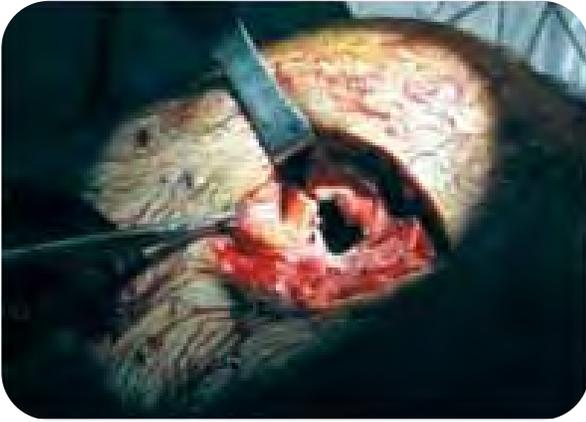
Typical large-fragment wound of the leg.



Radiograph of distal femur mangled by large fragment.



High-energy gunshot wound to the abdomen, passing through the liver.



High-energy gunshot wound passing through the knee.



Blast injury from exploding ordnance.



A common type of injury associated with roadside improvised explosive device run over by a Humvee.



Typical pattern of injury among Soldiers wearing Kevlar vests to protect the chest and abdomen.



Preparation of a patient for air evacuation.

*Taps*

*Legacy*



LARRY WAYNE MAYSEY

We are happy to report that SOF has lost no medics in recent times. So, for this edition of the JSOM we decided to combine the Dedication, Taps, and Legacy sections into one, and tell you the story of Larry Maysey.

#### **PJs - THE BEGINNING**

According to legend, the PJs were born in August 1943 when 21 passengers were forced to bail out of a burning cargo plane over the impenetrable jungle along the China-Burma border during World War II. Volunteers were called for to rescue the survivors, and the only way in was by parachute. A Lieutenant Colonel and two corpsmen, none of whom had ever jumped from a plane before, came forward to accept the hazardous assignment. They were dropped in successfully and spent a month in the jungle caring for the injured crash victims until they were finally recovered. From their courageously humble beginnings, the pararescue service evolved into a highly-professional, versatile force that has become the 911 for downed pilots, U.S. Special Forces, NASA, and a host of other services and scenarios.

The first HH-3E Jolly Green Giant helicopters specifically outfitted for search and rescue arrived in Vietnam in the fall of 1965. By the beginning of 1967 there were 50 Aerospace Search and Recovery Squadron (ARRS) rescue aircraft in four squadrons located throughout Southeast Asia. Later models of the HH3 were equipped with aerial refueling capability which gave them the range necessary to fly missions deep into North Vietnam.

The PJs' primary mission in Vietnam was to fly into a combat zone aboard the big, lumbering helicopter (HH-3E), known as "Jolly Green Giant" helicopters, and drop from a cable into jungles, swamps, mountains, and forests, often under fire the entire time. Once on the ground they tended to the wounded. The most gravely injured were attached to a litter and hoisted up to the helicopter; the rest of the evacuees were hauled up on a seat known as a "jungle penetrator." Besides their medical kit, flak jacket, and flight crew helmet, PJs dropped into combat with a .38 pistol, an M-16 assault rifle, and a survival knife. If they had to, they were prepared to stay and fight or lead the way out.

Larry Maysey enlisted in the United States Air Force and volunteered for the elite Aerospace Rescue and Recovery Service (ARRS), the self-sacrificing pararescuemen known as the PJs. He was 21 years old when he shipped out to the Republic of Vietnam in the fall of 1967.

#### SYNOPSIS OF EVENTS

At 2305 local time on 8 November 1967, two Air Force HH-3E helicopters (call signs "Jolly Green 26" and "Jolly Green 29") were scrambled from the 37th Aerospace Rescue and Recovery Squadron, DaNang Airbase, South Vietnam, for an emergency extraction of five remaining members of a Special Forces road-watch reconnaissance team. The team had suffered heavy casualties while operating deep in a denied area along the infamous Ho Chi Minh Trail in Laos and was under intense, relentless attack by the communists. This recovery effort would be recorded by the 37th ARRS as one of the largest and most hazardous on record.

The Special Forces team members were assigned to MACV-SOG (Military Assistance Command Vietnam Studies and Observation Group), a joint-service, unconventional warfare taskforce engaged in highly classified operations throughout Southeast Asia. The 5th Special Forces Group channeled personnel into MACV-SOG (though it was not a Special Forces group) through Special Operations Augmentation (SOA), which provided their "cover" while under secret orders to MACV-SOG. These teams performed deep penetration missions of strategic reconnaissance and interdiction which were called, depending on the time frame, "Shining Brass" or "Prairie Fire" missions.

Inside a certain area of Laos was a known major artery of the Ho Chi Minh Trail. When North Vietnam began to increase its military strength in South Vietnam, NVA and Viet Cong troops again intruded on neutral Laos for sanctuary, as the Viet Minh had done during the war with the French some years before. This border road was used by the Communists to transport weapons, supplies, and troops from North Vietnam into South Vietnam, and was frequently no more than a path cut through the jungle-covered mountains. U.S. forces used all assets available to them to stop this flow of men and supplies from moving south into the war zone.

The two Air Force rescue helicopters were advised by the on-site Forward Air Controller (FAC) to remain in the holding area while three Army UH-1B gunships softened the area with rockets and machine gun fire. Meanwhile, an Air Force C-130 provided flare support for the operation. During this time two helicopters, one American UH-1B and one South Vietnamese Army H-34, were shot down by automatic weapons fire very near the road watch team approximately 45 kilometers east-southeast of Muang Nong and five kilometers southwest of Achiang, Salavan Province, Laos.

At 0030 on 9 November, Jolly Green 29 successfully extracted three indigenous personnel before being severely damaged and driven off by heavy enemy automatic weapons fire. Damaged, Jolly Green 29 left and made an emergency landing at Khe Sanh. Twenty minutes later, Jolly Green 26, flown by Capt Gerald Young, with flight crew consisting of Capt Ralph Brower, co-pilot, SSgt Eugene Clay, flight engineer, and Sgt Larry Maysey, rescue specialist, braved the ground fire to attempt pick up the wounded Special Forces SGT Joseph G. Kusick and MSG Bruce R. Baxter.

As he was departing the area, the pilot of the damaged SAR helicopter (Jolly Green 29) advised Capt Young that the endangered team was positioned on the side of a steep slope which would require unusual air-manship on the part of Capt Young to effect pickup. He further advised that any additional rescue attempts be abandoned because it was not possible to suppress the concentrated fire from the enemy weapons.

With full knowledge of the danger involved and that the supporting helicopter gunships were low on fuel and ordnance, Capt Young hovered under intense enemy fire unflinchingly as Larry Maysey dropped down into the maelstrom to become a sitting duck. Exposing himself to a hail of fire, Sgt Maysey stabilized two of the wounded survivors and got them loaded onto Jolly Green 26. Just as Young began to pull away, the heli-

copter was raked by machinegun fire at point blank range. The mortally wounded Green Giant rolled over and burst into flames as it crashed to the ground. Capt Young escaped through a window of the burning aircraft. Disregarding his own serious burns, Capt Young aided one of the wounded men and attempted to lead the hostile forces away from that man's position.

The number of U.S. and allied personnel on the ground and under attack was now two men from the Special Forces road-watch team, four U.S. crewmen from the UH-1B, three ARVN from the ARVN H-34 and four U.S. crewmen from the HH-3E.

By 1700 on 9 November, six men still on the ground included two trail-watch team members, one UH-1B crewman and four HH-3E crewmen. Later, when another rescue attempt by air was planned, Capt Young declined to bring the aircraft in because he had observed hostile forces setting up automatic weapons positions to entrap any rescue aircraft.

By late afternoon a strike team was landed some distance away to rescue the remaining Americans, but had difficulty making contact with the survivors. When they did link up, it was impossible to inspect the wreckage for survivors or remains because of fading light.

On 10 November, over 17 hours after the HH-3E was shot down, the remaining survivors were evacuated by rescue helicopter. Capt Young, the pilot of Jolly Green Giant 26, was awarded this nation's highest decoration, the Congressional Medal of Honor, for his extraordinary heroism both in the air and on the ground during this mission.

Later that day, the wreckage of the Jolly Green Giant was searched. Three charred remains were found; two of them had identification tags identifying them as members of the aircrew. The third set of remains had no tags, but was identified as SGT Kusick, the reconnaissance team radio operator, as the long antenna from his PRC-25 radio was found on his body. Approximately 34 meters downhill from the wreckage, another set of remains were found which were readily identified as MSG Baxter. SSgt Clay's body was then also found outside of the aircraft. The remains of the two crewmen were placed together so they could be hoisted as one lift into a hovering helicopter. The identification tags of the crewmembers were placed with the remains.

Weather conditions on 9 November were clear with seven miles of visibility and light-to-variable winds. By 10 November there was a 1000-foot overcast of clouds with only three miles of visibility and light rain. During the next two days, weather conditions and enemy action would not permit helicopters to extract the remains of the dead. Ultimately the strike team was forced to leave the remains where they had been placed, and depart the crash site area. On 13 November 1967, George Kusick, Bruce Baxter, Ralph Brower, Eugene Clay, and Larry Maysey were all declared Killed in Action/Body Not Recovered.

## **I WAS THERE**

I enlisted in the Army with the intent to become a Special Forces Medic. Early in my training, I was offered the opportunity to go to OCS, which I did. I graduated OCS in December 1966, and was assigned to the 3rd Special Forces Group at Ft. Bragg. In November of 1967, I was a 2 LT with the 5th Special Forces Group assigned to the Studies and Observation Group in MACV.

Paul Gregoire's article "Hatchet Force" <http://www.sullyusmc.com/slowboy.htm> is about his experience from November 9 to November 12, 1967, and does a very credible job of explaining SOG. My particular assignment was to CCN (Command and Control-North), FOB-1 (Forward Operating Base One) in Phu Bai. I was a Hatchet Force Company Commander. The "Hatchet Force" generally consisted of about a platoon of mercenary Soldiers, advised by a team of six Special Forces Soldiers. The remainder of my team was from the 1st Special Forces Group on Okinawa, TDY to SOG.

It was the duty of the "Hatchet Force" to standby to exploit targets or rescue Americans in trouble in Laos (our primary AO). The rescue missions were called "Bright Light" missions. On November 8, 1967, we were aware that a team was in trouble and I hung out in our TOC until about 2300 on the 8th, monitoring the situation. Members of the beleaguered team included one of my roommates, LT "Chips" Fleming and MSG Bruce Baxter, who was an icon in the SOG community.

I went to bed before midnight, anticipating we might be called upon the next day. The Sergeant of the Guard woke me at about 0300 and told me to report to the TOC. There, I got a warning order to be ready for a "Bright Light" at first light. I got my team and another team ready. We were to go in "heavy" with 12

U.S. and 60 mercenaries. We were told to expect a 10 hour mission...in and out. Carry no food, minimal water and lots of ammo. Always a comforting thought. (We were sure hungry four days later when we finally got out of there!)

I was the LT in command of the force that went in on November 9th to try and rescue any survivors and determine the fate of all involved. Two crew from the Army gunship, Warrant Officers Woolridge and Zanow, were picked up by VNAF H-34s at first light and the VNAF H-34 that was shot down the evening of the 8th was repaired and flown out early that morning. (they had auto-rotated in some distance away).

We got in mid-morning on the 9th and located another of the Army crew (Jasper) and got him out on a VNAF H-34. We spent all day working toward Jolly Green 26 and in the process spotted Capt Young coming out of a tree line. A USMC gunship picked him up. We did not find the wreckage of JG-26 on the 9th and went to a defensible position on high ground. Without going into detail, the next two days were bad, but we did find the wreckage. No one else survived the crash.

On the morning of the 12th, things were considerably better, but after three days with no food, being soaked by torrential downpours, and having to deal with a steep muddy mountainside while we were surrounded by NVA, we just weren't able to bring anything out.

I feel badly that Larry's family didn't get the closure they were looking for but I assure you all he was very courageous and he didn't suffer. I wish everything had turned out better. Larry was obviously an exceptional human being. I want to assure all of you that we tried to bring them all home. Events conspired against us and it just didn't happen. He wasn't abandoned on that hillside.

I corresponded with Gerry Young, the pilot of JG-26, several times in 1989 and 1990. He spoke emphatically about the heroism of his crew and wanted me to know that although JG-26's attempt was by unanimous vote of all the crew, he was haunted by the result. Gerry received the Medal of Honor for his actions in this mission.

I realized that there were an awful lot of people involved in trying to rescue and recover our personnel from that hillside and that we had never met each other, so I poked around a little bit more and found Richard Young who was the Crew Chief on "Blind Bat," the C-130 flare ship the first night. He sent my email to Jeff Nash. As a result of Jeff's work, a number of us are in communication and planning a reunion this fall.

I have nothing but admiration and awe for the crews that flew in that area those few days, especially the two Jolly Green crews. I know just how bad it was. I would not be here today without their support. I often wonder what this nation has done to deserve men and women such as these.

Sincerely,  
Gamble Dick

## RESEARCH

Jeff Nash, a retired Air Force Master Sergeant, has adopted Larry Maysey and wears his MIA bracelet. Jeff has been doing research on Larry and requested copies of documents from the Library of Congress's POW/MIA data base concerning him. Basically they are summaries and case reports from Joint Task Force - Full Accounting (JTF-FA), now referred to as Joint POW/MIA Accounting Command (JPAC). One summary says that the recovery team that initially went in to secure the crash site and recover remains found Larry's remains in the wreck, placed them in a body bag, then placed them in a washed-out crevice downhill from the crash site for helicopter extraction. Poor weather that day then prevented extraction. Later, when the weather cleared, enemy action forced the team to leave the area without the remains. One summary says that in January 1995, a joint U.S./Lao team investigated the area where the helo was recorded to have crashed. The team traveled throughout the area, interviewing several village chiefs, none of whom could provide any knowledge of a crash site. However, they did learn of a potential person who could lead them to a helicopter crash site, but he reportedly wasn't there at the time. The team leader at that time recommended further investigation.

In April 1995, the team returned and located the witness, who took them to a crash site that was determined to not correlate with Larry's case. But, they did locate another crash site believed to be the right one. They found parts of an M-60 machine gun (similar to those used by helo door gunners), a large five-blade main rotor, and a tail rotor assembly matching an HH-3 helicopter. Joint investigative and recovery teams then deployed to the Lao People's Democratic Republic from Hickam Air Force Base on 8 March 2004 to conduct a joint field activity in hopes of bringing home Americans unaccounted for from the Vietnam War. The teams consisted of 47 Hawaii-

based U.S. military and civilian specialists from the Joint POW/MIA Accounting Command (JPAC). This was the 83rd JFA into Laos in search of missing Americans.

The search and recovery teams in Salavan Province excavated a site involving an HH-3E crash with five unaccounted-for Americans. The team recovered wreckage and life-support equipment. This area as well as three other sites were to be excavated again during a mission later in the year.

## MEMORIAL

Douglas J. McGill Jr., USAF Pararescue, Retired, (1966-1987) referred to Larry as a most special human, who loved life, who loved peace, and loved Pararescue, and lived and died by the motto... “These things we do... that others may live.” His deed and example are remembered and followed by all who wear the maroon beret of the United States Air Force Pararescue Special Forces.

The Air Force dedicated three buildings to the memory of Larry Maysey: at Los Angeles AFB, California, at Randolph AFB, Texas, and at Hickam AFB, Hawaii. Several of Larry’s friends thought about the selfless and tragic loss of their classmate. It occurred to them that, although the Air Force has dedicated three buildings throughout the country in Larry Maysey’s memory, there is no building or monument in Chester, New Jersey, that bears their hometown hero’s name. They decided that whether his remains were recovered or not, they were going to “bring Larry home.”

They formed a committee to spearhead the building of a memorial to Larry Maysey and all of Chester’s veterans. The architect for the project, John Dean, was even a classmate of Larry Maysey. They hope to dedicate the monument, which will sit on a small island of grass in the center of Chester Borough, on Memorial Day 2005. The Marines are providing the Honor Guard and the New York Air National Guard is providing aircraft support for the flyby. When complete, the memorial will include a curved black granite wall inscribed with the names of all of Chester’s veterans from the Revolution to the present. In front of the wall, a bronze likeness of Larry Maysey will stand on a three-foot high base. Larry will be wearing his jump boots and maroon beret, with an M-16 slung over his shoulder. The figure will be stooped over with his hand outstretched to passersby, a symbolic gesture of hope and comradeship that is as poignant today as it would have been in 1967. It is a reminder of the generations of young men and women who have faced death so that “others may live.”

## ACKNOWLEDGEMENT

Thank you to Jim Morris for his ongoing support in keeping the JSOM informed of special SOF events.

This Taps/Legacy dedication was put together from several sources sent to the JSOM by Terry Arentowicz, a friend of Larry Maysey and secretary of the “Bring Larry Home” committee, Jeff Nash, a retired Master Sergeant in the Air Force and currently the Assistant Director of the Peterson Air and Space Museum in Colorado Springs, Gamble Dick, former Special Forces, and Jim Morris, former PJ. Thank all of you for your input.

Excerpts taken from:

The Black River Journal- Spring/Summer 2004.

The Observer-Tribune, Jan 22, 2004.

<http://www.morrisgroup.org/maysey>

<http://www.pownetwork.org/bios/m/m376>

<http://www.aipowmia.com/inter23/in211103maysey.html>

<http://www.scally.com/mia/maysey.html>



The architect for the project is John Dean, a classmate of Larry Maysey.

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### Special Forces Aidman's Pledge

As a Special Forces Aidman of the United States Army, I pledge my honor and my conscience to the service of my country and the art of medicine. I recognize the responsibility which may be placed upon me for the health, and even my skill and knowledge in the caring follow the maxim "Primum non-ham"), and to seek the assistance whenever it is available. These attendance on the sick, I will treat as to impart to others who seek the serv-art and practice as I possess, and I bility to this purpose. As an American soldier, I have determined ultimately to place above all considerations of self the mission of my team and the cause of my nation.



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### Pararescue Creed

I was that which others did not want to be. I did what others failed to do. I nothing, And reluctantly accept-...should I fail. I have seen the cold of fear, and enjoyed the I have cried, pained and lived times others would say able to say, that I was proud of as a Pararescueman to save a perform my assigned duties quickly



I went where others feared to go, and asked nothing from those who gave ed the thought of eternal loneliness face of terror; felt the stinging sweet taste of a moment's love. hoped...but most of all, I have best forgotten. Always I will be what I was: a PJ It is my duty life and to aid the injured. I will and efficiently, placing these duties

before personal desires and comforts

These things I do,

"That Others May Live."

### Navy Poem

*I'm the one called "Doc"...I shall not walk in your footsteps, but I will walk by your side. I shall not walk in your image, I've earned my own title of pride. We've answered the call together, on sea and foreign was given, I've been there am on the ocean or in the jun-aid to my fellow man, be it next time you see a Corpsman him "squid", think of the job he's doing as those before him did. And if you ever have to go out there and your life is on the block, Look at the one right next to you...*



*I'm the one called "Doc".*

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