

Society of U. S. Naval Flight Surgeons



Naval Aerospace Medical Institute, Code 32
Naval Air Station, Pensacola, FL 32508-5600

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VOL. XIII, NO. 4

NEWSLETTER

OCTOBER 1989

PRESIDENT'S COLUMN

OUR PURPOSE - PART II

Three or four months back, I was tasked by NAMI to put an operational agenda together. NAMI was coming to town - Norfolk, bringing their RAMS. Tours and briefings were scheduled for CINCLANTFLT, Naval Safety Center, FMFLant, and, of course, ComNavAirLant, and why not? We are the world's most powerful force, with 10 CVs and over 2,000 aircraft.

As I diligently moved forward scheduling briefings, courtesy calls and other dog and pony shows. I mentioned to my Chief of Staff that NAMI CO, Training Director, and 11 RAMS would be onboard AirLant headquarters. His response was, 'You mean the enemy?' ... Now, I assure you, this COS is no slouchy, misinformed, or otherwise prejudiced aviator. He is a fighter pilot warrior with a distinguished combat record, and a brilliant, straight-forward, kind of guy, who supports, very affirmatively, all FS/aeromedical initiatives that will benefit our community (and subsequently his community). He knows our community well. He was a Phantom pilot from out of the Gulf of Tonkin, flying a FS RIO on several missions, both were awarded Air Medals. (The RIO, by the way, was LT Gary Holtzman, MC, FS, nugget).

What does it tell us, when an aviator would rather risk missiles up the tailpipes, or go IFR in heavy flak, than make a professional call on his FS, or worse, make another pass thru NAMI? The attitude/misconceived opinion of our COS is widespread through the aircrew ranks. I have visited, briefed, or otherwise met at least half of the Navy's senior ranking aircrews in the past 2 years - carrier skippers, senior cags, squadron CO/XOs. What does it tell us when aviators near the endpoint of their career still remember the 'NW' words (Nammy-Whammy). Heal 999 aviators, issue 999 clear-

ance notices, and no one really notices, but just issue one grounding notice, or worse, lose one to a LBFS/-SBFS, and the entire airwing says, 'Aw oh ...'. Yes, it gives me the cold prickleys thinking about what the junior guy may not be telling us!

Our community, collectively speaking, by throwing in NAMI, is not exactly considered to be the aviators Icon. We are great scientists and clinicians, and maybe technical experts in many areas, but until we prove our credibility, earn the respect from the aviation community, that we want (and deserve) we may not be serving those folks as well as we think. We need to be doing better PR, getting our message across better than we have in the past - the message, of course, is that we really are their savior - that our job is to keep them in the cockpit. We may even have to go as far as lying, telling them that Code 42 really hasn't imposed a 'grounding quota' for each FS.

Think back for a moment to my last column (July 89) - I promised (or threatened) to continue our **purpose** (article II of our constitution) 'To advance the science, art and practice. ..etc., etc.' Please re-read those few lines. And then realize, that nowhere does it mention that in order to do our job, we must first earn the respect of those we are practicing on. It says Our Purpose. ..is to strengthen professional and fraternal ties, etc., and that is important. But, I'm telling you, *bros*, we have to *strengthen our ties with the guys (and gals)* that we serve also.

Let's get the message out, let's earn their respect, let's cancel some of those negative images that NAMI, some FSs, and sometimes Navy Medicine in general, has created. How? The individual FS could spend more time in the squadron, RRs, hangar space, even if it takes a few extra hours a week beyond the normal 50/50 squadron/clinic time! Becoming proactive in the aeromedical safety arena, seeking out more lecture time on safety

and preventive medicine issues - all that stuff that you have been reading about in the Safety Center's newsletters. How about maintaining a positive attitude towards NAMI when they have to be the 'bad guy'. Maybe even give a formal presentation to the squadron on the medical nuances and rationals when NAMI has to take formal action to 'ground or degrade the service group'.

And maybe NAMI could also do a couple of things. How about monthly summaries (such as the NSC weekly safety summary) discussing the numbers of physicals on AOC, and the designated aviators, (or even the Navy/USMC wide numbers), followed by the reasons for disquals, or downgrading service groups. The significant cases could be discussed as to cause and affect, and what could have prevented the loss of flight status/disease or condition! Include the SBFS actions, and even the LBFS convened as they come to code 42s cognizance, including the precipitating factors involved, the actions taken on behalf of the aircrewman, etc., and most important, the 'upchit', if the outcome was favorable. These summaries would not only go to just flight surgeons but to all aviation units.

Let's hear from others who have additional ideas or solutions on the subject. In the meantime, from one who cares for/about the "caretakers".

CAPT GEORGE E. HILL
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SECRETARY-TREASURER NOTES

Thanks to those of you who have responded to the last newsletter note with back dues payments and address changes, as well as to those who have joined our organization as new members or subscribers.

At present, we have a distribution list numbering 656. Of these, 75 are institutions and therefore, do not pay dues. Of the remaining 581, there are 41 lifetime members. Therefore, we have 540 potential dues paying members. As of 15 Sept. 89, only 197 were current in their dues with the remaining 343 being delinquent (63.5%), some dating back several years. (The figure noted in the previous newsletter was erroneous because the institutions and lifetime members were included in the total).

Please note the number on the first line of your address label. It reflects the year in which your dues expire. The date of expiration is always 30 April which coincides with the end of our fiscal year. Anyone with a number 89 or less owe dues at the current rate of \$10.00 per year for both regular members and subscribers.

The Society bylaws state that members who fall one

year in arrears will be notified and given 60 days to respond. Since the last newsletter was published late the 60 day period will extend beyond the publication date of the October newsletter. Therefore, many who are in arrears will be mailed the October newsletter which will serve as a second reminder. However, anyone remaining delinquent over one year by 30 Nov. 89 (i.e., 88 or earlier) will be deleted from our distribution list. Those wishing to update their dues may do so at the Navy Aeromedical Problems Course or submit them by mail.

The price for the gold Flight Surgeon wings has changed. Some have improved since the last publication and are now available at the following prices:

Gold (14K) FS wings (standard size).....	\$250.00
Gold Mess Dress FS Wings (14K Plain).....	\$100.00
(14K w/diamond chip).....	\$130.00

Once again, thanks to those who have joined as new members/subscribers and to those who have renewed their interest in the Society.

CDR MIKE VALDEZ
MC USN
NAMI (Code 32R)

VISUAL FIELD DEFECTS AND MIGRAINE HEADACHES

Migraine headaches encompass a number of different headache syndromes classified according to a spectrum of clinical symptoms and signs. Migraine headaches are recurrent headaches which vary in onset and are associated with anorexia, nausea, and occasional vomiting. The headaches may be preceded or associated with conspicuous neurologic disturbances and there is often a family history of headaches. The migraine accompaniment, also called the migraine equivalent, is the neurologic sign or symptom which accompanies the headache and is classified according to the vascular topography affected or type of neurologic deficit present. A migrainous neurologic event may occur in the absence of a migraine headache and is termed acephalgic migraine. Migraines beginning in mid to late adulthood are called late life migraine accompaniments and are in the differential diagnosis of other vascular phenomena occurring in that age group such as transient ischemic attacks and strokes. Complicated migraines are neurologic migraine phenomenon that persist over 24 hours. Migraine has been implicated in stroke in young people, particularly when associated with contraceptive use and smoking. The most common migraine accompaniment involves the visual system. Monocular symptoms are referred to as retinal or ocular migraine and result in visual loss or dimness in one eye. Recovery usually occurs within 10 minutes, although

permanent visual field defects may occasionally be associated with retinal migraine. Visual field abnormalities observed in retinal migraine include central or centrocecal scotoma, altitude defects, peripheral constriction, and occasionally monocular blindness. The occipital or ophthalmic migraine is so called because of the classic visual prodrome which precedes the migraine headache. Perhaps the most common symptom is the fortification scotoma, called teichopsia, which consists of jagged shimmering lines which migrate across the visual fields starting either centrally or peripherally and marching in the opposite direction. Another common finding is the sensation of objects seen as though viewed through heat radiating off pavement. A number of other visual phenomena may occur in ophthalmic migraine headache, including cortically derived illusions or distortions of vision, such as changes in the shape or size of objects. Less common phenomena include persistent visual images, multiple visual images or a corona or halo phenomenon around objects. The distinction between retinal (ocular migraine) and ophthalmic (occipital) migraine is that the visual phenomenon affects only one eye (monocular), in the case of retinal migraine, while the bilateral visual field is affected in the ophthalmic (occipital) migraine. Visual field defects in the ophthalmic (occipital migraine) are generally homonymous hemianopsia, however other bilateral phenomena such as pinhole or keyhole vision or bilateral blindness may occur. A number of recent reports have identified permanent visual field defects in asymptomatic migraine patients. Because of the importance of the visual system in aviation it is currently the recommendation at the Naval Aerospace Medical Institute that waiver requests for migraine patients be accompanied by an automated visual field test with each annual waiver request. Currently accepted automated visual fields include the Dicon and the Humphreys visual field test. If deficits are detected on automated visual field testing, a repeat test should be performed to establish whether this is a transient, permanent, or spurious phenomenon. The actual visual field should accompany the waiver packet. Decision as to aeromedical disposition based on the visual field defect will be considered on an individual basis. Permanent visual field defects of a significant nature would obviously have some impact on aeromedical safety. The analysis of yearly automated visual fields in migraine waivers may also establish a baseline for comparison with other studies in the literature.

CDR JOHATHAN B. CLARK
MC USN
NAMI Internal Medicine, Code 24



NIGHT VISION PROBLEMS

With the advent of night vision goggles, low level night operations and other related activities are once again in the spotlight. It is always a good idea to remind ourselves what limitations we have while working under reduced light conditions, both with and without the help of night vision goggles.

As we are all aware, a myriad of problems crop up when we are exposed to low light or no light conditions. If you can remember your basic ocular physiology (Dr. Briska and Dr. Markovits taught a good part of you that stuff while you were at NAMI), you will recall that the eye is comprised of two very different sensory systems. One system, made up essentially of cones is responsible for our daytime or photopic vision. The cones actually begin to function in low levels of illumination (approximately 10^{-3} log mL), which is considered mesopic vision. This would be consistent with a full moon or just before sunrise or sunset. At high levels of illumination (approximately 10^1 log mL or greater), the cones are the only photoreceptors functioning. Photopic vision is responsible for our good acuity, depth perception, and color vision. During mesopic conditions, acuity, depth perception and color vision all begin to wane. Visual acuity can be measured in the 20/40 range, while it will be more difficult to ascertain relative distances of objects because of the decreased illumination.

The other system within our eye is made up of primarily rods, and this is responsible for our dark or scotopic vision. As you know, these photoreceptors rely on the rhodopsin cycle to function. When luminance values fall below approximately 10^{-6} log mL the human eye will not be able to perceive any objects in their field. Once the luminance increases past 10^{-6} log mL (the equivalent of a moonless, cloudy night), the rods begin to function and shapes and forms are visible.

Compounding the situation at night, the best vision afforded under scotopic conditions is 20/200. Additionally, a central night vision blind spot is produced (not to be confused with the physiological blind spot created by the insertion of the optic nerve), due to the fact that the cones will not function under totally scotopic conditions. This central blind spot necessitates the use of the peripheral retina for night vision. The importance of visual scan techniques must be emphasized and re-emphasized to aircrews functioning during night operations in order to avoid such obstructions as noted below in figure 1.



Figure 1

If one were to stare directly at the radio tower, or any of the other obstacles depicted in this diagram, the object would not be visualized, and a collision would occur.

In addition to the reduction in visual acuity and central night blind spot, there is no color perception, limited depth perception and a myopic shift which causes things to be further out of focus. Complicating the problem of night operations even further is the fact that under reduced light conditions the pupils become larger, resulting in a greater decrease in image sharpness secondary to spherical aberrations in the crystalline lens. Aviators who have mild refractive errors, not normally requiring spectacles during the day (because of the smaller pupil size and resultant pinhole effect) will almost certainly need their spectacles under reduced illumination conditions.

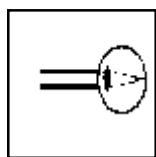


Figure 2

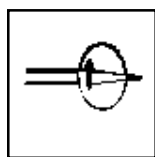


Figure 3

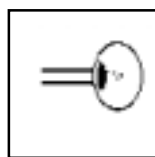


Figure 4

Figure 2 depicts the emmetropic eye. As you remember, light is focused directly on the retina. During night vision conditions, there is a myopic shift, causing the light to focus in front of the retina as depicted in figure 4. Figure 3 represents the hyperopic eye. The myopic shift which occurs during night operations will not have as great an effect on aircrew who are slightly hyperopic simply because their normal focal point is behind the retina, and the myopic shift simply places the image closer to their retinal place. This is one reason why it is more advantageous to be a slightly hyperopic pilot than a myopic one.

Other factors which affect night vision include hypoxia, smoking habits, sunlight exposure and diet. Smoking will decrease night vision capabilities by approximately 20% at sea level simply because the blood cannot carry enough oxygen to the eye. Remember that carbon monoxide will combine with hemoglobin approximately 200 times more readily than does oxygen. Carbon monoxide displaces the oxygen to form carboxyhemoglobin. In smokers, the level of carboxyhemoglobin can reach between 7 -10%. This has the effect of raising the physiological altitude to about 5000 feet. Someone flying at 10,000 feet will be at an actual physiological altitude of about 15,000 feet. Since both rods and cones are especially susceptible to the effects of hypoxia, there is a scotopic vision loss of approximately 40%. Altitudes of 5,000 feet or greater require supplemental oxygen to avoid impairment of scotopic vision! Studies have also proven that excessive exposure to sunlight (sitting on the beach without sun protection for the eyes for an hour or more) will greatly increase the time needed for total dark adaptation. It has been reported that the time needed for total dark adaptation can be expanded to several hours or even days, as

opposed to a normal dark adaptation time of 45 minutes. Diet also plays a major role in night vision performance. A normal diet, including foods rich in vitamin A, is all that is needed to maintain good rhodopsin levels, and subsequently good night vision.

Education of your aircrews is the answer to avoiding accidents at night. Teach them the tricks of good dark adaptation:

1. Wear red goggles (620nm) to help facilitate dark adaptation.
2. Avoid bright cockpit or external light sources during and after dark adaptation.
3. Preserve one eye by patching or covering it with a hand if bright light exposures are imminent.
4. Teach good scanning techniques; have aircrews look 10-15 degrees off to the side of objects being viewed. This is an essential technique for daytime operations as well!
5. Keep goggles, windscreens and visors clean to reduce glare.
6. Supplemental oxygen from the ground up at night to avoid hypoxia.

Now that we have identified the problems of flying at night, we can begin to discuss how to work around these problems. Technology again has the answer: Night Vision goggles (NVG's). Unfortunately many people think that NVG's have totally solved the problems of flying at night. As we all realize, NVG's improve our vantage point during night operations, but the apparatus itself provides a whole new area of potential problems to be tackled.

The PVS-5/C is an improved version of the first generation night vision goggles originally utilized by the Army and Marine Corps. It has been modified for use in aviation. The ANVIS, on the other hand, has been specifically developed for use in modern aircraft as well as land based vehicles. Both models of NVG's are receptive to the visible spectrum and near IR radiation. The PVS-5's response is between 500 nm (blue-green) and 850 nm (IR), while the ANVIS has a blue-green cut-off and a range which extends a little more into the IR range. This allows the instrument to be much more sensitive in the red and near IR end of the spectrum.

Images produced by NVG's are elicited by photons striking a photocathode, which in turn causes a release of electrons within an adjacent microchannel plate. An electric field then guides the electrons to a phosphor screen which produces an amplified light image. The image produced is green, which disallows for any color discrimination of objects. Both the PVS-5 and ANVIS have automatic brightness controls which limits the maximum luminance of the phosphor screen to prevent output surges and minimize the chances of decreasing dark adaptation. A clamp voltage mechanism is also present to protect against excessively bright light sources such as search lights, flares, lightning and lasers.

The ANVIS has incorporated many improvements, including: "look under" capability, which allows normal peripheral vision to view flight controls; a fail-safe battery warning system; and less weight and the ANVIS has greater sensitivity at low light levels. The ANVIS produces an image with greater contrast and resolution, resulting in longer detection ranges when viewing objects illuminated with starlight. This is not always an advantage, because under certain, unusual lighting conditions (moonlit nights with shadows cast over the terrain), users have reported that the ANVIS did not create a difference in contrast between adjacent terrain features.

Two important points to realize when teaching and utilizing NVG's are that both visual acuity and depth perception will be greatly reduced. The PVS-5's will afford about 20/50 vision under ideal conditions, while the ANVIS affords about 20/40 vision under the same ideal conditions. On nights without moonlight, the visual acuity can be in the 20/80 range!

Night vision goggles will offer the fleet many advantages in the future. Along with these advantages comes a challenge to the aeromedical community to be able to appropriately train personnel in the prudent and safe use of these devices. We are presently putting together a uniform training sequence which will be made available to all aviation commands which will address the problems encountered at night, both in the aided (with NVG's) and unaided conditions.

LCDR MICHAEL MITTELMAN
MSC, USN
Aerospace Optometrist NAMI

LCDR CINDY DURMON
MSC, USNR
NAMI

COMPUTER "EZE"

The Clinical Data Management and Analysis Department at the Naval Aerospace Medical Institute (NAMI Code 14) has been tasked to design software application programs to develop the Aviation Medicine Data Retrieval System.

The Aviation Medicine Data Retrieval System consists of the automation of the Aviation Physical Qualifications Department (NAMI Code 42), the Aviation Epidemiology Data Register (AEDR) (originally developed by the U. S. Army Aeromedical Research Laboratory) and the MICRO-88 Standard Form 88 Generator. These three programs were developed to establish an aviation medical data base from which statistical analysis and studies can be supported.

The program with the most interest and impact to the field would be the MICRO-88 program. This program utilizes a Zenith 248 to generate the Standard Form 88, Report of Medical Exam. It will print the program out in the format accepted by NAMI Code 42 for each class of physical. This program is capable of logging into NAMI's mainframe computer which stores the Aviation Medical Data Base to evaluate the physical against NAMI's Aviation Standards, and prints a summary sheet listing those items which are out of standards. The summary sheet will also list items missing on the physical which are required for a particular class of physical. This program will also log into the mainframe computer to electronically transfer the physical into the computer making it available for NAMI Code 42 review and ultimately available for researchers to perform studies and statistical analysis.

This program has been tested in NAMI's Physical Exam Facility for the past year and a half. In July 1989, four east coast Beta Test Sites were established at NAS Patauxent River, NAS Oceana, NAS Cecil Field, and NAS Key West. In September 1989, four Beta Test Sites on the west coast will be established at NAS Miramar, MCAS EI Toro, NAS North Island, and NAS Lemoore.

In Fiscal Year 1990, personnel from NAMI Code 14 and NAMI Code 42 will be visiting Aviation Medicine and Physical Exam Departments to install the system where there is microcomputer equipment available to support the system. The equipment required to operate the Micro-88 program efficiently is: An IBM AT Compatible Microcomputer with 640K RAM and a 20 MB Hard Disk; An Alps ASP1000 Portable Printer, or two Letter Quality Dot Matrix Printers; A 2400 Baud Modem; A Color Monitor; and A Dedicated Autovon and Commercial Telephone Line.

At the October 1989 Flight Surgeon's Aeromedical Problems Course and the Aviation Medical Technician's Problems Course, briefings and demonstrations of the Micro-88 and the other programs which are part of the Aviation Medical Data Retrieval System will be presented.

If you are interested in more information on Micro-88 or AMDRS contact Mr James Kiesling, Project Manager or Ms Michelle Marshall, Microcomputer Specialist at (AV) 922-2171/2444 or (C) 904-452-2171/2444.

COMMUNICATION

Recently I asked an AOC(P) if he had any problem on the flight to Pensacola to which he said, "No". I then asked him if he had any pain in his ears or head during descent into any of the airports. Again the answer was a strong, "No". Since I had an x-ray in my hand with a density that looked like a frontal sinus hematoma, I asked if he had any headache on the flight and to this he

responded with a definite, "Yes", pointing to the area of the forehead exactly where the hematoma appeared on the x-ray. This story points out problems in history taking and the variety of meanings to similar words such as pain, pressure, discomfort or headache.

Another difficult area is getting the true picture of allergies, especially hayfever, which we call seasonal allergic rhinitis (SAR). Hundreds of SF-93's with hayfever checked, fail to include information on symptoms, what season, duration of symptoms, response to medication and type of medications used. All of these small essential bits of information enable us to make an accurate "long distance" judgement. The SF-88 should include important "negative" observations such as normal mucosa and no polyps. This information added to our computer will give us a true picture of the allergy problem and hopefully in the future change the standards to benefit all who fly.

CAPT E. J. SACKS
MCUSNR(R)
NAMIENT

RAM'S CORNER

THERAPY FOR THE BURNED PATIENT

After a month rotation at the US Army Institute of Surgical Research, (the "World Famous Burn Unit") at San Antonio, Texas, several pearls are worth sharing:

1. It is possible to over hydrate burn patients. An eight liter bolus of lactated ringer's solution will lead to pulmonary edema; This occurred in a 70 kg 38 year old soldier with 30% body surface area burns. He lived in spite of his care at the civilian hospital before his arrival in San Antonio.
2. The quote from the Deputy Director of the USAISR:
We use no colloid before its time.
3. Careful monitoring of patients is critical. Blood pressure, heart rate, urine output, and mental status are important. These can be performed in the field as may be operationally required.
4. The Burn Unit is **well** staffed to support burn care. It takes tremendous manpower to provide care to burned patients, including physicians, nurses, occupational therapists, physical therapists, respiratory therapists, dietitians, social workers, and lots of enlisted staff. The Burn Unit supports all DOD personnel with Marine Corps, Navy, Army, and Air Force personnel receiving care as well as dependents.
5. The Burn Unit director can activate Air Force aeromedical assets quickly and smoothly. That includes C-21A Learjets to take a team to pick up patients,

and C-9 Nightingales to bring them back. They will pick up active duty and dependents essentially anywhere in CONUS and bring them to San Antonio after they are stabilized. Patients outside CONUS are normally brought back via the airevac system, though multiple patients (such as the CH-53 in Korea) may require sending a team overseas.

6. Probably, **ALL** active duty personnel with burns requiring hospitalization should be transferred to the burn unit for the prolonged therapy and rehabilitation process. Dependents probably should be handled similarly. This will ensure optimal care and minimize government costs which may exceed \$100,000 per patient. It also gets the active duty personnel into the medical administrative proceedings including medical board, etc.
7. The operational flight surgeons need to be prepared for burn injuries. This was readily apparent after the Marine CH-53D mishap in Korea. A mishap in a deployed unit is always tough. Multiple injured personnel are difficult to handle, and burns are even more complicated. Handling that mishap demanded much from the flight surgeons and other medical assets. The numerous marines with multiple trauma represented a mass casualty situation. Ultimately, Marine, Navy, Army and Air Force assets were required to provide triage, stabilization, transportation to higher echelon medical treatment facilities, and return patients to CONUS. Something to think about when you are deploying with a unit.

Would **you** be ready?

CDR BRUCE K. BOHNER
MC, USN(FS)
Resident, Aerospace Medicine

AEROMEDICAL PROBLEMS COURSE

By the time you receive this Newsletter, you should have; a) packed your bag, and b) returned your registration form for the 4th Annual Naval Aeromedical Problems Course. If you have not done so, do it without delay as we are sitting on the edge of the time for a final count of noses for the banquet and housing. It is true that there was a drop dead date for enrollment of 15 September, which we were forced to extend due to some incredible problems with message and letter communications.

This year's course has shaped up quite well, although we do not yet know how many attendees to expect. By way of reminder, the first day (Tuesday, 17 October) will be devoted to Navy specific issues. Admiral Caudill has graciously accepted our invitation to provide the Keynote Address, and he will be followed by briefs from the TYCOMS and the very popular working luncheon with them. During the last three days, you will be joined by

civilians from the Aerospace community and Uniformed members of other services, both U.S. and NATO Allies for the Advisory Group for Aerospace Research and Development (AGARD) short course on Neurologic, Psychiatric and Psychological Aspects of Aerospace Medicine. This will include everything from headache to head trauma from drug reactions to demyelinating disease, from stress reactions to psychotic breaks - and more in between.

This is a great opportunity for those of us wearing the Navy uniform to show our hospitality to our NATO Allies and our civilian colleagues, and demonstrate our commitment to Aerospace Medicine. I'll look forward to seeing each of you very soon.

CDR G. G. REAMS
MCUSN
NAMI Code 32

-- EDITORIAL POLICY--

The views expressed are those of the individual authors and not necessarily those of the Society of U.S. Naval Flight Surgeons.

This Newsletter is published quarterly by the Society on the first of January, April, July and October. Material for publication is solicited from the membership and should be typed **double spaced**, reaching the Editor at least one month prior to the scheduled date of publication. Unsigned material will not be considered.

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TYCOM JOB MART

A classified listing of Priority Billets currently gapped and demand early fill for those interested in a move:

COMNAVAIRLANT - (POC Force Medical Officer AV 564-7029/Comm.804-444).

Cecil Field NAS-SMO/Senior Flight Surgeon/Medical Director all rolled into one for a beautiful clinic on a Master Jet Base, located in rural Jacksonville, Florida. This job is for a senior 04/05 2nd or 3rd tour FS who is looking for increased responsibilities, challenging/rewarding position. Billet calls for ADDU status to CO, NAS. Great working relations with Nav. Hosp. 16 miles to the East.

Other billets available are:

CAEWW12 and HELSEACONWING 1, NAS Norfolk. These are for 03/04 quacks who appreciate big city living with all the cultural advantages, including being located near your Force Medical Officer.

HSL 30, at the Navy's newest NAS, Mayport, Florida. This job will really surprise you - one of the very best aviation jobs we have! We can take anybody (FS) with the "right stuff".

COMNAVAIRPAC (POC Force Medical Officer AV 735-148/619-545)

2 Great North Island billets (03-04) for those who just have to be in sunny CA: VRC 30 and HC-1.

COMNAVAIRLANT and PAC: A number of Carrier SMO jobs are opening up in 1990. These are excellent opportunities to enhance promotion potential, be challenged, and become a "bird farm expert". Most former SMO's consider this one of the best jobs in the Navy. Several that should be available include the Midway, Enterprise, and the Kitty Hawk.