Volume 1, Edition 1 Spring 2001

Journal of Special Operations Medicine

A Journal for Special Operations Forces Medical Professionals

Dedicated to the Indelible Spirit and Sacrifices of the SOF Medic

From the Surgeon

United States Special Operations Command

So you are a SOF Medic...

Just how many of you have really

"Lived the Life"?

You have *The Training* .

There has never been a medic trained in a schoolhouse as well as you, whether civilian or military, in the US or abroad. To hell with those stories about how "they" used to do it! It was inferior! Today, SOF Medics graduating from the JSOMTC have better course materials, better facilities, instructors who are more standardized in quality, and the benefit and wealth of joint attendees. You bet there are problems with course material, instructors, facilities, and those other services — so just imagine how bad it must have been "before." Only instructor cadre commitment remains the same – but not better!
Every class is better than the previous one.

You have *The Gift* .

For you to have completed SOF Medic training means that you had a certain combination of talents that allowed you to graduate. Even if you just barely made it to graduation, you still had to have **"IT"** to get by — no matter how many times you were recycled.

Trust me, there's a mass of humanity who could not last the first hour of the first day of SOF Medic training.

You have *The Power* .

After you cure your first patient, you are introduced to ***The Power***.
The first person you bring back from the brink introduces you to *Invincibility*.
Ever wonder why Surgeons got a reputation for acting like WWF wrestlers? They are constantly reminded of the Power they have in determining a patient's outcome. We all have some difficulty handling Power like this.
It's POWER, and it is dangerous.
— read on...

You have *The Honor* .

By virtue of your Gifts, Training, and The Power, you now are bestowed with The Honor of being a medic.
DO NOT confuse Power with Honor — there is an abyss of humility between the two. It is an honor to use the God-like gift of Life. Bear it humbly, because it was only Fate that you got this far anyway (genes, fortunate breaks, good advice, etc).
LUCK!
Bad Luck is as frequent as Good Luck, ***so don't ever think you da' Man!***
— but read on...

You ARE *The Best* !

You ARE da' Man!
Few have the Gifts and Training to do as much as you. Ever see a SOF Medic who ONLY did medical stuff? Never! Medics are always good at other things – weapons, demo, recon, etc. – because of The Gift.
Gift, Training, Power, and The Honor to serve.
When you can handle all that and still keep "centered," you become one of The Elite.

You have *The Need* .

You have needs which you can't handle alone and which force you to rely on others.

- You have the need to get constant refresher training in Medicine. Medical skills perish.

- You have the need to be CURRENT in Medicine. Medicine changes every day.
- You have personal needs like all other humans — e.g. positive reinforcement, personal validation, family, relationships, time off. No one is above this.

You have Needs. Others have to give you the time, money, encouragement, and other support.

YOU CAN'T DO ALL OF THIS ALONE.

You have *The Responsibility* .

As long as you are a SOF Medic you have The Responsibility.

- Responsibility to keep up your skills and keep current in Medicine.
- Responsibility for your patients.
- Responsibility to do The Right Thing.
- Responsibility to keep yourself centered, OFF-Power, and ON-Humility.

If YOU don't take on The Responsibility, no one will respond to your Needs.

When you became a medic, you assumed The Responsibility – like it or not.

You are a failure only if you don't take it on.

You will be *ALONE* .

You will be alone in bearing Responsibility. You will be alone in actions.

SOF Medics know the joke in those medical texts which advise "consult a specialist," "Refer to neurosurgeon," "order MRI," or "get antibody titers." The SOF mission isn't near hospitals, or phones, or telemed links.

A SOF Medic lives for the ultimate mission — unsupported and ALONE.

- ALONE, in the dark with red light, on a jungle floor, no help or consultation, one aid bag, three shot and bleeding patients, under fire, no evac ...
- ALONE, in a hut, with a difficult delivery, lit only by campfire, no surgeon ...
- ALONE in a village with cholera, no safe water, no crowd control, and only one of you...

ALONE.

You will be *FORGOTTEN* .

Few will recognize your deeds. Fewer will remember them.

All good deeds done today will be re-judged in the light of what you do tomorrow.

You will spin an inner story that only you might remember.

You bear *The Burden* .

When you assume the mantle of SOF Medic, you inherit the entire package

— Power, Honor, Elitism, Responsibility, Neglect, and Solitude.

You have all the human weaknesses, but you have Responsibilities that stretch human capability.

If you don't feel the weight, you have yet to "live the life."

If you have no idea what I'm talking about, get out there and DO THE MISSION!

Feel The Burden!

Do *The Righteous Thing* !

When you became a SOF Medic, you took a religious vow like men of the cloth to take on The Burden. It is very hard to escape this Burden. People will always turn to you when there are sick and wounded. They will expect you to take on The Responsibility; to know what to do; to do The Right Thing; to carry The Burden,

… and to face it ALONE, without assistance, and without reward.

So know now that this is your Fate, and be proud you have a Fate like this.
Few have so great a Burden, and fewer can handle it.
Do the Righteous Thing —
Bear The Burden.

Don't let us down…

STEVEN J. YEVICH, MD
COL, USA
Command Surgeon

Cover

United States Air Force Pararescuemen conducting water rescues.
Right Inset: Pararescueman SRA Michael Maroney prepares to be lowered by TSgt Mark Cook from an HH-60G Pave Hawk in the hopes of rescuing flood victims stranded on the rooftops in Buzi, Mozambique. Perhaps afraid of being relocated to Beira, 60 miles away, the villagers swam away in each of the PJ's rescue attempts.

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From The Staff

First and foremost, the staff of the *Journal of Special Operations Medicine* thanks the hundreds of readers who have contacted us with their glowing comments regarding the Inaugural Edition. Given that the first edition was designed, published, and distributed in just six weeks, it is especially gratifying to receive favorable responses from the readers.

It is our deep desire to involve our readers in the production of the journal. Your suggestions, submissions, and photos are an integral part of what make this journal unique. It is a sharing of your missions and of your lives as you go forth as instruments of national foreign policy.

In this edition of the *JSOM*, we honor a fallen brother. Airman First Class William H. Pitsenbarger was a young Pararescueman who gave his life in the jungles of South Vietnam in 1966. During that eventful night, he repeatedly risked, and ultimately sacrificed, his life to aid the numerous infantrymen who would have died had it not been for his actions. Please take a moment now and remember him.

The Spring edition also contains some new departments that we believe the audience will find engaging. "*There I Was…*" is a humor column. It will appear in every edition and will feature the antics of Special Operations Forces medics. We invite you to send us your stories and photos to share with the community.

Another new department in this edition is called "*Legacy.*" This department has generated a great deal of excitement and anticipation here at the staff. *Legacy* is a concentrated effort on the part of the *JSOM* to reach out to the early SOF medics on a continual basis. These men are a wealth of knowledge and experience that we can ill afford to ignore. In this day and age of paying lip service to "passing the torch," we are making every effort to include our predecessors in sharing their hard-earned wisdom.

Lastly, we have had to boost publication of the journal to three thousand copies for this edition. Our distribution list continues to expand daily. The requests for the journal have come from all services, from medics to the surgeons general, from clinical to operational units. An additional source of requests has come, much to our delight, from the retired and civilian communities. We will keep you posted as these numbers continue to expand.

Enjoy this month's edition of the journal, send us your feedback, and get those submissions in to us: JSOM@socom.mil

Watch your six out there…
dgs

Journal of Special Operations Medicine

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3. Secure permission before including names of personnel mentioned in your piece. Do not violate copyright laws. If the work has been published before, include that information with your submission.
4. Articles should be double-spaced, twelve point font, aligned on the left and justified on the right.
5. Include an abstract, biography, and photo of yourself as part of the article.
6. Use of acronyms should be held to a minimum and when used they must be spelled out the first time.
7. Remember that your audience is inter-service, civilian, and international.
8. Every article has a point to make, which is traditionally stated in the introductory paragraph and restated in the closing or summary. Subtlety is not usually a virtue in a medical publication.
9. An author's cover sheet must accompany each article submitted for publication.
10. Photographs are highly encouraged. Photos must be sent separately from document so they can be converted into a publishing format. Where possible, traditional ("hard copy") photos should be sent, however, scanned and digitized copies can be used **but please make as large as possible, even if you have to send them one at a time.** Every attempt to return your original pictures will be made, but the *JSOM* will not be held accountable for lost or damaged items.
11. Send submissions by email, diskette, CD, or plain paper to the Editor. Email: JSOM@socom.mil or by mail to: USSOCOM Surgeon's Office. Submissions may also be sent to the above physical address. Retain a copy for yourself.
12. We reserve the right to edit all material for content and style. We will not change the author's original point or contention, but may edit cliches, abbreviations, vernacular etc. Whenever possible, we will give the author a chance to respond to and approve such changes.
13. Again, the *JSOM* is your journal. It is a unique chance for you to pass your legacy to the SOF medical community.

Take advantage of the opportunity.

Contents

Spring 2001 *Volume 1, Edition 1*

Departments

Component Surgeon Offices 1

Warner Farr, MD — USASOC
Larry Garsha, MD — NAVSPECWARCOM
Jim Dougherty, MD — AFSOC

Education and Training 8

The View From The Schoolhouse
Kevin N. Keenan, MD

Special Operations Combat Medic Course Outstanding Graduates Announced
Kevin F. Riley, MS

USSOCOM Recognizes New York City EMT-P Support
Christopher M. Reynolds, EMT-P

EMT - Paramedic Certification Status For SOF Medics
Kevin F. Riley, MS

Research & Development 12

Special Operations Forces Medical Handbook
Mr. Robert Clayton, Contractor, SVERDRUP

Features

That Others May Live 13
Robert L. LaPointe, SMSgt (Ret.)

Kaman HH-43B "Huskie" 25

688-Class Submarine Dry Deck Shelter Operations DIVERS BEWARE 26
Ted Waters, MD

Observations on Group Behavior in a Special Forces "A" Team Under Threat of Attack 30
Peter G. Bourne, MD

Special Operations Forces Project *MedTruth!* 35
Donald G. Shipman, PA-C

Hostage Recovery from the Ecuadoran Jungle 38
Allison J. Clough, MD

Medical Care in a Prisoner of War Camp 42
Gene Lam, MD
Dan C. Godbee, MD

Medical Civic Action Program in Kosovo 50
James T. Giles, DVM
Craig H. Durck, DO

Case Study: Pulmonary Malaria 54
Robert H. Lutz, MD
Darrell K. Carlton, MD

Demining 57
Clint Bearden, EMT-P
Kevin F. Riley, MS

Special Operations Forces Deployment Health Surveillance 61
Richard T. Hartman, MS

Legacy 66

Shoot-Down at Katum Special Forces Camp (ODA-322)
Reg Manning, CSM (Ret.)

Expedient Medic 72

Wound Care in the Field
Warner Anderson, MD

There I Was... 75

The Blue Bird Express
Oscar
Four Star Humor
Expedient Air to Ground Communications

Correspondence 80

Editorials 82

Fluoroquinolones
Stress in Special Operations

SOMA Update 85

Photo Gallery 87

Med Quiz 89

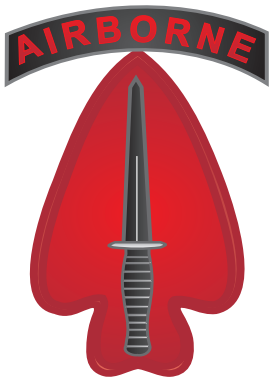
Left Shoulder Injury

Dedication 92

William H. Pitsenbarger

Component Surgeon

USASOC



In the inaugural edition of the JSOM, I talked about past and present 18 Deltas and Special Operations Combat Medic (SOCM) (W1) training. For this issue's USASOC Surgeon's update, I would like to concentrate on medical officer issues. The U.S. Army is involved in a transition from general medical officers (GMOs) to specialty trained, board certified medical officers at battalion level and above.

Why has this happened and what are its effects on the force, especially Army Special Operations forces (ARSOF)? The Army Medical Department and indeed all of military medicine has been directed by Department of Defense Health Affairs (DOD-HA) to start transitioning away from general medical officers. They have been further instructed to reach a point where no one with less than three years of postgraduate medical education is sent out to relatively unsupervised positions. Some of the services have indicated that they cannot reach this stage by the mandated date of 2008, and other services are busy trying to meet the goal. None of the services are really confident that they will meet the 2008 DOD-HA goal. The deadline may or may not be a fixed, real deadline.

Whether or not a given military service is trying to change by that date, the junior medical officers of all the services are recognizing the warning signs and are applying for residencies in ever greater numbers. Hence, there is a smaller pool of GMOs for assignment to the combat units in U.S. Army Forces Command (FORSCOM) and to us in ARSOF. Starting last year, each ambulatory care specialty (family practice, internal medicine, emergency medicine, pediatrics) has been levied a "tax" by the Office of the Army Surgeon General (OTSG). They must provide a certain number of residency trained physicians to attend the flight surgeon course and be further assigned as unit medical officers in field assignments, primarily in Germany, Korea, FORSCOM and ARSOF units.

Residency program directors, increasingly, are picking fourth year medical students to go "straight through" their programs because the pool of GMOs is shrinking fast. Program directors will admit that the success rate for straight-through selectees in long surgical residency programs is not great. In contradistinction to civilian residency programs, it is not easy to fill holes that occur in programs when a resident is not retained. Residency directors (I spent last week in D.C. with many of them) are also concerned whether or not to pick GMOs with many years in field assignments. In the past, some GMOs reentered graduate medical education (GME) at the Post-Graduate Year (PGY)-1 level and made up for prior internship shortcomings. This appears to be no longer allowed, or at least much harder to obtain.

I particularly wonder how long these straight-through trainees will stay in the Army, not having really seen the Army until after residency training. With the OTSG "tax," these "babies in the Army's woods" also have an increased chance for an abrupt transition from the cloistered life in a medical center straight to overseas or to FORSCOM and ARSOF. The GMOs in the field, well-acculturated to the Army, but some years out of internship, are looking at the door slowly closing and wondering what the military's plan for them will be if they do not quickly get a residency. I wonder, too.

What is this doing to the Army special operations medical community? It is increasing the level of medical expertise in the field! I just picked twelve board certified physicians and one GMO (he's pre-selected for a residency) for our battalion surgeon slots. In a very short period - less than three years - we have gone from an overwhelmingly GMO force toward an overwhelmingly residency-trained force. Those board certifications now in our inventory include family practice, emergency medicine, occupational medicine, pediatrics, preventive medicine, ophthalmology, public heath, anatomic and clinical pathology, internal medicine, and aerospace medicine.

When I came back into the force as a physician, wizened old physician assistants who were former 18Ds routinely supervised GMOs and taught them their trade. Chief Warrant Officer (CWO) Art Olsen and CWO Cecil Keaton come to mind, primarily because Art, when he was a Sergeant First Class, was my Operating Room (OR) instructor in the Special Forces Med Lab and Cecil was originally in my 300-F1 class. Physician assistants (PAs) supervised 18Ds, SOCM (W1)s and GMOs concurrently and about equally. The 18Ds and SOCMs also did a fair amount of supervising of the docs! Now, PAs are getting younger and younger, and are, in many cases, ex-tuba players or wheeled vehicle mechanics, not ex-18Ds (I will admit that Special Forces is still somewhat protected from this new trend due to our 18D-to-PA returnees).

In many ways, our institutional medical expertise had declined over the years: younger and younger, less experienced PAs and the same one-year of postgraduate medically educated GMOs. This trend is over. Next summer 12/13ths of the newly assigned medical officers in this command will have had at least three years of postgraduate medical education and some will have had four or five.

This is not to be taken as bad-mouthing our ARSOF GMOs, all great soldiers and very competent providers, just placed by the Army at the end of a long tunnel with little support. Rightly or wrongly, it is a new ball game.

So, several thoughts on what this means:

- GMOs now in ARSOF assignments should attempt to go to residency training ASAP! Apply now. The GME selection process selected about 80% of our GMOs for their chosen residency, but there were two glaring, rather unexplainable, exceptions this year. Those who were not selected are also somewhat at a loss on how to remediate for the future as they thought they had done all the right things to get selected.

- 18D and SOCM training should improve. We will have medical officers who bring expertise in their board-certified field with them and can teach our medics skills that could not be taught or sustained before at the battalion level.

- Board certified medical officers may well stay longer in our units, and we will have fewer turnovers. Much of our prior turnover was because GMOs felt that two years was the limit and they must depart for a residency. Our board certified medical officers may well stay much longer and return for several ARSOF assignments. They will become the folks who run the 18D and SOCM courses of the future.

- Medical officers that do stay longer may well be able to take advantage of more Special Operations schools. Perhaps we can make more diving medical officers, more senior parachutists, and perhaps SFQC may be possible,

driven by mandated unconventional warfare doctrine for clandestine hospitals.

- The transient, one assignment pattern of our medical officers may have limited their effects on Special Operations tactics, techniques, and doctrine. These changes to residency-trained medical officers should result in more repeat assignments and more ARSOF doctrine experts among our medical officers.

As we are "living in interesting times," change is inevitable if not predictable. Often it is painful if you are not prepared. This particular change was not well elucidated by the senior medical leadership at the Office of the Surgeon General. I will work with each of our medical officers personally to help them achieve their goals amid this transition.

Ban Me Thout, Vietnam.
On a Montanyard house call.
1970

Rocky/Warner Farr
COL, USA
Command Surgeon

Component Surgeon

NAVSPECWARCOM

Hoo Yah Navy Special Warfare corpsmen and physicians!

What has happened since our last Navy Special Warfare Command (NAVSPECWARCOM) note? We had an OUTSTANDING NSW meeting in Tampa prior to the Special Operations Medical Association conference.

After a brief intro by yours truly, we were inspired by the keynote address of Master Chief Weldon. He discussed the present state of corpsmen and Bureau of Medicine's perennial money crunch. Corpsmen 8491 and 8492 will be receiving SDAP bonus increases, and he promised to look at hazardous duty pay for special boat crewmen who carry a very high rate of injury comparable to parachutists and diving medical technicians. He also promised to talk to the SG about the problems with active duty accessing health care in the San Diego area. He did look into this problem, and I am pleased to report that all problems that were aired at our conference have been resolved. Way to go Force Master Chief!

Master Chief (SEAL) Harkness of the SOCOM Surgeon's Office also gave an outstanding presentation on EMT-P. He noted that SOCOM would support the EMT-P course in San Antonio and that NSW would have 10 slots to fill. As of this writing in January, only the West Coast is requesting a quota.

Chief (SEAL) Hill talked about the issues in detailing and defined the difficulty in trying to get people to schools not recognized by BUPERS database. He vowed to try to change the coding so that in the future our SEALS could attend the Joint Special Operations Medical Training Center (JSOMTC) for the Special Operations Combat Medic, Advanced Special Operations Combat Medic, and Special Operations Forces Medical Sustainment Training courses.

In the afternoon, we heard Major Hartman, from the SOCOM Surgeon's Office, USAF, give a very clear and concise explanation of SOCOM Directive 40-4 , Medical Surveillance. His discussion will lead to enhanced commander visibility of medical readiness.

I then presented the CNSWC Medical Department Strategic Plan. This should help keep our focus on the medical support services we should be providing.

Last but certainly not least, ENS Donald gave the "fastest with the mostest" talk on the new AMAL proposal for NSW. This AMAL represents exhaustive work by numerous medical and surgical specialists and will enable our deployed corpsmen to handle any health care problems within their purview.

The next day Master Chief Brixey discussed the new NSW Training Center and its role in all of NSW training. It is apparent that they will be respon-

sible for more than BUDS and will have to cover SOT sustainment and cold weather training.

CAPT Schwartz, former BUMED 21 advisor to the Surgeon General, gave an illuminating talk on the PEB process. This is a process that our medical officers need to know about to prevent unnecessary loss of highly trained NSW warriors. I invite any of our medical cadres to contact me when the "PEB" is on the prowl.

CAPT Butler gave a brisk and comprehensive discussion on the BISC. He reviewed not only current NSW and SOF medical research efforts, but also reviewed the diving medicine issues of the new submarine platform ASDS.

In the afternoon, Senior Chief Schildgren told us in detail his new proposal on combining sick call medicine and combat trauma care in the SOCM and ADSOCM curricula at JSOMTC. I am personally very impressed with his dedicated scholarship and NSW will sorely miss his inspired medical training leadership!

Master Chief Lowell reviewed the new NSWIMS and noted how it will require recording the EMT-P status for all corpsmen in the determination of their deployability in the platoon.

The final talk on Day Two was by the master chief assistant to the Deputy for Health Affairs of DOD. She was simply the best! Her update on TRICARE carried all the meat and no Jello on the latest improvements like portability, expanded remote Prime coverage for dependents, and improved dental coverage for dependents. TRICARE is our responsibility as docs and corpsmen. We must know how it works and what works. Our warriors depend on us.

The final day was spent by all the subordinate units providing enlightening discussions on the special interests and accomplishments of their medical departments. This was a very gratifying day as it is clear that NSW Forces has dedicated, creative, and committed docs and corpsmen!

Special thanks to Master Chief Cavolt and Chief Hughes of CNSWC Force Medical for a great meeting.

The rest of SOMA was filled with excellent SOF medical lectures on a plethora of topics. The Board of Regents met and almost voted on adoption of Senior Chief Shildgren's proposal for course inclusion of military sick call. CAPT Butler represented NSW at the Biomedical Research Committee and will bring the committee to CSBR ONE to test ride the Mark V for first hand appraisal of the need for vibration and shock mitigation.

The SOMA meeting and especially the NSW annual meeting are very important to attend. Please mark your calendars for next year.

So what's the plan? I am pushing forward with the development of soft tissue and post-op medical rehab centers at each of the boat squadrons. Facility, equipment, and staffing with certified athletic trainers should occur in the next several months. Interest in physician assistants working in the teams has blossomed. I hope that each boat squadron will get a physician assistant in addition to the general medical officer already present.

Finally, I want to hear opinions as to whether or not we should add the Combitube® to the AMAL and to the corpsman pack-out for squad deployment. The new ACLS guidelines recognize that 25% of the time experienced EMT-P's in the community cannot get an intubation. As a result they will either adopt competency in the Laryngeal Mask Airway® or the Combitube®. Experts in anesthesia like the Combitube® for trauma in the field for a number of reasons, the chief one being ease and safety of use. What's your opinion?
Email me at garsha@navsoc.navy.mil.

Larry Garsha
CAPT, USN
Command Surgeon

Component Surgeon

AFSOC

As events unfold this spring a number of changes will occur. The arrival of new faces and the departure of old faces will be prominent among those changes. We have been working very hard with the assignment officers at Air Force Personnel Center and the career field managers to ensure the smoothest transition. The last year was a tough one, with some positions not filled, both within Air Force Special Operations Command (AFSOC) and throughout the Air Force. My staff and I have successfully argued that this Command must take first place in consideration for the number and quality of inbound personnel. I think there is an understanding at Air Staff level that there is no Command where the rubber meets the road more in providing medical support than AFSOC. Our personnel are the most highly trained, and the most frequently deployed, of any command. We'll be monitoring the assignment process very closely.

One personnel change deserves special mention. At the time of this writing (January), Chief Master Sergeant Stanley McGill is getting very "short." His upcoming retirement will be a major transition in two ways: clearly, his personal transition will be cause for an adjustment to civilian life and employment, but the transition that is forced on the AFSOC medical community will be a challenge as well. We will struggle to keep alight the torch Stan kindled years ago as an advocate for quality in physical standards, aggressive career management for our enlisted AFSCs, and joint participation in activities we share among AFSOC, "Mother" Air Force, and the joint special operations community. As mentor, senior leader, and expert, he exercised massive influence on how the medical side of things in this command developed from the early years. His replacement will have to work very hard to fill the gap.

Best wishes, Chief, and thanks for everything.

The Special Operations Medical Association meeting was very useful. The Air Force session gave us some great feedback on needs from the field. These issues are written down, and we will address them in the coming months. Here are some of them:

- Technicians request re-sending of the EMT-P Recertification Guide published by USSOCOM SG;
- Check the MANFOR for the FFGK8 UTC;
- The mission capabilities for the FFQEK includes the word "limited" when referencing medical evacuation. Should this word be removed?
- AFI 48-101 Changes:
  - Regarding Hep B. Need to add the word "operators" to this requirement to ensure we do not desire the administrative and support personnel to take this series;
  - Regarding rabies. Need to add the word "operators and selected medical personnel" to this requirement to ensure we do not desire the

administrative and support personnel to take this series;

- The command needs to establish rapid retirement procedures for imminent death cases;
- Need to discuss adding HIV prophylaxis to the table of allowances.

The toughest nut to crack from among the issues discussed at the meeting, is the question of training newly assigned AFSOC medical personnel. I understand how painful it is for unit commanders and fellow medics when individuals are lost repeatedly for training that makes them ready to do their medical mission. We have been looking for solutions for many years, and the personnel and assignment system is not set up to accommodate major command (MAJCOM) needs in this way, in a small career field (i.e., no "pipelines"). In the meantime, we massage every assignment made for opportunities to do training en route. We have a couple of other ideas to explore and solicit any thoughts you may have to offer. If you have other suggestions, I welcome them.

We have been actively engaged in research through the USSOCOM Biomedical Initiatives Steering Committee (BISC) to address operational concerns in Special Operational missions. As you know, the CV-22 Osprey is scheduled to become a major mission platform in the future. While that aircraft is getting a lot of attention DOD-wide, we have been working to solve the unpressurized, high-altitude, long duration flight risk associated with missions the aircraft is programmed to accomplish. The momentum has been achieved, and, while we are still pursuing funding, I am excited about the prospect of advancing the frontier in aerospace medicine. I will be briefing the accomplishments of BISC to the Air Force Medical Service leadership in the near future. Since my previous tenure in AFSOC, when that committee was stood up, it has come a long way in achieving measurable, useful products for the Air Force special operator, and has become a paradigm of minimum product cycle time from concept to solution.

I will close this issue's letter at this time. I've arrived at the point in this job where I understand where the minefields are. I have found my niche in the Board of Regents for the Joint Special Operations Medical Training Center. I am comfortable in the MAJCOM SG role in relations with the conventional Air Force Medical Service. So, next time I want to talk about the future—where we want medical support in this command to be in ten years.

James J. Dougherty
Col., USAF
Command Surgeon

Education and Training

The View from the Schoolhouse

Kevin N. Keenan, MD

Having taken the reins 10 July 00 as the fourth Dean of the Joint Special Operations Medical Training Center here at Fort Bragg, NC, I'd like to take this chance to ramble about the place, the people and our upcoming changes.

Army, Navy and Air Force have come together to staff a Tri-Service training institution. We are implementing some changes, with the support of MG Boykin (the new Commanding General of the U.S. Army John F. Kennedy Special Warfare Center and School) that we believe will both increase skills and decrease attrition.

Our people, instructors and students, continue to be our finest asset. We have been joined by nine Air Force and thirteen Navy instructors as well as a couple dozen (seems like a hundred) civilian contract instructors. The contract instructors are, almost without exception, former special operations medical personnel who are performing superbly, pulling their load on evenings and weekends along with everyone else. My predecessor, COL Cliff Cloonan, poured his heart into the place for three years and deserves a round of applause, as well as a well-deserved follow-on assignment that gives him another opportunity to excel.

The physical plant is only five (or so) years old and is a huge difference (and improvement) from the previous facilities. We have classrooms and laboratories that could start 108 students per class, four times per year, if we could get that number of qualified volunteers.

We will continue to provide high quality medical training to soldiers, sailors, and airmen of Special Operations; we will continue to offer a twenty-four week Special Operations Combat Medic (SOCM) course and a twenty-two week follow-on course for Special Forces, SEALs and Force Reconnaissance corpsmen.

The big change for FY 01 is a reorganization of the time spent in the twenty-four week SOCM course. SOCM students will now start with the Emergency Medical Technician–Paramedic (EMT-P) curriculum from Day One and progress through the requirements for civilian National Registry certification before beginning the dozens of military and special operations specific tasks that they will need when operational. Eliminating some redundancies in the previous system of training EMT–Basic, followed by starting EMT–P from chapter one, will save some training days on the front end of the course and allow more study time and the addition of several militarily relevant tasks. Sick-call procedures and post-trauma nursing will be added to SOCM after EMT-P certification to meet the requirements of the tri-service Critical Task Selection Board.

I currently plan to make FY 02 the year of change for the twenty-two week Special Forces Medical Sergeant / Advanced Special Operations Combat Medic courses; more on that another day.

I expect this training center to be responsive to the needs of the force. If you have problems, questions, or suggestions, I'd like to hear them at (910) 396-0089, DSN 236-0089, or at keenank@soc.mil.

Special Operations Combat Medic Course Outstanding Graduates Announced

Kevin F. Riley, MS

The outstanding Navy graduate is HM2 Clay A. Cooper from First Recon Division, Camp Pendleton, California.
Courtsey of HMC Jack D. Graham

The USSOCOM Surgeon is proud to announce the winners of the first annual *United States Special Operations Combat Medic Excellence in Achievement Award*. The outstanding Navy graduate is HM2 Clay A. Cooper from First Recon Division, Camp Pendleton, California. The outstanding Army graduate is SSG Jason T. Crays, 75th Ranger Regiment, Ft Benning, Georgia. The outstanding Air Force graduate is A1C Sean Cunningham, 432nd Training Squadron, Det 1, Kirtland AFB, New Mexico.

Last April, the USSOCOM Surgeon, through the oversight of the USSOCOM Enlisted Advisory Committee, sponsored this new program recognizing outstanding graduates of the Special Operations Combat Medic (SOCM) course. One graduate from the U.S. Army, Navy and Air Force is annually selected based on his superior academic performance, professional conduct, leadership and outstanding attitude in the SOCM course. Recipients had all expenses paid to the annual Special Operations Medical Association (SOMA) conference, where they were presented with the *Special Operations Combat Medic Excellence in Achievement* award. The plaques and certificates were presented during the awards and recognition portion of SOMA mess night banquet.

USSOCOM Recognizes New York City EMT-P Support

Christopher M. Reynolds, EMT-P

Mayor Giuliani accepted a plaque from Lieutenant General Norton A. Schwartz
Courtesy of Chris Reynolds

Special Operations personnel from all branches of the U.S. military conduct paramedic training in pursuit of National Registry EMT-Paramedic (NREMT-P) certification within the Special Operations Combat Medic Course. This training is conducted in the Joint Special Operations Medical Training Center at Ft. Bragg, NC. One aspect of their training that was identified early on was the need for a realistic clinical environment to practice their skills before joining their operational units. New York City offered the opportunity for our

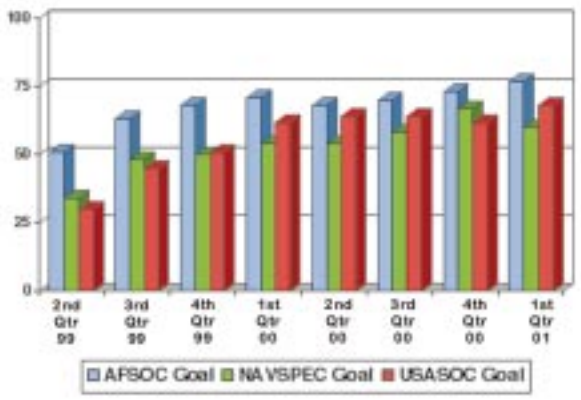
students to participate in an emergency room and ambulance "ride along" program and served as the primary clinical training site for these select Special Operations medics.

New York City was selected as an ideal training environment because of its centralized EMS and hospital system, and because it also supports the necessary reciprocity we required for the National Registry training program. Since 1996, New York provided clinical training of over 600 SOCM students in 14 quarterly rotations. Students perform at least 240 hours of rescue and clinical experience during an intense 30 day training program. To date, SOCM students have logged over 60,000 patient contacts.

In June of 2000, representatives from Headquarters, United States Special Operations Command, traveled to New York City to present Mayor Rudolph W. Giuliani with an award recognizing his outstanding support of the training of our special operations combat medics. Mayor Giuliani and Fire Commissioner Thomas Von Essen accepted a plaque from Lieutenant General Norton A. Schwartz, Deputy Commander-in-Chief, United States Special Operations Command (USSOCOM). General Schwartz was also joined by Colonel Steven Yevich, Command Surgeon for USSOCOM, Major Kevin Riley, and Captain Chris Reynolds from USSOCOM Surgeon's Office.

EMT-Paramedic Certification Status for SOF Medics

Kevin F. Riley, MS



EMT-P Certification Slide

In November, 1998, CINCSOC and the Board of Directors determined that all SOF medics will obtain and maintain nationally recognized medical certification. The NREMT-Paramedic standard was selected as the base-line medical core competency for all SOF medics.

As a quarterly requirement, CINCSOC is briefed on the status of SOF medic EMT-Paramedic certification.

This graph shows the total SOF medic population (by component) that have obtained NREMT-Paramedic certification. As of 1 January 2001, the command is **67%** (759 out of 1127) certified.

AFSOC — 77% (110 certified out of 143 assigned)
NAVSPECWAR —60% (177 certified out of 293 assigned)
USASOC — 68% (472 certified out of 691 assigned)

USSOCOM
Education and Training Section
Office of the Command Surgeon

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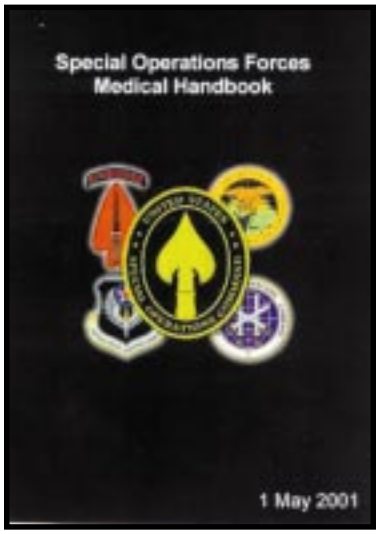
Research and Development

Special Operations Forces Medical Handbook

Robert T. Clayton, SEVERDRUP

The Special Operations Forces medics will have another reference source to assist them in their myriad of medical tasks. The Special Operations Forces Medical Handbook (SOFMHB) is designed to provide a ready reference for SOF personnel, both medics and non-medics, who must administer or assist in providing health care to others. The SOFMHB is also designed to assist in refreshing skills, teaching non-medics medical skills, and providing mission planning assistance.

The handbook is a revival of the original *U.S. Army Special Forces Medical Handbook*, last revised in 1982, but now in an expanded version utilizing more current technologies and teaching methodology. Ultimately, it will consist of a hard-copy handbook, as well as an expanded CD-ROM version with further capability to hyperlink to on-line resources. A key feature of the *SOFMHB* is that it will be updated annually, therefore constantly maintaining currency and improving format.
The hard-copy handbook will be approximately 600 pages of cargo pocket-sized, waterproof paper stock, assembled in a manner which will allow the user to remove or add pages as desired. The CD-ROM version will contain an expanded electronic version of the handbook, elaborating details on the hard-copy topics, plus hyperlinking topics to medical references on the Internet. It will contain an electronic medical forms menu and computer aided diagnostics capability. The medic will be able to record all patient encounters, capture information, and print or download an SF-600. Computer aided diagnostic modules for upper respiratory, gastrointestinal, and dermatology problems will provide pathways for the medics to assist in patient assessment. The CD will also contain formulary/pharmacy data, hyperlink word search, patient education material, a medical reference library, and Army/Navy/Air Force operational medicine topics. There will be several printing options one can select on the CD which allows the user to select the page size to be printed (e.g. cargo-pocket, letter, back-to-back, etc.).



Over 70 medical specialists and sub-specialists have contributed chapters to this project. The contributors have served in some capacity in SOF units or are experts in their fields of specialization. The review and editorial staff consists of senior medical noncommissioned officers, physician's assistants, and component surgeons who are presently assigned to USSOCOM and components.

The *First Edition* of the SOFMHB is scheduled for release this summer and will be distributed to all medics in SOF. Although this first edition may not be as complete as possible, it was determined that it was more important that the SOFMHB "hit the streets" than to wait any longer for completeness. Since there will be annual updates, this will allow for, in effect, a continual revision process which will constantly improve the product as well as maintain currency.

Point of contact for further information is the USSOCOM Surgeon's Office,
Mr. Bob Clayton, claytor@socom.mil,
Comm (813) 828-5442, DSN prefix 968.

"That Others May Live"

Code of the Air Rescueman

"It is my duty, as a member of the Air Rescue Service,
to save life and to aid the injured.
I will be prepared at all times to perform my assigned
duties quickly and efficiently, placing these duties
before personal desires and comforts.
These things I do that others may live."

Bien Hoa, Vietnam
Wednesday, 13 April 1966

"Dear Van,
Am circumventing policy tonight. I'm sending you the enclosed without going through channels. Like most of us who even casually knew this pararescueman, I was very impressed by him and would like to see him get all the posthumous eulogies he deserves." So began a letter from the Bien Hoa public affairs officer to the ARRS historian at HQ ARRS, Orlando AFB, Florida. He could not have known that 25 years after the Vietnam War ended, Airman First Class William Hart Pitsenbarger would be awarded the Congressional Medal of Honor for his heroism on 11 April 1966.

Airman First Class Bill Pitsenbarger was a 21-year old Pararescueman. In late 1965, he volunteered to go to Vietnam. Bill was assigned to Det 6, 38 ARRS, at Bien Hoa. He arrived in Vietnam on 8 August 1965 and was in the final stretch of his enlistment in the Air Force. Det 6 was responsible for two basic types of missions. They rescued pilots who bailed out of their airplanes and evacuated wounded soldiers from the battlefield.

On 17 September 1965, at 2100, Airman Pitsenbarger scrambled in an HH-43F helicopter (nicknamed Pedro) on his first combat mission. A Vietnamese Air Force H-34 helicopter had been shot down ten miles west of Bien Hoa. An HU-16, a C-123 flareship, two A-1s and two UH-1 gunships were orbiting overhead. They were taking small arms fire from the vicinity of the downed H-34. Captain Cook, the Pedro pilot, informed the crew they were going in for a closer view. Under the light of the flares, they could see the wreckage that was 90% burned and indistinguishable as a helicopter. Suddenly, a man wearing a flight suit ran out of the trees and started waving his arms. *"Pitsenbarger, we're going to land and pick this guy up. Keep him covered with your rifle. I think he is a good guy, but be ready for anything!"*

Captain Cook landed his Pedro and signaled for the man to come to the helicopter. The survivor appeared to be unarmed. As he entered the Pedro, "Pits" kept him covered while the helicopter mechanic (HM) Technical Sergeant Domenick Cocuzzi frisked him and confirmed he was unarmed. A quick takeoff was accomplished. The survivor, Lieutenant Cao Van, was badly burned and going into shock. Pits began medical treatment and told Captain Cook to hustle to the nearest hospital. The weather deteriorated and forced the crew to fly at 300 feet above the ground all the way back to Bien Hoa. It was an exciting way to begin a tour in Vietnam.

Seven days later, Pits scrambled on a downed F100. With two UH-1 helicopter gunships for rescue escort, the Pedro headed to the rescue. Its crew Captain Carl Layman (Pilot), Captain Dale Potter (Co-Pilot), Technical Sergeant Joe Blaquiere (HM) and P its, were directed to a parachute hung up in a group of 20-foot high trees. They pulled into a hover and hoisted Major Martin Barbena into their chopper.

On 8 March 1966 Pits was flying with a crew that scrambled to rescue a wounded South Vietnamese soldier who had inadvertently walked into a minefield. The man had lost a foot and no one wanted to walk into the minefield to help him. It was hoped that the Rescuemen could hoist him out. Orbiting overhead, the crew discussed how to accomplish this rescue.

Their concerns included the possibility that the rotor wash might set off additional mines, that the wounded soldier might set off other mines while trying to get on the penetrator and that the soldier would have no idea on how to use the forest penetrator.

Without being asked, Pits volunteered. He told his pilot, *"Lower me down on the penetrator and I'll get the guy. Then you can pick us both up at the same time."* Pits was lowered. He snatched the wounded soldier and brought him back up to the safety of the helicopter. On the way to the hospital he treated the soldier's injuries. For his selfless act of heroism, "Pits" was awarded the Airman's medal.

On 14 March 1966, " Pits" scrambled on an O-1F "Bird Dog." It was down in "Hostile Country" 30 miles east of Bien Hoa. A second O-1F orbiting overhead spotted a pen gun flare. He could not spot the survivor because of dense jungle. The downed pilot was reported not having a survival radio.

Captain Ronald Bachman was the pilot of Pedro Low. He and his copilot, Captain Harold Salem, discussed the situation with Pits. When a second pen gun flare came out of the jungle, they all agreed that sending a PJ down was the only way that they were going to find this guy. HM Technical Sergeant Richard Canon ran the hoist and lowered "Pits" down to the ground. Pits yelled out for the downed pilot. It was not a very tactical way to conduct a combat SAR, but it worked. First Lieutenant Schneider, the downed O-1 pilot, heard Pits yelling. He began to run towards the sound. Pits could hear someone crashing through the jungle, heading directly at him.

Airman Pitsenbarger being awarded a medal for one of the many rescue missions he flew in Vietnam. Photo taken at Det 6 38 ARRS Bien Hoa, RVN. *USAF Museum Photo*

He covered the area with his M-16 and was glad to see an American appear. Concerned that "bad guys" might also be converging on the scene, Pits decided it was time to leave. The penetrator came back down and both the survivor and PJ rode it up together.

Back in the HH-43, the rescuers learned that another American was trapped in the crashed O-1. Pitsenbarger would need help on this recovery. Airman First Class Harry O'Beirne, the PJ on the high bird joined him. When they reached the crash, they found the observer dead. Even with two PJs, they could not remove the body from the wreckage. Both PJs returned to their Pedro and requested additional help.

They obtained this help from a nearby Special Forces camp. Returning to the crash site, the PJs and soldiers were lowered into the jungle. Some took up defensive positions. The others assisted in removing the deceased. Finally the job was done and everyone returned to base.

Within an hour of returning to Bien Hoa, Captain Bachman's crew scrambled on a medical evacuation (medevac). Accompanied by a high bird commanded by Captain Raymond Murden, they headed off to pick up some wounded troops. The two crews rescued six wounded soldiers and a sentry dog. Bill Pitsenbarger said *"We were really surprised when we saw a dog coming up the hoist with a wounded soldier."* It was an interesting way to end the day.

Bill Pitsenbarger's tour in Vietnam was full of missions. In his 275 days in Vietnam, he had logged over 300 sorties in the HH-43F. Many of them were under fire. "Pits", as he was known to his friends, was making plans to return home to Piqua, Ohio. He had already applied to Arizona State where he planned to study to become a nurse. In four months his tour would be over. Bill Pitsenbarger was ready to go home. He recognized that he and his teammates had been hanging their asses out quite often. The last few months had seen a dramatic rise in troops in contact medevacs. These missions were becoming increasingly risky. Lately, the troops requesting medevac were in close contact with the enemy. Hovering over a battle in progress took a great deal of courage and nerves of steel.

There was a reason for the increase in medevac requests. The senior leadership of the U.S. Army in Vietnam had changed objectives and tactics. Up until this time, the United States had supported the Army of Vietnam (ARVN). The support consisted of organizing, training, and equipping them in the hope that they would then defeat the Viet Cong (VC). The reality was that the ARVN was not living up to our expectations. U.S. commanders were under pressure to quickly end this conflict. They had come to the conclusion that the ARVN was not capable of defeating the VC, without the direct support and inspiration of U.S. ground troops.

Throughout 1965 and early 1966, U.S. Army troop strength steadily increased. By March 1966, the number of Americans in country had grown to over 250,000 men. At this time, U.S. Army commanders believed they had the assets required to demonstrate how to defeat the VC. They hoped that when the ARVN saw the Americans victorious in battle, they would emulate the U.S. soldiers. Part of this demonstration was code named "Operation Abilene."

The concept of this operation was simple. Company sized units would be sent into the jungle to locate the VC. American artillery fire-bases were positioned so that they could provide support to these troops. Helicopter gunships and United States Air Force (USAF) fighters were on call. When the VC and U.S. troops

engaged in combat, the Americans would be quickly reinforced by helicopter. Overwhelming troop strength and firepower would assure victory. Unfortunately, the VC were not standing their ground. When U.S. troops engaged the VC, a brief firefight ensued, followed by the VC disappearing into the jungle. These battles were indecisive and usually resulted in American casualties. We were showing little progress and U.S. casualties continued to mount. Commanders became increasingly frustrated by the VC's unwillingness to fight in massed units.

In early April 1966, military intelligence discovered a battalion sized (400 soldiers) VC force in the jungle, 40 miles east southeast of Bien Hoa. This was exactly the type unit our commanders wanted to engage.

Charlie Company, Second Battalion, First Infantry Division, under Captain William Nolan , was ordered to engage this VC force. "Operation Abilene" would kick off on 10 April 1966, Easter Sunday. The jump off point would be a road named Route 327 (see map). Third Platoon under Lt Martin Kroah, would take point, followed up by First, Second, and Fourth Platoons.

At 0730, Charlie Company left the road and headed north-northwest into the jungle.

A soldier pushing through dense jungle undergrowth frequently loses sight of the man in front of him. Vietnam's triple canopy jungle, brush, vines and trees all combined to block vision between soldiers. This problem was even more aggravated between platoons. A rifle company in the jungle is similar to four separate armies, connected primarily by their radios.

At 1215, Third Platoon came under sporadic fire from elusive VC. Soon afterwards, Fourth Platoon, in the rear began making contact resulting in one killed and one wounded soldier. Captain Nolan radioed all platoons to set up a defensive perimeter around the killed in action and wounded in action. As each platoon moved to comply, it came under fire. Numerous enemy soldiers were now spotted in all quadrants. Lieutenant Kroah radioed in a call for supporting artillery fire.

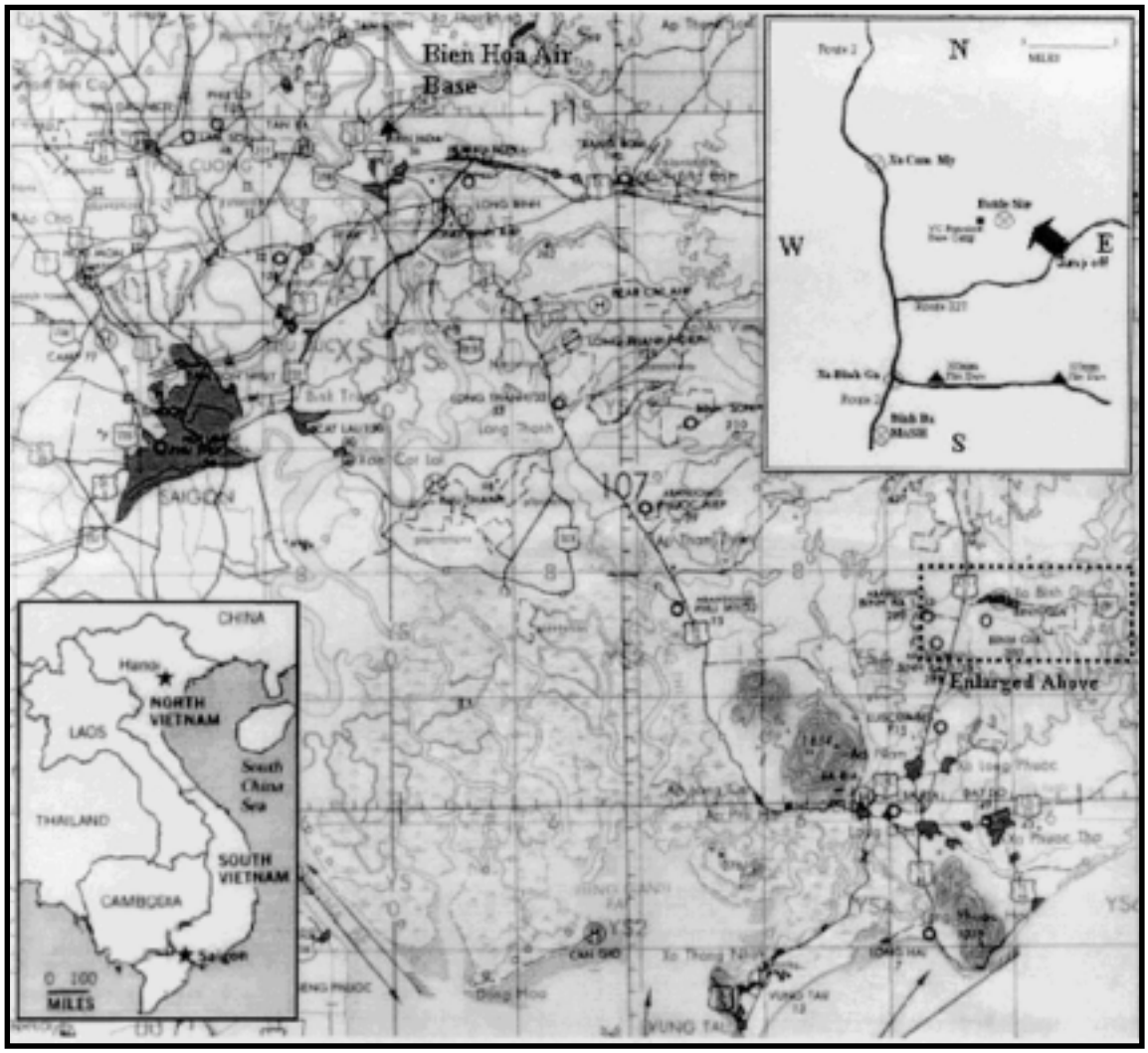
Unfortunately, the artillery was off target and hitting Charlie Company. When the artillery stopped, the VC began firing with small arms and mortar fire. Several more men were wounded. The wounded men's only hope of surviving was a medevac. Captain Nolan radioed a request for an emergency medevac making it clear that his troops were in heavy contact. Because of the triple canopy jungle, a hoist-equipped helicopter was needed. The nearest clearing was four kilometers away. Charlie Company had been drawn into a carefully crafted ambush.

Staff Sergeant David Milsten was the noncommissioned officer in charge of the PJ Section at Bien Hoa. On that day, he was on primary HH-43 alert. His after action report provides these details. *"The mission began around 1500. My bird (Pedro 97) was on primary and Pits' (Pedro 73) was on backup. A company of 1st Division troops had been hit by snipers' and friendly artillery fire.*

A1C William H. Pitsenbarger in front of an HH-43F at Bien Hoa AB, RVN 1966. Bill's gear includes flack vest, camouflage survival vest, web belt with .38 pistol and helicopter helmet. He was nicknamed "Pits" by his teammates in Vietnam. *Photo courtesy of William Pitsenbarger and Flesh Public Library Piqua Ohio*

They had 10 critical and 15 ambulatory wounded and were in heavy jungle with 175-200 foot trees. Our birds are the only ones in this area with hoists, so we were sent out to get them. My bird went in for the first load. We made one Stokes litter pickup and then moved away to allow the backup bird to go in. While they accomplished a second Stokes litter pickup, I transferred the guy we had to a folding pole litter.

We then went back in for a second hoist pickup. Two litter patients made a full load for us. At 1545, both HH-43's headed for a small mobile army surgical hospital (MASH) at Binh Ba, about 10 miles to the south. While we unloaded our patients, we discussed sending down both PJs with chain saws, as 15 ambulatory wounded were in heavy jungle with 175-200 foot trees.



Map of South Vietnam depicting the area of operation
Courtesy of Robert LaPointe

Our birds were the only ones in this area with hoists, so we were sent out to get them. My bird went in for the first load. We made one Stokes litter pickup and then moved away to allow the backup bird to go in. While they accomplished a second Stokes litter pickup, I transferred the guy we had to a folding pole litter. We then went back in for a second hoist pickup. Two litter patients made a full load for us. At 1545, both HH-43s headed for a small mobile army surgical hospital (MASH) at Binh Ba, about 10 miles to the south. While we unloaded our patients, we discussed sending down both PJs with a chain saw to cut out an area big enough to land. Past experience has also shown that the loading process was much faster with a PJ on the ground. My bird needed to refuel, so around 1615, Pits and his crew on Pedro 73 headed back alone."

PJs display stokes litter and forest penetrator next to HH-43 helicopter. Pararescuemen George Schipper and Al Stanek in 1966 at Det 9, 38, ARS, Pleiku RVN. Forest penetrator is in stowed position. *Courtesy of Al Stanek*

Captain Harold Salem was the pilot on Pedro 73 with Major Maurice Kessler as his copilot. He and his crew headed back to "C" Company. In the cabin, A1C Gerald Hammond (HM) and A1C Bill Pitsenbarger (PJ) were discussing the last pickup with their pilots. The first pickups had been complicated. The Army troops were not familiar with using the Stokes litter and there was danger of losing patients during the hoist. This had resulted in a very long hover time, making the HH-43 an easy target. "Pits" was certain that he could make a significant difference on the ground. All recognized the risk, but it was agreed to give it a try.

Charlie Company's radio operator informed Pedro 73 that the pick-up point was under heavy small arms and mortar attack. Radar-equipped American artillery units could pick up enemy artillery and mortar rounds in flight. The artillery unit could then determine the exact position of the enemy artillery or mortar. With this information, they could fire their 105mm howitzers on the enemy tubes. Pedro 73 remained clear of the area while the counter-battery fire neutralized the enemy mortars.

It was apparent that the situation on the ground was deteriorating. Captain Salem decided to dispense with the chain saw, but still use his PJ to expedite recoveries. "Pits" was caring the trauma bag set up used by the PJs at Bien Hoa. It included bandaging, splinting supplies and morphine for pain. Inside the helicopter there were additional supplies that included IV fluids for shock.

Hal Salem warned his crew that they were five minutes out. The rescue crew flew in a nervous quiet.

On the ground, Charlie Company was fighting for its life. Receiving a radio call to come on in, Captain Salem pulled his Pedro into a hover. Pits had already pulled down one of the three spring loaded penetrator seats. After he pulled the safety strap under his shoulders, he gave the HM a thumbs-up. Captain Salem got a last glimpse of Pits as the slack was taken out of the hoist cable and the PJ stepped out the door. Bill Pitsenbarger had a big grin on his face. He held on to his medical kit with his left hand and clutched his M-16 in the other. He motioned to the crew with his right hand and Airman Hammond began to lower " Pits" to the ground. Hal Salem said a silent prayer for his PJ as he disappeared from sight. It took about two minutes to lower Pits 150 feet to the ground. During these long seconds, the rescue crew could see the battle raging below them. Dead and wounded soldiers were clustered around the recovery point.

Lieutenant Kroah, and many of his men, looked up in astonishment to see Pitsenbarger voluntarily descending through a hail of bullets into their living hell. To the soldiers amid the carnage of battle, it looked surreal. The majority of Charlie Company was now dead or wounded. Their situation was desperate. The odds were in the enemy's favor. All of the Americans might be slaughtered here. And yet, just above them was a young man in clean fatigues, wearing a flack vest and a .38 caliber pistol, descending in the cooling rotor wash of a hovering silver helicopter.
The soldiers concluded the rescuemen had to be crazy to attempt this medevac.

As soon as the penetrator touched the ground, Pits jumped off and immediately began treating the wounded. In the short time it took for the penetrator to go up and the litter to come down, he continually exposed himself to enemy fire while triaging the soldiers. Pitsenbarger's experience expedited loading patients into the Stokes litter. This dramatically cut down the amount of time the HH-43 crew had to spend in the vulnerable hover position. In the helicopter, A1C Hammond saw Pits's thumbs-up signal and reeled up the first casualty. As soon as the litter came in the door, Captain Salem proceeded to Binh Ba. Without a PJ in the back to help the HM, Pedro 73 was able to handle only one litter patient each pickup.

As Pedro 73 departed, Pedro 97 arrived and proceeded to lower their litter. In addition to PJ Dave Milsten, its crewmembers were Captain Ronald Bachman (pilot), Captain Raymond Murden (copilot) and HM Airman First Class Thomas Story. " Pits" had things going really smoothly on the ground, so Staff Sergeant Milsten stayed in his helicopter to assist the HM. They picked up two litter cases and headed back to Binh Ba.

Pedro 97 quickly unloaded its patients, headed back to the battle site and made another litter pickup. Pits signaled for the penetrator but instead of coming up with one of the wounded, two were on the penetrator. Pitsenbarger once again voluntarily elected to stay at the battle site. He could see that many injured soldiers still needed his help. With three wounded on board, Pedro 97 headed to the MASH. The process of hoisting survivors was going much faster.

Pedro 73 was waiting its turn and moved in as soon as 97 departed. This would be the sixth HH-43 recovery and the third one for Pedro 73. When their litter was approximately 10 feet from the ground, all hell broke loose and the VC attempted to shoot down the chopper. Pedro 73 took hits all over the aircraft. The chopper lurched, its power and rpm screaming over the red line.
Battle damage caused the throttle to jam open and the chopper surged forward and up. As Captain Salem struggled to regain control of his stricken bird, the litter began dragging through the trees. Salem had two concerns: keep his helicopter from crashing and recover his PJ. Using full right rudder, he regained partial control of the helicopter. The HM was running the hoist cable down at its maximum speed. Captain Salem could see Pits and he gave him a hand signal to come up on the hoist. Pits saw that his helicopter was still taking ground fire and he gave the wave-off signal to his pilot.

Hammond almost had the litter all the way to the ground and began to signal Pitsenbarger to get in it for recovery. Pits again signaled for the helicopter to leave, and he appeared to be yelling at the crew to get the hell out of there. This was his second wave off. Pits elected to stay on the ground with the wounded Army troops. The damaged helicopter had difficulty hovering, and the empty litter got caught in a tree. Hammond called to Salem to shear the cable to prevent the chopper from being swung into the ground. Captain Salem was surprisingly able to limp the Pedro back to Binh Ba. The turbine engine could not be shut down using either normal or emergency procedures. Airman First Class Hammond finally stopped the engine by using a hammer to beat the fuel control closed. There were nine holes in the side of the chopper. Two of its four rotor blades had also been shot up.
The armor plating in the cabin had stopped two .30 caliber rounds, which could have hit Airman Hammond.

With Pedro 73 safely on the ground, Pedro 97 headed back to the pickup point. There were at least seven more known casualties, and Bill Pitsenbarger. It was late in the day and Captain Bachman wanted to recover Pits before dark. Charlie Company was in close combat with exceptionally heavy fighting. No one was available to provide cover fire for the Pedro as all of them, including the wounded, were fighting for their lives. The company commander made a desperate decision to call artillery in 360 degrees around his position, completely encircling the pickup point with 105mm artillery. As darkness set in, the ground troops radioed that their situation was untenable for further medevacs and Pedro 97 was forced back to Bien Hoa.

On the ground, Pits was running out of medical supplies. His small supply of morphine had been consumed, he had used the last of his splints and he was now making improvised splints. The battle was intensifying. At 1600, the VC started a heavy mortar barrage. At 0545, the VC brought up eight .30 caliber machine guns and two .51 caliber machine guns. One of the .51's was well-positioned to decimate the American defensive position.

Army Sergeant James Robinson saw the .51 gun. He had been repeatedly hit by rifle fire earlier, but continued to fight. Although wounded, he moved from man to man in his squad, redistributing ammo and encouraging his men to fight on. Out of ammunition for his M-16, he grabbed two hand grenades and struggled to his feet behind a tree that provided some protection. With a scream of *"Cover me!"* he emerged into the field of fire of the heavy machine gun and began a 20-yard dash. The gun fired as he released both grenades. Both grenades went off, killing the gun crew and silencing the weapon. Several rounds had hit Sergeant Robinson, and he died a few minutes later.

As twilight approached, VC snipers fired from high in the trees. Casualties resulted in several holes in the U.S. defensive perimeter. The VC now launched an assault of screaming troops. Charlie Company desperately fought back, occasionally hand to hand. The original plan to reinforce Charlie Company by air became impossible since there was no place to land reinforcements. Charlie Company would live or die based on their ability to fight the enemy.

During the battle, Lieutenant Kroah watched in disbelief as Airman First Class Pitsenbarger went about his work. *"I first saw Airman Pitsenbarger when he was being lowered from an Air Force helicopter. I observed him several more times during the course of the day. To put down on paper what this battle was like is an impossible task. At times the small arms fire would be so intense that it was deafening. All a person could do was get as close to the ground as possible and pray. It was on these occasions that I saw Airman Pitsenbarger moving around and pulling wounded men out of the line of fire and then bandaging their wounds. The pile of dead and wounded was growing. My own platoon medic was frozen with fear, unable to move. The firing was so intense that a fire team leader in my platoon curled up in a fetal position and sobbed uncontrollably. He had seen combat in both WWII and Korea. The psychological pressure was beyond comprehension. For Airman Pitsenbarger to expose himself on at least three separate occasions to this enemy fire was certainly above and beyond the call of duty of any man. It took tremendous courage to expose himself to the possibility of an almost certain death to save the life of someone he didn't even know. I am certain the death count would have been much higher had it not been for the heroic efforts of Airman Pitsenbarger."*

Army Sergeant Fred Navarro was a squad leader in this platoon and was wounded in the battle. Only two other men from his 10-man squad survived the battle. From his hospital bed in Vietnam, he made the following comments. *"Ten minutes after his helicopter was forced to leave, the firing became pretty heavy. Airman Pitsenbarger gave his pistol to one of the wounded men who could not hold a rifle. He then took the wounded soldier's rifle and moved from place to place while under fire. Pits was collecting ammo from the dead and giving it to the wounded. He wanted to be ready to evacuate the wounded when the choppers returned. A Stokes litter was hung up in the trees. Under enemy fire he climbed the tree and recovered the litter.*

He then placed it near one of the wounded. He treated some more of our wounded. The enemy was firing at us from up in the trees and from all directions around us. We were surrounded. Airman Pitsenbarger kept an eye on the area that was getting hit the hardest. He could see that our guys were again running out of ammo. He went back out, running all around the perimeter collecting ammo. Then he redistributed ammo to each soldier that was still alive. He lay down near me. He must have had 20 magazines of ammo. Airman Pitsenbarger began returning fire. He must have been able to see the VC. He was one out of 15 in the company that was firing on semiautomatic. At about 0730 he was hit by AK-47 fire and died. About 15 minutes later, the firing stopped for the first time. The VC women and children came in near our outer perimeter. They started slitting throats and taking weapons. While this was going on, I could hear about 100 VC yelling that they were going to destroy us. We were almost out of ammo. Lieutenant Kroah radioed in for artillery. Five or six rounds came in every 15 seconds from about 2030 until around 0700. Rounds were landing 25-30 meters from us. The artillery prevented the VC from mounting a final assault. I am lucky to be alive."

Back at Bien Hoa, the members of Det 6 worried about A1C Pitsenbarger. During the evening they phoned the First Infantry Division HQ. They were told that Pits was OK and that Det 6 could pick him up when they conducted additional medevacs in the morning. With this reassuring news, they tried to get some sleep.

The alert crews reported to duty early and were told the combat zone was too hot to attempt medevacs and to wait at Bien Hoa. At 0950 a.m., one HH-43 (Pedro 97) from Det 6 was allowed to head back into the battle site. Their high bird (Pedro 91) came from Det 10 at Tan Son Nhut.

Both helicopters linked up with an airborne FAC. He briefed them that the battle had diminished and the Army had moved reinforcements up to Charlie Company. The reinforcements used dynamite to clear a landing zone. Once again they were put into holding. Air strikes were still going in one-half mile west of the pick-up spot.

On board Pedro 97, the pilot, First Lieutenant Mark Schibler briefed his crew (copilot Captain Edwin Henningson, HM Airman First Class Alexander Montgomery and PJ Airman First Class Henry O'Beirne).

Finally at 1125 hours, Pedro 97 was told they could head in for a pick-up. Pedro 97 landed, and its crew looked around for Pits but did not see him. Three stable but severely wounded troops were on-loaded. Airman O'Beirne stayed behind to locate Pits. An Army captain called him and asked if he was an Air Force medic. After Henry identified himself, the Captain said, *"I'm sorry, your buddy was killed last night. He's somewhere over there."* An Army private led Airman O'Beirne over to Pit's body. He pulled back a poncho covering a body. O'Beirne examined the body and found that Pits had been shot four times. Airman O'Beirne placed his dead comrade into a body bag and moved Pits to the landing zone for extraction.

He had little time to grieve, as many men still needed medical treatment. Navarro told Henry about Pits's courageous actions. Another soldier told Airman O'Beirne that Lieutenant Crowe wanted to speak with him. Lieutenant Crowe had been shot four times, was seriously wounded and awaiting medevac. He had been in the outer perimeter, when the VC women slipped in to kill the wounded and scavenge gear. The lieutenant had survived by playing dead. He told Henry about Pit's heroic actions. He wanted to make sure the Air Force knew what Bill Pitsenbarger had done for Charlie Company. After a few more hours of work, all of the rescuemen of Det 6 returned to Bien Hoa. The word flashed throughout Southeast Asia (SEA) that Airman First Class William H. Pitsenbarger had been killed in action.

The survivors of Charlie Company and the commander of Det 6, 38 ARRS nominated Airman Pitsenbarger for the Medal of Honor. As part of the documentation process, Staff Sergeant Ronald Sears of the Bien Hoa public affairs office interviewed many of the participants.

He asked Airman O'Beirne, *"Did Pitsenbarger know what he was getting himself into when he volunteered to go down the hoist?"* O'Beirne replied; *"Yes, he did. He had done this many times before. He knew the score pretty well, and he had been fired at quite a bit before. He knew the chance he was taking. It was not a case of going in there blindly*."

A few days after the mission, Bill Pitsenbarger's NCOIC sent out a seven-page letter to all Pararescue sections worldwide. In it, he outlined the facts of the mission. At the letter's conclusion, he had this to say: *"We have lost a good friend, and he was one of the best PJ's in the game. I don't believe there was anything that Pits did not excel in. He died doing his job. If he had known the consequences of going down that hoist, it would not have slowed him down a bit. We know these Army recovery missions are no picnic, but up 'til now we have been real lucky. These medevacs are not our job. But as long as there is not anyone else here to do it, we will continue as long as the need exists. Losing Pits will not slow us down. I only hope we do not lose anyone else. We all understand the risks. It's just too bad the Army cannot get hoist-equipped helicopters over here. Their 'Dust-Off' UH-1's do a great job, but must land to pick up casualties. Air Rescue could do a much better job with HH-3's, picking up 10 – 15 at a time. But as long as we only have our 43's, we're stuck. If any of you have any questions drop me a line.*

(signed)
Staff Sergeant Dave Milsten
PJ NCOIC Bien Hoa, RVN"

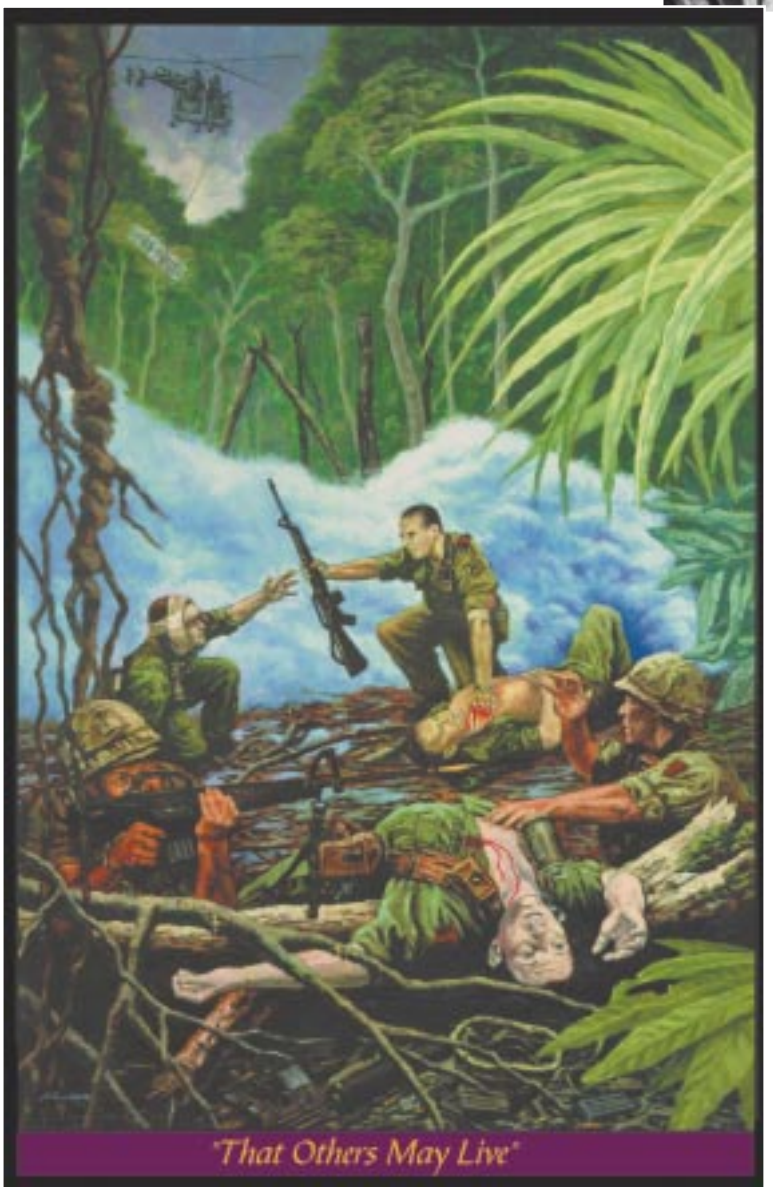
During the days following this mission, the Army tallied up its losses. Charlie Company had suffered a casualty rate of 79 percent. Of the 134 men that had entered the jungle on 11 April, only 28 were able to fall in for extraction. The Army nominated James Robinson for the Medal of Honor. The award was presented to his father at a Pentagon ceremony on 16 July 1967.

This battle had serious political ramifications. General Harold Johnson, Army Chief of Staff, flew to Vietnam. He personally informed Military Assistance Command (MACV) commanders that the American people would stop supporting the war if such high casualties continued. Colonel Arthur Beall, commander of 3rd Aerospace Rescue and Recovery Group (ARRGp) recommended Pitsenbarger for the Medal of Honor.
The published confidential 3rd ARRGp History April – June 1966 has this statement on page 28: *". . . For his heroic actions in assisting the defenders during the onslaught,* Airman First Class *Pitsenbarger has been recommended for the posthumous award of the Medal of Honor."*

On 22 September 1966, at a ceremony in the Pentagon, Air Force Chief of Staff General John McConnell presented the Air Force Cross to Airman First Class Pitsenbarger's parents. McConnell also announced that Airman Pitsenbarger had earned the Airman's Medal, four Air Medals, and the Purple Heart for other missions flown in Vietnam. Citing the motto of the Aerospace Rescue and Recovery Service, "That Others May Live", the General told Pits's parents that the men with whom their son lived and flew "are famous for their courage." Ohio Senator Frank Lausche witnessed the couple accepting the AFC and inserted a tribute to Bill Pitsenbarger into the Congressional Record (22 September 1966). Part of it read: *"I was present when this high award was made to the mother and father of William Pitsenbarger. They stood there heroically, reflecting the courageous and stalwart character of their son. The mother was brave. The father shed tears. But both were proud. Ohio is proud of Airman First Class William H Pitsenbarger and his parents."*

Bill Pitsenbarger made Air Force history when he was posthumously awarded the Air Force Cross. During the Vietnam War, the United States Air Force awarded its second highest decoration for heroism to nineteen enlisted men. Of these nineteen awards, ten were awarded to Pararescuemen. Bill Pitsenbarger was the first enlisted man to receive this decoration in the Vietnam War.

Time passed and the war continued. Each PJ who served in Vietnam after this incident learned the saga of Pits. Many PJs serving in SEA, including this author, used Pits's sacrifice as the standard on which we based our wartime behavior. His greatest contribution may have been the inspiration he provided to future PJs. No one wanted to die on a rescue mission. However, our duty was clearly exemplified by heroes like Bill Pitsenbarger.



Courtesy of the Artist, John Witt. Mr. Witt was contracted by the Air Force Enlisted Heritage Research Institute to depict the prolonged ground assault by North Vietnamese elements where Airman First Class William Pitsenbarger's heroic deeds saved the lives of numerous infantrymen and claimed his own. This picture was presented to Mr. William Pitsenbarger at the Medal of Honor dedication on 8 December 2000.

Robert L. LaPointe
SMSgt (Ret.)

Senior Master Sergeant (SMSgt) LaPointe a combat veteran of Vietnam and Desert Storm commenced his military service in 1969. Upon completing pararescue training, he was assigned to the 37th ARRS, DaNang AB, Republic of Viet Nam. During two tours in Vietnam, he flew more than four hundred combat hours as an HH-53, "Jolly Green Giant" helicopter crewmember and performed combat rescue duties that resulted in the saving of over 100 lives. Sergeant LaPointe remained in Pararescue until his retirement in 1995.

During his career he supported NASA's Apollo, Skylab and space shuttle programs. Apollo and Skylab astronaut rescue training often required he parachute into the North Atlantic at night, in the winter. For numerous space shuttle launches he was the senior Pararescue team leader at the trans-Atlantic abort sites in Europe and Africa. SMSgt LaPointe is an expert mountaineer who led the first USAF team to ascend North America's tallest peak, Mt. McKinley. Sergeant LaPointe was NCOIC at the USAF Pararescue School combat operations phase and the USAF Military Freefall course. He Commanded Det 2 1730 Pararescue Squadron for two years. He also served as a Pararescue Staff NCO at HQ ARRS and HQ 23 AF.

SMSgt LaPointe's military education includes: U.S. Army Airborne, Military Freefall parachutist, Jumpmaster, Special Forces SCUBA, Ranger Mountain, USMC Basic Combat Skills, USAF Pararescue, Pararescue Advanced Casualty Care, Pararescue Advanced Combat Skills, Pararescue Boat Master, Flight and Ground Instructor, Pararescue Flight Evaluator, Basic Survival, Arctic Survival, Jungle Survival, Pararescue Team Leader and the Defense Language Institute's Korean language course.

Sergeant LaPointe flew as a crewmember on the following aircraft: HH-43, HH-3, HH-53, HH-60, and HC-130. He accumulated 2,494 flight hours and slightly over 1,600 military parachute jumps. During his career, he was assigned to both conventional rescue and Special Operations pararescue teams.

His decorations include two Distinguished Flying Crosses, five Meritorious Service Medals, twelve Air Medals, Aerial Achievement Medal, five Air Force Commendation Medals, five Air Force Achievement Medals, two Air Force Presidential Unit Citations, five Air Force Outstanding Unit Citation with Valor, Air Force Combat Readiness Medal, eight Air Force Good Conduct Medals, Outstanding Airman of the Year Ribbon with one star, National Defense Service Medal with one star, Armed Forces Expeditionary Medal with one star, Vietnam Service Medal with four stars, Southwest Asia Service Medal with one star, Humanitarian Service Medal. His foreign awards include the Republic of Vietnam Gallantry Cross with palm, Vietnam Campaign Medal, and the Vietnamese Presidential Unit Citation.

William and Irene Pitsenbarger accept the Medal of Honor on behalf of their son, Airman First Class William F. Pitsenbarger. The Secretary of the Air Force, the Honorable F. Whitten Peters, presents the award.
Courtesy of USAF

Postscript: *On December 8, 2000, Airman First Class William H. Pitsenbarger was, at long last, posthumously awarded the Medal of Honor at a ceremony held at the Air Force Museum at Wright-Patterson AFB, Ohio.*

It was the largest Medal of Honor ceremony in the history of the award. The largest ever gathering of Vietnam era Air Rescuemen attended. It included PJs, pilots, flight engineers, maintenance personnel and many others assigned to Air Rescue in the Vietnam War. Over 1500 seats were filled. The guest list included Air Rescue combat veterans, combat veterans from Charlie Company and hundreds of Pararescuemen. Standing room exceeded the capacity of the largest room in the AF Museum. As Mr. Pitsenbarger entered the room to accept the award, he was amazed to observe over 420 retired and active duty Pararescuemen, all proudly wearing their maroon berets.

KAMAN HH-43B

"HUSKIE"

The "Huskie" was used primarily for crash rescue and aircraft fire-fighting. It was in use with the U.S. Navy when delivery of the H-43As to the USAF Tactical Air Command began in November 1958. Delivery of the -B series began in June 1959. In mid-1962, the USAF changed the H-43 designation to HH-43 to reflect the aircraft's rescue role. The final USAF version was the HH-43F with engine modifications for improved performance. Some –Fs were used in Southeast Asia as "aerial fire trucks" and for rescuing downed airmen in North and South Vietnam. Huskies were also flown by other nations including Iran, Colombia, and Morocco.

A Huskie on rescue alert could be airborne in approximately one minute. It carried two rescuemen/fire-fighters and a fire suppression kit hanging beneath it. It often reached crashed airplanes before ground vehicles arrived. Foam from the kit plus the powerful downwash air from the rotors were used to open a path to trapped crash victims to permit their rescue.

The HH-43B on display, one of approximately 175 –Bs purchased by the USAF, established seven world records in 1961-62 for helicopters in its class for rate of climb, altitude and distance traveled. It was assigned to rescue duty with Detachment 3, 42nd Aerospace Rescue and Recovery Squadron, Kirtland AFB, New Mexico, prior to its retirement and flight to the Museum in April 1973.

SPECIFICATIONS

Rotor diameter: 47 feet 0 inches
Overall length: 47 feet 0 inches
Height: 17 feet 2 inches
Weight: 9,150 lbs. maximum
Armament: None
Engine: Lycoming T-53 of 860 hp
Cost: $304,000
Serial Number: 60-263

PERFORMANCE

Maximum speed: 120 mph
Cruising speed: 105 mph
Range: 185 miles
Service Ceiling: 25,000 feet

688-Class Submarine Dry Deck Shelter Operations: *DIVERS BEWARE*

Ted Waters, MD

Abstract

The divers had been under pressure for about forty-five minutes on this, their second dive of the night. They were out on deck waiting to recover the two Combat Rubber Raiding Crafts (CRRC) at the conclusion of the full mission profile, Mass Swimmer Lock-Out/Lock-In (MSLO/LI). The first two members of the team had been successfully recovered and were waiting to be locked into the submarine via the transfer trunk. The hangar inner door was open. The two CRRCs were on tether on the surface and were being prepped for recovery by six SEAL operators. The mission was going smoothly thus far.

Back inside on the conn, things were going well from our perspective also. The MSLO went without a hitch. The seven divers were able to lock back into the sub, after placing the hanger into standby, and had grabbed some chow and warmed up. One thing was different about tonight compared with the previous eight days of diving. The submarine diving officer was maintaining his hover with less stability than usual. Where on earlier dives the hover had been maintained reliably between 25 and 30 feet deck depth, tonight I noticed occasional dips to thirty-three feet, and a near broach as well. The shelter officer and the officer conducting the exercise (OCE) noted this too.

As the divers returned to the shelter to prepare to recover the SEALs, I reflected on the numerous drills, both announced and unannounced, that had been run during this and every previous underway. We frequently simulated one of our greatest concerns about dry deck shelter (DDS) diving operations: loss of hover control with an unplanned broach and/or depth excursion while divers are on deck. Having never experienced this first-hand in my eighteen months as the undersea medical officer (UMO) for SEAL Delivery Vehicle (SDV) Team ONE, it was always a theoretical risk and something a handful of the divers had personally experienced years ago on a 637-class submarine. Early in my tenure as the primary diving medical officer (DMO) covering DDS operations within Naval Special Warfare Group ONE, I identified this scenario as one of the most critical "worst-case" scenarios. I determined that my role on the conn during an excursion was to provide timely information relevant to the divers' decompression status to the shelter officer and the OCE, thus advising them of options regarding whether and when to bail the divers from the hangar during a Shelter Emergency Procedure 13 (SEP-13).

A deficiency I noted during DDS operations on-board the USS KAMEHAMEHA (SSN-642) was an inability to quickly and accurately translate the submarine keel depth into the more relevant data point, deck depth.

Dry Deck Shelter (DDS) for SEAL Delivery Vehicle (SDV)
Photos courtesy of USN

During drills, I noticed that, as an excursion occurs, the submarine conn calls out keel depth. In the heat of the moment, I found it slow and, at times, difficult to do the math accurately in order to notify the DDS control to what actual depth the divers had gone. A simple keel-to-deck depth conversion chart solved the problem and has proven indispensable during all subsequent DDS operations.

As for decompression tables, I have always had three options from which to choose: the *U.S. Navy Dive Manual, Rev. 4, the Combat Swimmer Multi-Level Dive (CSMD) Tables*, and the *U.S. Navy Real-Time Dive Planner.* Each has its own particular strengths and weaknesses, with its own rules that must be observed to validate its use. Understanding the particulars of each Table empowers the DMO to make reliable recommendations when unexpected circumstances arise - and they always seem to do.

During most DDS diving operations, the workhorse tables come from the *Navy Dive Manual* when tracking the divers out on deck. The *CSMD* tables are used by the SDV operators to track their own dives and thus are the primary means by which the DMO on the conn can check the SEAL dive profiles before they are decompressed and brought back onto the submarine after a mission. The *Navy Dive Planner* is recognized as too conservative at the shallow depths from which we normally operate. It runs out of No Decompression time long before the *Navy Dive Manual* tables, and therefore is rarely needed or used to calculate decompression obligations during DDS operations.

That said, the *U.S. Navy Real-Time Dive Planner* is, in my opinion, the most valuable tool available to the DDS DMO besides his initial dive training. A computerized decompression algorithm developed by *Naval Medical Research Institute* in the early 1990s based on some 3300 dives, it allows the DDS DMO to simultaneously track the various dive profiles of all divers under pressure, whether it be divers in the hangar, the trunk operator, or the SDV operators on a mission. Additionally, it calculates decompression obligations in "real time", thus providing decompression or No Decompression times at subsequent or projected depths. Thus, the DMO is able to calculate what impact a given depth excursion has on divers at any point in their dive. He is also able to develop a decompression plan to bring them to the surface without omitting decompression, while also allowing them to clean house (shut hangar outer door, drain down, etc.) first. One of the main limitations of using the *Navy Dive Manual* tables during DDS operations, which hold divers to square dive profiles based on deepest depth, is that the slightest depth excursion at the end of a long, shallow dive can throw the divers over into e*xceptional exposure*, when logic and diving physiology tell us this is not the case. It is under these circumstances that the *Navy Dive Planner* becomes invaluable, as proven onboard the USS BUFFALO (SSN-715) on the night of October 7, 2000.

Let me now bring you back to the dive in question. The conn had been rigged for low light, night operations at periscope depth, which creates an eerie feeling within the close quarters. Faceless voices called out orders and appropriate replies. These voices of DDS control and submarine control overlapped in the easy, yet formal, communications that had developed between the two control groups over the last eight days. The divers had been under pressure for forty-five minutes when it all started, as if in slow motion. You could feel the heightened tension on the conn instantly. Everyone got even quieter, if that was pos-

sible. The deck depth started approaching 30 feet and, when we asked the submarine diving officer whether he would be able to catch it, his response was slow in coming. The diver recall was activated, the hangar lights were switched to solid white, and the hangar operator was notified to get the divers back inside the hangar. I began calling out deck depths, the boat settled out at 38 feet, and then we began to come slowly back to hover depth. The DDS dive supervisor, Chief Bear, a crusty old DDS diver from the days of yore, had a keen sense about the situation. Whereas everyone began to breath a little easier, Bear immediately issued the warning to the conn and to the divers in the hangar to move forward, hang on high, and prepare for a broach. There was initial resistance from the shelter officer, until the deck depth was suddenly 15 feet and rising, and the orders were passed. And broach we did!

SEALs Preform Pre-underway Checks to SDV

The risk to the divers and the SEALs was great. Seven divers in the hangar were successively pummeled by six-foot waves, followed immediately by the drag and undertow of the effluent from the hangar. Simultaneously, six SEALs in two Zodiacs on the surface were tied-in to the tether line from the sub as the deck of the sub came rising out of the water to meet them, somewhere between the DDS and the screw. The immediate actions of the divers and the SEALs during those chaotic few minutes were commendable. The divers, despite having to combat the uncontrollable force of the Pacific, were able to cut the lines attaching the CRRCs to the sub, allowing them to clear the area. Not a single diver was swept overboard, a testament to their training and their skill.

This was just the beginning. Once the sub submerged, it was again Chief Bear anticipating what came next. He issued the warning that we were going deep, and to notify the divers. Diver recall, solid white lights, and banging on the vent pipes brought the divers into the hangar again and let them know to prepare for an excursion. The sub got heavy fast, and we shot past 30 feet in no time.

I again positioned myself to read keel depth, so as to call out deck depth, while at the same time, manipulate the *Navy Dive Planner* to notify the shelter officer and the dive supervisor how deep the divers could go and still maintain their "No -D" status. We passed 40 feet, 50 feet, 60 feet, and finally settled out at 68 feet before we started ascending again. We had reached a keel depth of 100 feet in approximately two minutes. During this descent, the shelter officer astutely remembered that the hangar inner door was still open, and that our recently recovered SEALs and the trunk operator were being exposed to these increasing depths. The hangar inner door was closed quickly and the trunk was isolated at a depth of 54 feet. On our slow ascent back to hover depth, the conn was a very hectic place. The divers had over two hours of equivalent single dive bottom time against them, and now, two divers had a max depth of 70 feet.

Once we reached periscope depth, our focus was on determining the condition of the SEALs on the surface, the status of the divers in the hangar, and what the decompression obligation was for each set of divers. The *Navy Dive Manual* said they owed eight minutes at 20 feet and 56 minutes at 10 feet before they could be recovered. However, there was still work to be done. The track and cradle were rigged out and the hangar outer door was still open. The *Navy Dive Planner,* on the other hand, reported that the divers still had over 30 minutes of "No-D" time at 30 feet, and this allowed us to calculate our next step. Or so we thought.

Our deliberations were again interrupted by the submarine conn calling for us to prepare for a broach. We had received word that the SEALs on the surface were accounted for and uninjured, and were standing by to assist as needed. The divers were once more notified to prepare for a broach, which again slammed them for a seemingly interminable number of seconds or minutes. None of us needed Chief Bear's sixth sense this time to know what was next. The divers were alerted to prepare for a depth excursion, and down we went. This time the sub was able to limit its deck depth to 55 feet. Again, decompression profiles needed to be recalculated, and again, the Navy Dive Planner became the only reasonable tool available to us to assign an accurate residual nitrogen load to the divers in the hangar. The divers were found to be in a No Decompression status once the hangar outer door was shut, and drain down was performed at a 10-foot head pressure as a safety stop.

In the end, to our good fortune, no serious injuries were incurred, though interviewing the divers afterwards revealed several near misses. The hangar operator in the bubble and the divers in the trunk both reported being exposed to severe pressure changes during the broach, when the ocean waves were impacting the front of the hangar. The chamber operator reported that, while monitoring SHD Gauge 1, the pressure in the trunk, he saw the gauge swing suddenly between five feet and 30 feet with each successive wave. The trunk operator described the feeling of his lungs flexing under the pressure, and how he did everything he could to breath normally throughout the broach. The risk of arterial gas embolism during this period was enormous.

Another very realistic injury during a broach like this is unilateral or bilateral tympanic membrane rupture and/or inner ear barotrauma. The hangar operator, standing inside the bubble, is particularly exposed to uncontrolled sudden pressure differentials, which can wreak havoc on his middle and inner ear mechanisms. In our case on the USS BUFFALO, the hangar operator incurred bilateral middle ear squeezes, TEED classification grade 2. He was lucky.

Yet another likely injury during a broach is simple or complex trauma. The divers are exposed to tremendous forces as the ocean waves crash into the hangar. The possibility of equipment being torn loose, floating free, and striking someone clearly exists. It is also imaginable that the diver himself could lose his grip and be thrown around the hangar and subsequently be swept out to sea with untold injuries.

Thanks to constant drilling and practice, as well as persistent emphasis on emergency actions by the DDS diving leadership within SDV Team ONE, this particular incident concluded uneventfully, to everyone's great relief.

Ted Waters, MD

Lieutenant Commander Waters has been the Undersea Medical Officer assigned to SEAL Delivery Vehicle Team ONE in Pearl Harbor, HI since March 1999. He served as the officer in charge of the Mountain Medical Section at the Marine Corps Mountain Warfare Training Center in Bridgeport, CA from August 1996 to June 1998. Prior to that, he served as the Battalion Surgeon for 9th Communications Battalion and as the Group Surgeon for the 1st Surveillance, Reconnaissance, Intelligence Group at Camp Pendleton, CA.

Observations On Group Behavior in a Special Forces "A" Team Under Threat Of Attack

Peter G. Bourne, MD

Abstract

Small group behavior has long been a topic of major interest to investigators in the social sciences. These have included naturally occurring groups, experimentally formed groups, and groups designed to have a therapeutic influence have been studied in recent years. Stimulating this work has been the underlying belief that the small group represented a manageable microcosm of human interaction, the study of which should lead to important inferences about the wider society. It is now acknowledged that insights into small group behavior have important implications for our understanding of social systems, of culture, and of personality.

Editor's Note. *This paper was discovered in the back of an old filing cabinet by then-MSG Don Shipman while assigned to 5th Special Forces Group (Airborne). Despite efforts to find Dr. Bourne, we have been unsuccessful at locating him for further comment. Fred Gallaher, a "recovering SF medic," writes us that he stumbled upon a book by Dr. Bourne entitled "Men, Stress and Vietnam", of which this article was part. We find this piece to be accurate and insightful regarding many of the personality traits of Special Forces members and the group dynamics of life on an "A" Team that we have published it. We are sure that as our audience reads this work many chuckles, head nods, and war stories will erupt. We give full credit to Dr. Bourne and thank him for his efforts to better understand the men who choose this lonely, often hostile, life. The JSOM will continue to attempt to locate Dr. Bourne so that we might reprint other gems form his combat observations.*

INTRODUCTION

The study of group behavior in the military has been of particular interest because of the unusual external stresses to which those in the Armed Forces are subjected. Beginning with the classical paper, "The Small Warship," by Homans in World War II, wide-ranging studies have investigated many facets of group behavior and performance in a variety of military settings. However, investigation of social behavior in combat has tended to focus on large, ill-defined groups; and especially in the Korean conflict the emphasis was upon those factors that contributed to the development of psychiatric casualties. There has been little attempt in the past to study the effects of combat on small, well-defined groups where the adaptations to the stresses of war have been successful.

The war in Vietnam has provided a unique opportunity to study the effects of the threat of death or mutilation in combat on the behavior of small isolated groups of men. This paper reports on observations made on a group of twelve Special Forces (Green Beret) soldiers living in an isolated outpost in the Central Highlands of South Vietnam.

ORGANIZATION AND MISSION

The twelve subjects in this study were the members of an "A" team, the primary organizational unit of Special Forces. Beginning in the early sixties such teams were sent into the mountainous areas of Vietnam to recruit and train the local tribesmen into Civilian Irregular Defense Groups, (C.I.D.G.), paramilitary units without formal connection to the South Vietnamese Army. Working with a counterpart twelve man Vietnamese Special Forces unit, they established and defended isolated camps at strategic locations in Viet Cong controlled territory.

This study was conducted in a camp located six miles from the Cambodian border and forty miles southwest of the Central Highland city of Pleiku. The site had been chosen so as to provide significant obstruction to the free flow of arms and men from the Ho Chi Minh Trail into South Vietnam. The threat of attack by an overwhelmingly superior force was always present, but was considerably increased at the start of the monsoon season in May of 1966, at the time this study was initiated. Although no all-out assault on the camp occurred, several members of the team, including successive commanding officers, were killed during this time of threatened attack. A colorful description of life in this particular camp has recently been published by a free-lance journalist.

SUBJECTS

Two of the subjects were officers and ten were enlisted men. All were Caucasian. Two were married, and ten were single or divorced. Ages ranged from 22 to 41 years (median 26). Education ranged from 10 to 16 years (median 12). Years of military service ranged from 1.5 to 20 years (median 5.5). Time in Vietnam ranged from five to 36 months (median 8.5), and time in camp ranged from 1 to 10 months (median eight).

All of the men had past combat experience, and for some this had been very extensive. Three of the enlisted men had been in Korea, and one had also fought in World War II. Aside from his general military competency each man had expertise in some individual skill, such as demolitions, medical, or communications radio operator. They had also been taught an awareness of their responsibility to the group and their mutual obligation to it to maximize their chance of survival.

DATA COLLECTION

The author and an enlisted social work technician remained in the camp for three months during May, June, and July of 1966, as semi-participant observers. Frequent informal interviews were made with each of the team members to obtain background information and an understanding of their role in the group. A daily log was maintained of all activities in the camp as well as the significant events in the lives of each of the subjects. Records were also kept of all military activity in the area that had direct bearing on the level of stress in the camp or the demands placed on the team members. Twenty-four hour urine collections for the measurement of various endocrines were made on each subject, and certain psychological tests were administered. These aspects of the study are reported elsewhere.

Brief visits were made to five other Special Forces "A" camps to validate the findings of this study.

OBSERVATIONS

Overshadowing all other influences in the camp is the possibility of enemy attack, which colors even the most routine activities. The tension that this threat creates fluctuates to some degree with the prevailing intelligence reports about enemy activity in the area, but it never disappears entirely. A characteristic pattern develops with an air of expectancy that increases gradually during the late afternoon and early evening. It reaches a peak between sunset and midnight, at which time the probability of an all out attack diminishes and the tension begins to dissipate. By morning there is a feeling of relaxation, and the tension is at its lowest point. In the afternoon the cycle begins again. Occasional mortar or small arms fire into the camp is enough to reinforce this pattern

and remind the team members that they are indeed in a hostile environment.

The personality characteristics observed in the twelve subjects made it clear that each man prided himself on his individuality and independence. As a result both of various selective processes and of training, ***these Special Forces soldiers were marked by an intense faith in their own capabilities, and a belief that the need to rely on others carries with it the implication of weakness.*** This strong belief in self-reliance, existing often from childhood, and an established pattern of using active aggressive behavior to deal with any threat to their well being, is seen among the majority of men who choose Special Forces as a career. These qualities make him ideally suited to the rugged demands of guerrilla warfare, with its emphasis on the ability of the individual to survive by his own skill and resources against the severest natural and man-made adversity. ***Special Forces provides him a lifestyle in which by exposing himself to extremely hazardous conditions and coping with them successfully, he can constantly reconfirm his faith in his own omnipotence and invulnerability.***

The usual pattern of warfare for these men in Vietnam is to use the camp as a base and maintain the initiative by actively seeking and engaging the enemy with patrols and ambushes. This type of aggressive control is highly consistent with their own needs. However, when confined within the barbed wire perimeter of the camp by the threat of attack, the relative inactivity and passivity they are forced to accept is antithetical to their usual self-image. Tied down to the defense of a fixed piece of territory, the military initiative must be abandoned and with it their preferred style of behavior. Frustration at being subjected to a state of constant uncertainty without the ability to retaliate in their more accustomed aggressive manner is felt by all the team members. Several expressed the wish that the enemy would make an all out attack and relieve the tension of constant anticipation. ***There is competition to be included in the patrols outside the perimeter, although they all know that the majority of deaths occur at these times.***

Frustrated in their desire to come to grips with the enemy, the men find other outlets for their aroused aggression. Except at times of actual attack, when group cooperation is imperative, open conflict between group members is commonplace. Labeled "cabin fever" by the men themselves, heated outbursts over trivial issues transcend the usual military barriers of rank, but are rapidly forgiven. As a whole the group members rarely express anger towards the enemy, and generally regard them with unspoken respect. The feelings they must have for those who are realistically threatening their lives appear to be displaced onto the non-Americans within the camp, who are more readily accessible and who pose no threat of retaliation. Relations with their Vietnamese counterparts are always strained, but are clearly exacerbated when the external threat is greatest. It is interesting in this regard that a strong distinction is made by the team members between the Vietnamese and the Montagnard soldiers, with the latter, who are less readily identifiable with the Viet Cong, being spared much of the animosity. ***A further target for the hostility of the group is their higher command, the "B" team*** forty miles away in Pleiku. There is a feeling that the "B" team bears much of the responsibility for the military threat to the camp, and complaints are made that they live in comfort, care little about those who are "really fighting the war," and fail to adequately support the camp.

Among the twelve team members a precarious and often changing balance of relationships exist. On the one hand, the shared danger of the external threat pushes them towards accepting cooperative membership in the group, while at the same time the all important need of these men to confirm their self-reliance and independence, together with the conflicts generated by their displaced aggressive urges, acts to force the group apart. Much of the time the latter force prevails, but the physical confines of the camp limit the extent to which personal isolation can be achieved, and imposes a level of intimacy from which it is hard to escape. Their attempts to achieve physical and psychic space from one another were observed to produce an overt pattern of territoriality in the camp. One might anticipate that with little available ground space in the camp, the team members would share equally that which they had. However, this was not the case and individual team members would jealously guard those areas of

the camp to which they felt they had a special claim. The two radio operators would refuse entry into the communications bunker; the medics allowed no other team member into their dispensary, and even the weapons specialists felt that they had personal ownership of any area in which ammunition was stored. ***At times this behavior reached ludicrous proportions, as when one medic claimed that he felt other team members brought germs into his already inevitably dirty and fly-infested dispensary.*** It is perhaps of significance that these men whose job was to defend a small piece of territory with their lives, should behave this way towards one another when frustrated by the enemy's failure to attack. A need to gratify an aroused urge towards territoriality would seem to exist.

Within the group an intense struggle prevailed for informal control. These were men for whom the ability to demonstrate mastery over their environment is extremely important, and the extent to which they can tolerate membership in the group is directly related to the position of power which they can acquire. ***In the formal structure a captain is the leader of the team. However, he is usually young and with relatively little combat experience, a critical commodity for acceptance in the group.*** Several of the enlisted men are senior to him in years, and some have a lifetime of combat experience behind them. Overall status of the team is considerably affected by the length of time each member has spent in camp. Therefore, an officer who has spent many months in the camp has a considerable advantage over a man assigned to an already established team where he will have to fight for acceptance by the other team members as their rightful leader. He always has the advantage of his assigned position and rank, and as long as he can maintain his interactions with other team members within the context of the formal military command his status is unchallenged. However, this forces him to keep a marked social distance from the group. ***The greatest asset that he has is his access to all incoming information into the camp.*** With the exception of the intelligence sergeant, he has a monopoly in this area, and ***his skill in releasing or withholding information can be a critical instrument of power in his hands. Perhaps the most successful team leaders are those who combine their access to the available information with the successful establishment of alliances with already powerful team members.*** This they can do by providing choice patrol assignments, arranging for trips to Pleiku, ***or merely by flattering their ally with admission of their dependence on him.***

The captain cannot, however, escape the value system of the group that places a premium on the ability to prove oneself in combat. Led by the team sergeant (the senior enlisted noncommissioned officer), ***the rest of the group urges the team leader to attempt highly dangerous missions and expose himself frequently to death and injury,*** with the implication that only in this way will he be able to gain their respect. This they do by discussing the failures of the team leaders of other A-teams, by extolling the accomplishments and bravery of past team leaders of their own team, and particularly by describing their own acts of heroism in combat. The social pressure exerted on the young commanding officer, whether he responds to it or nor, frequently remains a central focus of interaction in the group. In some instances attempts by the team leader to consolidate his role by acts of bravery will be countered by equally daring exploits on the part of the other team members. When this happens it is likely to continue until one or the other of the protagonists is killed. ***It is not by chance that the mortality rate of Special Forces officers in Vietnam is reported to be higher than in any United States force at any time in any previous war.*** The subconscious awareness that many team members have of the demands they have placed on their leader is reflected in the level of guilt that the death of the team leader engenders in the team. ***One way in which this is seen is the lavish praise he receives after his death, which is in sharp contrast to criticism they had for him previously.*** Unfortunately, this reaction in turn makes it considerably more difficult for his replacement

to gain acceptance in the group and the same pattern is likely to be repeated.

Although an officer can function as the team leader without having gained full acceptance from the team, it is almost impossible for the team sergeant to do so. ***As the senior enlisted man, he must maintain his position by force of character alone.*** He cannot fall back on the formal command structure as can an officer, nor does he have the same access to incoming information. As the spokesman of the nine other enlisted men he will be placed under strong pressure by them to challenge the team leader for control of the whole group. If he fails to do this, he will not gain the support of the men, even though he may be the oldest and most battle experienced member of the team. The officer who attempts to overcome this conflict by forming an alliance with this man may well help destroy him in the eyes of the rest of the group. ***The usual resolution comes when the team sergeant is able to maintain the respect of the other men by symbolically challenging the officer, and the latter has learned to tolerate the threat without allowing it to develop into a competitive spiral leading to the death of one or both of them.***

CONCLUSION

The findings in this study are in sharp contrast to the observations made by Harris on combat troops in the Korean conflict. ***We found little evidence of the "buddy system"*** which he described, nor did we observe in our subjects significant emotional dependence on the social fabric around them. External threats have traditionally been considered a prime factor in producing cohesion and closeness in a group. However, among the members of this Special Forces A-team acceptance of the dependent role in the group was so alien to their self-image that ***the danger that drove them together also stimulated forces that tended to push them apart.***

These differences appear to be attributable to the unique personalities of those who choose this way of life. For the average infantry soldier, often a draftee, combat represents merely a dangerous threat to his welfare, and he will seek any available form of physical and emotional support to enhance his survival. ***By contrast, the Special Forces soldier has come to incorporate his ability to survive in combat as part of his normal adaptation and as a significant aspect of his self-realization.*** He seeks exposure to danger with an almost addictive fervor in order to reconfirm his faith in his own ability to overcome it. ***For him, it is not merely to survive but how often and how independently it is accomplished.***

Editor's Note: *For further insight, see Dr. Anderson's article "Stress in Special Operations" later in this issue.*

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Special Operations Forces Project *MedTruth!*

Donald G. Shipman, PA-C

Abstract

Project *MedTruth* is in its fourth iteration. The intent of this initiative is to give a voice to the medical personnel in the field, to assist and monitor improvement/ resolution of problems identified in the field, and to keep the CINC and the component commanders informed of the status of their medical force not visible through any other method. Preliminary survey data demonstrates that the senior medics and medical officers believe that 76% of the junior medics are well trained. Further, the survey illuminates that 72% of special operations medical personnel believe their medical equipment is inadequate for their stated missions. The formal results of *MedTruth!* will be published in the Summer 2001 Edition of the JSOM when a robust sample population is achieved.

INTRODUCTION

The modernization and growth of any organization can be achieved by a variety of methods. One crucial ingredient to ensure the growth process is true, is the acquisition of feedback from the field. This information must be timely, accurate, unfiltered, and continuous to be of value. The information is then processed, analyzed and used to implement improvements in the force. Based upon these assertions, it is imperative that the special operations forces medical community design, test, and employ a tool to gather the appropriate information essential for the evolution of the profession.

In 2000, the United States Special Operations Command (USSOCOM) Surgeon's Office began a Commander-in-Chief (CINC) initiative to continuously gather information from all Special Operations Forces medics and their medical officers. Thus began Project *MedTruth!* which is in its fifth month of data collection. Information revealed will provide the USSOCOM Surgeon's Office as well as the component SGs the opportunity to supply immediate resources to the medics and officers in the field.

The intention of this initiative is simple and straightforward:

1. To give a voice to every single SOF medic in the field;
2. To assist and monitor improvement and resolution of problems identified in the field;
3. To keep the CINC and component commanders informed as to the status of their medical force.

As data is continually increased, the ongoing analysis will be forwarded to the SOF components, SOCs, HQ USSOCOM, USSOCOM BISC or BOR, or other appropriate levels. Sufficient data has just now been accumulated for analysis.

MedTruth! survey targets three primary demographics: the Junior Medics, the Senior Medics, and their Medical Officers. The Junior Medic is defined as any medic who is less than three years post-training pipeline. The Senior Medic is defined as any medic with greater than three years post-training pipeline.

Special operations forces medical officers generally include: physicians, physician assistants, nurses, dentists, and veterinarians. Also, included are preventive medicine personnel, medical logisticians, and medical planners.

SURVEY FOCUS

The primary focus of the survey is to illuminate two major areas: the status of training and of equipping of the SOF medical force. A broad series of questions are asked to determine the following:

1. **Junior Medics**
   A. Are there areas in the initial training that can be improved?
   B. Can the medical equipment be improved?

2. **Senior Medics**
   A. Are there areas where Junior Medics can be better trained at the JSOMTC?
   B. What is the Senior Medic's current level of training?
   C. Are there areas where the unit's medical sustainment training program can be improved?
   D. Can the medical equipment be improved?

3. **Medical Officers**
   A. Are there areas where the medics can be better trained?
   B. Are there areas where the medical sustainment training program can be improved?
   C. Can the medical equipment be improved?
   D. Are there areas where the SOF medical officer can be better trained?

As of February 2001, the survey has been administered in several venues to include: medics and officers conducting Medical Civil Action Programs (MEDCAP) in Africa and the Balkans; medics outbound with Joint Task Force-Full Accounting (S.E. Asian missing in action recovery program); and several classes of the Special Operations Forces Medical Skills Sustainment Program (SOFMSSP). The survey is administered utilizing circled responses, essay, and discussion formats to gather the desired information. A member of the USSOCOM Surgeon's Office actively proctors each survey.

PRELIMINARY FINDINGS

At the time of this printing, 201 medics and officers have been surveyed from across the entire SOF community. Some of the preliminary data follows.

1. Percentage breakdown of respondents.	
A. Army	70%
B. Navy	22%
C. Air Force	8%
2. Training program attended.	
A. Special Forces Medical Sergeant (18D)	75%
B. Advanced Special Operations Combat Medic (ADSCOM)	2%
C. Special Operations Combat Medic (SCOM)	19%
D. Other	5%
3. Years of service (years).	
A. Range	3-26
B. Mean	7.5
4. Training proficiency of Junior Medics.	
A. Poor	23%
B. Trained	74%
C. High	3%

5. Unit Medical Training Sustainment Programs.
   A. Percentage afforded sustainment opportunities 20%
   B. Percentage afforded clinical rotation opportunities 3%

6. Medical Equipment.
   A. Adequate for mission 28%
   B. Inadequate for mission 72%
   C. Spend own funds to obtain better equipment 37%
   D. Acquire unit funds to obtain better equipment 37%

7. SOF Medic career intentions.
   A. Percentage that will remain in military until retirement 90%
   B. Percentage leaving military to be civilian paramedic 0%
   C. Percentage disillusioned by mis-utilization 22%
   D. Percentage disillusioned at lack of promotion opportunities 14%

CONCLUSION

While it is early to make definitive statements about the information being gathered, medics and their officers are fully engaged in providing exactly what is needed: timely, accurate, unfiltered, and continuous input. As the number of respondents grows, the information will become increasingly more representative of the force at large, and ultimately this will lead to the information being utilized as a force consensus. By June 2001, it is anticipated that the final results will be available for publication in the *Journal of Special Operations Medicine*. Having final data will provide medical personnel at all levels the ability to help define the needs of the medics in the field to better accomplish their respective missions. This data will lead to the formation of working groups from within the SOF medical community to formulate recommendations for commanders and methods to implement solutions to the identified deficiencies.

Currently, the SOF *MedTruth!* survey is conducted the first Saturday of every SOFMSSP class. The interactions with the SOF medics are dynamic and filled with valuable insights. SOF medical personnel who cannot attend SOFMSSP or who will not attend it for some time are encouraged to contact the USSOCOM Surgeon's Office for a cyber-survey at their earliest convenience. Surveys may be obtained by contacting the project officer, CPT Don Shipman, or the project NCOIC, SFC Clint Beardon, at: MedTruth@socom.mil.

Don Shipman, PA

Captain Don Shipman is a former Special Forces medic and Team Sergeant. He graduated from the University of Oklahoma as a Physician Associate in 1995. He earned his masters in Family Medicine in 1997 from University of Nebraska and begins a three year residency at the University of West Virginia in persuit of a his doctoral degree.
Since becoming a Physician Assistant, Captain Shipman has served in the arctic light infantry, airborne infantry, and the Joint Special Operations Command. He is currently assigned to the United States Special Operations Command.

Recovery of Hostages from the Jungles of Ecuador

Allison J. Clough, MD

Abstract

Hostage rescue operations involve predictable physical and psychiatric illnesses. Not only must the released hostage be screened and re-integrated into his normal environment, but the family must receive care and preparation for the homecoming. Post Tramatic Stress Disorder (PTSD) is a common sequel and may have delayed onset. Use of alcohol may significantly degrade the released hostage's success at re-entry. A knowledgeable physician can ease the former hostage's transition.

SCENARIO

20 December, 1999: Swiss Hotel, Quito, Ecuador. Seven working men, newly shaven and in new warm up suits and sneakers, mingle dazedly with diplomats, military officers and police from four nations. The officials are here to meet the men they had worked for more than three months to free. There are pretty speeches about cooperation between nations and the value of freedom. One of the men speaks: "We want to thank you for all you did to free us. We are really sorry that the young soldier was killed. He was a nice young man. We are sorry for his family."

11 September, 1999, near the Colombian border: ten technicians and two Ecuadoran soldiers went to work repairing a pipeline in the highland jungles near the Colombian border. The crew chief went ahead down the line. The other men talked and joked as they worked and the soldiers, sitting at ease in the pleasant sunshine, joined in.

There was a movement in the forest. The younger soldier turned, raising his rifle, and fell dead in a burst of gunfire. Two dozen heavily armed men materialized along the cleared path of the pipeline and within minutes nine men were herded into a cattle truck.

So began 100 days of captivity. Under constant armed guard, the men were force-marched through rivers and mud and over hills so steep even the guards had to advance on all fours. The longest march lasted 36 hours. The youngest of the workers, exhausted, fell down a slope and severely sprained his ankle. The march continued and the man dragged himself on bleeding hands as army ants streamed across the path and his body.

Then there were interminable days of rest, when the men were forced to lie still in the wet leaves, or during the last month of captivity, in hammocks. They were never dry. They drank from the rivers, until one of the hostages had a bout of near-fatal dysentery. Thereafter, there was less water to drink but it was boiled.

The food was inadequate: one meal a day of hard, undercooked rice and beans. Sometimes there was

meat, such as monkey stew with little hands in it that repelled the hostages, or fish, or something one of the captors obtained on a solo foray to a village.

All of the men felt fear continually. At one point they hunkered on an island in a river while the guerrilla captors engaged in a skirmish with what the men presumed was the Ecuadoran Army. The captors returned after the gunfire stopped, swinging a pack they said they had taken from a fallen soldier.

The hostages were sick, hungry, wet and miserable. Not all friends to begin with, captivity accentuated their differences. One man earned the fear and dislike of captors and captives alike by refusing to cooperate. He complained loudly and constantly, dragged his feet when the captors demanded speed, and made noise when they demanded silence. One guerilla confided that he wished he had the authority to kill the uncooperative man, but instead allowed him to escape into the jungle and on to safety.

The others found themselves still divided. Four drinking buddies formed a bloc, and the leader of this group took the youngest, who had sprained his ankle, under his wing. Except for the support of this man, the youngest was reviled as a "pretty boy". A Native American identified more with the brown skinned guerillas and felt repelled by the bickering of his white fellow hostages. A clerkish young man was shunned for his fidelity to the employer, for his indelible cheerfulness and his jungle shattering snores. The technical supervisor brought good experience and coping skills to the job. The other men identified him with the employer and avoided him, and as time passed he, too, began to doubt that anything was being done to obtain their release.

In fact, intense negotiations involving representatives of Canada, Colombia, Ecuador and the United States began within a month of the hostage-taking. Medical personnel were stationed at likely release points, and military roadblocks ringed the jungle where the hostages were held. Security men settled into the regional capital, Lago Agria. Finally, intelligence operatives handed off a suitcase full of money on an isolated road deep in the jungle.

A week later, the now familiar guards left the hostages. As the men swung between hope and fear, two young peasants with bandanas over their faces appeared. They led the men in a straight line over hill and valley, leaving them at last on a hillside in the rain with instructions: Go that way.
The next day the former hostages reached a road, then met a farmer with a truck and the ability to see easy profit. The first stop with the farmer was a tavern.

The next stop was a government roadblock. Then things happened quickly. The men had met the farmer on 20 December and arrived home 21 December.

ON-SITE MEDICAL AND PSYCHIATRIC INTERVENTION

An Ecuadoran internist and sub-specialist in infectious diseases met the hostages when they arrived in Quito. In the first hours he performed physical examinations, including electrocardiogram, complete blood count, and blood chemistries, malaria preps, urinalysis and stool specimens. He treated one for an acute asthma exacerbation, apparently triggered by emotion, and assigned him to bed for the evening.

The author arrived to perform more detailed medical and psychiatric evaluations about 8 hours after the men first were identified at the military blockade. I accompanied the men back to their hometowns, continuing acute medical and psychiatric interventions in the corporate jet.

SEQUELAE

During captivity, all the hostages suffered from diarrhea, insect bites, and skin infections. Two had dysentery. All of them experienced weight loss, ranging from two kilograms in the cheerful man to 20 kilograms in another individual (3 to 18% of body weight). After their release, stool specimens revealed *entamoeba histolytica* in two men; one shed eggs of *ascaris lumbricoides*, and four demonstrated moderate eosinophilia and were found to have (and were treated for) strongyloidiasis. Two of the men with eosinophilia had persistent diarrhea following treatment.

All the men had cutaneous fungal infections which resolved with improved hygiene, dry environment and topical clotrimazole. Three of the men had lesions consistent with cutaneous leishmaniasis, although only one biopsy was positive. These three cutaneous cases, and one other man without cutaneous signs, suffered from generalized lymphadenopathy after their release. Two of the men applied heat to their lesions, which appeared to hasten resolution, and all are asymptomatic at this time.

Three of the men have been placed on disability. These men were all competent and physically strong prior to their capture. Although musculoskeletal pain troubles all of the survivors, these three describe more severe pain and extreme weakness. The disabled men suffered acutely from posttraumatic stress disorder (PTSD) with sleeplessness and nightmares, fatigue, anhedonia, poor concentration, anxiety, hypervigilance and startle response. One suffered from hallucinations.

Three of the men returned to work in the same roles as before. The supervisor, who had no symptoms of PTSD in the two months following release, has since developed insomnia, anhedonia, reduced concentration, weakness and anxiety.

Unfortunately, alcohol appears to have been the primary coping mechanism for many of the men prior to their hostage experience, and for four it has been severely exacerbated. These four are from alcoholic families; three of them have evidence of alcoholic liver disease. All of the survivors indulged in rather more alcohol than they should in the Christmas holiday immediately following their release, and this impaired the efficacy of interventions.

DISCUSSION

Special operations personnel will inevitably be involved in the recovery of hostages. Hostage recovery teams must work at all levels to assure the best possible outcome for survivors and their families.

Companies placing personnel in high-risk situations should engage experienced security agencies to prevent hostage situations from occurring. Personnel should be instructed in appropriate evasive action and behavior in the event of capture. Research suggests that emotional preparedness reduces the psychological impact of being taken hostage, and our experience indicates communication and team building skills may avert dangerous and unpleasant situations. (1)

Fortunately, the goal of hostage takers is usually to keep their victims alive. At a remote point of contact, emergency assessment can be limited to the ABCs. If the victim is walking, just get him/her to safety. The emotional and less acute medical consequences of the experience can wait. However, be prepared for extreme levels of anxiety, fear, and even hallucinosis. (2) In an unstable and dangerous situation, sedation may be necessary to get your rescued person out. However, in most situations, the first responder can easily provide what the released hostage needs most: reassurance, confidence, and optimism.

The most common medical complaints noted among POWs correlate with those among hostages: orthopedic injuries are most common, followed by infectious diseases, anemia, neurological and skin disorders. (3)

The work of the medical and psychiatric team should begin before the hostages are released. The families, co-workers and employers are also "taken hostage". They may need assistance with their own demons and must prepare for the release of their colleagues and loved ones.

A physician competent in both the medical and psychiatric aspects of terrorism can provide a unique degree of continuity and reassurance to patients and family. By first establishing a relationship with the context in which the hostage works and lives, the physician can help create a safe bridge from release to re-entry. The physician should be mobilized immediately upon report of pending release, and positioned as closely as possible to the point of release to receive the survivors. A thorough and compassionate physical examination provides an opportunity to begin therapy as well as medical treatment. It is difficult for survivors of terrorism to distinguish between physical and emotional symptoms, and ***many are more comfortable approaching their distress from a medical, rather than psychiatric perspective.***

The initial aim of therapy is the creation of a healing environment for survivors and their loved ones. This begins with the therapeutic alliance forged in the first hours of freedom and grows to include both a location and a team of psychiatrists, physical therapists and other professionals. Survivors and their families need a place for rest and restoration that initially protects them from external stressors and helps increase their cohesion and ability to support one another. Therapy is directed at restoring a sense of autonomy ("empowerment") and health. After the survivors return to their own homes, the therapeutic alliance remains a safe harbor through the many stresses and crises that follow release.

It is critical that the recovery team itself possesses great flexibility, good humor and unity. ***While creating a safe environment, they must not trap the survivors in a new prison.*** While structuring a program to build cohesion, they must be open to the survivors' need for control and independence. Work with survivors of terrorism requires highly specialized clinical skills, and our experience suggests improvisation and creative problem solving are equally important in a hostage recovery team (5).

The hostage experience may have long term or even lifetime consequences and subsequent generations may carry its echo, like the children and grandchildren of survivors of the Holocaust or wartime trauma. There are seasons to recovery, from the exhilaration of release to medical anxieties and acute post-stress symptoms, from a honeymoon period characterized by minimal symptoms to the onset or exacerbation of PTSD. Intervention should be timed to the needs of the survivors. Initially intensive, the recovery team's therapeutic interventions will eventually be reduced to intermittent meetings or a reassuring presence while routine care is transitioned to providers near the survivors' homes. While outcome at six months correlates strongly with outcome at eighteen months, the story of recovery is not yet complete, and the presence of a safe harbor will remain important for years to come (6).

The recovery of hostages involves military and security forces, international negotiations and often the exchange of money, favors or deadly force. To the hostage and his family, however, the critical factors in their personal journey to recovery are the individuals who, working together, provide the courage, compassion and knowledge to guide them.

Allison J. Clough, MD, MPH

Dr. Clough directed a clinic for refugees for five years, where she interviewed and performed forensic examinations on survivors of torture for asylum hearings and helped to create a program for their treatment. Since then, she has become a specialist in travel medicine and tropical disease and has a particular interest in issues of safety for those who work abroad. In 1999, she was asked to aid in the recovery of eight men who had been taken hostage from their work along a pipeline in northern Ecuador.

Editors Note: *For further insight, see Dr. Anderson's article "Stress in Special Operations" later in this issue.*

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Medical Care in a Prisoner of War Camp

Gene Lam, MD
Introduction by Dan C. Godbee, MD

Abstract

Survival in a prison camp requires absolute flexibility and use of every resource available. Some medical conditions were successfully treated in Korea with expedient measures. Preserving a sick call function helps monitor the health of the prisoner group. Resistance to the captors may improve morale.

Editor's Note. *The following is a reprint of Appendix 33 of the 1969 Special Forces Medical Specialist Handbook. It is the text of a presentation given by Major Gene Lam, MD, based on his experiences as a prisoner of war during combat on the Korean Peninsula in 1951. The JSOM Staff thanks Dr. Godbee for recognizing the value of this article and preparing this submission for the audience. Besides excellent practical advice, Dr. Lam provides great insight in camp life, with windows on the radical adjustments to survival-level standards that one must immediately make – or die. The hard-learned, universal lessons for survival cannot be taught often enough.*

INTRODUCTION

This article is based on Dr. Lam's personal experiences and first-hand observations as a Prisoner of War (PW) in North Korea. Major Gene Lam, Medical Corps, United States Army, is very often quoted in survival training school lectures.

You may not remember the greater portion of this article half an hour after you read it, but if you are on the ground behind enemy lines or even in a desolate area of friendly territory, some of this will come back to you. If it helps save the life of even one man, then this article will have been well worth the effort on our part to reproduce it for dissemination to the air crews assigned to this unit.

You must learn basic first aid - what to do for fractures, cuts, burns, etc. If you go down, you are supposed to have all kinds of things with you - a survival kit, a first aid kit, and instructions about using them. Let's assume, however, that you land with only the clothes on your back - it happened just that way to lots of men in Korea. You must know how to get along with what you have - to make do.

God gave you two important things - your head and your hands. If you think and intelligently use what you have, you can take care of yourself.

That's why I believe everyone should be taught to survive under the worst possible circumstances. Then if they are in a less strenuous situation, they can get along well; if they have aids for survival, that's so much gravy.

SURVIVAL FIRST AID

When you learn first aid and study survival medicine, you must assume that there will be no one but you to practice it. In survival and evasion there probably will not be anyone else except perhaps the men from your own crew. All six doctors captured with me were put in one PW camp, but few USAF doctors are apt to be captured and you may be in a camp of only Air Force prisoners. You may not have a trained medical corpsman; you should not expect to have one.

When most of these observations were made, there were five doctors in the camp with me. Thanks to all of them - including three who later died - I can tell you these things, not as my own isolated findings, but as our group opinion.

Immunization helps; don't avoid shots. You can save your life by keeping your immunization record up to date.

No man died in Korea of any disease for which the armed services gave immunization shots.

NOT ADVANCED SCIENCE - BASIC PRINCIPLES

All of us - patients and doctors alike - depend today upon the wonder drugs, fine laboratories, and modern medical equipment. We have too easily lost sight of the "country doctor" type of medicine, of the things men always have that can save them - determination, common sense, and a few primitive techniques. The Greeks, Romans, and Arabs practiced some of these remedies long before the birth of Christ. They are still good today when no other means are available. It's amazing but man can and does live without penicillin for every ache and pain.

REGARDLESS OF WHAT IT IS – EAT IT

One basic principle of survival medicine is to eat. After you have been down a few hours, you get hungry. If you can, find something edible and eat it. If you are captured, someone soon will bring in a bucket of slop and, after your stomach has flipped from the sight and the smell of it, you may say: "I can't (or won't) eat that stuff."

You better eat it because that's all you'll get and it may get progressively fouler and skimpier. Here "will" comes in. Say to yourself, "I'll eat everything they give me, and the nourishment will help me to get through." You must eat everything you can get - issued rations, things you can steal, and things you procure from the environment.

We ate dogs, cats, rats, weeds, and maggots. For a while we got only field corn, boiled for half an hour. It is tasteless, but it will keep you alive. In fact, we were living it up when we got that corn mash.

Most prisoners of war in Korea ate dog, but it was hard to do. Dogs are a delicacy in that area, and we weren't issued luxury items, but once in a while a stray could be shanghaied. The town we were in had a stray cat. Pussy didn't wander long. It was quite delicious, rather like squirrel.

It helps not to be able to identify a strange dish the first time it's served, but after the first time, the ingredients don't really bother.

It was difficult to down rats, but they were edible. I strongly recommend cooking them, because raw they can carry several diseases.

Snakes, of course, are eaten the world over, and some varieties are delicious. Just chop off the head, skin the rest, then cook and eat what's left. Even poisonous varieties are edible.

Maggots are something else. Once we were issued rotten fish loaded with maggots. Our English cook protested and wanted to scrape them off. Afraid that some of the fish would be lost, I insisted that he cook fish, maggots and all. We ate the results, which were quite good.

In May 1951, every PW in camp was swollen like a balloon from severe beriberi. Since spring weeds were

beginning to appear, we figured we could boil them as a cure but there wasn't a weed in camp. However, some of us were taken almost daily to a river for wood and other supplies. The criterion for success soon became not how much wood but how many weeds we could bring back. We didn't know what kinds of weeds they were, but we picked them, boiled them and ate them. Our beriberi disappeared.

You will be revolted by food given you as a PW, but if you miss one meal as a prisoner, it will take you weeks to regain your lost strength. You can't afford to miss a single bite when you are on a bare subsistence diet. If you're going to live, eat. If you plan to escape, you must have strength to do it.

YOUR RETURN TICKET - YOUR OWN FEET

Your two feet are the other half of the round-trip ticket. The importance of caring for your feet cannot be over emphasized. Men walked barefoot for miles over snow and ice when the Korean weather was 45 to 50 degrees below zero. Those who took proper precautions got neither trench foot nor frozen feet.

The precautions are simple. If you have shoes and socks, periodically take them off and rub your feet for five or ten minutes. You won't get frostbite.

If you have two pairs of socks, put one pair next to your skin and keep them dry. Change to the dry pair at least once a day. When you bed down at night, take your shoes off. Any man who gets frostbite is guilty of neglect amounting to misconduct.

In order to land safely after the bailout, to walk, and to protect your feet, you must have proper boots. Those men who landed in North Korea with low cuts will back me up on this.

Incidentally, if you remove the steel arch support that is in most boots, and sharpen it on a rock, you will have an excellent surgical knife.

DYSENTERY

Dysentery becomes a problem to most men in enemy territory - be they evaders or prisoners of war. The risk of dysentery can be greatly lessened if you have and properly use halazone tablets or iodine, or if you boil water. But there will be times when you cannot possibly take such precautions. Also, men have gotten dysentery from nothing more than just being scared.

What is dysentery? In our camp we set up an arbitrary standard: 25 stools per day. Eight to ten was normal, and 15 was simple diarrhea.

What can you do about dysentery in a POW camp?

You will lose much water you must replace. If possible, replace it with boiled water, but at any cost drink quantities of liquids. You must also eat, even if that means choking down food.

Charcoal can help. Take any partially burned piece of wood, scrape off the charred portions and swallow them. How much? Oh, about a handful.

Bones - any kind of bones - can help. They are best if burned and ground into ash, but you can grind bones between rocks to a powder. Just swallow the powder.

The communists, anxious to "educate" every prisoner of war, usually have lots of chalk around for writing on the "wonders" of Bolshevism. Steal some ordinary schoolroom chalk, powder it and swallow it. It too, will help cure dysentery.

Pull bark from trees, preferably oak trees, but any kind will do. Boil it from twelve hours to three days. As the water evaporates, add more. The resulting brew will be so black, so vile tasting and so evil smelling that it will choke you. But boiled bark contains tannic acid and that will help to cure your dysentery. It also can help further the healing of burns.

Boiled bark is so terrible to choke down that we were never really sure whether people willed their dysentery to quit rather than swallow the medicine. (I remembered this remedy because my grandfather had used tree bark to cure deer hides and I figured that something with enough tannic acid to cure hides probably contained enough to cure dysentery.)

Tea is another dysentery cure because it, too, contains tannic acid. Men who'd had chronic dysentery for two or three years were cured when we got enough tea. Strong tea solutions that contain tannic acid in concentration have also been used for centuries for burns.

HEPATITIS

In the summer of 1951, when the Communists talked mildly about bacteriological warfare, we laughed it off as impossible. We still joked about it when they inoculated us against this ridiculous "threat". There was a bottle of Soviet-made serum, one syringe and one dull needle for 110 prisoners of war. The first man in line had hepatitis. Within a week 35 others had it.

Hepatitis, or yellow jaundice, is a liver disease. When you have it, you don't want to eat, but you must. We force-fed men to keep them alive - pushing rice or anything else available down their protesting throats. We also tried to keep them off duty as much as possible for about six weeks after the jaundice had subsided.

The loss of appetite from this disease is terrible. I know because I had hepatitis twice. The other doctors kept me alive by force-feeding me. At the time it was rugged, and I hated them for it - but today, needless to say, I am grateful.

LICE

As a prisoner of war you will get to know many representatives of the animal kingdom, among them the louse. This six-legged insect can kill you. There are some 5,600 milliliters of blood in the body of a normal man of average size. A single louse sucks one ml of blood a day. A louse-covered man soon dies.

In Korea no PW died of any louse-borne disease. I credit this to immunizations. Do keep your shots up to date. However, lice can bleed you to death unless you pick them off every single day. Never fail to do this even though you are cold, tired and sick, whether you are a PW or evader.

One PW complained of being weak and tired. In our makeshift hospital, next to the equally makeshift morgue, I unbuttoned his jacket and shirt and pulled up his undershirt.

He was a mass of moving gray bodies. Lice were so thick I could not see his skin. That man was literally being bled to death.

You must pick lice off frequently, for they breed faster than rabbits. Regardless of how cold it is, you must inspect your entire body and every seam of every garment at least once a day, picking off every single louse. Louse hunting does more than just keep the bug from killing you. It not only provides diversion and entertainment of a sort, it also keeps you busy. Purposeful occupation is important beyond measure if you are an evader or PW.

WORMS

You will get worms - all kinds - round, hook, and plate worms. They will come from the food you eat and the dirt and filth where you live. Some will look exactly like angle worms five times enlarged. Although there are other symptoms, positive proof that you are infected is when a worm crawls out of your nose. That undoubtedly will shake you up a bit. It always does.

Personal hygiene is the best preventative measure against parasitic infestation. You may not be really clean from the day you go down until you get out, but there are things you must try to do. Wash your body and clothes as often and as well as you can. And above all, pick lice off at least once a day.

Depending on supplies, there is a worm remedy: swallow a couple of tablespoons of kerosene or gasoline. Kerosene is more effective but gasoline will do.

Either will make you a bit sick, but they will make the worms a lot sicker.

PNEUMONIA

You will encounter diseases and your resistance to them will be low. Pneumonia is probably the most common, especially in winter, and it makes you extremely sick. You will have no penicillin, no tetracycline, not even old-fashioned sulfa. (In Korea, I had 250 sulfanilamide tablets for more than 2000 men.)

When a man has pneumonia in primitive circumstances, there is only one thing you can to for him, even though it is not in any medical book - keep him on his feet. You should not keep a sick man on his feet 24 hours a day, but don't let him lie in a corner, pull something over his head, and roll over to face the wall. If he does this, he will die. You must keep him alert and interested, or he will not live.

Some men with severe cases of pneumonia lived because of this treatment and their own will. Others, with bad colds got frightened, laid down, gave up, and died within 24 hours.

BLEEDING

Here I want to make a plea: if you are bleeding, DO NOT put on a tourniquet. I believe more men lost arms and legs as a result of tourniquets than from any one type of war wound. A tourniquet destroys tissue, gangrene sets in, and it is often impossible to save the injured member.

Just apply heavy, constant pressure - that alone will stop 90% of all bleeding. If blood is spurting out, stick your finger down in the wound and hold it there.

BURNS

Suppose you are burned. The book says to wash out the burned area and to cover it with a sterile dressing. What, you ask, can you wash it with when there is no water or none that can pass in the dark as sterile? Well, every man has his own supply of one of the most sterile liquids available - his own urine. This is just one of the small bits of knowledge you may find able to put to good use. Trying it under extreme circumstances will not hurt you and may save your life.
As you read earlier, tannic acid is good for burns, as well as dysentery. There is tannic acid in strong boiled bark and tea solutions.

THE WATER CURE

Hot water probably saved the lives of more prisoners of war in Korea than any other measure or remedy. We used hot water to treat men with everything from headaches to athlete's foot.

For a while men came in and gave us long lists of symptoms, before asking, "what do you suggest?" Our prescription was usually "Go soak it in hot water." After a while they began to say "Doc, I've got thus and so. Now I know you're going to tell me to go soak it in hot water, but I just want you to know about it anyway."

Maybe hot water didn't help in every case, but soaking kept the patient busy doing something that seemed reasonable and purposeful. A man who sits for two or three hours soaking a toe or hand, usually doesn't dwell on his unfortunate situation. He's too busy thinking about the cure he's effecting, or how much better his toe or hand feels. (For stomach aches, we might use a variation: heat a brick and put it on your tummy.)

WOUNDS AND SURGERY

There are three treatments for a wound under extreme conditions: clean it out if possible with hot water; wash it out with urine; and/or pick out all foreign matter. The book says never to stick your fingers in a wound. If you have nothing else and if there are pieces of metal or bits of clothing in the wound, pick or dig them out with your finger.

Maggots were an accepted treatment for infected wounds during World War I. Maggots eat only dead tissue and will clean out a wound better than anything else except surgery. How, you ask, do I get hold of maggots?
That's easy if you are anywhere in Asia - just expose the wound, the maggots will find it.

If surgery of any kind is required, remember that the area of the wound is dead. When you realize there is no feeling in a wound, it is easier for you to stick a needle into it, to cut or to do whatever is necessary. (We had to amputate a few toes as a result of frostbite. For the first six months we had little ether, but later there was no anesthetic.)

You may never have to use a knife to lance boils, cysts and the like; but if you do, soak the area in hot water for a couple of days; then, if it is still necessary, open it up.

A most successful hemorrhoidectomy was performed in our camp. A major had a terrible hemorrhoid that bothered him dreadfully. He limped about for days, soaking it in hot water as often as possible. When the condition failed to improve, he came to me. As he bent over for me to examine him, four trusty colleagues grabbed him. I whipped out my trusty surgical knife, patiently sharpened to a razor's edge on stones but originally a steel arch support from a boot. Out came the offending hemorrhoid despite the patient's belligerent screams and profane threats. The operation was extremely successful. The patient not only lived, he lived in considerably greater comfort.

MEDICAL SUMMARY

You, of course, know all the basic first aid the Air Force has exposed you to. And, of course, if possible, you will have with you a standard first aid kit, as well as your own special one (having such kits is a real luxury). In addition, you must face the possibility, or even the probability, that emergency treatments may extend far beyond those normally covered by peacetime, zone of the interior first aid. You must also face the very real probability that you may be the only person available to perform such treatments. Under such circumstances you must use what God gave you - your head and your hands.

Men with chest wounds - open, sucking wounds - have stuffed them with handkerchiefs or torn shirts and kept going. Men have broken their backs when they bailed out or hit the ground. After regaining consciousness, they have rolled around for a stick or board, strapped it to them in a fashion and moved on. Men with severe wounds have amputated a limb, whittled a crutch, and kept going. Many things are possible to those with will and determination.

THEFT

In a prisoner of war camp you learn not only to scrounge but also to steal proficiently. When I got back to the United States, it took me a long time to learn to keep my hands in my pockets when I walked through dime stores.

Some times you steal because an object is useful to you. More often you steal things you know you can't use. We figured that everything cost the Communists money or effort, so that we made additional money or effort necessary when we stole any item. Also, thievery built up our morale.

One enlisted man in our camp was a professional thief who perfected his calling at the Communists' expense. The Chinese camp commander eventually became so enraged that he called in our man. When the PW returned, we were curious about what had happened. He explained that he stood stiffly at attention while the commander chewed him at length (and in Chinese) about his thefts. "He was so hot about it, that he impressed me. If fact, I think I ought to take back his watch and pen that I just lifted."

In the camp known as "Death Valley", we stole a complete building. The Communists had let us build a little hospital, and had given us two 55-gallon drums for a stove, but wouldn't give us any wood for it. Nearby there was a wooden building, with mud plaster on the outside. Over a period of two weeks, we surreptitiously took board after board from that building until only the thin plaster shell remained. One night we finally knocked that down, removing the last boards and every piece of straw. The Chinese didn't realize the building was gone for two weeks, and by then we had burned the evidence in the hospital stove.

I was called in for questioning as to what had happened to the people's building. I could only reply that there was no such building. When they looked at the

place where the building had been, there was only a bare spot. How could they accuse me of stealing a building? It was too ridiculous!

You may occasionally get caught in such thefts, but usually it's worth it. Through such activities you can pay the enemy back for his harassment. Sometimes your thefts may even cause your captors to cease harassing activities. In any event, you have a lot of fun outwitting them.

KEEP A SENSE OF HUMOR

Humor is important in a prisoner of war camp. Even though everything around you is tragic, you must laugh to sustain your will to survive. You have to consciously work to retain a sense of humor, a sense of the ridiculous. If the Communists tie you up for some reason, you must be able to find humor in the fact that you can tie better knots than the two of three of them are doing.

I actually laughed at men dying. There were symptoms you could assess without being able to describe them: a listlessness, a look, turning from reality. When these symptoms appeared in various degrees and varying combinations, you could estimate very closely how long a particular man you had come to know well would cling to life. Another doctor and I had a running bet on life expectancies. Even though I made money on the deal, I hope to never have to face such a situation again.

We used our sense of humor rather effectively in a perverted sort of counter-harassment. Americans are the most unpredictable people in the world - and methodical types like the Chinese Communists were unstrung when they could not anticipate what we would do next. We encouraged this by deliberately moving along in one direction for a while and then without warning making a complete 180.

Such activities seemed to us our little contribution to the war effort, that we had a mission of some sort. Our PW camp was our "front", a small but active area of combat. Although we had no orthodox weapons, we inflicted what damage we could to the enemy we encountered. Some camps had one guard for every two or three prisoners. Primarily because they couldn't figure us out nor anticipate our actions,

we had two guards for every PW. A small contribution to the total war effort? Perhaps but it gave us a sense of accomplishment and it did tie up a number of Chinese.

It's hard to say which we enjoyed more, our pleasure in a prank for our own sake or the confusion we could create by it. For example, the Commies had a 50-foot pole lying on the ground, ready to be raised as a flag. We stole the pole, sawed it up and burned it. One PW got 30 days solitary for it but, after all, somebody had to be punished and the antic was well worth it.

Right in the midst of the big germ warfare campaign, we caught a rat. The rat acquired a parachute and a USAF tag before being hung on a bush by the front gate. The chief commissar, a dainty air-fairy type, found it. He jumped four feet in the air, did three double flips and raced hysterically back to his headquarters. Then the officials came out to investigate, and to take pictures for their "proof" about bacteriological warfare! We roared with glee, to their complete confusion. That spoof had us laughing for weeks and such laughter kept us alive.

One PW calmly walked up to a guard, socked him in the nose, grabbed his gun, tossed it over the fence into a rice paddy, and just as calmly walked away. It was marvelous because the guard could do nothing without risking punishment himself.

In every group there are characters. Look for them and encourage them to dream up stunts to make the group laugh and to confuse your captors.

SUMMARY

Your chances of survival can be extremely good, even as a prisoner of war, if you do these things:

* **E**xercise your leadership responsibilities.

* **M**aintain military and self-discipline.

* **K**eep up your own and others' morale.

* **R**ecognize and control fear.
* **K**eep on your feet, keep going.
* **E**at everything you can get hold of.
* **N**ourish your sense of humor.
* **K**eep immunizations up to date.
* **P**ractice survival self-aid and preventative medicine, using common sense and your surroundings.
* **K**eep your will to survive.

Training such as is given at the USAF Survival Training School helps tremendously. It especially helps you over the first shock of being an evader or prisoner. You should learn what the possibilities are and facethem. You must master the basic fundamentals of hygiene, survival sanitation, first aid, preventive medicine, and survival nutrition, including securing natural foods and the nutritive values of native food. Training greatly increases your chances of survival.

However, all of the things I've discussed, none is as important as your own will to survive. Regardless of were you are, how miserable your circumstances, what the enemy does to you, make up your mind that you will live through it. Men who should have been dead simply refused to die. Their secret? They had this idea and kept it despite everything:

"I'm going to live!"

Dan C. Godbee, MD

Dr. Godbee received his medical degree from Mercer University School of Medicine in Macon, GA, in 1999. He is currently an Emergency Medicine resident at the Louisiana State University Health Science Center, in Baton Rouge,LA. He entered the United States Army in 1976 and served six years on active duty, assigned to the 505th Parachute Infantry Regiment and the 5th Special Forces Group (Airborne). He was both a Special Forces Engineer Sergeant and a Special Forces Medical Sergeant. After active duty, he was a member of the 11th Special Forces Group (Army Reserve) and 20th Special Forces Group (Alabama National Guard) where he held positions as Team Medic and Team Sergeant.

Medical Civil Action Program in Kosovo

James T. Giles, DVM
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Abstract

10th Special Forces Group developed a medical civic action program allowing access to previously-denied areas and populations. While the numbers of patients were not great, the inroads and rapport gained were a direct result of the medical services. Key findings included a great need for veterinary services; dental planning should include fluoridated rinses, and prescription spectacles can be replaced by presbyopic (drugstore) glasses.

INTRODUCTION

The 10th SFG (A) Medical Section conducted a medical civic action program (MEDCAP) from 3-17 November, 2000, in support of Operation Joint Guard Task Force Falcon (TFF) Special Operations Command and Control Element (SOCCE) in the MNB-E Sector of Kosovo. Due to the expanding geographic mission profile of 10th SFG (A), the opportunity and need to conduct medical missions has increased dramatically. The goals of the mission were to provide SOCCE access into previously denied communities, establish rapport with specific populations and provide an unparalleled forum for hands-on training of Special Forces Medic (18D). Interestingly, subordinate units to the SOCCE reported immediate improvement in relations with their target populations as well as entry into factions that were previously inaccessible.

MISSION OVERVIEW

The MEDCAP team consisted of a physician (MAJ Durck), physician's assistant (CPT Shipman), dentist (CPT Hudson), veterinarian (CPT Giles), 18Z (Operations Sergeant, MSG Edwards), medical planner (MAJ Riley), optometrist (CPT Descarreaux), 91B (medic, SGT Valevich) and a SOCCE 18D (SSG Gandy). The SOCCE provided additional 18Ds and other Operational Detachment Alpha (ODA) members while the MEDCAP team was in their specific sector. Eight days of medical services were divided equally among Serbian and Albanian communities. Medical, dental, and optometry services were given to 314 Albanian and 165 Serbian men, women, and children with patient access to 14 Albanian and 13 Serbian towns. We also provided treatment to 514 animals in the form of vaccinations, deworming, selected surgery and treatment of ill animals. The numbers shown were reflective of the scope of this mission and the specific communities selected. We saw a relatively low number of human patients. However, the MEDCAP mission proved to be an overwhelming success, far in excess of that anticipated. It achieved the SOCCE's desired impact of enhanced rapport among influential and difficult populations almost immediately. It allowed for outstanding 18D training, and gave us the chance to bring care to people in need.

This one-time mission has now been transformed into one that is now being scheduled three times per year, with expanding missions into other areas of the 10th SFG(A) area of operation outside of Kosovo.

MEDICAL

Non-government organizations (NGO) are making a significant medical impact in Kosovo, visiting outlying villages in the areas where we were active. Even with this, there is still much to be improved. Surprisingly we did not see as many seriously ill patients as we anticipated. The 18D medics they were exposed to diagnostic symptoms unique to the area, which will potentially be very valuable to them in the future. There was one special case where a three-year old boy was identified with a 6/6 holosystolic ejection murmur, and in mild heart failure--a potentially fatal heart condition. Considerable effort was made to arrange follow-on care through available cardiology services in the Italian Sector of the country, and then find this boy again! This was then referred up a rather lengthy bureaucratic chain until a cardiovascular surgeon was found who agreed to fix the diagnosed ventricular septal defect. Our 18Ds worked hard to ensure that at least this little boy would not fall through the cracks.

Future operations of this type need to anticipate numerous upper respiratory infections, intestinal worms, hypertension, low back pain, and be well-schooled on rashes. Probable essential hypertension was a frequent finding but decisions to treat were made cautiously understanding the lack of follow up care. Austere conditions are exactly that, austere. If avenues of follow up can be predetermined, that knowledge can come in very handy. Careful planning and anticipation is the key to a successful medical mission.

DENTAL

The group dentist performed or supervised the extraction of 180 teeth and multiple fillings on patients ranging from four to 72 years of age. Generally, the dental focus in most MEDCAPs is to only treat the tooth that is symptomatic at that moment, and not necessarily the asymptomatic diseased teeth. However, the reduced patient load provided the opportunity to conduct more comprehensive treatment on many patients. 18Ds were taught and supervised performing invasive procedures such as quadrant extractions with full thickness gingival flaps, osseous re-contouring and root canals. The dental hygiene practice among both ethnic groups was extremely poor and caries were rampant among all age groups. Additionally, several of the patients examined had oral tuberculosis lesions. Everyone triaged was provided with a toothbrush, fluoridated toothpaste, and dental floss. In the future, our dental officer recommends providing an acidulated phosphate fluoride rinse, which is effective for six months.

(L-R) MSG Curt Edwards, CPT Mike Nack, and CPT Dan Hudson extract teeth from an Albanian boy. November 2000
Courtesy of Jim Giles

VETERINARY

Over 514 animals were treated, including sheep, cattle, swine, horses, dogs and cats. Services for all animals included vaccination, deworming and vitamin injections. Additionally, we treated many sick animals, performed bovine pregnancy testing, equine castrations, ectoparasite treatment and various bovine surgeries.

The 18Ds and other ODA members received a great deal of veterinary experience and used the opportunity to build relations with the animal owners. We were extremely well received among both ethnic groups. The majority of the people served were small farmers who were completely dependent upon their animals for food and labor, and therefore were quite grateful.

The health of the Serbian livestock was generally superior to that of the Albanians. Access to quality pasture varied among both ethnic groups - some communities having ready access while others did not. The latter are housed in extremely small barns with little to no ventilation, subsist primarily on poor quality hay or corn stalks, and tend to be in poor condition. Animals with good pasture availability were generally in very good body condition. Common conditions encountered in the animals included internal parasitism in all species (esp. lungworms in cattle), foot rot in sheep and cattle, fleas and mites in dogs, diarrhea in calves and upper respiratory infections in piglets. Albanians and Serbs alike tend to have several herding dogs per family unit, most of which were in good health. They were quite fond of their working dogs and very interested in their health care. Many of the dogs had been vaccinated for rabies by various NGO organizations. The same organizations have also been active in vaccinating livestock for regionally important diseases such as anthrax, erysipelas, and hog chorea. Currently, there is a tremendous overpopulation of feral dogs that were displaced during the conflict. Several of the NGO and military organizations have an ongoing campaign to capture and sterilize or euthanize feral dogs. Results of this program are minimal at this point.

(L-R) SSG Gandy and CPT Jim Giles operate on a Serbian horse, November 2000
Courtesy of Jim Giles

Subsequent missions will incorporate a plan to tattoo or brand livestock as a means of definitive, permanent animal identification to hopefully prevent ongoing livestock theft. Currently, the greatest animal health need is the deworming and vaccination of lactating dairy cattle and education of the owners in the life cycle and prevention of internal parasites. Some of the long-term issues are anthrax, tuberculosis and brucellosis testing and eradication programs, canine sterilization, bovine artificial insemination capability, and animal husbandry education.

OPTOMETRY

A highlight of the mission was the optometry services provided. While most of the recipients of medical and dental treatment were extremely grateful, those who received corrective vision care were able to realize an "instant cure" without enduring any painful procedures. The need for reading glasses far exceeded that anticipated. Glasses had been pre-ground in generic prescriptions and many ended up being traded at Camp Bondsteel, the main base in the US sector of Kosovo, for the presbyopic prescriptions. Optometry services should be considered on all MEDCAP missions. Their value cannot be over estimated.

SUMMARY

The MEDCAP was a great success. The team worked very long and hard hours and never lost its focus as to the purpose of the mission. Training was excellent for participating medics. SOF teams from other areas often brought in specific patients who they wanted taken care of, and this was handled without

CPT Denis Descarreaux examines an Albanian boy. November 2000 *Courtesy of Jim Giles*

difficulty. We were greatly helped by the SOCOM personnel, Maj Kevin Riley (USAF) and CPT Don Shipman (USA), who accompanied the team. Maj Riley was superb running the pharmacy and CPT Shipman was indispensable handling triage and providing his expertise from many prior MEDCAP missions.

The benefit and importance of humanitarian missions has become quite evident to the 10th Special Forces Group and their value cannot be overstated. This single mission has provided visible benefits to the special operation missions of the SOCCE, invaluable training to the 18Ds, and health improvement to many of the people and animals treated. We were able to provide a small but significant degree of health care to many people and animals and life saving measures to a few. We look forward to more of these humanitarian assistance missions in the near future.

Albanian children. November 2000
Courtesy of Jim Giles

Jim Giles, DVM

Captain Jim Giles is currently assigned as the 10th SFG (A) veterinarian. He is a former Special Forces Communications Sergeant with the 7th SFG (A). Dr. Giles begins a surgical residency this summer.

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Major Craig Durck is currently assigned as the 10th SFG (A) surgeon. He is an emergency medicine trained physician previously assigned at Weed Army Hospital at Fort Irwin, CA, and augmented to the Joint Special Operations Command.

CASE STUDY

Pulmonary Malaria

Robert H. Lutz, MD
Darrell K. Carlton, MD

Abstract

We describe a case of malaria encountered in a U.S. citizen in Nigeria. Pulmonary malaria is fairly common in endemic areas, but is not well described in the usual texts. Pulmonary malaria can be a devastating complication which, if recognized, responds to treatment.

INTRODUCTION

Malaria prevention is an integral part of the preventive medicine measures we take for special operations forces prior to deployment to countries where the disease is prevalent. It is widely documented that *Plasmodium falciparum* is a form of the malarial parasite that causes patients serious and fatal complications. Cerebral malaria is a well-known complication of *P. falciparum*. In contrast, pulmonary malaria, though not as well known, is also a serious and potentially fatal complication of *P. falciparum*. Since military chemoprophylaxis is very successful in preventing malaria, few military health care providers have experience treating fully-developed malaria and its complications. Pulmonary complications of malaria should be considered in the differential diagnosis when treating patients in or travelling through endemic areas.

CASE

A 35 year-old female U.S. civilian presented to our aid station in Abuja, Nigeria, for treatment of "heat injury." Her symptoms included a low-grade fever, myalgias, decreased appetite, headache, and nausea. On the day of presentation, she had been working all day in the sun and had limited access to potable water. She was on no medications and had no significant past medical or surgical history. She had arrived in Nigeria two-weeks earlier in support of a U.S. military operation. The patient had not taken any malaria prophylaxis on the recommendation of native African co-workers.

The time of presentation was the dry season, and mosquito infestation was minimal. The patient used no insect repellents and reported few (if any) mosquito bites. The review of systems was otherwise unremarkable. She had a temperature of 100.3 degrees F (oral) and orthostatic changes of her pulse and blood pressure. She had a normal physical exam. Prescribed treatment was acetaminophen, ibuprofen, IV hydration, and promethazine. Her vitals signs were normal and she was symptom free at discharge several hours later.

Twenty-four hours later she presented at night with a fever of 103 degrees F (oral) and continued aches, headache, and nausea. Her vital signs were otherwise normal. She received more acetaminophen and ibuprofen, and blood smears were done. No stains were available, so the next morning the patient and her smears were taken to a local hospital for testing. No stain was available at the hospital, but an antibody test was done that was positive for *P. falciparum*.

The patient was treated with high dose mefloquine (15 mg/Kg on day one, 10 mg/Kg on day two). Within six hours after treatment her fever broke. She remained afebrile for 48 hours and felt well. The only

symptom she reported was 24 hours of dark urine. Approximately 48 hours after her initial high dose mefloquine treatment, she presented with shortness of breath, dyspnea on exertion, nonproductive cough, and a fever of 103.5 degrees F (oral). Pulse oximetry showed an oxygen saturation of 93% - 95% on room air that was refractory to supplemental oxygen. Her respiratory rate was 40 breaths/minute at rest, and increased to 60 breaths/minute with exertion, and her heart rate was 100 - 120 beats/min.

The patient demonstrated no signs or symptoms of congestive heart failure, and her review of systems and her physical exam were otherwise unremarkable. She was a nonsmoker. The differential diagnosis at that time included pneumonia (viral, bacterial, and atypical), and pulmonary embolism. There were no signs of pulmonary embolism on physical exam, and she had no known risk factors. Since she had a high fever and was relatively immunocompromised secondary to the malaria, she was treated with azithromycin for presumptive pneumonia.

We did not include pulmonary malaria in our differential, as we were unaware of that complication at the time. Though not specifically aware of pulmonary malaria, because of a concern for a potential adult respiratory distress syndrome (ARDS), intravenous hydration was withheld despite the tachycardia. The standard medical texts consulted did not mention pulmonary involvement with malaria.

Within 12 hours of treatment with azithromycin her fever was gone and she felt better. However, her respiratory rate was still 40 breaths/minute at rest, and there was no improvement in her oxygen saturation. The patient returned the next day to the United States, where admission to the hospital had been prearranged. Pulmonary malaria was diagnosed after further testing. The patient received supportive care only and was discharged home after several days. Her hematocrit was 21% on arrival in the U.S., and blood transfusion was considered, but withheld because of clinical improvement. Review of the patient's initial blood smear from Nigeria revealed P. *falciparum* malaria with a parasite load of approximately 20% - 30%. The patient subsequently made an uneventful recovery.

DISCUSSION

Pulmonary malaria is a complication that is difficult to treat and frequently fatal. It occurs in 3% - 10% of patients with malaria, and has mortality rates reported as high as 80%. It has been shown to occur with parasite loads as low as 1.6% . There are several theories explaining the cause, but the consensus is a non-cardiogenic pulmonary edema similar to ARDS. Many mechanisms of lung injury in P. *falciparum* malaria have been proposed, to include pulmonary vascular sequestration of parasitized red-blood cells, tissue hypoxia due to impaired circulation, central nervous system autonomic effects, and immunologic effects. Autopsy findings include pulmonary interstitial edema with cytoplasmic swelling of the capillary endothelial cells causing narrowing of the capillary lumen. Other pathologic findings include edematous lung tissue with parasitized red-blood cells in the pulmonary capillary beds and alveolar and septal edema with mononuclear infiltrates. A 1990 review of 13 patients with malaria, seven of whom had pulmonary edema, revealed that there were no significant differences in pulmonary capillary wedge pressure between the two groups -- evidence that the pulmonary edema was not due to volume overload.

The standard clinical findings in pulmonary malaria are abrupt onset of shortness of breath, increased respiratory rate, low blood pressure, high pulse, and hypoxemia that is refractory to supplemental oxygen. Other findings can include pleural effusions, disseminated intravascular coagulation, and a lack of clinical signs of congestive heart failure. During a series of three patients with low parasite loads, evidence was found of mild pulmonary involvement, supporting the conclusion that many patients may have subclinical pulmonary complications. Radiographic findings include pleural effusions, interstitial edema, and lobar consolidation.

Treatment of pulmonary malaria, besides an adequate anti-malaria drug regimen, is mainly supportive. There are many different regimens of anti-malarial drugs. Although we used mefloquine to treat this patient, it should be noted that mefloquine should not be used if a patient is already taking mefloquine for chemoprophylaxis. For patients that are on chemoprophylaxis at the time

they develop malaria, it should be assumed that they have a strain resistant to their prophylactic medication. Patients may need supplemental oxygen, intubation, and mechanical ventilation. Successful exchange transfusion has been reported in treatment of severe parasitemia (35%) and pulmonary edema. In addition, positive-pressure ventilatory support has been reported in successful treatment of these patients with hypoxemia refractory to supplemental oxygen alone. There are no case reports or studies of continuous positive airway pressure (CPAP) via mask in the management of these patients. For patients needing intubation and mechanical ventilation solely for the purpose of increasing airway pressure, and not for airway control, a trial of CPAP should be considered. Frequently, pulmonary malaria occurs in conjunction with cerebral malaria. These patients will likely need adequate airway control and CPAP is inappropriate. In the setting of suspected pulmonary edema, over-hydration can have disastrous consequences. Intravenous hydration, if done, must be carefully monitored.

CONCLUSION

The details of this case underscore the potential seriousness of acute *P. falciparum* infection. Military special operations forces medical providers are frequently well trained in malaria prevention and chemoprophylaxis, but rarely get to see cases of fulminant infection and its complications. While cerebral involvement is often cited as one of the most serious consequences of malaria, pulmonary malaria, while not as common as cerebral malaria, may occur in 3% - 10% of malaria patients. Most cases involving pulmonary complications occur 2-3 days after the initiation of treatment for malaria; however, it may be a presenting complaint. Accordingly, this fatal complication may present initially as a patient with fever and dyspnea.

With a significant index of suspicion that malaria can present in other ways, providers can ensure that they explore the possibility of pulmonary malaria so that treatment for pneumonia is not inappropriately initiated in place of appropriate anti-malaria medications. This could lead to subsequent clinical deterioration and death. In this case the complication developed after appropriate treatment, and therefore only supportive care was needed. Accordingly, special operations forces medical providers should be cognizant of the possibility of pulmonary problems so that early recognition and appropriate treatment can prevent its subsequent mortality and morbidity.

Acknowledgement: The authors wish to extend their thanks to CPT Dave Scott for editorial assistance in the preparation of this article.

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Demining Activities: An Overview

Kevin Riley, MSC
Clint Bearden, 18D

Abstract

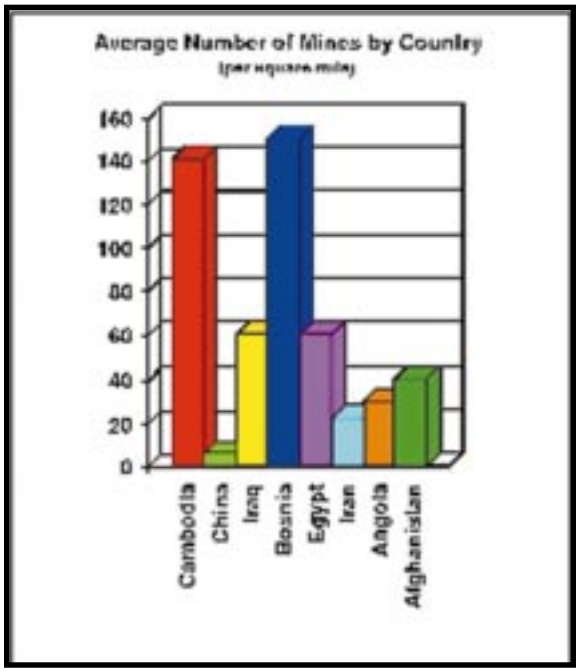
As you read this there are over 110 million anti-personnel (AP) mines worldwide. Twenty-six thousand adults and children are killed or maimed every year by AP mines, at the rate of one every 22 minutes, twenty-four hours a day, seven days a week. Because dread, fear and ignorance of mines leave victimized populaces particularly vulnerable to exploitation, the inestimable politico-social benefit of humanitarian demining operations cannot be denied. Special Operational Forces (SOF) frequently deploy to these victimized areas, leaving them equally vulnerable to the threat of mines. For these reasons, United States Special Operations Command (USSOCOM) has declared Humanitarian Demining Operations as one of its collateral missions.

INTRODUCTION

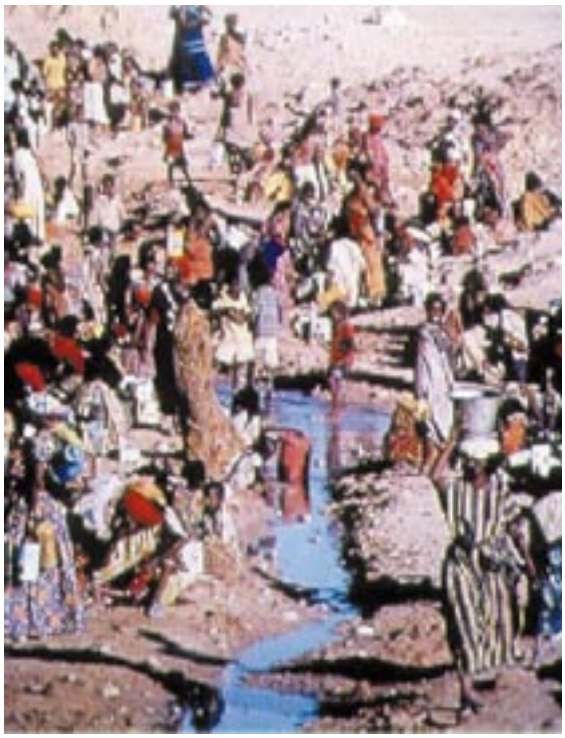
Landmines have proven to be one of the most dangerous and lasting problems of modern warfare. Mines in SOF areas of operations are both covert and overt; they may be deliberate maliciousness or merely residue from prior disagreements. Regardless their origins, type, or location, their lethality to SOF troops and local population is indisputable.

The United States is the world leader in demining operations and spends as much money on such as the rest of the world combined; fully one-quarter of the world's demining operators were trained by the U.S. The U.S. was fully immersed in humanitarian demining operations well before the much ballyhooed 1997 Ottawa accords, where 121 nations signed a pact agreeing to destroy landmine stockpiles and clear landmines from their territories all within ten years. The U.S. opted not to obligate itself to this notion in deference to the American troops who need the protection minefields offer. President Clinton set a date of adherence to the accord, however, for 2006, six years after he has left office.

> "These **(SOF) personnel have been instrumental in** establishing viable demining programs, relieving humanitarian suffering, and **providing overall U.S. leadership."**
>
> Report to The Secretary Of Defense
> on the status of DoD's implementation of the
> U.S. policy on Anti-Personnel Landmines,
> Office of the Under Secretary of Defense for Policy,
> May 1997



The U.S. continues to promote anti-mining stance by investing money to sharpen the cutting edge of technology. Efforts are underway to develop mines that can discriminate between people and armor, and mines that have more reliable self-destruct mechanisms.



Refugees blocked from returning home by millions of mines live day-to-day in squalid camps.

These new generation mines will help prevent injuries to non-target populations or machinery. These future mines, of course, offer little condolence to the SOF troops who walk tortuous paths through areas mined with "phased out" versions. Thus SOF must embrace mine awareness and recognition.

The United States deployed members of the 5th Special Forces Group (Airborne) to Pakistan in 1988 to work with Afghan refugees and the United Nations as pioneers in demining operations. Operation SAFE PASSAGE began what would be a phenomenally successful four-year endeavor that set international standards still followed today.

Over ten million landmines left behind by the dislodged Soviet Union discouraged refugees attempting to return to Afghanistan. 5th SFG (A) soldiers established training programs teaching millions of Afghans to detect, identify, avoid, mark, and report mines. Thousands were taught how to safely destroy mines. More importantly, these Special Forces troops established their signature, self-perpetuating program of training the trainers that enabled the program's continuance without outside assistance. The success of this effort became the template against which all future humanitarian-demining operations would be both modeled and judged. Today, SOF teams are trained at Fort Leonard Wood to deploy around the world and train indigenous populations on detection, avoidance, and reporting of mines.

Land mines do not recognize cease-fires or peace agreements. And once laid, they can maim or kill for many *decades* after any hostilities have ended. For this reason, the antipersonnel mine has been referred to as "a weapon of mass destruction in slow motion."

Minefields had long been the primary Soviet obstacle. It was often said of Warsaw Pact nations: If they were not advancing, they were laying mines. Soviet tactics are still practiced in numerousconflicts around the globe.

To understand why humanitarian demining activities yield such high dividends, one must note the trend in just the last two decades. Mines have come to serve not just as military weapons but also as political weapons. Mines can be manufactured for less than $3 per mine and can cost as much as $1000 per mine to clear. This places prohibitive burdens on less wealthy nations and drains monies from other projects--making the choices difficult. Leaving the mines in place has additional detriments apart from the obvious potential of physical harm. Warring factions now employ mines in not only tactical, battle-worthy areas, but in populated and agricultural areas. The presence of mines here, coupled with the inaction by governments to remove them, engenders

a lack of confidence by the people in their government's ability to protect them, thus accomplishing the enemy's true goal.

Governments in this situation readily accept SOF assistance. Successful demining operations revives the people's trust in their government, makes formerly mined areas accessible, and reclaims agricultural or commercial land making it once again usable. The resultant working relationship breeds invaluable international friendships between individuals, nations, and conglomerates of both.

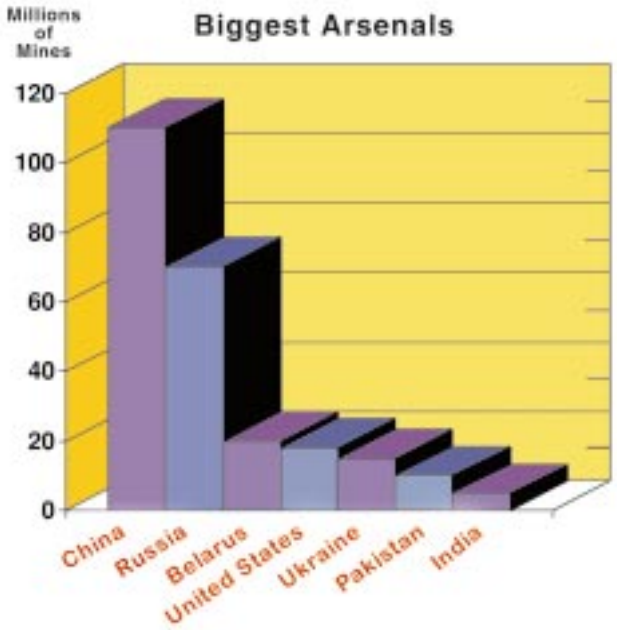
Afghan demining student attaches a grappling hook to remove an anti-tank mine.
Courtsy of Randy Earp

FUTURE

Like all warfare technology, the complexity of mines continues to evolve. Artillery and aircraft can create interdiction and nuisance minefields by delivering remote mines into rear areas. There are efforts to make mines self-destruct more reliably or be more discriminating in their targets, all in an effort to limit casualties among noncombatants.

However, alongside these features, landmines are being better hidden, harder to detect, more resistant to countermeasures, and more powerful. Anti-handling devices are likewise more sophisticated, more numerous and more varied than ever before.

Clearing operations are expensive, time consuming, dangerous and tedious. Anti-handling devices, and the mixing of anti-personnel mines with Anti-armor / Anti-tank mines further builds the drama of clearing operations. Interestingly, the mere threat of uncertainty creates obstacles. Thus, there is an increased cost, anxiety and time involved with demining operations.



"A frustrated farmer couldn't keep poachers from stealing melons from his melon field. He tried everything from diplomacy to stakeouts but to no avail. One day the poachers arrived to find a single sign posted by the side of the field. It read, "One of these melons is poisoned." The next morning the farmer came out to find another sign. It read, "Now two of these melons are poisoned."

SUMMARY

As the hydra of warfare technology continues to grow, the use and employment of landmines will evolve accordingly. Old mines still lie in wait. Humanitarian demining operations will only increase in frequency and complexity. The dedicated SOF soldier must maintain his proficiency, both technical and psychological, in demining operations. This mission can not be discounted. Only by the diligence of SOF professionals will the United States maintain its lead role in the persistent mission of humanitarian demining operations.

Kevin Riley, MSC

Lt Col (S) Riley is currently Chief of Medical Training Operations at Headquarters USSOCOM. He was previously the Assistant Dean of the Joint Special Operations Medical Training Center and was the first Air Force Officer assigned as the Battalion Executive Officer of the 4th Battalion (Medical Training), 1st SWTG(A), JFK Special Warfare Center and School, Fort Bragg, NC. This summer he will assume his new duties as an Associate Professor in the Military Medicine Department, Uniformed Services Univsersity of Health Sciences, Bethesda, MD.

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In the next issue of the Journal of Special Operations Medicine

"Management Aspects of Mine-Injured Patients"

Special Operations Forces Deployment Health Surveillance

Richard T. Hartman, MS

Abstract

USSOCOM is developing the comprehensive Special Operations Forces (SOF) Deployment Health System (DHSS) to aid the individual team members and commanders in the field with the prevention of injury and illness during deployments. This data will be used to generate useful intelligence for medical and line decision-makers. More importantly, each SOF member's medical history will be stored as an electronic medical record for future access by military, civilian, and Veterans Affairs health care systems. This paper discusses the history, status, and future of the SOF DHSS and what to expect.

INTRODUCTION

Day to day we take our health for granted, and only when we have a problem (a cold, a broken limb, an unknown disease, cancer) does it become important. Even during deployments there exists a certain comfort level regarding our health because we feel invincible or think that it "only happens to the other guy." Unfortunately, the risks of a battle wound or disease (non-battle related injury --DNBI) are increased for SOF. Unlike the vast majority of conventional forces, when a SOF member is down it can jeopardize the mission and risk the lives of the other team members. This is dramatically illustrated by the knowledge that on any given day over 15% of the 46,095 special operations forces personnel are potentially exposed to the full spectrum of health threats while deployed in some of the most austere and geographically isolated areas in the world. These potential threats include endemic diseases (e.g. malaria, dengue, hantaviruses), environmental hazards (e.g. heat, cold, water, air), psychological stressors (e.g. brutality, mass deaths), and biological and chemical agents (e.g. industrial by-products, pollution, terrorist weapons of mass destruction).

How many jump-related injuries have you sustained that are not in your medical record?

Our health care needs are generally well attended while in the continental United States (CONUS), and medical encounters are captured in our medical records. This is not the case during deployments. We only need to bring up the issue of Gulf War Illnesses to appreciate how this impacts our lives and our mission. So how do we ensure that health related events while deployed are properly recorded and accessible? The answer is:
SOF Deployment Health Surveillance.

How many times have you contracted diarrhea in an under-developed country?

WHAT IS SOF DEPLOYMENT HEALTH SURVEILLANCE?

SOF deployment health surveillance is the systematic collection, analysis, dissemination, and archiving of all warfighter deployment related health events (battle, non-battle, environmental, and occupational) from accession to retirement or separation from the military. This data is developed into a single accessible electronic medical record for every individual (Figure 1). From an individual perspective, health surveillance becomes crucially important as you attempt to use the military or VA health care system (i.e., for proper delivery of health care or compensation for a service related injury or disease, respectively). Operationally, this data is used to generate useful intelligence for medical and line decision-makers for force protection and the prevention of illness and injuries.

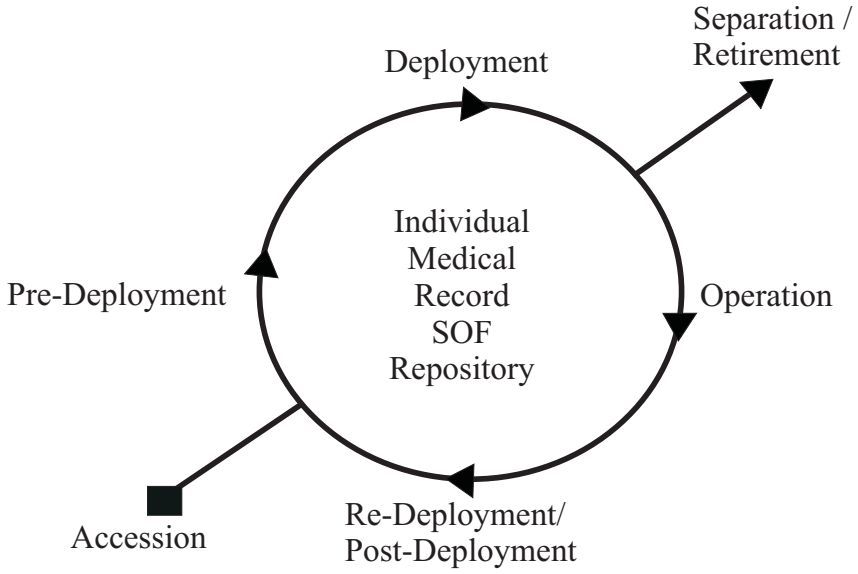


Figure 1: Deployment Health Surveillance

ISSUE

Historically, the need to conduct military health surveillance resulted from years of public and political reactions to Agent Orange exposure in Vietnam, and more recently from adverse health outcomes among members deployed during the Gulf War. Ultimately, these concerns manifested into Public Law 105-

85 mandating the development of a deployment health surveillance system to prevent the problems of past deployments and operations.

To date, the documentation of health care and health status of both the conventional and non-conventional warfighter remains fragmented. If documentation occurs at all, it most often involves paper records. The three Services have different standards for the format and content of the record, and their paper records are vulnerable to loss. While deployment health surveillance is not SOF unique, several SOF concerns (e.g., OPSEC, exposures/health encounters for deployments less than 30 days, and patient encounters forward of the aid station) have not been addressed by DOD.

Today, HQ USSOCOM is developing a comprehensive SOF deployment health surveillance system (DHSS) that will provide the functional capacity for data collection, analysis, and dissemination. DHSS will allow the use of health encounter data to provide information needed to medical and line decision-makers. More importantly, health encounter data collected will be archived within a SOF health record repository for the member to rely upon while moving through the military, civilian, and VA health care systems.

USSOCOM DIRECTIVE 40-4

HQ USSOCOM published Directive 40-4, *Medical Surveillance,* to address SOF concerns not addressed by DOD. This directive was released 18 Oct 00 and provides the foundation for DHSS in SOF. It can be found on the classified SOCWEB at http://socweb.socom.smil.mil/formspubs/Pubs/SOCOM/Directives, or by contacting USSOCOM SG office for electronic or hard copy.

Specifically, it establishes roles, assigns responsibilities, and prescribes procedures for medical surveillance programs for Headquarters, United States Special Operations Command, the Component Commands, Sub-Unified Commands, and the Theater Special Operations Commands. This policy is the first step to fulfill our commitment to the health of the warfighter and immediately establish a useful and usable health surveillance program aimed at protecting the health of frontline SOF personnel, both short term and long term (post retirement).

SOF DHSS CONCEPT

A functional health surveillance system must facilitate preventive medicine, be flexible in the way the data is collected and disseminated, and provide value to the user. More importantly, it must minimize the collection and reporting burden, reduce the effort required to reformat, transmit, and share data with users, and protect operational security and the privacy of the individual. DHSS is coordinated, interconnected, and easy to use. Figure 2 depicts the conceptual model for DHSS.

Data collection at the point of care will include significant deployment-related demographic data (e.g., dates entered/departed theater, unit assignment, location(s) within the theater, health problems encountered, and potential environmental exposures). Timely and current data summaries will be accessible worldwide so that interventions can be expeditiously planned and implemented and their effects monitored. For example, a SOF medic would be able to gain access to the system from a remote field site, select from a menu of predefined queries, and print to the screen (and simultaneously download) tables and graphs that summarize medical events in his area (e.g., latest health events, rates, frequencies, trends).

DHSS starts at the point of care or exposure,where standardized health surveillance data can be collected by a medic or non-medic in the field.

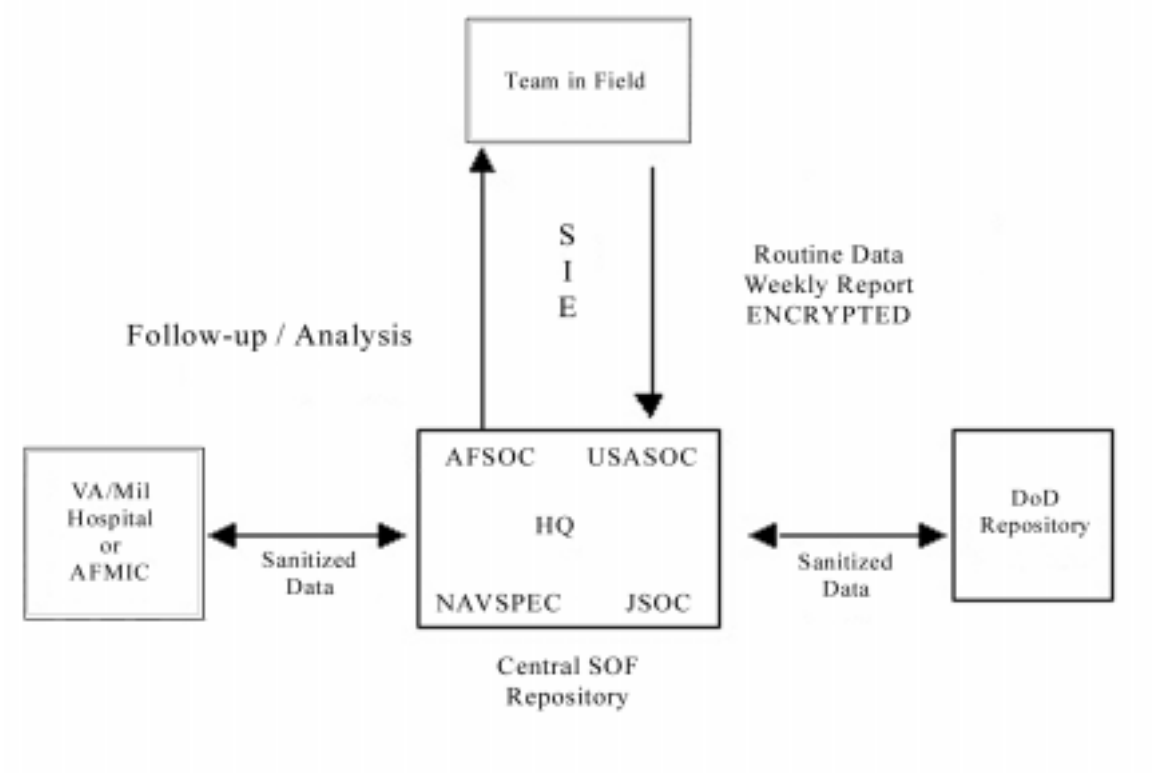


Figure 2: SOF Deployment Health Surveillance Concept

The information is then transmitted through secure networks, if needed, via the SOF Information Enterprise (SIE). This information is collected at a central repository (HQ, USSOCOM, MacDill AFB, FL) that is accessible to whomever has or requires access. The data is then analyzed and sanitized to the unclassified level.

Data can then be queried from and transmitted to military hospitals, the Veterans Administration, Armed Forces Medical Intelligence Center (AFMIC) systems, and into the developing DOD repository. A USSOCOM cell will filter SOF information to protect the integrity of our missions and facilitate seamless migration into the maturing DOD System. Computer networking will allow for rapid dissemination of results to appropriate network users (i.e., JSOC, NAVSPECWARCOM, USASOC, AFSOC, etc.). Only authorized users will be able to access records. Potential users include providers and patients, as well as unit leaders, who would be allowed to see only information pertinent to their needs. The main point is that the right person will receive the right information at the right time in the right location.

Specifically, the SOF DHSS vision is to eliminate the paper and pencil method of collecting critical health care information in the field by electronically collecting health data in web-based, hand-held system and transferring data electronically, to a mainframe system.

You are a SOF medic deployed on a six-man team to Chad, Africa, and one of your team members develops bloody diarrhea. You examine him and institute treatment, making a record on your palmtop using point and click data entry.. On your return to home station you connect your palmtop to the unit surgeon's computer, print out an SF 600, and place it into the team member's medical record. The palmtop automatically uploads all your patient encounter data to the USSOCOM central repository. This information is sanitized for OPSEC and archived in perpetuity. Accumulated data from all SOF personnel and locations are constantly analyzed looking for disease trends. Thus, with less effort than writing a SOAP note, you have fully documented your patient's case, met all the requirements of DHSS, and protected your teammate's long term career and health interests--as well as file a "medical intelligence report".

WHAT'S IN STORE FOR THE MEDIC IN THE FIELD

The availability of computers and software for use in surveillance has revolutionized information exchange. To achieve maximum benefit, however, there must be plans, mechanisms, and support for transferring this technology to the forces.

Discrepancies and inconsistencies in surveillance methodology and data coverage constitute a barrier that limits the potential usefulness of health surveillance. These discrepancies must be identified and bridged to permit rapid and meaningful information sharing with all the interfacing elements of the special operations community (CINCs, etc.). Similarly, there must be mechanisms for conveying comparable information to conventional forces.

A field trial was conducted during 1st Qtr FY01 to address the gaps prior to full programmatic implementation of USSOCOM Directive 40-4. Each component attempted to collect health information and transmit it to USSOCOM from three separate geographic locations. This information included pre-deployment questionnaires, weekly DNBI and patient encounter reports, and post-deployment questionnaires.

This effort proved data collection, transmission, analysis, and storage can be accomplished, albeit in the most archaic way (i.e., by pen and paper with transmission by mail or fax). Additionally, preliminary data analysis revealed a situation where 14% of a force's strength was compromised throughout the duration of one deployment from a health related event. It is easy to see how such information would be vital to a commander, especially given the small size of SOF deployments. Furthermore, medical intelligence developed from this data will help prevent a repeat performance should other military personnel (SOF or conventional) deploy to the same area in the future. More importantly, records of deployment health data have been entered into the individual's medical records. An additional field trial to assist with the development of appropriate technology, methodology, and training is needed prior to full programmatic implementation of USSOCOM Directive 40-4 by Jan 02.

CONCLUSION

Health surveillance can provide the quantitative information needed for setting priorities and establishing rational military health policy. Although there are many examples of the effective use of such information, the full potential for surveillance has not yet been realized. To a large degree, failure to achieve this potential has resulted from limited perspectives regarding the role and conduct of surveillance. Both practitioners (those who conduct surveillance) and users (those who apply surveillance data in a real-world setting) have fallen victim to such myopia. Deployment health surveillance must be advocated as an essential part of force health protection to achieve our goals for protecting and improving warfighter health status, and leveraging our finite resources. If you have any questions about the policy or the health surveillance initiative, contact Major Hartman at the USSOCOM Office of the Command Surgeon at: hartmar@socom.mil

Richard T. Hartman, MS, CIH

Major Hartman is the Deployment Health Surveillance System project officer at HQ USSOCOM. He received a Bachelor of Science in Physics from the University of South Florida, a Master of Science in Environmental Engineering and Management at the Air Force Institute of Technology, and is currently a doctoral candidate at the University of South Florida's College of Public Health. Major Hartman is also a Board Certified Industrial Hygienist.

During his career, Major Hartman has served as the Commander of the Bioenvironmental Engineering Flight, MacDill AFB, Florida; Fellow, Deputy Assistant Secretary of the Air Force for Environment, Safety and Occupational Health, Pentagon, DC; Fellow, HQ AFMOA/SGPB at Bolling AFB, DC; Bioenviormental Engineer, 645 Medical Group, Wright-Patterson AFB, OH; and Research Scientist, Harry G. Armstrong Aerospace Medical Research Laboratory, Wright-Patterson AFB, OH.

"To You With Failing Hands, We Throw The Torch"

SGT Lewis F. Goddard Memorial Cross, OSS Jedburgh, KIA, France, 1944

Shoot-Down at Katum Special Forces Camp (ODA-322)

Command Sergeant Major (Ret.) Reg Manning

The Katum (A-322) Special Forces Camp was opened officially on 21 February 1968 in northern Tay Ninh Province of the former Republic of South Viet Nam. It was a border surveillance camp located just slightly more than four kilometers south of the Cambodian border in War Zone C. All resupply was by air: 1) onto the 2900-foot north-south runway that had been built on top of an old unused road; 2) by Huey helicopters onto the pad within the west "starpoint" inside the camp, 3) by Chinook helicopters onto the chopper pad just east of the runway.

Detachment A-322 at Katum, June 1969, looking east. The road going off the top right went Southeast to Bo Tuc (bad news!). Road going off the right center went South to Tay Ninh City eventually. Road going off the top left went North into Cambodia. The tiny white circle in the center of the camp was the 81mm mortar pit that was about 6ft from the back door of the Team House. During any sort of activity, the first man out the door of the Team House immediately dropped two illumination rounds down the tube, regardless of which way the gun happened to be pointed. *(Photo courtesy of Reg Manning)*

Katum had long had a reputation as a "hot trip" for the Air Force crews making resupply runs from Bien Hoa or Tan Son Nhut. Every fixed wing aircraft or helicopter that landed could count on being mortared from landing through takeoff. Additionally, there was at least one enemy crew-served weapon located to fire on approaching and departing aircraft. All approaches were from the South and departures were also to the South. Nobody flew north of the camp except the F-4s, B-52s, Cobras, and MEDEVAC Hueys - too many bad guys with guns up there. Staff Sergeant John Campbell (Junior Commo Man)

and I (Senior Medic) had been out on a five day sweep; going straight north from Katum up to the Cambodian border, then turning east along the border for about four clicks (kilometers). We had a 40-man Combat Reconnaissance Platoon (Civilian Irregular Defense Group (CIDG) - some of our better troops) and had a relatively quiet time on this excursion.

On day five, we had started back sort of southwesterly in the general direction of Katum. Just taking it slow and easy because we did not want to enter the camp confines until after dark. That way, the bad guys perched up in the trees with the glasses would not know if we were back inside or still out roaming around out to the Northeast.

About 2.5 kilometers northeast of Katum, we pulled up in a real thick place to eat the absolute last of our rations at about noontime. Then, it was time for "pak-time" (i.e. everybody takes a nap). The good guys, the bad guys, everybody! The whole war comes to a screeching halt for pak- time.

I leaned back against a tree to cool it for awhile when I heard my PRC-25 radio go off with one of our ALLEN Forward Air Controllers (FAC) in his O-1E Bronco announcing, "C-130 coming into Katum on fire". I grabbed my rifle and radio and stepped out of the thick stuff so I could see. I could hear the C-130 approaching from the southeast but could not see it yet due to the foliage.

I moved about 15 meters further to get out from under some stuff and then could see the aircraft flying south to north, just to the east of where we were on the ground. When I first located it, it appeared to be less than a mile away to the south, crossing my front as I faced to the east. The C-130 was somewhere around 1500 feet above ground level with the rear ramp down and the nose trimmed way up, flying very slowly with fire streaming off the back of the right wing way back past the tail. The fire would sort of blossom and die, blossom and die.

When it was at a point due east of us (John had joined me by that time), we saw the nose pitch up sharply and all forward motion stopped. The right wing dropped followed by the nose. There was a big increase in engine noise. It entered a relatively flat spin with the right wing still tilted lower than the left with the nose down about 15 to 20 degrees. The aircraft made two complete 360 degree spins before it went into the trees with the nose pointed along the line of the original heading.

Did you ever run over a beer can in the Club parking lot? That's the exact sound that it made when it hit the ground. Of course, there was a thump that we felt and heard, followed almost immediately by a billowing cloud of black smoke going straight up.

One point I should make here: the aircraft was carrying three speed pallets of 105mm HE ammunition.

As we watched the aircraft spin down, we both saw something fly off (or out of) the aircraft. To this day I believe that it was the loadmaster being pitched out the rear ramp by centrifugal force.

The ramp was down and the nose was pitched up. It's my opinion that they were attempting to jettison their load of ammo. I also firmly believe that when the pallets were rolled to the rear of the aircraft to push them out, the center of gravity shifted aft, causing the nose to pitch up and stall the airplane. When the aircraft started going around and around, the loadmaster (who probably would have been the one cutting the tie-down chains loose and jettisoning the cargo) just got spun out the ramp door.

I started yelling at my troops to get them up and organized so we could start back toward the crash. We got organized and started up the same trail we had just broken through the brush earlier.

We had been holed up in tall trees but had to cross about 250 meters of chest-high brush to get to the next bunch of tall trees where the C-130 had impacted.

By this time, ALLEN was orbiting over the crash and us while we were strung out in the weeds and brush moving back to the northeast. Numerous aircraft began responding to the ELT beacon (Emergency Lo-

cator Transmitter on frequency 121.5) and to the column of smoke that was up to Lord knows what altitude by that time.

We had been moving for less than ten minutes when ALLEN reported to me that one of the helicopters which had arrived had reported ***"a column of about 40 people approaching the crash from the northeast and that the point man had what appears to be a machine gun".***

Whoa! I looked up ahead and saw that our point man was carrying an M-60 machine gun so there followed several exchanges attempting to determine whether the "40-man column" was approaching *from* the northeast or *towards* the northeast. Finally, one of the OH-6 helicopters which was buzzing around made a low pass over us. I waved my hat at him, we exchanged some hand and arm signals to give him our radio operating frequency, and we got it straightened out that we were the good guys and headed northeast.

By then, the air was really starting to get crowded. Another one of the ALLEN FACs had come over from Thien Ngon (A-323 was our sister camp on the border about 30 or 40 clicks to the west of us). Our ALLEN told us on the radio that he had put the other ALLEN to work directing traffic and keeping all the sightseers at different flight levels.

Helicopters of every shape and size were present--Cobras from the 1st Cav Division area of operation just down to the south of us, Loaches, even a Chinook. And fixed wing! We had everything but a B-52. It was amazing to look up and see all the stuff orbiting around up there. I guess you could see the smoke all the way back to Bien Hoa and Saigon because it was going just about absolutely straight up for forever.

I already knew what was going to happen with all the FACs and fighters. Everybody in the world was here now when we didn't especially need them. Then, when we really did need some help, everybody would be out of gas and have gone home. And that's what happened later. Everybody left at about the same time.

So, we were moving and talking to ALLEN and he said that the crash was just inside the next bunch of big trees. We had just about figured that out because we could now see the fire through and above the trees. By this time, the propellant charges inside the 105 ammo started to cook off from the heat. When that happened, the inert projectile (no fuse) would fly in one direction, and the brass shell casing would take off at high speed in the other direction. And those things were starting to pop like popcorn.

We eased on into the trees and the first sight I had of the aircraft was when I bumped into the port side elevator. It was about belt high and the entire tail was intact. In fact, the whole airplane was intact except for the back being broken about two thirds of the way back from the nose. It had come straight down flat and only contacted one tree with the left wing. The impact bent over that 8 to 10 inch diameter tree at about a 45-degree angle and dented the leading edge of the wing.

John and I had moved to the front of the column as we approached the trees because I didn't want a possible survivor who had just lived through a plane crash to open fire on us. I wanted them to see two white faces first.

When we bumped into the stabilizer, I told John to go around the left wingtip and I would go around the right side and meet him at the right front corner of the airplane. I stepped up on the stabilizer and had taken about three steps to walk across to the other side when the whole thing blew up.

I can remember seeing my feet going through the air and the trees pointed the wrong way. It seems as though it took 20 minutes to ever hit the ground. Finally I did and immediately gathered up my rifle and radio bearer and got us behind a BIG tree. John had taken the same ride as I had and did not seem too anxious to expose any skin at all anymore.

I yelled at John to see if he was OK. He had almost reached the left wingtip when it blew and he, too, had hunkered down behind a tree. I told him to stay there until things quieted down a bit.

My indigenous "Radio Toter" and I were about 10 feet directly behind the rudder, which was still sticking almost straight up. Brass casings were flying and projectiles were thumping our tree and knocking really big limbs down off the trees around the crash. I had no idea where my little people were with the exception of the radioman.

By this time, I'd guess that maybe twenty minutes had elapsed since we had heard ALLEN's first call of *"C-130 on fire."*

We were hunkered down behind our tree with John still behind his tree while all the booming and banging in the world was going on the other side of the tree.

Our ALLEN radioed and asked if we *could "find and turn off the ELT."* There followed a long conversation about what it was and where it might be found. He said it was back by the tail somewhere and was screwing up the Guard Channel commo all over half of South Vietnam.

I asked him what the thing would look like. He had to talk to one of the many C-130s that were overhead by this time, then told me that the ELT panel was about two feet by three feet by about four inches thick and would be somewhere back by the tail. I looked down at my feet and there was a Styrofoam lined panel the size and shape he'd described.

I scooted down, got the thing and got back behind my tree. I read the directions on the ELT and still remember that it said something about *"Take the 9-volt battery from the pocket. Apply the 9-volt battery across the two terminals."* The problem was that there was no 9-volt battery in the little pocket. I informed ALLEN and there was more conversation about how to turn the beacon off. Someone in one of the C-130s overhead started talking about a *"thorough review of maintenance procedures to insure that the battery is in place on every single aircraft."* We really didn't need a review of maintenance procedures at this particular point in time, so I made a friend for life by telling him to "hush ."

ALLEN came back and told me to shoot it, but since I did not know where my people were, I was not about to shoot anything. So I decided to stab it to death. I pulled out my Buck knife and started poking holes in the Styrofoam trying to hit something vital. I poked it in one place and apparently shorted out the wires from the unseen internal battery. The styrofoam started smoking and stinking and melting down. Radio Toter got the "big eye" and was about to take off! But the ELT stopped smoking and ALLEN told us that we had killed it.

After about a half-hour or so, things had quieted down enough that we felt comfortable to start again to work our way around the aircraft. Mind you, there were still some rounds cooking off, enough to cause some slight nervousness but not going across the tail this time. ***I found some of my CIDG in a cluster about 25 meters off the right rear of the tail. They were all clustered around a body in a flight suit. You could tell by the pale streaks that they had stolen his watch and his ring. They had also taken his bootlaces.***

There followed some rather loud words about getting the watch and the ring back. They gave those items back as well as a wallet. I put them in a zippered pocket on the flight suit and zipped it shut.

I gave Radio Toter my .45 caliber pistol and told him to guard the body and shoot anyone who took anything while I worked my way around to the nose of the aircraft. By now, about all that was left of the aircraft was the tail from about the jump doors aft, the outer wing panels outboard of the #1 and #4 engines and the basic outline of the fuselage burned to the ground. The radome had sort of melted and drooped over towards the front. The cockpit and center section of the troop compartment had been totally burned out and blasted to pieces. The front of the fuselage appeared to be embedded about a foot to a foot and a half in the ground.

We rounded up some of our troops and organized a sweep through the woods around the aircraft extending out about 100 meters or so and found nothing else. No bodies or body parts.

We had put some of our troops out about 75 meters (as far as they were willing to go) to the north, to the northeast, and to the northwest. I figured these to be the most likely approaches if the bad guys were to pay us a visit, and I wanted a little advance warning if they did.

By now, we were getting advice on the radio from everybody in the world. Our priority, however, was to get the recovered body out of there in case we had to make a run for it.

We could talk to Katum on the radio and they had done a very good job of keeping quiet and staying off the air except when necessary. I called them and asked if they could round up a DUSTOFF (medical evacuation unit) to come and pick up the body. They came back about five minutes later and said that the DUSTOFF folks had told them that ***"the evacuation of deceased personnel is a Quartermaster responsibility and that they declined to do so."***

Some Huey driver overheard that conversation, came up on the air, and told me that if I'd secure a landing zone (LZ), he'd come get it. So, we rounded up some people, moved back out of the trees to the west, sent some people out as far as they'd go (especially to the north edge of the LZ) and called for the helicopter.

He came in and just about landed, and John and I placed the body aboard. For some reason that I still don't understand, I wrote down the tail number of the helicopter. I had never done that before and really have no idea why I did it then. The Huey departed towards the Southwest and Tay Ninh City.

I rounded up my people again and went back to the crash site. We had decided to hang around for awhile to see what "higher" wanted us to do.

We'd just gotten a sort of a perimeter around the airplane again when a voice on the radio announced that he was Colonel SomebodyOrOther in a *"Command"* C-130 and that *"you will"* remain over night at the crash site and *"you will"* secure it until tomorrow when the crash team and the mortuary team and Lord knows who else "*will"* arrive.

Now, here we were under a plume of smoke that was 10,000 feet up in the air, all the airplanes in the world were flying around, with the Cambodian border less than two clicks away. Every bad guy in both countries knew exactly where we were to within about 10 meters so there was no way in the world that "we will" remain here overnight.

If we had not been out of food I probably would have moved off somewhere about a click or so away, stayed there overnight and came back to the crash carefully from a different direction the next morning. But absolutely, positively, no hanging around the crash site overnight. So, I called the Colonel back on the radio, respectfully declined to stay, then called my Team Leader at Katum and told him we were coming home.

That was the fastest I ever saw our CIDG move except when they were running away from a firefight. They flat out moved, heading for the barn. Reminded me of an old mule at the end of a day of plowing.

Still, it was fully dark by the time we got to Katum and got inside the wire. I got something to drink and some chow and started writing up the after action report (AAR). When I got to the part about the crash it occurred to me that as much as I had been around the tail and as close as I was to it, that I had never even looked at the tail number. I remember seeing that the red lens on the very top of the fin was broken but didn't ever remember even looking at the numbers. I don't know if the red lens was broken in the crash or by some of the stuff that was flying about. The first time I looked at the fin it appeared to be in perfect condition except for one long diagonal wrinkle down the port side. Afterwards, it looked as though it had been in a war. There were gaping holes everywhere.

I finished up my report, took a cold shower (the only kind out of a 55 gallon barrel) and went to bed.

The next morning, early, somebody came over to my dispensary bunker and woke me up and said that the CO wanted to see me right away. So, I rolled out, slipped on my cutoffs and my blue sleeveless OR smock and stuck my feet in some boots.

When I went in the Team House, there was an Air Force colonel who got right in my face demanding to know *what I had done with the deceased personnel.* I got my AAR from the Operations Sergeant and gave him the helicopter tail number.

Later we found out that the helicopter had a problem of some sort on the way to Tay Ninh City (west) Airfield and they had to park it in the trees about halfway there. Then, that crew had to be rescued along with the body. And somewhere along the way, the body had been misplaced.

At daylight, the Team Leader had gotten a Huey from someplace and had sent some of our folks back out to the crash site to recover the remaining bodies. All were badly burned. According to the folks who went on this recovery mission, all were in places where you'd normally expect to find the crew.

The remains were placed in the shower building until a fixed wing aircraft came in to pick them up. The Colonel had departed the camp in his Huey.

I never heard anymore about the missing body until about 3 months later when I was down at our C-Detachment at Bien Hoa. I received word that the G-2 (intelligence) folks wanted to see me and we went all through it again. I never did find out if the problem with the missing body was ever solved.

Editor's Note – ***Legacy*** *is a new addition to the journal. It is our effort to reach out to the early Special Operations medics and capture their wealth of experience. They have left us a legacy and we must not fail to recognize it. We are sure that this department will rapidly become a great favorite for all of our readers. We know that the audience will find CSM Manning's detailed description of the Katum crash especially fascinating. His narrative accurately depicts the very essence of SOF medics in combat. Able to do it all, out on the edge, and leading from the front…*

Command Sergeant Major (Retired) Reg Manning

CSM Manning retired from active duty on 31 Dec 1990 after 30 years of service to his country. He graduated as a Special Forces Medical Sergeant at Fort Bragg, NC, in June 1967. His Special Forces assignments include:

SFTG	Ft. Bragg, NC	MAR 1966 - JUN 1967	Student
1/7th SFG	Ft. Bragg, NC	JUN 1967 - SEP 1967	Senior Medic
1/5th SFG	Vietnam	JAN 1969- JAN 1970	Senior Medic
1st SFG	Okinawa	FEB 1970 - AUG 1970	Senior Medic
SF Det.	Taiwan	AUG 1970 - AUG 1972	Senior Medic
1/5th SFG	Ft. Bragg, NC	SEP 1972 - AUG 1973	Senior Medic
1/5th SFG	Ft. Bragg, NC	JAN 1975 - DEC 1975	Senior Medic
1/5th SFG	Ft. Bragg, NC	JAN 1976 - JUN 1980	Chief Medical NCO

CSM Manning's awards and decorations include: the Legion of Merit, Meritorious Service Medal with Oak Leaf Cluster, Bronze Star Medal for Valor and Oak Leaf Cluster, Purple Heart, Joint Service Commendation Medal, Army Commendation Medal for Valor, Vietnamese Cross of Gallantry with Palm, Humanitarian Service Medal, Combat Medical Badge, Parachutist Badge, and the Order of Military Medical Merit (#2082). He also earned the Republic of China, Greek, and Vietnamese parachutist's badges.

CSM Manning holds a Bachelor of Arts degree in History from Methodist College. He is a faculty member at the School of Nursing, Frankford Hospital outside Philadelphia, PA. He also a Student Advisor and Computer Systems Analyst at the School.

Expedient Medic

Wound Care In The Field

Take a dozen men between ages twenty and forty years old, dress them in camouflage, and equip them with firearms, knives and matches. Send them into the wilderness for three days and have them move on foot, carrying thirty-five kilograms of gear in rucksacks from Point A to Point B, thence to Point C in the dark and inclement weather.

What are the chances a medic will have to deal with a compromise in skin integrity (i.e. wound)?

Take these same dozen men, give them live ammo, explosives and pyrotechnics, and have them go into a denied area to blow up or seize items guarded by their enemies. Now the medic faces a high likelihood of serious "cutaneous compromise" on his team.

The standard for wound care derives from the standards set by the most anal-retentive controlled situation in health care institutions - the operating room. The ability to control wound care conditions deteriorates rapidly as one moves further from the operating room to the emergency department (E.D.), then to the clinic, then streets, and finally to the domain of the special operator, the field.

All across the continuum of care, however, one principle holds constant: cleanliness. Given that almost all surgical wounds are irrigated copiously in the O.R. prior to closure, how much more imperative is this in the field with a contaminated wound?

Several studies have shown that tap water works. Actually, in a military operation in urban terrain-type situation, this "solution" (pun intended) for wound care may be plentiful and easily available. Usually, in SOF missions, however, it is neither plentiful nor easy. In the absence of clean tap water, any potable water should be useful. Given the penchant for adding a bit of povidone iodine (up to ten percent) in the E.D. to irrigation solutions, using a couple of iodine water purification tablets in a liter of questionable clean water may yield an optimal cleansing fluid. The home chemist with time on his hands could actually provide a normal saline (0.9%) solution for irrigation with a bit of MRE salt. One gram of sodium chloride in one hundred grams of water is about a one percent solution, so ten grams, or a "light" two teaspoonfuls, in a liter is about physiologic - good enough for government work. This formula is a little like "beer calculus", where four cases of beer divided by one SEAL platoon over four hours yields two orthopedic injuries and an Article Fifteen. It's merely an approximation.

The value of using saline in lieu of clean water is debatable, except for "gee-whizzing" your teammates with arcane knowledge.

The purpose of irrigation is to remove anything in the wound that doesn't belong there: bacteria, fungi, dirt, clothing and vegetation bits, feces, and so on. While the issue with removing bacteria is obvious, the foreign body problem is of greater concern. The body's immune system cannot attack bacteria protected by a foreign body. So, while irrigation under moderate pressure will wash away logarithmic quantities of bacteria, a tiny splinter of wood left behind will guarantee a safe house from which other stay-behind infiltrators will emerge and grow.

So, in a worst case scenario (i.e. it's dark, no NODs, open wound, contaminated, tactically not much time), think about using a liter of water from a Camelback-type bladder, moderately squeezing pressure on it to produce a forceful stream, irrigating while gently scrubbing with a gauze sponge, cravat, or simply a gloved hand. Then apply a pressure dressing, and perhaps begin prophylactic oral or I.M. antibiotic therapy, and drive on.

In a more leisurely, yet austere, situation, the medic will consider wound closure. There are only three reasons to close a wound. First, to assist in stopping bleeding - and this is not a very good reason to close. If you don't have control of the bleeding, you prob-

ably don't have control over the cleanliness either. However, in a few cases, closure is part of the hemostasis process - such as a clean incision into the subcutaneous fat made with a sharp object. Keep in mind that a deep hematoma is a perfect site for infection. I once saw a veteran die from an unattended thigh hematoma due to blunt injury that had become infected. He presented in deep sepsis and died within hours. Don't sew over active bleeding!

Second, primary closure may be done for cosmetic reasons. Maybe your teammate is the service's recruiting poster boy. But the medic should always keep in mind that nearly any scar can be revised six months later with a result at least as good as the primary closure.

Finally, the team may be on an extended deployment and leaving a gaping wound would compromise the member's ability to carry out his mission while it heals. In this case, given proper wound antisepsis, careful closure can shorten healing time, protect deeper structures and improve short-term functioning.

An expedient medic would have a number of tools in his wound closure toolbox ; not just instruments, but other items which give him some flexibility.

Wound closure historically has produced some interesting expedients. The Masai were said to have used harvester ants with their scythe-like mandibles to close lacerations on their cattle. Simply irritate the ant, place his head up against the approximated wound edges, and twist off his body. The head allegedly remains with the mandibles closed in death. Of course, given the size of ant heads, one wonders about the actual practicality of this. Any wound closeable with ants probably doesn't need closure, although the talk after the procedure would be interesting.

"So, what did it take?"

"Four hundred sixty-three ants to do that job…."

Sewing of wounds evolved early in the march of civilization, with use of sinew, cotton, and silk, as availability dictated. Cotton deteriorates early and rapidly loses its strength, and the serum-wicking fibers act as an excellent medium for bacterial growth. Modern medicine is pretty much lacking in experience with sinew, although one might expect tissue reaction to it. Recall, however, that sheep and cattle gut ("catgut" is a wishful term which, unfortunately, does not mean the actual sacrifice of Baxter, Morris or Garfield) have only recently been discarded as subcutaneous sutures.

Silk still has utility, although very limited, in intraoral closure as an older, softer alternative to Vicryl®. In the mouth, silk's utility is enhanced by the short intervals required for mucous membrane wound healing, (three to five days) allowing early removal.

But most medics will carry something like polypropylene and absorbable suture material. The best stuff to use is that on which you're trained.

Often topical closure is better to use than sutures. The old stand-by for topical closure is the "butterfly" tape, which generally is no longer shaped like a butterfly. These tapes are highly adhesive and water-resistant and applied over a clean wound. They are suitable for surface closure of almost any wound, but may be the method of choice for many facial and probably all digit wounds. They bring a few minor disadvantages and caveats: they obscure observation of a wound's progress; require benzoin application for maximum adhesion; and can cause a tourniquet-like effect if placed too tightly and circumferentially on a digit. On the other hand, they do not introduce a foreign body into the wound (like suture), and they leave a better-looking (i.e., less) scar.

Now the wound care companies have introduced space-age glue to hold a wound together. Durabond® (Ethicon) is the U.S.-approved product. This agent is similar to Super Glue® or more aptly, Krazy Glue® cyanoacrylates. The technique is to approximate the wound edges and then apply the glue *over* the surface, avoiding contaminating the wound with glue. The glue is not useful on any body part that will flex, since it is brittle when hardened. While we have found it useful in closing children's facial lacerations while not having to sedate them, it is rarely better than the less expensive butterfly strips. And yes, you can acciden-

tally glue yourself to the patient. Use nail polish remover (if available on an Operational Detachment Alpha, it raises questions in itself) or Gram stain decolorizer (acetone) to remove.

Finally, one bizarre-appearing wound closure technique deserves careful consideration: staples. Stainless steel surgical staples come preloaded in various sizes for skin closure and are the technique of choice for areas such as the scalp and perhaps the thigh. They do not stimulate a foreign body reaction, they are quick, and they actually cost less than suturing, at least in the emergency department. They do, however, require a special small staple remover to be taken out.

The question of a dressing next arises. A clean soft covering will protect the wound from mechanical and bacterial assault, and a soft splint made of tape and cloth will comfortably protect a wound closure from opening under flexion-extension stressors. Any good SOF medic can name a dozen improvised wound dressings, but perhaps the very best is the sanitary napkin. Entire books have been written about the technology of absorbing menstrual blood with fiber and menstrual blood is not materially different from any other kind of blood. A common approximation of the sanitary napkin is the diaper, adult or otherwise.

Send your junior medic to the store with the mission to buy a box of either sanitary napkins or adult diapers. It's good for his humility.

What kind of grease should you put on the wound? The data on vitamin E are not clear, but it may do more harm than good. Bacitracin is a great choice for the field, and does double duty as a burn dressing equivalent to silver sulfadiazine (Silvadene®) at one-twentieth the cost. Triple antibiotics work very well, except for that pesky allergy to neomycin, but is no better than the cheaper and non-allergenic bacitracin.

Aloe for burns? There is no doubt that it helps second degree burns by decreasing swelling and pain through an aspirin-like thromboxane mediation. But there's also no doubt that it can support the growth of pseudomonas and other bad actors, so it should not be applied to a broken skin surface.

For the recruiting poster boy, protect the wound from the sun's rays for six months. Solar radiation causes hypertrophic and hyperpigmented scars. Use a cap or hat to shade the face, and sunscreen elsewhere on exposed wounds.

Wound care is, in the end, a very interesting study with more art than science. However, the smart medic will realize that, just like a magic trick, there is probably more value in the preparation for closure than there is in the closure itself. The outcome of the wound depends more upon the thoroughness of the irrigation than the techniques of suturing, but the uninitiated lay person is easily dazzled by the flourishes of the suture ties and the bright shine of the instruments.

Warner Anderson, MD

Editor's Note.
"They [Steri Strips] are suitable for surface closure of almost any kind of wound." While this is true, it may be misleading to less experienced practitioners. The tapes will not hold the wound edges together in areas of high skin tension or movement. Also deeper wounds may still need deep sutures to pull the wound edges together prior to taping the skin closed. I feel confident in saying that Dr. Anderson is in no way suggesting that our SOF medics throw out all of their suture material thinking they can just carry some packs of Steri Strips.

There I Was

Life on the Edge

The Blue Bird Express

In the, shall we say, "Good Ol' Days" it was our experience that innumerable delays were the norm when flying overseas. The usual scenario was a broken airplane complicated by crew rest (all spent with our team locked in some hangar at one or another airfield). Our flight surgeon was pretty successful at predicting where and when these breakdowns would occur. He claimed to hang out in the cockpit with the front-end crew and listen closely to determine where the pilots had girlfriends stationed. Be that as it may, we usually arrived in country after about twenty hours of flight time.

On one particular mission, the C-141 loadmaster approached us as we unloaded our gear and offered up a case of orange juice. He was certain that we would need the extra hydration in the equatorial sun, and he didn't want to have it in the back of his airplane anyway. This delighted our dental technician to no end and he drank about half the supply of hot, canned juice. In retrospect, this may have been an error in judgment as acidic beverages can leach heavy metals from the solder used in the metal cans and produce acute GI toxicity

Editor's Note: *Not since the days of lead solder – it's probably the osmotic load of the sugar*.

After about an hour or so of sitting on the airfield with the blistering sun beating down on our weary, circadian rhythm confused bodies a twin engine light cargo plane appeared out of the cloudless African sky. The team did an engine running on load (EROL) all the while gagging on the hot, blasting engine exhaust as the equipment was loaded along the center aisle of the aircraft. By the time the team had climbed over the cargo and each other, and crammed themselves into the red nylon seats the young dental tech was not looking well (apparently the juice, sun and exhaust were beginning to take their toll). The pilot looked through the door at us, roared a friendly *"Jambo"*, gunned the engines and roared down the tarmac with enough G's to make a Tomcat jockey proud. Mike, the dental tech, looked as if his stomach was still back on the 141. Across from young Mike sat two smug SF medics who had been patiently observing the aforementioned activities. They smiled knowingly.

As we departed Nairobi, the flight leveled out and the cool air so common to being at altitude began to flow. All seemed well. The flight up-country was scheduled for roughly two hours and the team very quickly began falling asleep to the drone of the big engines beating away just a few feet from them through the thin skin of the aircraft. At about thirty minutes into the flight the aircraft was over the savanna, so one of the more energetic guys climbed into the cockpit and asked the pilot to take the plane down to about two hundred feet for a better view of the abundant African wildlife. The pilot obliged the team's camera buff and abruptly plunged from one thousand to two hundred feet in what seemed (to those who were conscious) like a death plunge.

At two hundred feet the thousands of zebra, gazelle, giraffe and other assorted animals seemed like a river

of wildlife flowing away from the flight path. Soon, the pilot began to, almost recklessly, "horse the aircraft" to and fro in an attempt to chase this species or that in response to our resident photojournalist. Flying nap of the earth (NOE) at high speeds has a way of making passengers distinctly uncomfortable. The aircraft tips and sways, visually the earth plunges and veers away, the cargo groans in response to the tension on the straps securing it to the floor of the plane, and the engine power rises and falls. The body is subjected to sudden powerful upward and downward pressures that one feels in the pit of their stomach and at the base of the spine. The head is whipped to the left and right. One instinctively clings to the cargo netting in a futile attempt to steady oneself. And, the body begins to betray you. The visual, auditory, proprioceptive, and tactile stimuli begin to overwhelm the brain's ability to process the information.

Many veterans of NOE respond to the above torture session by simply grabbing the nets, closing their eyes, and taking deep, slow breaths. They occasionally open their eyes to see how their fellow passengers are dealing with the ride. This was the case with our wise, aforementioned, SF medics. Other, less experienced, passengers handle the session with much less ease and grace. It was at about this point in the flight when one of the medics nudged his "homie" and nodded to the dental tech across the isle. They laughed out loud, smug in their experience, at the thought of the approaching eruption. Mike began swallowing rapidly, then spitting onto the aluminum floor of the aircraft, and looking around wildly for an airsickness bag. One of the medics yelled above the roar of the engines, **"***Mike, you damn well better not puke on me or I'll kill you!" "Use your hat, you juice guzzling wimp!"*

These words had no sooner left Smug Medic #1's mouth than the young dental tech clamped both hands over his mouth, became bug-eyed, and began to violently expel his stomach contents. As the contents reached Mike's hands it shot through the spaces between the fingers with the force of water on a breached hull. The orange fluid flew in all directions, but strangely enough the majority of it drenched Smug Medics #1 and #2. The other Special Forces team members, after ensuring that they had not been hit, roared with laughter at the two medics. The medics in a fit of embarrassed rage fought to get out of their seats with the intent of doing bodily damage to said technician, but it was about this time that our trusty flight surgeon whipped out some injectable promethazine (Phenergan®) and addressed Mike's misery. Though he could do little for the vile stench and wounded egos of the two "less smug" medics.

Hakim Howie

Center of photo: The guilty party.
Courtesy of Smug Medic #2

Oscar

My first MEDRETE was in Kenya in 1986. The political climate at that time was such that the Host Nation did not want to advertise the presence of US forces in their country. We wore sterile uniforms in the field and civilian clothes whenever we might contact locals or tourists. The Ambassador briefed our team in a hangar in Mombassa on the delicate state of US-Kenyan relations, and he repeatedly emphasized the need for our mission to be a success. Our behavior had to be the epitome of professionalism; rapport between team members and our counterparts was critical to mission success.

It was all just as I'd imagined. There I was, a junior Captain leading a small team of American Heroes into deepest, darkest Africa on a covert mission to implement US foreign policy. The weight of responsibility pressed heavily on all our shoulders. We were traveling cross-country in the back of a 5-ton truck one afternoon when I remarked to my counterpart that I had admired the songs sung by his men the previous day as we prepared to conduct an airborne operation. He explained that singing was a common method of bolstering motivation in his military and offered to teach our team the song I had remarked upon. We all spent the next hour learning and singing a Lua tribal song that, roughly translated, was titled "We Shoot Straight" and proclaimed to the entire world the great prowess in battle of ourselves, our families, and our ancestors.

I was riding a wave of deep satisfaction—my team was building rapport by leaps and bounds, and we were all over this mission likes ants on a Twinkie. Then the bubble burst.

"Now you must teach us your song," my counterpart stated matter of factly.

My mind raced. What song? The "Army Song," "Ballad of the Green Berets," "Marine Corps Hymn," "Battle Hymn of the Republic," "Blood on the Risers?" Nothing seemed appropriate. The awkward silence stretched on. All the Americans became very uncomfortable as their blank faces betrayed similar thoughts and our counterparts stared, waiting, incredulous that we would not teach them a song in our language after they had so graciously done the same for us. I could see the rapport crumbling, our mission now in jeopardy, the repercussions from the Ambassador after our failure.

One of my medics, Ray, cleared his throat and said in a hesitant, almost child-like voice, "Uh, I have a song…"

Yes! Go, Ray, teach them the song! Save us all from a fate worse than death!

"It's not exactly a military song," he said, "but it is a very popular song. In fact, I would wager that every man, woman, and child in America knows the words to this song." And the song he taught them went: "My bologna has a first name, it's **O S C A R…**" When the song was learned and sung to everyone's complete satisfaction, the moment of truth arrived. "What does this song mean?" asked my counterpart.

Sure, tell 'em Ray. "It's about lunch meat."
"What is 'lunch meat'?"
"Well, it's meat…that you eat…for lunch."
"Oh, a HUNTING song!"

Yes, indeed, a hunting song. For the next few weeks our combined MEDRETE team traveled across Kenya helping people, training together, and fortifying US-Kenyan relations. Without fail, as we left each village the men would lean out of the back of the truck, wave to the children that invariably chased along after us, and sing *"Oh, I love to eat it everyday, and if you ask me why I'll say..."* It was the first of many personally and professionally rewarding trips to that wonderful country.

Brian Campbell

Ray "Oscar" Reid *Courtesy of Brian Campbell*

Four Star Humor

In 1987, as an 18D SF Medic in the 5th Special Forces Group (A), I was part of a seven member mobile training team sent to Khartoum, Sudan. Sudan had purchased forty-seven HMMWV vehicles and we were to provide instruction in mounted infantry tactics and HMMWV maintenance for these new vehicles. This was to be a four-month Mobile Training Team, and all went well for the first couple of months. Sixty-five days into the mission, the Khartoum government was overthrown and a Marxist regime was installed. It took about a day and a half for cabin fever and boredom set in and, inevitably the practical jokes common to a Special Forces team began....

My team had a CW 3 Warrant Officer who was a pretty easy going sort, just right for the picking. When it was finally announced that we would be departing for Cairo within 48 hours, I decided to play a good one on "Chief." Since it's not uncommon for a team to have blood drawn by an 18 Delta or have a UA or rectal prior to redeployment from downrange, I decided to take a step further. With my team backing me all the way, I convinced Chief that in accordance with the group surgeons newly published guidance, he needed to provide a semen sample for analysis in order to leave sub-Saharan Africa.

Chief was dubious at first, but my team was very persuasive way they assured him they had all "done their duty" already. I provided Chief with a specimen bottle and a catalog (the best that could be done under the circumstances) and told him I needed to drop the "specimen" at the embassy that afternoon. Chief sheepishly went to his room and the team silently gathered outside his door to wait.

Now, Chief had been around Special Forces as a noncommissioned officer as well a warrant officer, but it never occurred to him that this was a joke until he opened his door, with completed sample bottle "in hand"and saw the entire team rolling on the floor hysterically with laughter. Chief chased me down the hall and down six flights of stairs yelling "*when I catch you, you're dead.*"

It's been almost 14 years since that day. Chief is now retired from the Army, but I still look over my shoulder now and then because I know he still plotting revenge for that day. Some people have no sense of humor....

1SG Michael D. Reinhardt

SpecialWarfare Training Group

Expedient Air to Ground Communications

RF-101 Voodoo

While on a long duration MIKE FORCE patrol along the Vietnam / Cambodian border, northeast of the recently besieged Special Forces camp at Bu Prang, my company of Montagnards, myself, and another Special Forces trooper were surprised by a low flying USAF RF-101 ("Voodoo", reconnaissance flight).

Not having our Forward Air Controller available or an air-to-ground radio, we had no way to communicate with the pilot. We quickly realized that if we did not identify ourselves as "friendlies" we would soon have an air strike delivered upon us.

As the aircraft made a second pass over us, we watched as the large nose camera's shutter opened and closed. We had been on patrol for about 18 days so we were grizzly, dirty, and could easily be mistaken for locals. The pilot caught us as we were crossing one of the large open areas that are found along the II Corps and III Corps boundary. The USAF pilots were good at recognizing a deception, so we could not take the chance that our actions might be misinterpreted.

Coming in on its third pass, Gordon Vogel, the other SF soldier, and myself, realized that we had to do something. Without saying a word to one another, we quickly turned our backs to the oncoming jet. We bent over and dropped our fatigue trousers exposing our white posteriors to the pilot and camera.

The aircraft came back for a fourth pass, this time the pilot dipped one wing, waved a hand, and then flew on rolling his wings as he left.

I often wondered at the expression on the face of the photo interpreters as they read our message. Maybe we became pinups on the wall of some Air Force recon squadron....

Patrol at Bu Prang. 1967

Tom *"Stumpy"* Burke

Special Forces Medic outside an abandoned French Tea Plantation near BuPrang, Vietnam, 1967

Correspondence

Relevant, refreshing, and revealing! Just a few words that come to mind as I read the inaugural edition of the Journal of Special Operations Medicine.

How wonderful it is to see such a unique body in the Medical Corp boldly come out from under a veil of secrecy and introduce itself to the conventional medical world. Surely we have always known you were there, but never really understanding and comprehending how much you impact the world of medicine on a national and international scale.

May you go forth with the same quality, boldness, and determination that you use in your medical missions to publish your unique journal of preventive and interventionist medicine.

I eagerly await your next edition fully expecting that the medical world and I will find much to learn from your experiences.

God Bless your courageous young doctors and medics.

Marlise R. Collins, MD
LTC (Ret.)

Hey, just want to let you guys know that your Dedication is a real touch of class. And, it is so appropriate that you chose Mike Hollingsworth for the first edition.

SFC Sammy Rodriguez
7th SFG (A)

The Journal of Special Operations Medicine sounds like a winner of an idea! As your office knows all too well, professional communication is critical, and I know this will go a long way in bridging one of the many gaps you all deal with on a daily basis. I especially like the idea of it being a platform for lessons learned. Knowledge Management is so important if done right (sounds trite, but it is a Force Multiplier).

Bravo Zulu to whoever came up with the idea, more to whomever spearheaded it and most to whoever has to make it work every quarter.

Mike Wilkinson, Ph.D.
CDR, (Ret.), SEAL

Congratulations, I think something like this is long overdue and will be well received by a narrow, but enthusiastic bunch. I am an ex-SF A-team medic from the 5th SFG during the late sixties era and would like to be added to the journal's mailing list.

John Boaz
5th SFG (A), 1968-69

What a great start! I can't wait to watch your publication evolve. As an Army nurse, I am so envious of the things that you get to see and do. And, by the way, are any of these guys single?

Email

Congratulations on the first issue of the Journal of Special Operations Medicine. This is a much-needed addition to SOF medicine and will give Special Operations physicians, PAs, and combat medical personnel an excellent forum to exchange ideas on how to help our community continue to safeguard the health of our operators and get the job done. Keep up the great work!

CAPT Frank Butler, MD
Biomedical Research Director
Naval Special Warfare Command

Just completed reading the inaugural issue of the new Journal of Special Operations Medicine. Wow! Great job. I found the updates on the various spec ops medical training programs to be of particular interest, being an "old guy" who went through training during the dark ages. I am sure I would never make it through training these days. The concept of refresher courses and testing makes so much sense. I know that our 280-provider anesthesia group in Nashville is constantly looking for innovative ways to maintain currency for our docs and nurse anesthetists.

Thanks so much for placing me on the mailing list. If there is ever a call for an ancient civilian to help with the journal, or any phase of spec ops medical training, or whatever, I would be more than glad to do anything.

Again, great job and my appreciation for receiving the JSOM.

David Whitten, MBA, CEO
3rd Mike Force, 1969-70

Editorials

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR MOBILITY COMMAND (AMC)

25 January 2001

MEMORANDUM FOR EDITOR: Journal of Special Operations Medicine

FROM: HQ AMC/SGP, Terrence Jay O'Neil, Col, USAF, MC

SUBJECT: Fluoroquinolones - Additional Notes on Article in Your Inaugural Issue

1. I read with interest the article "Oral Fluoroquinolones: A New Tool for SOF Combat Medics?" The question is a good one, and would probably be a qualified "yes", as the author, CAPT Frank Butler, suggests. A few additional qualifying notes need to be added, however.

2. Fluoroquinolones are extremely well-absorbed orally. Ciprofloxacin, for instance, reaches blood levels after being given orally that are as high as those reached after intravenous administration. From the standpoint of a drug needing to be given quickly when an IV is not possible and time and space to mix and administer an IM injection are not available, this in fact gives quinolones an enormous advantage over other oral antibiotics.

3. However, the use of quinolones in animal feed to decrease gut bacterial burden and increase weight by commercial livestock growers has led to a rapid increase in resistance of pathogenic gram-negative bacteria to this class of antibiotics. All but one major pharmaceutical company have ceased marketing formulations of fluoroquinolones for animal feed use in the U.S., but the effectiveness of this class of antibiotics in raising carcass weight will likely lead to continued heavy use OCONUS in the next few years. As a result, soil organisms in exactly those areas of the world where SOF personnel may receive contaminated wounds can be expected to show increasing resistance. This needs to be monitored carefully worldwide by SOF medical personnel.

4. I suspect few SOF personnel avoid coffee. Caffeine is a tool used to stretch attention and endurance, and it is frequently taken in large doses. Most fluoroquinolones greatly inhibit the metabolism of coffee. The result a well-java'ed troop given a normal therapeutic dose of a fluoroquinolone, (e.g. ciprofloxacin) can experience tremors, diarrhea, palpitations, and even seizures. Caution is advised, because the physiologic effects of caffeine taken with most fluroquinolones is greatly amplified and can last for hours. The most commonly cited FDA approved quinolone that does not have this potentially dangerous side-effect is levofloxacin ("Levoquin", Ortho-McNeil). If recent ingestion of significant amounts of caffeine or theophylline are likely, this would be the fluoroquinolone to use to avoid potential cardiovascular complications.

TERRENCE JAY O'NEIL, Col, USAF, MC

Stress in Special Operations

Of course, special operations are stressful. In a way, that's what makes them special. There is the stress of mission planning and preparation, the added stress of danger in execution, and the further stress of standing down.

Two articles in this edition of JSOM deal specifically with stress and adaptation to it. Clough's article is written from the perspective of a physician involved in hostage recovery, but the observations and lessons can apply to troops who are captured or abducted and, yes, apply even to an extended isolated austere deployment.

Bourne's article is a "found" manuscript written early in the Vietnam War and unpublished until now. Bourne, a behavioral scientist, lived as a participant-observer with an A-Team near the Cambodian border and shared the danger and frustrations of their largely defensive situation.

As both articles point out, group dynamics can adapt to stress in both a constructive and destructive way. When several people are living and working together in an isolated environment with the threat of death or serious injury, the survival of the individual depends to a great extent upon the functioning of the group as a whole. Hence, there is a kind of centripetal force pulling the team together even as the centrifugal forces of individual interests are pulling them apart. There is a delicate balance between serving the interests of individuals and factions, versus those of the group as a whole.

Indeed, this is the reason prisoners of war are intentionally split apart from their commanders and their comrades. A military unit often has already achieved some sort of balance prior to capture, and breaking up already-formed groups imposes the stress and insecurity of forming the trust and working relationships in a new group. So it was with the policy of individual replacements in Vietnam. Each replacement had to prove himself to the group and establish himself as a reliable contributor, not a liability.

Moving from the specifics addressed in these articles to more general lessons, we must recognize that special operators may not recover from stress as well as they might want the world to think. Much recent work has shown the advantage of addressing as soon as possible, the predictable reactions to stress which any person will likely experience.

As an example from the civilian world, a volunteer fire rescue squad is self-selected for the job it does. The squad may see two hundred illnesses and accidents yearly, responding from their homes on a moment's notice. Yet, when a pickup truck backs over an infant in a driveway and crushes the infant's head so that brain matter and blood are soaking into the dirt, and the mother who just did it is hysterical with grief, those who responded to the call will be haunted by intrusive visual memories and images for weeks, months, and even years.

Or, a police officer is ambushed, shot and critically-wounded by a .22 round through the vest side panel, and whispers his last words while in the arms, literally, of a fellow officer/EMT who is trying to move him to safety while under fire. Two other police officers with nine-millimeter pistols are moving up a rocky arroyo and trying to make tactical 75 meter shots at the ambusher, who is firing from cover. Eventually, the officers are able to get a clear shot, ending the threat situation, but the fallen officer has a clipped vena cava and bleeds out before he arrives at the emergency department twenty miles away.

The stress does not just evaporate upon returning to the fire station or sheriff's office and cleaning the blood off the hands, uniforms and gear.

Stress must be anticipated, and those who supervise people under stress must be prepared with the basic stress management tools which work so well. The metaphor is a physical injury – if you amputate your finger in the field, I probably can't put it back on for you. But I can give you medications to make the pain tolerable, and later I can send you to rehabilitation specialists who can teach you to cope without that particular finger. But you have suffered a permanent

injury which will affect you, and we must minimize the degree of the effect.

So, in cases of stress, we have a very important endeavor called *critical incident stress management* (CISM). And central to the techniques of managing stress is *critical incident stress debriefing* (CISD). CISM anticipates the normal reaction to stress, including image and thought intrusions, guilt due to one's own fear or inability to perform exceptional acts, and revisiting the situation in one's mind over and over again.

CISM recognizes that certain reactions are normal, if painful and disabling, and turns them to a useful purpose. Through an informal *peer-led* group process, CISD encourages the group of all those involved to talk about their feelings and get these private emotions out on the table. When the participants recognize that they are not alone in their feelings, the stage is set for healing and return to productivity. All medics and their supervisors should be aware of these techniques and how to use them.

One of the great strengths of CISD is that it is *not* a Ph.D.-level "psychologizing" process, but an operator-level one, controlled by the participants. Thus, within the group lies a strength and wisdom that individuals may not be able to find while lying awake alone and wide-eyed in bed at 0200 hours.

The word "recovery" thus can be used in two important complementary ways: we can recover personnel from danger, but we can also recover from illness (including stress or alcohol abuse). In a life-or-death stressful event, we must recover in both senses of the word.

In each of the two civilian cases presented in this editorial, CISD was a major factor in allowing the participants to return ("recover") to daily life.

Stress is a basic part of the medic's job in special operations. As a result, recovery and guiding the recovery of others is an important function every SOF medic should know how to perform.

Warner Anderson, MD

CONVENTION AIDS UNDER-FIRE MEDICS

Sunday, December 17, 2000
Tampa Tribune Article
By George Coryell - of the Tampa Tribune

TAMPA - More than 600 paramedics for the world's war zones met last week to share what works and what doesn't. The Special Operations Medical Association brings together the combat medics from the Army, Navy and Air Force special operations, as well as from commando units around the world and civilian agencies that have similar jobs, such as special weapons and tactics teams. They met at the Hyatt Regency Tampa to examine techniques and see what vendors have to offer to make their jobs easier.

GEN (Ret.) Schoomaker and wife, Cindy Schoomaker, in procession line. Music by the Dunedin Bag Pipe Band. ***Courtesy of USSOCOM***

Unlike civilian paramedics and emergency medical technicians, they are soldiers first and foremost.

"The civilian way of treatment is to make the scene secure, clear the patient's airway, check his breathing and circulation and take care of shock," said Ray McDaniel, a retired Green Beret Master Sergeant and vice president of Emergency Medical Resources Corporation. "In our element, we return fire, drag the patient to safety, check him out and give him a rifle so he can return fire."

Although the topic of this year's conference focused on the types of injuries and diseases seen in humanitarian operations, the future for the commando medics looks to be urban warfare. Retired Colonel Robert Leitch, with the Casualty Care Research Center in Bethesda, Maryland, said by the year 2020, 70 percent of the world's population will live in cities within 200 miles of the sea. City warfare will mean increased exposure to disease as well as the problem of keeping troops together. Typically, urban warfare means increased casualties. Some of the new technologies being developed include dog tags that carry a computer chip with the soldier's medical records and personal monitors that tell a medic if a soldier is dead or alive. SOF medics must be prepared to treat casualties for many hours, because medical transport from city battlegrounds can be difficult. As medics, these troops are not only responsible for treating wounds and injuries, but stressing disease and injury prevention to their teammates. "You have to deploy them fit and you have to keep them fit," Leitch said. "And when they're broken, you have to get them out."

The forum allows troops from different services to share what they've learned on operations. The United States Special Operations Command has mandated that its medics be certified as civilian EMT-paramedics and that training between services has increased. "Nine years ago we had no direct links of communication with the SEALs or with Air Force Special Operations," said Army Lieutenant Colonel Dale Hamilton with the U.S. Special Operations Command Surgeons office. "We had no way to exchange information."

The typical special operations medic operates in harsh weather, in the dark, and under adverse conditions. Unlike civilian paramedics, there often is no quick route to a hospital or a surgical team. "The trauma system in the U.S. is very good, but it's designed for one type of event. It's like an on/off switch where you get immediate overwhelming response," said John Hagmann, medical director of the Federal Bureau of Investigation's Operational and Emergency Medical Support Group. "In our world, you don't have that option."

As an example of the type of difficulties that can be seen in the field, Special Agent Robert Anderson offered his experience in Kosovo as the medical supervisor of the FBI's Hostage Rescue Team (HRT). The HRT was assigned to accompany investigators looking into war crimes in Kosovo, when an Italian Special Forces soldier was accidentally shot by one of his cohorts. Anderson and others worked feverishly to stem the bleeding from a gaping facial wound until the soldier could be flown to a hospital. It took three hours because there were no clear instructions on where troops from different nations would be taken. The soldier ended up bleeding to death, Anderson said. The main job for these troops is keeping their teammates able to fight. "First I am a shooter," said Navy Hospital Corpsman 2nd Class Derrick Jaastad, a member of SEAL Team 3, which operates in the Middle East. "My primary objective is to follow through with the mission. So that means the first thing we need to do is win the fight, because there's nothing I can do for someone if we're overwhelmed," he said. "After that, then I'm tasked with saving life."

George Coryell covers the military and can be reached at (813) 259-7966.

Photo Gallery

Mr. Ba Hung, the Director for the Vietnam Office for Seeking Missing Persons, receives medical care from a Special Forces medic attached to JTF-FA during an investigation conducted in the central region of Vietnam.
June 2000

SSG Gordon Vogel with his "troops."
Near Bu Prang, Vietnam. 1967

Jumpin'; Marala, Kenya, October, 1989.

5th Special Forces Group medical team sets up in a remote region of Zaire, Summer 1988

Shon Compton, SOF PA
Extreme Cold Weather Training
Helena National Forest, Montana
January, 1999

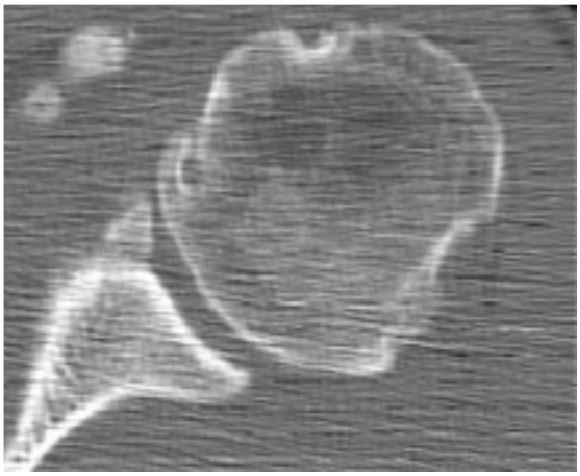
(L-R) SFCs Danny Lumpkins, Don Shipman, and SSG Mondo Yturria conduct Special Operations Forces Humanitarian Assistance Team (SOFHAT I) mission in Central America, January, 1988

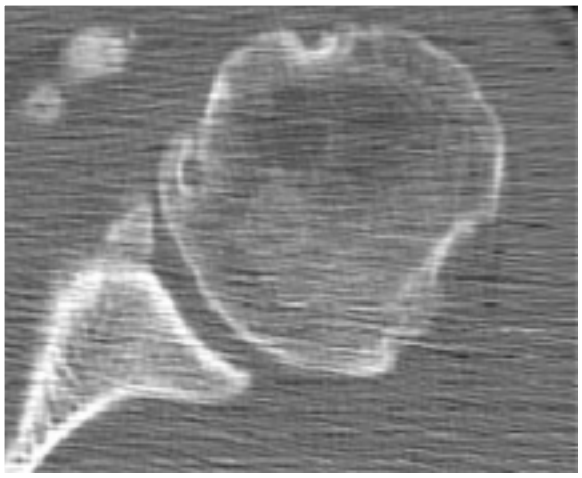
MedQuiz

History: 25-year old male with history withheld. Below is a digital radiograph of the left shoulder.

AP Left Shoulder
Can you make a diagnosis from this image alone?

CT Images of Left Shoulder





What is your diagnosis now?

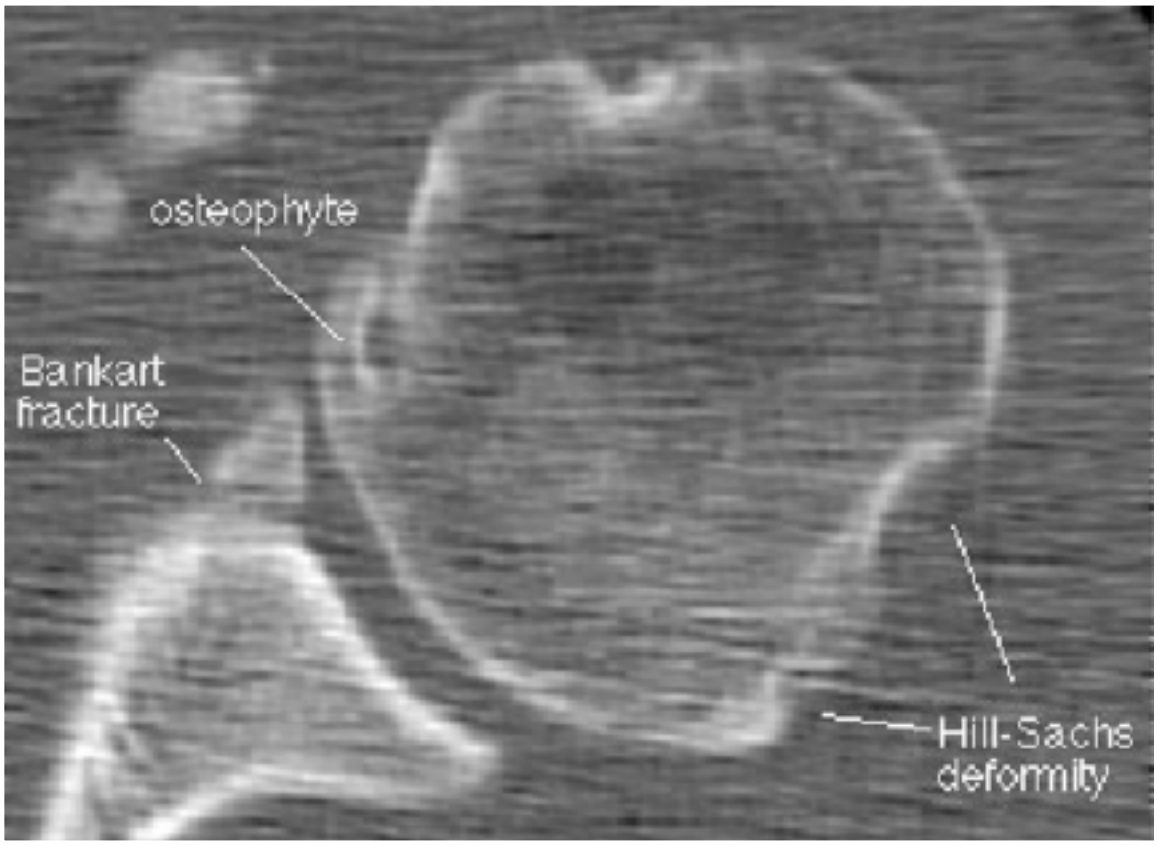
Answers

1. Chronic, recurrent anterior dislocations of left shoulder, with Hill-Sachs deformity of humeral head and osseous Bankart lesion of anteroinferior glenoid rim.
2. Secondary osteoarthritis.

AP Digital Radiograph of Left Shoulder

The history that was withheld was one of numerous prior anterior dislocations. About 95 % of all shoulder dislocations are anterior dislocations, as in this case. The Hill-Sachs lesion is an impaction fracture on the posterolateral margin of the humeral head. If this fracture is only minimally impacted, it may be visible as a small linear area of sclerosis. However, larger ones may show a large contour defect or notch, like the one seen in this case. This finding is present in 74 to 82 % of patients with an adequate radiographic exam.

Often, only the cartilaginous portion of the labrum is detached from the osseous portion of the glenoid, and is known as a Bankart lesion. These soft tissue lesions can only be seen on arthrography or MR. In this patient, the osseous rim of the glenoid was also fractured, known as a 'bony Bankart'.



The same findings shown on the AP radiograph also show up nicely on all of the CT slices. In addition to the Hill-Sachs and Bankart fractures, osteophytosis is also present, indicative of the development of secondary osteoarthritis.

Courtesy of Virtual ER and John C. Lakas, MD

Editor's Note. *Management of anterior shoulder instability can be categorized as acute and chronic. It can also be further classified as traumatic and atraumatic. By far, the acute traumatic anterior shoulder dislocation is most frequently encountered in the special operations population.*

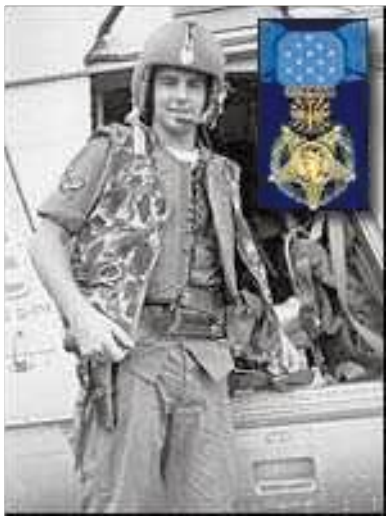
For acute anterior traumatic dislocations the primary goal of treatment is reduction. After reduction the patient should be placed in a sling for comfort and physical therapy begun in three to six weeks. Physical therapy typically consists of passive range of motion for six weeks with progression of active range of motion and strengthening with return to full activity at three to four months if tolerated.

In patients under the age of 30 years there may be some benefit in the treatment of acute traumatic anterior shoulder dislocations with immediate arthroscopic stabilization. This approach has had excellent success in the hands of surgeons who are skilled in shoulder arthroscopy.

Physical therapy whether treated with a sling or with arthroscopy is usually required for three to four months post injury. The goal is full range of motion and strengthening of the rotator cuff muscles.

Prognosis for these injuries as it applies to high demand soldiers and athletes is variable. The rate of recurrent dislocations after an acute anterior dislocation is 85-100% in patients under the age of 30 years that are treated with a sling. The recurrence rate in young patients stabilized acutely with arthroscopic surgical techniques is 10-30%. Patients 30-45 years old have a much lower recurrence rate when treated in a sling, somewhere in the range of 10-40%. Special operations soldiers who sustain shoulder dislocations are usually able to remain in their units performing their mission 95% of the time after effectively treated dislocations. rcr

Dedication...



A1C William H. Pitsenbarger

Airman First Class Pitsenbarger distinguished himself by extreme valor on 11 April 1966 near Cam My, Republic of Vietnam, while assigned as a Pararescue Crew Member, Detachment 6, 38th Aerospace Rescue and Recovery Squadron. On that date, Airman Pitsenbarger was aboard a rescue helicopter responding to a call for evacuation of casualties incurred in an on-going firefight between elements of the United States Army's 1st Infantry Division and a sizable enemy force approximately 35 miles east of Saigon. With complete disregard for personal safety, Airman Pitsenbarger volunteered to ride a hoist more than one hundred feet through the jungle, to the ground. On the ground, he organized and coordinated rescue efforts, cared for the wounded, prepared casualties for evacuation, and insured that the recovery operation continued in a smooth and orderly fashion. Through his personal efforts, the evacuation of the wounded was greatly expedited. As each of the nine casualties evacuated that day were recovered, Pitsenbarger refused evacuation in order to get one more wounded soldier to safety. After several pick-ups, one of the two rescue helicopters involved in the evacuation was struck by heavy enemy ground fire and was forced to leave the scene for an emergency landing. Airman Pitsenbarger stayed behind, on the ground, to perform medical duties. Shortly thereafter, the area came under sniper and mortar fire. During a subsequent attempt to evacuate the site, American forces came under heavy assault by a large Viet Cong force. When the enemy launched the assault, the evacuation was called off and Airman Pitsenbarger took up arms with the besieged infantrymen. He courageously resisted the enemy, braving intense gunfire to gather and distribute vital ammunition to American defenders. As the battle raged on, he repeatedly exposed himself to enemy fire to care for the wounded, pull them out of the line of fire, and return fire whenever he could, during which time, he was wounded three times. Despite his wounds, he valiantly fought on, simultaneously treating as many wounded as possible. In the vicious fighting which followed, the American forces suffered 80 percent casualties as their perimeter was breached, and Airman Pitsenbarger was finally fatally wounded. Airman Pitsenbarger exposed himself to almost certain death by staying on the ground, and perished while saving the lives of wounded infantrymen. His bravery and determination exemplify the highest professional standards and traditions of military service and reflect great credit upon himself, his unit, and the United States Air Force.

GHOSTS

Watching on a Hallowed Day

Wearing Class As and a Green Beret

Anticipation on his face

Fearing Ghosts from another place

Remembering those who gave their all

Their names engraved in a granite wall

Hands caressing warm black rock

Tells of all that we have lost

Warmth exudes, their presence felt

He traced their names in hopes to help

Erase those ghosts from years gone past

To us a name, but not to him

A lonesome memory of a long lost friend.

SFC Stephen L. Young

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