



The Society of U.S. Naval Flight Surgeons Newsletter

Volume XXIII, Number 2

<http://www.aerospacemed.org>

April 1999

Farewell From The CO Of NOMI

This may be my last letter to the Society as commanding officer here in Pensacola. I will be transferring out with the change of command occurring in August. CAPT John Fahey will be the new CO of NOMI.

It has at least been a busy three years. In a few months our beautiful new—and long awaited—clinic building will be finished. Shortly afterward, renovations will begin on Building 664, where Physical Standards, Psychiatry, and the residency program are presently housed. Those two wonderful projects may be the only outwardly visible signs of how much has gone on at your *alma mater* the past few years. Thanks to the energetic staff here, though, a lot more has been happening. Underpinning almost everything else we do has been the continuing improvement and growth of our Data Management services. What an excellent team! Operating on a shoestring, with employees and contractor staff, Mr. Kiesling's team keeps updating our databases, and helping us with intranet and other communications tools. Over in Code 41, our AEP staff has been working on the ASTB and our customers to continually improve selection processes. The physiology community has been pretty understaffed for a while, and due to the work of scenario based training and other initiatives, demands on the time of a too-small group of professionals are increasing. Our curriculum and work at improving the preceptorship will help make the community well within a year or two. Innovation and improvisation have made Physical Standards (code 42) and the crucible of Physical Exams (code 26) better and better. The RPOW program is more robust, and now finally better funded, than ever. CAPT Wear and Ms. Shuttlesworth are helping us with QA progress and measurement systems. We now have a full time professional safety officer on board also.

One impressive change has been the wealth of experi-

ence on our medical staff now. We have more RAMS on the staff than ever before. Within the past year, five captains have joined the staff, four of them post SMO RAMS! Plus we have a RAM Air Force colonel in Physical Standards, who by the way is really becoming a sailor in a blue suit. These staffing gains are of course due to the excellent support we have had from MED 23.

Another great gain has been in the flight-training program. Although a number of people share in the credit for greatly increasing flight hours for our student officers, CDR Terry Puckett has certainly been the star in this process. Already, only half way through their Whiting time, most of the current students already have seven flights, and anticipate realistically at least another five or six. Not too long ago, we had some classes where the average number of flights was six or less and some graduates had as few as three flights in the T34. BZ, CDR Puckett and our shipmates at Training Wing Five!

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THE SOCIETY OF U.S. NAVAL FLIGHT SURGEONS
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The Society of U.S. Naval Flight Surgeons is a non-profit organization. Its purpose is to advance the science, art, and practice of aerospace medicine and the mission of the U. S. Navy and the U. S. Marine Corps; to foster professional development of its members; and to enhance the practice of aerospace medicine within the Navy and the Marine Corps.

Membership is open to all flight surgeon graduates of the Naval Operational Medicine Institute. Associate memberships are available. Dues are \$15.00 per year, or \$225.00 for a lifetime. Contact the Treasurer at the address above for more information or membership application form.

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The biggest changes have been in curriculum for the flight surgeons, and of course in the Residency in Aerospace Medicine. As you know, we have won back all our necessary training time for Naval Flight Surgeons. The cut-backs directed a couple of years ago were a tough pill to swallow, but the reasons for the cutbacks were clear enough. I am grateful to the support we have had from our friends in BUMED in standing up for quality and standards in aeromedical training. And the residency! What a great program! I wish you could see and participate in the weekly conferences the residents are putting on these days. Always the Navy's premier postgraduate program, our residency program just keeps getting better. Not only more than doubling the number of residents, but to get the caliber of doctors we are getting is truly impressive. Captain Conrad Dalton and Captain Fitzgerald Jenkins both made impressive progress with an already strong program, and now CAPTs Valdez, Davenport, and Anzalone are continuing the tradition. On top of the practical and fleet-based excellence, I am frankly awed by the academic strength of this program and the quality of our residents. And – thanks to the persuasiveness and tenacity of Captain Fanancy Anzalone and Captain Jim De Voll we have won back the third year of our residency. We all owe those two gentlemen, and the Medical Education Policy Council, and the Surgeon General much gratitude for this critical step for our profession.

It has been a busy three years, during which several of our colleagues worked real hard and courageously to keep aerospace medicine strong in the Navy and even move the ball down the field now and then. Soon, we will be able to watch NAMI rise up like a phoenix to the level of prominence our predecessors established. I am sorry I will not be here in a few months when that day comes, but we will all join in that celebration. It has been a privilege to be in CAPT Dully, CAPT Bercier, and CAPT Hain's desk for the past three years, and I have been lucky that our community had a bunch of dedicated folks who worked so hard for the profession in these interesting years.

In a few months, I will follow CAPT Jerry Rose as president of SUSNFS. I look forward to a continuing role with many of the same leaders who have done so much for NAMI in the past three years.

Terrence Riley
 Naval Flight Surgeon and polymath

NEWS FROM MED-23

The most important item for the aerospace medicine community is to establish a Naval Aerospace Medicine Strategic Plan for the 21st century. I am hosting a meeting to hammer out a plan in Detroit prior to the beginning of the AsMA conference. We will start Friday evening, May 14, and continue Saturday, May 15 as required. Since I am sure that this meeting will stimulate lots of additional thought and discussion, I will continue to accept input throughout the week of the AsMA conference, 16-21 May. Your experience and leadership are critical to the success of this endeavor. I want the final product to have the blessings of MED-02, the Surgeon General and possibly CNO and CMC.

Why should we have a "strategic plan?" To our credit, our community is vitally active in a diverse array of projects, billets, commands/organizations and claimancies. This diversity has its advantages but comes with several hidden costs. Each one of us has more work that we can possibly do alone. Commonly, effort is duplicated on some projects while other equally deserving projects suffer relative neglect. The call for more resources to get everything done doesn't wash when downsizing remains the order of the day. Finally, we are so widely and thinly spread that each individual part of the community becomes vulnerable to well-meaning but uninformed cost-benefit analyses, process improvement reviews and initiatives to re-organize. The problem is compounded by the difficulty in quantifying prevention services and prevention outcomes.

My concept is to develop a strategic plan that clearly coordinates our cross-claimancy framework of aeromedical expertise into productive effort. The work of each individual should be validated by and indispensable to the strategic plan. Each of us should be able to clearly articulate what we do, and show how it tangibly benefits Naval aviation. Lastly, our results should translate directly into irrefutably valid requirements for fiscal support.

As stated in the January SUSNFS Newsletter, we have done a lot of "aviating" in the past but little navigating or communicating. But it's now time to file and execute a flight plan for the future of our community within the context of the larger Navy Medicine and Naval Aviation strategic plans. We need a plan that will keep us on track to accomplish defined strategic goals and objectives, and that will keep us accountable for how well we do this, and

will provide for continuous improvement.

Attached is the latest draft Navy Medicine's Strategic Plan set alongside a "strawman" strategic plan for the aerospace medicine community. Please peruse before the Detroit meeting and be prepared to be an active participant in the process. **Also, please bring with you a copy of your command's strategic plan.** I want to coordinate the aerospace medicine strategic plan with other existing plans and directly incorporate parts of existing plans where appropriate. As stated in the January SUSNFS Newsletter the tentative agenda in Detroit will be:

Friday, 14 May 99 -(1930-2100)

Overview

Background

Presentation of draft plan

Saturday, 15 May -(0800-1100)

Review and critique strategic plan

Define objectives and tasks

(1300-1600)

Develop POA&M/Annual Plan

We look forward to your active participation. If you have any questions, please contact me or contact CAPT Charlie Barker at (202) 762-3451 (e-mail cobarker@us.med.navy.mil.)

Don't forget, the uniform of the day for Detroit will be Summer Whites or Marine Charlies, and the uniform for the AsMA Honors Night Banquet will be Mess Dress White (optional Service Dress White, LCDR and below). See you in Detroit!!

CAPT Jim De Voll

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(USNavyphoto)



NAVY MEDICAL DEPARTMENT STRATEGIC PLAN

Vision: Superior readiness through excellence in health services.

Mission: As the Medical Department of the United States Navy, we support combat readiness of the uniform services and promote, protect, and maintain the health of all those entrusted to our care, anytime, anywhere.

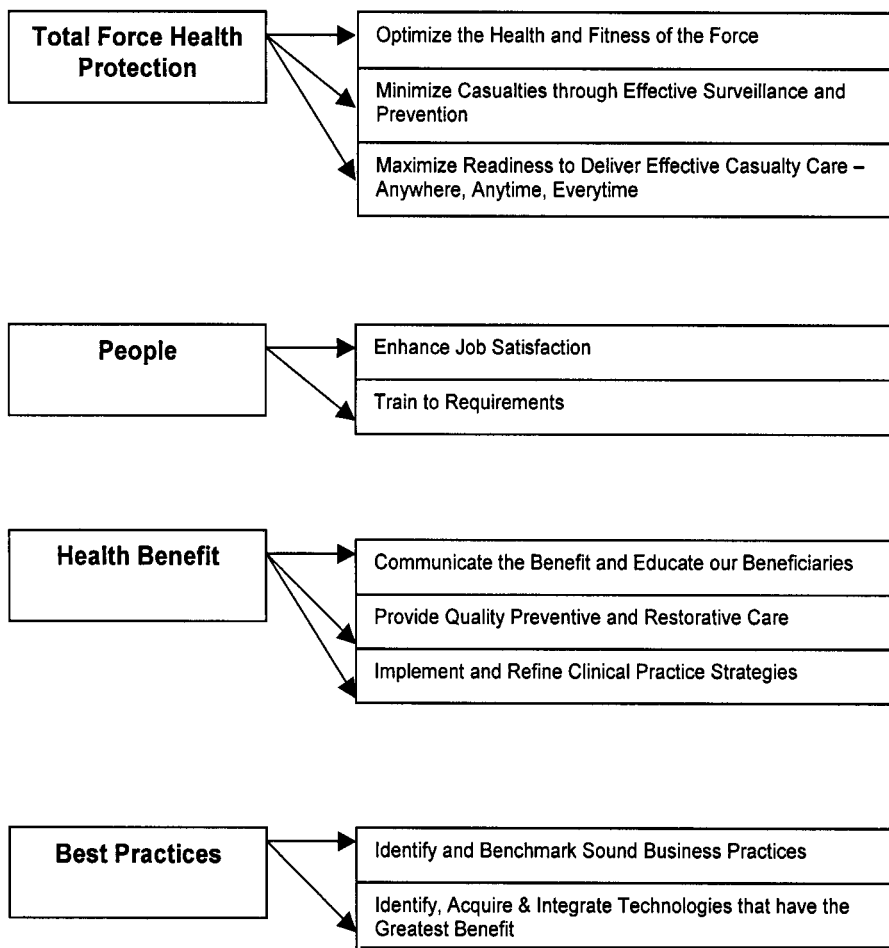
Guiding Principles:

- Navy's Core Values are the bedrock of Navy Medicine.
- Health is a state of physical, mental, spiritual, and social well being, not simply the absence of disease.
- Our people are our most important resource and their dignity, worth, and cultural diversity are invaluable assets.
- Quality health care must be provided in an atmosphere of service, professionalism, compassion, teamwork, trust, and respect.
- Our success will be judged by our customers.
- Meeting the unique needs of the Navy and Marine Corps is vital to our success.
- Continuous improvement must permeate all aspects of our enterprise.
- Working jointly with other active and reserve medical personnel will achieve more effective results.
- Navy Medicine must be run effectively and responsibly based on sound business practices.
- Education and research are the foundation of our future.

Overview:

PILLAR

GOALS





AEROSPACE MEDICINE STRATEGIC PLAN



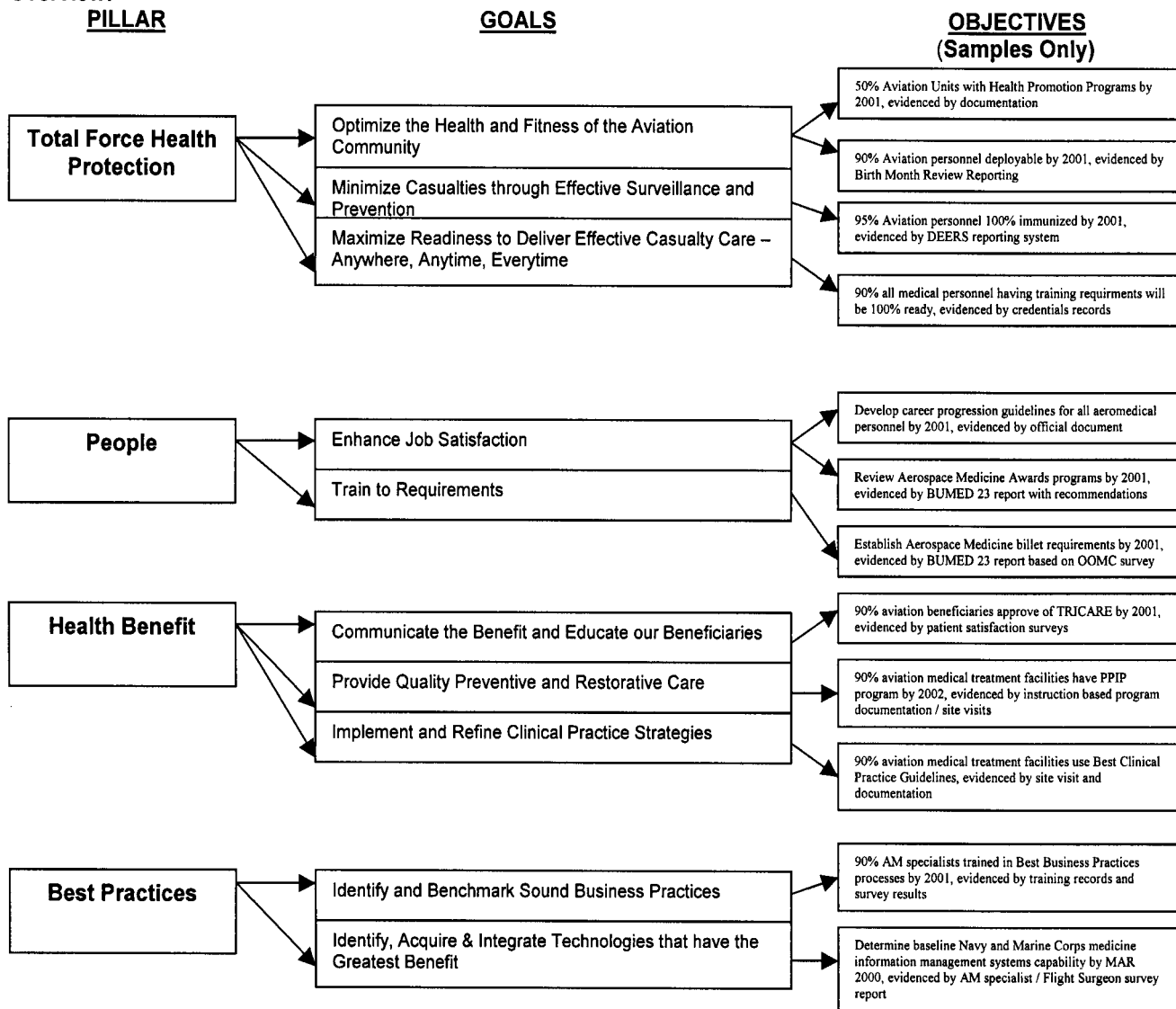
Vision: Superior air warfare and peacetime readiness through excellence in aerospace health services.

Mission: As the Aerospace Medical community of the Medical Department of the United States Navy, we support air combat and aviation peacetime readiness of the uniform services and promote, protect, and maintain the health of all those entrusted to our care.

Guiding Principles:

- Navy's Core Values are the bedrock of Navy Medicine.
- Health is a state of physical, emotional, and spiritual well being.
- Our people are our most important resource and their dignity, worth, and cultural diversity are invaluable assets.
- Quality health care must be provided in an atmosphere of service, professionalism, compassion, teamwork, trust, and respect.
- Our success will be judged by our customers.
- Meeting the unique needs of Navy and Marine Corps aviation is vital to our success.
- Continuous improvement must permeate all aspects of the aeromedical enterprise.
- Working jointly with other active and reserve medical personnel will achieve more effective results.
- Navy Aerospace Medicine must be run effectively and responsibly based on sound clinical and business practices.
- Education and research are the foundation of our future.

Overview:



HEALTH "E" LIFE 2000

Health Promotion Programs at the Deckplate

USS Enterprise (CVN-65) Experience

The USS Enterprise (CVN-65) received the coveted Gold Award for Command Excellence in Health Promotion in 1998 for its "Health 'E' Life 2000" health promotion program. The award was presented to CAPT Marty Chanik, commanding officer, by the Naval Environmental Health Center in the officer's ward room of the Big "E" in June 1998. We had discovered over several years that health promotion at the deckplate is a win-win-win situation. It is a win for the individual, a win for individual departments, and an overall win for the command. The individual Sailor, Airman, and Marine reaps many benefits through health awareness activities; health education classes and seminars; and health intervention programs. All ship's departments benefit through equal partnering in the planning, implementation, and maintenance of a health promotion program. And, the command overall benefits from enhanced operational readiness through a healthier and fit force.

A successful health promotion program requires several ingredients. Commitment from the top down, a strategic plan with detailed objectives, and health promotion leadership training are essential. The most important ingredient for success is commitment to "Make it so." The commanding officer, executive officer, and all department heads must buy into the idea and be willing to commit time, effort, and department resources. The commanding officer must give his or her "blessing" and support the program by establishing a command instruction. Capt Malone, the Big E's skipper in 1996, and later Capt Chanik realized the program was ultimately theirs and its success depended to a great degree on their support. No one department is solely responsible. Medical and non-medical crew can easily perceive that health promotion belongs to the medical department. The medical department should actively dispel any such perception, and should view itself only as a participant, facilitator, and champion of health promotion on the ship. The program belongs to the entire command and its success should be viewed as depending on the dedication and active participation of all departments and crew.

Detailed strategic planning is essential for success. The vision, mission, and strategic goals need to be defined. Specific written objectives will be based on program content, and optimal content has already been well established by both civilian and military health promotion proponents. The Naval Environmental Health Center (NEHC) has established content guidelines for Navy and Marine Corps commands. These guidelines are based on the principle that health is a physical, emotional, and spiritual state of well being, not just the absence of disease.

Health promotion programs should include traditional health promotion, health protection, and disease prevention components. Traditional health promotion includes nutrition, physical fitness, tobacco use prevention and cessation, stress and anger management, suicide prevention, and alcohol and drug abuse prevention programs and objectives. Health protection programs should include injury prevention, including back injury prevention programs and objectives. Preventive services include environmental and occupational health and safety programs such as hearing conservation, heat stress, asbestos, and lead poisoning. Other preventive programs should include immunizations, weight control, sexually transmitted disease prevention, cholesterol evaluation and hypertension detection and control, cancer detection and control, as well as mental and spiritual health programs.

Although it is important to identify a health promotion program director and "champion" early in the process, a health promotion program committee or council is essential for success in strategic planning and implementation of the program. Religious Ministries, Food Services, Physical Readiness, Medical, Dental, Legal, Family Advocacy, MWR, DAPA and CAAC, Safety, Public Affairs, and the Air Wing are all key stakeholders in health promotion on a carrier, and each should be represented on the council. The council needs to develop an implementation plan of action and milestones (PAO&M) that gives everyone a definite timetable of what will be done, who will do it, and when it will be done.

The council also needs to develop a strong marketing plan. Successful marketing will clearly announce the program to the "world" by establishing a

name, logo, and motto. The Public Affairs Officer plays a key role in this plan. We decided our health promotion program on the USS Enterprise would be called Health "E" Life 2000. Our logo was the six colored Big E logo augmented by Forge the Future and Semper Fit logos used by the Navy and Marine Corps respectively. The program motto or slogan was "Fitness is a Health 'E' Habit." Like equating the "swoosh" symbol with Nike, it wasn't long before the Big E crew began equating the combined Big E, Forge the Future, and Semper Fit logos with Enterprise's Health "E" Life 2000 health promotion program. We initiated the program with a "Happy Holidays Health Fair" in hangar bay II as we passed through the Suez Canal in late November 1996 on our way home from the Gulf. Conducting command health fairs heightens health awareness and is an excellent way of marketing your program.

In addition to strategic, implementation, and marketing plans, the council needs to establish a program evaluation plan. This plan allows you to measure your success or lack of success with regards to established goals and objectives. Did you do what you said you would do, when you said you would do it, and how well did you do it? These are important questions to ask. If we are not doing what it is that we set out to do or we are not effective in achieving our objectives, then we need to change how we do business. A well thought out and written evaluation plan facilitates this process.

Finally, health promotion leadership training is essential. The Naval Environmental Health Center in conjunction with the Cooper Institute for Aerobics Research in Dallas, Texas, sponsors a Navy Health Promotion Director's training and certification course periodically. I attended the course at Dam Neck, Virginia Beach, VA, in July 1997. It is an excellent hands on, interactive, "how to" course. Although our program was already well established, the training received by NEHC and the Cooper Institute was instrumental in "fine tuning" Health "E" Life 2000 into a Gold Award program.

It is a cliché to say, "There is no need to re-invent the wheel." Indeed, with regards to carrier deckplate health promotion programs, the USS Enterprise and the USS George Washington, who received the NEHC award in 1996 and 1997, have already "invented the wheel." These commands have established effective

health promotion models that can be used by any deckplate to establish health promotion programs. Below are listed sources of information and advice on how to best proceed on your deckplate, or in your squadron or command. With regards to health promotion programs, we all have an obligation to our shipmates and squadron mates to ensure our skippers say, "Make it so." Godspeed!

Charles O. Barker
CAPT MC USN

Sources of Information

1. General information on Health Promotion Programs and Director Training and Certification Courses/Workshops: Naval Environmental Health Center, 2510 Walmer Street, Norfolk, VA 23513-2617; <http://www-nehc.med.navy.mil/hp/>; or The Cooper Institute for Aerobics Research, 12330 Preston Road, Dallas, TX 75230; courses@cooperinst.org.
2. USS Enterprise (CVN-65) Health Promotion Program instruction and strategic planning "Go Bys" for a strategic plan, standard operating procedures, marketing plan and evaluation plan: Capt Charles O. Barker, MC, USN, Assistant Director Aerospace Medicine (MED 23B), Navy Bureau of Medicine and Surgery, 2300 E Street NW, Washington, DC; (202) 762-3451, fax (202) 762-3464, cobarker@us.med.navy.mil. Prefer to send electronically via email attached files (all documents in Word).



(US Navy Photo)

From the Secretary

Included in the center of this newsletter is a ballot which includes the Society Nominating Committee nominees for new officers and members of the Board of Governors. The Vice President/President-Elect serves for one year as Vice President, then automatically ascends to the office of President for one year. The Secretary and the Treasurer (the combined offices were separated per bylaws amendment last year) are specified from the NOMI arena (the Society legal and corresponding address is located at NAS Pensacola) for purposes of continuity and accessibility. These offices are traditionally filled by RAMs or NOMI staff members. Members of the Board of Governors are staggered to insure continuity.

The center insert also includes a form for updating/validating your address, billet, status and Aerospace Medical Association (AsMA) membership. Please recall that voting membership in the Society requires concurrent active membership in AsMA. Subscribing members (non-voting, non-designated Naval Flight Surgeons) are not required to maintain AsMA membership. Meeting the AsMA requirements qualifies our Society for affiliate status and membership in the AsMA Board of Governors.

Please take time to update/validate your member information. Our database ages into misinformation rapidly with our mobile population of members, with the resulting mis-addressing of the Newsletter, etc. Additionally, since the Society fiscal year begins in May, annual dues are expected no later than the Annual Business Meeting, held in conjunction with the AsMA 70th Anniversary Annual Scientific Meeting. Please return your ballot/info update to the Society by mail prior to May 10, or, thereafter, bring your ballot to the Society Annual Business Meeting scheduled for 16 May 1999 at the Detroit Marriott Renaissance Center, 1630-1800 in the Cadillac Room.

The Society of US Naval Flight Surgeons approaches the end of its fiscal year in excellent financial position. Generally, sales of memorabilia and professional educational aids and membership dues have constituted the principal sources of Society income. During the past year, we have also received \$2,350 in contributions to fund Society award stipend trusts. Principal expenses continue to be the quarterly Newsletter, annual meeting expenses, cost of sales, and the three Student Flight Surgeon socials hosted by SUSNFS annually. The Student Flight Surgeon socials have been very popular, generating the great majority of our new members. With the cancellation of the Annual Aeromedical Problems



(US Navy Photo)

Course this year, the Society's co-sponsorship of the event was lost. Consequently, new Flight Surgeons became the majority source of purchase of educational materials.

Our Society web site has been somewhat neglected during the past fiscal year. Use of the Internet for professional and educational purposes is a primary interest of your Secretary. Unfortunately, I had not anticipated being both Chief Resident in the aerospace program and Society Secretary simultaneously. The time demands of the two positions has seriously curtailed my ability to address web updates and expansion. Additionally, the current Board of Governors has expressed concern that web content not detract from Newsletter subscriptions, a primary source of income for the Society. In the following two months remaining in my tenure at NOMI I am committed to substantial improvements in the web site. NOMI RAMs have made good progress in converting operational medicine lectures for Student Flight Surgeons to Microsoft Powerpoint format and we plan to make such resources available on the web for all.

We are very proud to announce elsewhere in this Newsletter another outstanding professional reference asset. CDR Jay Dudley, NOMI's Liaison Officer to the US Army Aeromedical Research Laboratory, working with Major Otto Boneta, MC, USA and Major Keith E. Brandt, MC, USAF, have put together the second edition of the *Ultimate Flight Surgeon Reference, 1999*. This CD-ROM based tool is chock full of reference material from all three services. Check out the article on page 25.

We also plan to pursue, as an additional feature of the web site, useful Navy aeromedical resources available for downloading, in the 3COM Palm format. Having captured about 85% of the palm computing market, the Palm devices are ubiquitous in the Senior RAM office, with information being beamed about daily. First candidates for availability: mishap investigation manual, with mishap site drawing tool, and the waiver guide.

With this writing, I am preparing for departure from NOMI to my new assignment, Senior Medical Officer aboard CVN-74, the USS John C. Stennis, our newest operational nuclear-powered carrier, homeported in San Diego, CA. My wife, Holly, and I eagerly look forward

to this assignment. Please look me up when you are in the San Diego area and desire a tour of the ship, and I'll show you how "the oldest resident in the Western hemisphere" gets up and down the ladders!

I intend to continue contributions to the Newsletter and web, including ideas, and urge you to do so as well. As good as our Society is, there is much yet to be done. Under CAPT Terrence Riley's leadership we can make great strides towards the service of Naval aerospace medicine and the men and women who devote themselves to serving the fleet. Over and out.

Dave Gillis
CDR MC USNR
Aerospace Medicine Resident

From the Treasurer

Is it possible to have 100% of our membership dues paid when due? CDR Dean Baily thought so in 1995, when he served as Society Secretary Treasurer. We could try to reach that goal again this year. Enclosed with this issue is a combination ballot/info varification form/dues envelope. Please take the time now to enclose \$15 for you next years dues, if they are due. Simply check your mailing label on the Newsletter to determine if your dues expire in May, 1999.

The Society continues in good financial status. We have had very successful recruiting efforts with newly graduating flight surgeons. Additionally, the Society has received \$2,350 in donations to our award trust accounts, in particular the Mitchell and Jackson awards. Thank you for your continued support. A donation to your favorite Society award trust account in honor of someone who you would like to recognize accomplishes three goals at once, bringing recognition to the individual, strengthens the Society's financial position and contributes to the ongoing honor of the named award. Finally, thank you for your support during the past year. It has been my pleasure to serve the Society as Treasurer.

See you in Detroit.
Lee Anne Savoia McHugh
LT, MC, USN, FS

News From Code 42

The following are several points of information from Code 42 that will soon impact the flight surgeon in the fleet:

1. Medical guidelines for continuous/sustained flight operations, including the use of "Go, No-go Pills", are currently being reviewed at BUMED and will be released pending final BUMED and line approval. The guide is titled "Performance Maintenance During Continuous Flight Operations. A Guide For Aviators, Commanders And Flight Surgeons".

2. Several new medications have been approved by the Aeromedical Advisory Council for use in aircrew and include Propecia/ Proscar (Finasteride: a Type II 5 alpha reductase inhibitor used in the treatment of symptomatic BPH) and Valtrex (Valacyclovir Hydrochloride: an antiviral agent used in the treatment of genital herpes and herpes Zoster). Guidelines for their use will appear shortly on our web waiver guide. Viagra, however, was not approved.

3. A more definitive algorithm for the evaluation and aeromedical disposition of renal stones will be appearing on our waiver guide. The new information will help flight surgeons better evaluate renal stones and abnormal metabolic workups. A significant change is that a first time renal stone such as calcium oxalate with a 100% normal serum chemistry and 24 hour urine evaluation is PQ. Only abnormal evaluations will require waiver consideration.

4. A replacement for the current MICRO 88 program, called TRIMEP, will soon be hitting the streets. TRIMEP is a Windows/PC based program for physical exams that will be downloadable from and transferable on the internet.

5. Flight Surgeons are advised to include their phone number and e-mail address with their waiver package submittals. This expedites the notification process, particularly if a waiver has not been recommended by Code 42. A phone call or e-mail regarding waiver requests that require special and/or expeditious handling (not routine waivers) will help in alerting us regarding their special priority status and expedite their processing.

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NOMI PSYCHIATRY UPDATE

NAA Determinations

The establishment of a member being Not Aeronautically Adaptable/Adapted requires either the diagnosis of a personality disorder or the diagnosis of personality traits that are clearly maladaptive to safety of flight, mission execution, or aircrew coordination. This diagnosis must be made by a mental health professional and there are no waivers granted.

Designated officers and aircrew considered to be NAA following local assessment should be discussed with a NOMI psychiatrist/psychologist. In the case of maladaptive traits or if we have a concern about proper diagnosis, we will strongly recommend the command send the member to NOMI for evaluation. An exception to this is in the case of a very junior aircrew or if the member concurs with the NAA finding.

As stated above, there are no waivers granted for NAA determinations. In the very rare case, if a member is diagnosed with maladaptive personality traits (not with an appropriately diagnosed personality disorder) they may be considered for re-evaluation at NOMI. This would require a period of intensive therapy followed by a two to three year period of demonstrated significant and sustained improvement in the behaviors leading to a maladaptive trait diagnosis.

The best clue as to which individuals may be appropriately considered for a re-evaluation are those who have the insight to recognize their problems initially and who sought help for them. Unfortunately, it is the very individuals who lacked insight initially (as one indication of their personality structure) that are the ones who are vocal in requesting or demanding re-evaluation.

If you are at the early stage of just beginning to have a concern about maladaptive traits, be *very* specific in your documentation of data. The data comes from your encounters with the individual, what is passed in the squadron, and what you learn from the Human Factors Councils (where you **always** need to be an active participant). Try to go from what starts as a "gut sense," and characterize the behaviors to the best of your ability.

Please feel free to always give us a buzz at that stage or at any time, and we will help walk you through the process of where to go next.

The Latest on Deployability of Service Members on SSRI's and Other Psychotropic Meds

Although not an aviation issue, this is an ongoing hot topic that most of you will confront (and be in the middle of!) at some time during your tours. This article will provide you with the most current information, so that you, your senior medical folks, your line commanders, and your referring mental health professionals can reach the best decision in each case. There is a *wide* spectrum of feelings on whether ANY Sailor or Marine with a psychiatric diagnosis (with or without medication) should be in a deployable status. Unfortunately, those on both sides of the argument frequently have an emotional and entrenched view (similar to, if not on the magnitude of,

abortion and physician-assisted suicide!) which seems to be unencumbered by data or common sense.

Ten years ago I was very pragmatic about this issue and was always on the conservative end of things: if someone had an underlying psychiatric disease that required medication they should be on limited duty or receive a physical evaluation board (PEB)–period. However, many things have changed in the past ten years; new medications with minimal side effects, PEBs that return many Sailors and Marines with psychiatric diagnoses to full duty, the severe gapping of sea duty billets, and marked improvement of communication with ships and remote duty stations (email, phone, telemedicine).

The most important considerations in each psychiatric case are identical to those involving an individual with ANY diagnosis and a recommended treatment—whether the diagnosis is chronic recurrent sinusitis, diabetes, hypertension, or major depression. The four primary considerations are: what are the risks of the disease-related symptoms in the operational environment, what is the risk of the required medication in the operational environment, what is the risk if the meds are not available,
(continued on page 12)



(USNavyPhoto)

(continued from page 11)

and what are the potential effects of the operational billet on the underlying disease?

As flight surgeons, your job is twofold - to integrate what is best for the patient with what is best for the Navy. In all cases, you err on the side of safety and minimizing risk for all parties. With each service member with a diagnosis and perhaps on meds, you also use this approach. An absolute is that you never take a risk in safety to keep someone happy (your patient or your CO!). If a Sailor or Marine has an underlying illness or is on medication that has a significant potential of causing a problem in the operational environment, that person shouldn't be there. This is the basis upon which you make every decision involving aviation personnel and the same risk/benefit approach we at NOMI use when making waiver recommendations or vote in a Special Board of Flight Surgeons.

Currently underway is a large study about varied providers' attitudes and experiences regarding Sailors and Marines taking SSRIs (Selective Serotonin Reuptake Inhibitors) and psychostimulants while deployed in the operational environment. We are awaiting the outcome of this and several smaller studies. Pending further discussion and decisions, the following guidelines apply to sending active duty patients to sea while taking SSRIs. These guidelines were developed by a group of psychiatrists working with the Psychiatry Specialty Advisor.

1. The condition for which the meds are prescribed should not be disqualifying for full duty.
2. The patient should not be at risk for dangerous behavior with or without the prescribed medication.
3. The prescribing physician should have spoken with the patient's command (including the medical officer or flight surgeon, and the XO/CO as necessary), and the command is willing to take the patient on the current medication. If the command is deploying with a larger unit the senior physician must also agree (e.g. deploying to a carrier – talk with the SMO!)
4. The patient should be motivated to deploy.
5. The patient must be in the maintenance phase of treatment.
6. Your pharmacy (or that of the operational platform to which the patient is assigned) must be able to supply enough meds to cover a deployment.
7. If in doubt, you should convene a "fitness for duty"

medical board.

As you can see, these guidelines are really "common sense." Contrary to how I thought ten years ago (although still pretty conservative!), I can now imagine some situations where I can envision recommending someone on an SSRI to sea – and might *actually* be able to provide appropriate data to get the SMO to agree to it. I don't want to provide examples, because each case is unique and you need to address the risks and benefits of each case on its merits.

This is an important nonaviation issue where your CO will be looking to you for critical guidance. We will be happy to discuss *any* operational cases with you – they don't have to be related to aviation!

NEW!!!!!! PSYCHIATRY WEB PAGE:

Please take a look at our updated web page. You can reach it by going to the NOMI web page at www.nomi.navy.mil and clicking on "directorates" then "psychiatry" (simple) or directly at www.nomi.navy.mil/code02/21page.htm (for the compulsive amongst you!).

We have placed on the page all of the lectures we give to the student flight surgeons and several others that we give to other various groups. Please feel free to use these, but please check with us before taking slides out of context. Our staff will be happy to go through any of the lectures with you if there are any questions.

There are also some administrative "go-bys" for write-ups, Boxer notification letters, etc. as well as all recent psych updates provided in SUSNFS and some other miscellany.

We would appreciate if you would let us know what else we can give you to better provide support! Keep the calls and emails coming – we appreciate those of you who contact us for questions and to discuss cases!

Deborah J. Wear
CAPT MC USN
Department of Psychiatry
Naval Operational Medicine Institute
Code211@nomi.med.navy.mil

NOMI Class Graduates

Congratulations to the latest class of Flight Surgeons and Aerospace Physiologists who graduated on January 29, 1999.

Graduate	Assignment
LT Mark Bickert	1 st MAW, Kaneohe, HI
LT Brian Brochu	VP 40, Whidbey Island, WA
LT Boeu Chon	COM CVW 14, Lemoore, CA
LT Carl Cowen	1 st MAW, Kaneohe, HI
LT Thomas Deer	COM CVW 7, Oceana, VA
LT Michael Fenton	1 st MAW, Futema, Okinawa
LT Richard Filiaggi	1 st MAW, Kaneohe, HI
LT Robb Friedman	NAVAIRES Pt. Mugu, CA
CDR Erhard Graedler	Feuerweg 6, Nordholz, Germany
LTJG Paul Hauerstein	NAVOPMEDINST DET EAST Norfolk, VA
LT Mark Livingston	Civ. Doctor0 (Reserves)
LTJG David Peterson	NAVOPMEDINST DET WEST San Diego, CA
LCDR Mark Pressley	2 nd MAW FMF LANT, Cherry Point, NC
LT Scott Pusateri	NAVHOSP Pensacola, FL
LT Jamie Ramsay	MAG 26 MCAS New River, NC
LT Kimberly Roman	NMC Patuxent, MD
LTJG William Setley IV	NAVOPMEDINST DET CEN Pensacola, FL
LTJG Barry Shaddix	NAVOPMEDINST ASTC Jacksonville, FL
LT Douglas Smith	MAG 29, MCAS New River, NC
LT Nicki Tarant	COM CVW5 Honshu Yokosu, Japan
LT Kimberly Toone	Mayport A/C OPR DET, FL
LT Kenneth Totz	NAVAMBCARCEN New Orleans
LT Arvin Trippensee	1 st MAW Iwakuni, Japan
LT Alan Vanderweele	BRMEDCLINIC NPTC El Centro, CA



(US Navy Photo)

COMMENCEMENT ADDRESS TO NAVAL FLIGHT SURGEON AND AEROSPACE PHYSIOLOGIST GRADUATION AT NAS PENSACOLA

JANUARY 29, 1999

(By Dr. Joseph, former Assistant Secretary of Defense for Health Affairs)

I am deeply honored and down-right delighted that you have invited me here to speak today. No memories of my years as Assistant Secretary of Defense are as precious to me as the times I spent out visiting, riding, flying, sailing with the great people whose dedication, integrity, and competence keep all the rest of us safe and free. Sometimes my travels were deadly serious, sometimes they involved fabulous horsing-around, but always they were personally and professionally renewing beyond anything else during those years.

Health professionals in the military are a special breed. But military health professionals who will go in harm's way in the air, undersea, and catapulted off the water are a special breed within a special breed.

I want to tell you that I know your secret: that you are all part adventurers and crisis-junkies, but that your secret is safe with me (I have some of the same genetic dysfunction), and that it is a character trait that you can, and should, be very proud of, not otherwise.

I also want to tell you that I know that all of you are also an even greater part patriots, and physicians and others of high capability and accomplishment, and that by your choice of flight medicine you demonstrate the intellectual as well as the physical compulsion to go "higher, further, and faster."

Your line comrades recognize the quality and dedication of military medicine as well. Let me tell you that every year in the Pentagon budget struggles, at the point where the nasty Green Eyeshades were threatening to take still more from the health accounts, I would hear the argument more or less settled when some grizzled old Marine General would say, "Well, if Navy medicine hadn't dragged me off the beach, I wouldn't be here now, So let's give them what they need."

During my years at the Pentagon, three things in particular

sharpened my personal interest in Navy Flight Medicine: One was reading your commanding officer, Captain Riley's book "Ship's Doctor" (the 2-page prologue of medical emergency on the Forrestal's flight deck grabbed me and never let go); a second was getting to know a young 23-year old Navy doctor with whom I went through the Combat Casualty Care Course in San Antonio, who wanted to become a Navy Flight Surgeon (and she did); and a third was reading a tale of derring-do in "Navy Medicine" in 1994, concerning then-Jacksonville VP-45 patrol squadron doctor LT. Rich Assaf, who found himself one stormy weekend on a helicopter sea rescue mission off Iceland with (believe it or not) the US Air Force, without his jump bag. It all still sounds pretty good to me.

I know that Captain Riley is very fond of telling students here about the lessons of the Battle of Agincourt, about how the intense teamwork and commitment, and the use of innovative technology, carried the day against numerically far-superior forces. I want to add to his favorite lecture some actual historical footnotes about Agincourt that probably very few of you know:

At the Battle of Agincourt, the French, who were overwhelmingly favored to win, had threatened to cut off a certain body part of all captured English soldiers, so that they could never fight again. The English, of course, won the battle in a major upset, and as a gesture of defiance waved the body part at the defeated French. Question: What was this body part? Answer: The body part which the French had proposed to sever from the English after defeating them was, of course, the middle finger. Without the middle finger, it is impossible to draw the longbow, the technologic military innovation which had defeated the French!

The longbow was made from the native English yew tree, and so the act of drawing the longbow was known popularly as "plucking the yew." Thus, when the victorious English waved their middle fingers at the defeated French, they shouted, "See, we can still pluck yew. PLUCK YEW!"

Over the years, some folk etymologies have grown up around this symbolic gesture. Since "pluck yew" is rather difficult to say (as difficult as is "peasant mother pheasant plucker", which is who you had to go to in order to get

the feathers used on longbow arrows), the difficult-to-pronounce consonant cluster “PH” at the beginning has gradually been changed to the more easily-pronounced labiodental fricative “F”.

Thus, the words often used in conjunction with the one-finger salute are quite mistakenly thought to have something to do with an intimate encounter. Further, it is also because of the pheasant feathers on the arrows that this symbolic gesture of defiance is known as “giving someone the bird.”

I hope that you and Captain Riley alike profit from this lesson in military history.

But do not mistake my lighthearted words. I know that what you are about, and what your current accomplishment here today symbolizes, is not just about thrill, and rush, and competitiveness, and constructive aggression, and adventure. It is more deeply about service, and commitment, and the highest of professionalism, and the frontier between caring for your patients and the iron laws of scientific integrity.

I am not going to talk to you about “Duty, Honor, Country”- you know about that at the depths of your being, or you would not be here today.

But I do want to say a few words about medicine, and its future, and your part in it, with particular reference to military medicine.

One of the main things that drew me into medicine was a LIFE magazine photo essay published in 1949, done by a great photographer, W. Eugene Smith (who, incidentally, had photographed the carrier war and island assaults with the Navy and Marines in the Pacific, and was himself seriously wounded in a kamikaze attack aboard, I think it may have been, the Enterprise).

Smith told, in photographs, the story of a young doctor, Eugene Ciriani, who returned from WWII service in the Navy and took up a rural general practice in the ranching and mountain town of Kremling, Colorado. That medically-independent and demanding life in America’s West seemed to me, as a boy of 12, to be the ideal. And that was, in effect, an accurate picture of much of American medicine in the immediate post-War years, just at the

dawn of specialization, and before the growth of group practice and high-technology hospitalization.

What changes the past 50 years in medicine have seen! When I graduated from medical school in 1963, only 35 years ago, the private practice of medicine was still a cottage industry, and the explosion of high-technology, sub-specialty, tertiary hospital-based care was still in its infancy. Fee-for-service entrepreneurial practice was the norm; prepayment was denounced as “socialism”, and the belief was prevalent among my teachers that the endless wonders of “Big Science” would lead the way into a uniformly bright medical future. Our patients were involved in decisions about their care mostly by saying, “Yes, doctor.” The paradigm was an amalgam of Arrowsmith, the comic-strip character Rex Morgan, MD, and television’s Ben Casey.

All of these high expectations have proven, to a greater or lesser extent, illusory, at least to date. Health care in America is increasingly controlled by Corporate giants and for profit ethics. Doctors and patients alike are increasingly dissatisfied and disillusioned, given the problems brought about by runaway costs, growing impersonality, and defensive medicine in the face of shark-filled legal waters. The miracles continuously wrought by the scientific advance of biomedicine seem too-often to largely result in information overload for the practitioner, fragmentation and duplicative procedures for the patient, and a Gordian knot of ethical and policy dilemmas for the society.

We seem to have, paradoxically, within our current REACH immeasurable power to improve health and combat disease, to empower our patients and our art, and to achieve an equitable access to the best available care, and yet within our current GRASP to have only the bitter ashes of acrimony and loss of credibility with our patients.

Robert Browning said, “Ah, but a man’s reach must exceed his grasp, or what’s a heaven for?” Well, can’t we rise a little higher, increase both our reach AND our grasp, push the envelope in the direction of true progress?

Military medicine is not immune to any of these dilemmas. Military medicine feels the same external and internal pressures as the civilian sector. The shift to TRICARE
(continued on page 16)

(continued from page 15)

and managed care, the dilemmas of how to keep faith with our aging retirees (especially those who were on active duty during World War II), the pressures of constrained resources in the face of increasing costs, the challenges of the technologic frontiers from telemedicine to biodefense, the public skepticism over Gulf War Illnesses and DNA repositories—all of these are direct analogues to the problems in the wider sector.

But we who are committed to military medicine (if you will permit me to still use the second person plural) have a number of advantages that I believe can help us “find a better way”, not only for our own system, but for the larger community. Let me briefly enumerate a few of them:

1. A bonding and shared identification with our patients that is remarkably closer than in the civilian sector. (If you wish to see an outstanding example of this point, go talk to the Independent Duty Corpsman, and the Captain and crew, of a nuclear attack submarine).
2. An institutional commitment to, and sustained drive for, excellence and integrity that, however it may fall short in a given instance, still remains the standard to be expected of ourselves and our colleagues.
3. A tradition of systematic and organizational discipline and self-discipline. This is no small advantage in the face of social, political, financial, and scientific disarray.
4. A results-oriented work ethic, that can look with an unjaundiced eye at the proper balance between new technology and personal achievement. You KNOW how much difference the rapid quality of individual human medical judgement and skill can make on the assault beach. You also KNOW how much can be gained, as former Navy Surgeon General Admiral Harold Koenig was fond of saying, by electronically “moving information instead of patients” from the carrier group at sea to Bethesda, Portsmouth, or San Diego and back.

I do not think it is an exaggeration to say that you, individually and collectively, can use these advantages of military medicine to help us all find our way into that brighter future that we seem for the moment to have lost.

What would be my short prescription by which you can do that?

Be, first and foremost, the best and most caring physicians that you can be. This should be true whether you are in combat operations on the flight deck, or in the shore-side clinic sorting through with a pilot the implications of his or her medical conditions for flight status. When former Chief of Naval Operations Admiral Boorda, who knew as much as anyone about what made Navy medicine what it is, spoke to a TRICARE conference a few years ago, what he said he remembered most, and valued most, was the caring and availability of his family’s pediatrician when he was an E-1. I sent the videotape of his talk through the military medical community, and I recommend it to you highly. It is the best example I know of how we would wish to have others see us.

Draw strength from the fact that you are but a part of the larger military community and purpose, and not separate from them. This has largely been lost in the civilian community, to the great detriment of physicians and patients alike. I will never forget the experience of going aboard a Los Angeles-class submarine and seeing the connection between that 21-year old Independent Duty Corpsman and the rest of those aboard, from crew to Captain. Not only did he have their trust as “the Doc”, but he and they were all quite literally in the same boat together, whatever circumstances might arise.

Never sacrifice scientific integrity to political or career expediency. I absolutely assure you that at some point in each of your careers you will be faced with this choice—it goes with the territory. But never do it, for it is the greatest dis-service you can do both to yourself and to those who are putting the pressure on you.

As you move up the chain, never forget the perspective of the people at the sharp end. This will not only give you the pleasure of nostalgia, it will also keep you honest.

Finally, squeeze every ounce of juice out of your daily experience, whether you are squeezing golden oranges or squeezing lemons. Intensity is a growth hormone.

Who knows what extraordinary adventures and challenges you will be immersed in a year from today? Who

knows where your careers in the service of medicine and our nation will lead you? Who knows which one of you may become Surgeon General, or a physician whose name is remembered proudly, and whose stories retold, where others gather? Who knows what shares of perils and honors, of risks and even disappointments, may be your lot? All that lies in the future.

For today, my congratulations to you, your friends and loved ones. It has been an honor to be with you here. I wish you fair winds and following seas.

Stephen C. Joseph
MD MPH

NOMI Holds Clinical Hyperbaric Medicine Course

The Department of Hyperbaric Medicine at NOMI recently sponsored a "Clinical Hyperbaric Medicine Course" from the 22nd to the 28th of March 1999. The course was attended by physicians, nurses, corpsmen and divers. Physician participants were awarded 34.25

Category I CME hours. The course director, LCDR G.W. Davis, and the department's medical director, CDR J. Chimiak, were able to assemble a truly remarkable faculty. Guest speakers included several icons of Navy diving medicine and hyperbaric medicine including CAPT Claude Harvey (USN,ret.) and Dr. Eric P. Kindwall. Dr. Harvey is well known to NOMI as a distinguished presenter for NOMI's Hyperbaric Medicine Department. Dr. Kindwall is a former DMO and currently is an Associate Professor of Hyperbaric Medicine at the Medical College of Wisconsin. Dr. Kindwall is also the editor of the textbook "Hyperbaric Medicine Practice". Other special visiting speakers included the medical directors from two of our local civilian hyperbaric medicine treatment centers: Dr. Yanehiro, a vascular surgeon, and Dr. Phillips, a cardiologist. Our staff here at NOMI (CDR Porter: Neurology, CDR Phelan: ENT, CAPT Valdez: Aerospace/Diving Medicine and the Hyperbaric Medicine Department) also presented. It was a unique educational opportunity for all those who attended.

The Editors



(US Navy Photo)

RAMs Participate In 3rd MAW Trauma Rotation

Aerospace Medicine Residents CDR Frank Chapman and CDR Lee Mandel completed their one month trauma rotations at the King-Drew Medical Center in Los Angeles, California. Although all of the RAMs do a one month trauma rotation as part of their training syllabus, this trauma rotation is unique in that the RAM participates on one of the trauma teams with a Navy Corpsman in the care of trauma patients. The program was initially established through the efforts of the 3rd Marine Airwing and the King-Drew Medical Center in Los Angeles. It was initially established to provide training for 3rd MAW Flight Surgeons and Corpsmen in the triage, rapid assessment, stabilization and treatment of blunt traumatic and penetrating injuries.

The Editors

PHYSIOLOGIC EVENT: MISADJUSTMENT OF NIGHT VISION DEVICES

The following narrative is from a recent naval aviation hazard report. Prior to launch the pilot pre-flighted his AN/AVS-9 using a Hoffman ANV 20/20 test set. The focus and adjustments were normal except the initial attempt to adjust interpupillary distance resulted in each eye being able to focus/obtain correct image independently, but with both eyes open a slight double image resulted. The pilot's eyes adjusted to the phenomena rapidly with no other problems noted- NVDs were accepted. The pilot launched as the lead F-18 aircraft. Passing 3000 feet MSL, the pilot engaged the autopilot and donned his NVD goggles. An immediate impression was that "something wasn't right". The pilot's sensation was that his "eyes crossed". The pilot rotated his NVDs up and back down to trouble shoot. During trouble shooting, the pilot determined that the lenses were loose on their mount and he could manipulate the direction each lense was pointing easily. By the time the trouble shooting was complete, the pilot's eyes had adjusted and the sortie continued with the use of NVDs. To this point focus was fine, but the pilot's thought was that the lenses

were pointing in slightly different directions causing the strange perception. The tactical portion of the sortie was uneventful, though towards the end the pilot began to experience a mild headache. During return to base and enroute descent, the pilot set his auto pilot and rotated the NVDs to lock them in the up position. The pilot experienced immediate problems focusing and therefore left the autopilot engaged. Approximately 3 minutes elapsed before the pilot's focus returned to an acceptable level. The pilot degoggled and executed an uneventful landing. After landing, another pilot tested the goggles on the ground and found the same perception. The NVDs were "downed" pending an investigation of the cause of the malfunction. Examination of the goggles by the avionics technicians revealed no discrepancies except a mis-adjustment of the diopter setting. The pilot donned the goggles on deck after the adjustment and felt that they were now completely normal. The pilot involved had 1904 hours in type and 167 hours of NVD use with no prior difficulties noted. Even experienced pilots can have focusing problems due to mis-adjustment of AN/AVS-9 night vision devices.

The Editors

Dietary Supplements are Harmless, Right?

Apparently not all "dietary supplements" are harmless. The February 26, 1999 MMWR identified an outbreak of cases involving GBL toxicity in Minnesota, New Mexico and Texas. According to the MMWR, "products containing gamma-butyrolactone (GBL) are marketed for many claimed purposes, including to induce sleep, release growth hormone, enhance sexual activity and athletic performance, relieve depression, and prolong life. GBL is converted by the body into gamma-hydroxybutyrate (GHB), a drug banned outside of clinical trials approved by the Food and Drug Administration (FDA). Recognized manifestations of GHB toxicity include bradycardia, hypothermia, central nervous system depression, and uncontrolled movements... [GBL containing] products known to have been used included "Renew Trient", "Revivarent", "Revivarent-G" and "Blue Nitro Vitality"... GHB mixed with ethanol acts synergistically to produce central nervous system and respiratory depression. Symptoms usually resolve with supportive care within 2-96 hours. Death occurring when GHB was the sole intoxicant has been reported. Toxic effects of

GBL would be expected to be similar or identical to those of GHB; treatment consists of supportive therapy until symptoms of toxicity subside. A withdrawal syndrome, which can include insomnia, tremor, and anxiety, has been reported following discontinuance of GHB in chronic, high-dose users.

GBL is an industrial and household solvent of acrylate polymers, and unintentional poisonings have been reported. It also is marketed as a dietary supplement at health food stores and on the World-Wide Web under several trade names. Although labeled as dietary supplements, GBL-containing products are illegally marketed, unapproved new drugs that have been involved in at least 55 reports of adverse events, including one death. On January 21, 1999, the FDA asked manufacturers to recall their GBL-containing products and warned consumers through press releases to avoid taking these products. Public education efforts should inform consumers that FDA review procedures for drugs are different than those used for dietary supplements. Consumers should be alert to the potential dangers of these products and understand that the terms such as "natural" do not necessarily imply safety. Physicians should counsel patients about these products and be prepared to recognize and treat the toxic reactions that some might produce. Chronic GBL users should be monitored for withdrawal symptoms when discontinuing use of the product. Depending on the severity of the withdrawal symptoms, medical intervention may be required. Physicians are encouraged to report serious adverse events associated with these products to FDA's MedWatch program, telephone (800) 332-1088."

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The Editors



(US Navy Photo)

RAM's CORNER

First Annual RAM Community Cleanup

Friday March 5th, 1999 a band of RAM's with a few significant others in tow, set out to solve some of the world's problems. With this goal in mind, they decided instead to pick up some garbage at a local island across from Sherman Cove Marina, N.A.S. Pensacola. This fearless group, undaunted, by a cloudless sunny day, lots of food and drink (non-alcoholic, of course) were able to persevere and complete the task at hand. Their weapons of choice, were 32, three ply, polyethylene plastic, 16-gallon capacity, dark green garbage bags. Each volunteer met his duty steadfastly in the face of the constant danger of sunburns, sand flies, and fire ants. A few conscripts i.e. LCDR Ed Park also readily accepted their responsibilities; his being, to ensure no food went to waste. CDR Lou Valbracht, CDR Frank Chapman and LT Tim O'Hara took to their task, as dedicatedly as shoppers at a K-mart fire sale. In fact, some of the garbage had to be pried from CDR Frank Chapman's grip. After a day of tireless work our heroes gathered around the 20 garbage bags that had been collected, only to face one final test of courage. One of the pontoon boats captained by the mechanically challenged LCDR Dave Wilcox, failed to start, however, to the rescue came one of the fearless MWR staff, who saved the day. This day shall go down in Pensacola's history as one of the RAM's finest hours and we expect it to be repeated again next year.

David Wilcox

MDCAF

Aerospace Medicine Resident



(US Navy Photo)

Anthrax and Force Protection

The threat of Biological Warfare is a fact of life for the U.S. military today, and *Bacillus anthracis* is one of the likely agents that would be seen in a biologic attack. To counter this threat the Department of Defense has begun to vaccinate U.S. military personnel against anthrax. We also depend on personal protective equipment to protect personnel from unknown biological agents.

A gram-positive spore-forming rod called *Bacillus anthracis* causes anthrax. Anthrax is a disease of herbivores. It is rarely seen in humans in industrial and agricultural settings. There is less than one case per year in the United States. Human anthrax is made up of 95% cutaneous, 5% inhalational, and <1% GI. There has never been evidence of human to human transmission.

Cutaneous Anthrax- The bacillus gains entry through abrasions or cuts. It is generally localized, but disseminates via the lymphatics in 5-20% of untreated cases. The incubation period is usually 2-5 days. The lesions start as a nondescript papule, which turns into a vesicle. This ulcerates and then becomes the classic black eschar. Symptoms include fever, headache, and regional lymphadenopathy. Untreated cases have a 5-20% mortality rate. Treatment does not effect the progression of the lesion.

GI Anthrax- Caused by ingestion of spore infested meat. Initial site is usually the terminal ileum or cecum, but then transported to the lymphatics and disseminated and causing death. The incubation period is normally 2-5 days. Mortality is very high in this rare form of anthrax. Signs and symptoms include abdominal pain, hematemesis, melena, hemochezia, and ascites.

Inhalational Anthrax- Spores are inhaled and then ingested by macrophages. Then carried to lymph nodes and later disseminated. Incubation period is 1-6 days and the disease starts with a low grade fever, nonproductive cough, myalgias, and malaise. After 2-4 days there is a transient improvement, then an abrupt onset of respiratory distress, shock, and death in less than 24 hours. Chest X-ray can show a widened mediastinum and/or pleural effusion.

Treatment- The drug of choice is penicillin, but ciprofloxacin or doxycycline can be used as alternatives. Natural resistance to penicillin is rare, but in an NBC scenario resistance can be expected. Cutaneous anthrax can be treated orally, but GI and inhalational anthrax both require IV antibiotics and an ICU setting. Postexposure antibiotics have also been proven effective.

Prevention- There is one vaccine used to prevent anthrax approved by the FDA in 1970. It is recommended of non-pregnant adults 18-65 years old. It has an estimated efficacy of 92.5%, derived from a study of mill workers in the northeast. The side effects include local reactions (30% mild & 4% moderate), joint aches, nausea, loss of appetite, and headache. Effective protection begins about 6 weeks after initiation of the vaccine. It is given in 0.5 mL doses at 0, 2, 4 weeks and 6, 12, 18 months, and requires an annual booster. Gas mask are also considered excellent protection.

On March 31st of this year, the Pentagon announced that service members, DOD emergency essential civilian employees and contractors must now receive anthrax vaccinations if they spend anytime in one of ten high threat areas. The Pentagon identified the high threat areas to be Saudi Arabia, Kuwait, Oman, Qatar, United Arab Emirates, Bahrain, Jordan, Yemen, Korea, and Israel. Previously only DOD personnel who were deployed for more than 30 days to a high threat area had to start the six shot vaccine series.

Approximately 250,000 U.S. service members and DOD civilians will be inoculated in 1999. Already roughly 218,000 service members have received about 616,000 shots of the vaccine. Fewer than 200 have refused the shots. The DOD considers the refusal to comply with the anthrax immunization program as a violation of a lawful order that not only endangers an individuals health, but also places the unit and mission at risk. Those individuals who refuse the anthrax vaccine may find themselves facing disciplinary action.

A routine 12 hour downing period is recommended following an immunization with the anthrax vaccine.

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Brian Wells

LT, MC (FS), USNR

Aerospace Medicine Resident

New Cardiac Monitor Proven To Be Hyperbarically Safe

What do you do with a Scuba Diver who has missed approximately 54 minutes of decompression from five dives the day before and presents today after diving, with a headache, chest discomfort and an improving paraplegia. Well, other than run for the hills, there is a newly approved cardiac monitor that can help in your preliminary assessment.

This particular patient had just completed an 82 foot dive with a bottom time of 20 minutes and a total dive time of 23 minutes. Approximately 15 to 20 minutes after surfacing he started to develop chest discomfort, a headache, and right arm tingling, which progressed to tingling in his right then left leg. The patient thought he might be having a heart attack and took one nitroglycerin tablet with little improvement.

Not to disappoint us, his past medical history indicated that he had had exertional angina that was treated with the placement of a stent about a year ago.

The patient's tingling progressed to include his buttocks, but never got to the point of urinary or fecal incontinence. The patient called the Coast Guard by radio and asked them to meet him at their pier, which is about a 5-minute drive from our hyperbaric chamber at NOMI. By the time he reached the pier he was suffering from a complete paraplegia and had to be carried from his fishing boat. The paramedics on scene immediately placed him on 100% Oxygen which markedly improved his situation. By the time I saw him, he was able to walk again. However, we still had a patient who most certainly was suffering from decompression illnesses. But what of the chest discomfort? Was he also having a MI? Should

we delay the hyperbaric treatment to get blood work and a 12 lead ECG at NAS Pensacola Hospital, which is approximately 15 minutes away? With transfer time back and forth, this could mean a delay of one to two hours in his treatment.

Well, to our aid comes PAM and I don't mean the Teflon protector, rather I'm referring to the new Personal Arrhythmia Monitor produced by Technology Transfer. This monitor weighs just over 1 pound and measures 6.5" x 4.0" x 1.4". It has a quick look capability relying on a new dry electrode technology (integral electrodes) so that you do not need wires, patches or jellies. It can immediately display ECG data on the liquid crystal display screen or relay data to another location using a modem. It also has a 12 lead cable capability which is what we used in this situation. After drawing blood for cardiac enzymes, the patient was immediately placed in the chamber under a Table 6 protocol and the 12 lead ECG was completed in the chamber.

Well, this story has a happy ending. As you guessed, the patient wasn't suffering from a myocardial infarction in addition to his decompression illness. He responded well to serial Table 6 treatments. Thanks to PAM we were able to provide the patient with the correct treatment immediately.

David Wilcox

LCDR Canadian Navy

Aerospace Medicine Resident



(USNavy Photo)

FROM THE FLEET

Barotrauma Revisited

After a good kick-in-the-pants cat' shot, the twenty-seven year-old Hornet pilot began his climb once he was outside of the seven nautical mile safety radius surrounding the aircraft carrier. But he curtailed his ascent and leveled off at seven thousand feet on his way to the target. He just could not bear the pain in his left ear any longer, and the Valsalva maneuver was not helping at all.

He completed his mission without incident and returned to the stack via his self-imposed seven thousand foot flyway. After an okay-three wire he debriefed, then reported to one of the Flight Surgeons. Although his otalgia had dissipated upon returning to sea level, he was worried about the fact that he could not Valsalva.

His history was significant for a mild upper respiratory infection over the past few days, but "nothing [he] couldn't handle." When he noticed he was having difficulty with his Valsalva, he flew anyway. His physical examination was remarkable only for a lack of tympanic membrane mobility on the left. He was diagnosed with a Eustacian tube dysfunction secondary to a viral upper respiratory infection, given a decongestant, oxymetazoline nasal spray and acetaminophen. He was grounded, but back to flying within forty-eight hours without further incident.

An unusual story? In some ways, yes. Eustacian tube difficulties on ascent are the exception rather than the rule. Usually dental barotrauma manifests upon ascent, while barotitis and barosinusitis manifest upon descent. However, nothing in medicine is ever one hundred percent true, right? And barotrauma can manifest in any number of different ways, ranging from mild cases such as the one discussed above, to the full-on tympanic membrane rupture or formation of a perilymph fistula.

When was the last time this pilot had a lecture on barotrauma? "I think I learned about it back in Pensacola." Did he carry a checklist to combat ear or sinus squeeze in the air? "Oh... I had one of those cards once. I'm not sure what I did with it." Did he try any of the alternate Valsalva techniques? "The what?" Where did he carry his emergency bottle of Afrin? "I can take that with me? Can I get some here?"

As Flight Surgeons, it is our responsibility to be certain that these questions never need to be asked.

Every squadron is required to have certain aeromedical briefs every calendar year. (If you are not certain of the requirements, ask your Aviation Safety Officer, or consult the latest edition of OPNAVINST 3710.7.) Remember that you are not limited to the required subjects, however. One subject which is conspicuously missing, which I feel every Flight Surgeon should include annually, is a ten-minute brief on barotrauma. Your patients need to know that grounding an aviator for two days to treat Eustacian tube dysfunction is a far-cry less excruciating than waiting for a bloody and subsequently infected middle ear to simmer down.

Does every aviator with an upper respiratory infection need to be grounded? Of course not. If that were the case, there would have been no pilots available for Operation Desert Fox, because they were launching from a thirty-seven year old floating Petri dish affectionately known to the troops as "The Big E." But aviators need to know how to self-assess, and guess who is their teacher?

A few years ago, I revamped the little blue barotrauma checklist. I reformatted it to make the reading a little less technical, simplified and changed a few of the steps, and formatted it into a size suitable for insertion into an aviator's "Blue Brains." And, it is even environmentally friendly: two checklists on one sheet of paper! I have enclosed a sample that you may photocopy to distribute to your aviators. Inhaling steam in a Tomcat? Obviously, some steps must be omitted in certain aircraft due to logistical hurdles!

Ask yourself, when was the last time you gave an aeromedical brief to your squadron on barotrauma? Maybe now is the time to avert potential disaster. Remember, it is our job to "keep 'em flying," and dare I say it? "An ounce of prevention is worth a pound of cure."

Walter Wm. Dalitsch III
LCDR MC USNR FS
VMFA-312



(US Navy Photo)

Ear and Sinus Blocks

Symptoms

Ear Block

1. Inability to Valsalva
2. Ear pain or pressure
3. Muffled hearing

Sinus Block

1. Cheek or forehead pain/fullness
2. Tooth pain
3. Sudden congestion

Treatment

Both Ear and Sinus Blocks

Try each step in turn. Continue descent slowly when symptoms cease, keeping in mind that these steps may need repeating. **Seek medical attention immediately upon landing.**

1. Level off and repeat Valsalva.
2. **Increase** cabin altitude to relieve pain.
3. Valsalva with head back or to side.
4. Valsalva with finger completely plugging **good** ear.
5. Inhale steam or drink water and **wait two minutes**. Valsalva.
6. Oxygen mask technique:
 - a. Ensure **complete seal** with face.
 - b. Set and hold regulator to ON – 100% - TEST MASK (constant flow).
 - c. Tilt head back and swallow.
 - d. Remove mask and yawn, chew or swallow to equalize.
7. Afrin (or other nasal spray) technique:
 - a. If allergic to medication, **do not use**.
 - b. Two sprays each nostril, waiting one minute between sprays.
 - c. Valsalva.
8. If none of these steps offer relief, repeat the checklist.
9. If nothing works, the only choice is to descend.

Ascending sinus block is another medical condition, with similar symptoms, but on ascent. To treat:

1. Follow same checklist as above, but:
2. **Decrease** cabin altitude.
3. **Skip** oxygen mask technique.

LT Walter Dalitsch, MC, USNR

Jan 96

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LT Walter Dalitsch, MC, USNR

Jan 96

Contact Urticaria in the Aviation Workplace

I had recently reported to my new squadron in Puerto Rico, and was just getting a routine down when a young airman came to see me in my office. He sat down and proceeded to tell me his four-month history of having pruritic, burning hands with a diffuse urticarial rash that was resistant to treatment.

The young airman had been seen by the base family practitioners on two different occasions. He initially had been prescribed antihistamines, told that it was something he had come into contact with, and that it would go away. On the second visit, he was told the rash was due to something indigenous in the tropical environment and to "just be careful about what he came in contact with." The rash had not gotten any worse, nor was it improving, when the airman decided to pay his friendly neighborhood flight surgeon a visit.

After taking a thorough history, the patient admitted to a prior isolated episode during A school, which resolved spontaneously. The rash had returned after the airman had been working in corrosion for about two weeks. He admitted to wearing protective gloves occasionally but more often than not worked with his bare hands. The airman denied any new detergents, foods, drugs, illness, clothes and other common causes of urticaria.

The association of the urticaria with something in the airman's workspace was obvious, but the dilemma of tracking down the offending agent or agents was daunting until a wizened chief informed me of the existence of the Authorized Usage List (AUL) and the Materials Safety Data Sheet (MSDS). Every workspace in the squadron has an AUL which shows what materials that shop is authorized to use for its jobs, and a MSDS which provides the ingredients, physical/chemical characteristics, fire/explosion hazard data, reactivity, control measures and most importantly, health hazard data for every item in the AUL.

The information contained in the AUL and MSDS is invaluable. According to the MSDS, almost every agent used in corrosion had the potential to cause some kind of mild dermatitis, but there was no specific mention of urticaria. I ran a Medline literature search on every agent that could cause dermatitis according to the MSDS, and what I found made the diagnosis.

In the middle of my search, an article appeared documenting contact urticaria from xylene (Weiss), which

is found in the paint thinner used by corrosion. Reinterviewing the patient, I found he had direct skin contact with paint thinner on a daily basis during his job. The article suggested using xylene-resistant gloves for patients with this allergy, but the gloves were not available on our little island. We thus had the airman refrain from using any products with xylene in them, as identified by the MSDS. In nine days, the rash resolved completely and did not return for the rest of his tour. The young airman PCS'd shortly thereafter and he was supposed to receive patch testing upon arrival at his next duty station.

The lessons I learned in this case have aided me in dozens of subsequent situations. I have used the information contained in the AUL and MSDS for many clinical and occupational problems confronted by my squadron and squadron mates. The publications are a valuable source of pertinent information for new GMO's, DMO's, Flight Surgeons and salty MO's alike. I would urge all operational medical officers to look through these manuals and make them a regular source of information in their squadron's medical reference library.

REFERENCES

- (A) Weiss R. R., Mowed C.; "Contact Urticaria From Xylene"; American Journal of Contact Dermatitis, Vol. 9, No. 2 (June), 1998; pp. 125-127.

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(US Navy Photo)

The NEW 2nd EDITION Ultimate Flight Surgeon Reference CD Is Now Available

CDR Jay S. Dudley, Major Otto Boneta (USA), Major Keith Brandt (USAF) and numerous others have produced the 1999 new version of the Ultimate Flight Surgeon Reference CD. In addition to a Triservice Waiver Guide, the CD has a large amount of information accumulated from the military services, FAA and NASA to help assist the practicing flight surgeon. The Table of Contents includes:

US Navy Links:

US Navy Flt Surgeon's Manual
 Naval Powerpoint Presentations
 Occupational Medical Investigation (CDC)
 US Navy FS Handbook
 NOMI Aviation Psychiatry Textbook
 Vaccine Preventable Diseases (CDC)
 US Navy Flight Surgeon's EPOP Text
 Lee Morin Crash Analysis Program
 CVN Fatigue & Surgeops Briefing
 US Navy Flight Surgeon's Waiver Guide (1998)
 Mishap Database "Notebook" Program
 Navy Uniform Regulations
 Chapter 15 Manual of the Medical Dept
 1998 STD Treatment Guide (CDC)
 Navy Ribbon Precedence Board
 Occupational Med Field Manual 1996
 American Heart SBE Prophylaxis
 Navy Ribbons Individually Displayed
 US Navy Pocket Ref to AC Mishap
 Navy Diving Man (Med Chap 8)
 Navy Medals Individual Display
 US Navy MIR Enclosures List
 Navy Diving Manual Changes #1
 Cold Weather Medicine
 Navy Diving Manual Changes #3
 OPNAVINST 3710.7R
 OPNAVINST 3750.6Q
 3750.6R Draft Aeromed Analysis
 PROPOSED HUMAN FACTORS ANALYSIS
 HUMAN FACTORS ANALYSIS AND CLASSIFICATION SYSTEM (HFACS)

US Army Links:

Training Support Package (TSP)

Army Regulations and Pamphlets-IBM Library Reader
 Army Field Manuals
 Aeromedical Policy Letters- USAAMA Helpfiles 101 (Windows 95/98)
 CAD Risk Calculator 16-bit (Install)
 FAA Medical Standards
 1998 ARMS Checklist
 1999 ARMS Checklist- Proposed effective date June 1999
 CHPPM's Basic Course In Occupational Medicine
 Occupational Medicine Surveillance Manual DOD 6055.5-M
 Cold Weather Operations
 Medical Management of Chemical Casualties Handbook
 Defense Against Toxic Weapons
 Medical Products for Supporting Military Readiness (Vaccines & Drugs)-GoBook
 Leaders Guide to Crew Endurance
 Commander & Staff Risk Management Booklet
 Expert Field Medical Badge Requirements

US Air Force Links:

USAF Flight Surgeon's Guide

Joint Publications:

Joint Pub 4-02 Doctrine for Health Services Support for Joint Operations
 Joint Pub 4-02.2 Joint Tactics, Techniques and Procedures for Patient Movement in Joint Operations

FAA Links:

FAA Guide for Aviation Medical Examiners-Front 8500-8
 FAA Guide for Aviation Medicine Examiners-Back 8500-8 (Item#21-48)
 FAA Guide for Aviation Medicine Examiners-Back 8500-8 (Item#49-64)
 FAA Guide for Aviation Medicine Examiners- Appendix B & C
 FAA Guide for Aviation Medical Examiners (Web format)
 Aeromedical Certification Part 67 – Medical Standards & Certification
 Summary of Amendments to Part 67 (1996 changes)
 FAA Pilot Informational Handouts

(continued from page 25)

Preventive and Occupational Medicine Links:
(continued on page 26)

Putting Prevention into Practice Information
 Treatment Recommendations for Common Infections
 1998 STD Treatment Guide (CDC)
 American Heart SBE Prophylaxis
 US Army Safety Center's Leaders Guide to Crew Endurance
 Vaccine Preventable Diseases (CDC)
 Vaccines & Drugs for Supporting Military Readiness
 Occupational Medicine Surveillance Manual DOD 6055.5-M
 Occupational Medicine Field Manual 1996 (NEHC 62606 TM96-2)
 Occupational Diseases-A Guide to their Recognition (NIOSH) Publication No. 77-181
 Occupational Medical Investigation (CDC)
 US Army CHPPM's Basic Course In Occup Medicine
 Ergonomics: The Study of Work (OSHA 3125)
 NIOSH "Health Hazard Eval of Noise and Hearing Loss"
 NIOSH "Criteria of a Recommended Std for Occup Noise"
 A Guide to the Work-Relatedness of Disease (NIOSH)
 MMWR Programs for Prev. of Suicide in Young Adults
 NIOSH "Stress at Work"
 Aviation Medicine Specific References:
 Useful Tips for the Airline Traveler (from the AsMA Society)
 Combustion Properties of Aircraft Fluids
 Flight Safety Foundation-"Alcohol Use in Aviation"
 Flight Safety Foundation-"Human Balance: A Refresher for Pilots"
 Flight Safety Foundation-"Overcoming the Effects of Stress"
 Flight Safety Foundation-"Managing Pilot Fatigue"

MEDEVAC Links:

ACLS Info and Review
 MEDEVAC Checklist
 Glasgow Coma Scoring
 Trauma Outcome Scoring
 Trauma Scoring Calculator (Java Based)
 Civilian Criteria for Air Transport
 Aircraft Capacities for MEDEVAC
 Weight Temperature Conversion
 Oxygen Calculation Page

JAVA Based Operational Calculators:
 Temperature/Weather JAVA Calculators

Pressure Altitude JAVA Calculator
 Blood Alcohol Guess-Graph
 ACLS Algorithms

Useful Plug-Ins:

Adobe Acrobat Reader
 IBM Library Reader Install
 PowerPoint Viewer97

The Ultimate Flight Surgeon Reference CD is available through SUSNFS at a cost of \$16 for members and \$20 for nonmembers (See adjacent order form).

The Editors



(NASA Photo)



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Address Change, Subscription/Membership Renewal, Price List, and Order Form (April 1999)

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Reminder: The Annual Scientific Meeting of the
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Submissions should clearly indicate the author's return address and phone number. All submissions should reach the Editor one month prior to the scheduled date of publication. Correspondence should be sent to:

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