Xian Perspectives

Dr. Bellenkes has invited our Executive Director, Dr. Russell Rayman to write this month’s column.

As your Executive Director, it has been an honor and privilege to represent AsMA as an invited speaker at various professional meetings at home and abroad. These have been very interesting, rewarding and, I might add, enjoyable experiences afforded me over the past 17 years. These meetings are usually regional, drawing a much smaller attendance then our AsMA Annual Scientific Meetings. But I have found that smaller meetings have certain advantages in that they are intimate and warm, offering closer encounters with colleagues not infrequently leading to long term professional and social bonding. Such was my experience at the 6th Asia Pacific Congress of Aerospace Medicine held in Xian, China’s most historic city, from August 24 – 28, 2008.

The Congress convened 3 days after the conclusion of the Olympic Games with approximately 150 individuals in attendance coming from Asia, Europe, and North America. Although there was a sizable presence of Chinese physicians and scientists from a number of aerospace medicine institutions, many more would have been in attendance if the military had not been on full alert to ensure security during the Olympics and for several weeks after.

I have had the opportunity to visit China several times since 1987. The changes over the past 20 years have been stunning. The cities were unrecognizable and the vibrancy of a society on the move was palpable. What particularly struck me was the enhanced proficiency in English of our Chinese colleagues. When I made my presentations in the past, an interpreter was required. This time, I was told, everybody understands English. This was borne by the follow-on questions and discussion as well as informal exchanges during the breaks.

Attendees had the opportunity to speak with Chinese colleagues engaged in civil and military aviation medicine and space medicine. The aerospace medicine community is very robust with large institutions and several thousand flight surgeons and AMEs. They look forward to furthering cooperation and information exchange with other countries. In this vein, I’ve discussed possible affiliation with AsMA which will be explored in the coming months.

There were a number of interesting aerospace medicine presentations, several of which struck me in particular. It was clear to me that artificial gravity is a major subject of research in their space medicine program. As their space program continues to mature, I expect we will hear much more of this. There was also emphasis on the use of traditional Chinese medicine and alternative medicine as possible countermeasures. For example, one presenter spoke of minimizing muscle atrophy by applying vibration to the soles of the feet. It was clear to me that the Chinese space program is of a great importance and enjoys government support.

Another interesting paper dealt with a new treatment modality for osteoarthritis. The presenter described an instrument that enhances chondrocyte growth in affected joints. With MRIs, he was able to demonstrate that badly diseased joints post treatment showed considerable healing thereby obviating the need for arthroscopic surgery or joint replacement. However, follow up was only for some months. Consequently, it will take some time, perhaps years, to fully evaluate this treatment for its efficacy.

During the breaks and at several meal functions, there was adequate time to forge relationships and simply to chat informally. One older gentleman that I’ve known for some time was of particular interest to me as he was with Mao during the Long March in the 1930s. I felt I was sitting next to Chinese history.

The Chinese Society of Aerospace Medicine is a large organization sponsoring meetings and publishing a journal. (AsMA has a journal exchange agreement with the Chinese Society.) It also enjoys the full support of the Chinese Medical Association. To my knowledge there are only four countries worldwide that recognize aerospace medicine as a stand-alone specialty. China is one of them.

The Congress was most successful underwritten by excellent papers, the superb hospitality of our Chinese hosts, and the opportunity to see a little bit of Xian, in particular the famed Terracotta Army. It is very important for AsMA to be represented at meetings such as this Congress. I sincerely hope that our future leaders will sustain our international presence.
Don’t Stop Exercising

According to Paul Williams of Lawrence Berkeley National Laboratory, in Berkeley, CA, the consequences of quitting exercise may be greater than previously thought. The researcher at Life Sciences Division of the Department of Energy’s lab determined that the weight gained during an exercise hiatus can be very difficult to lose when exercise is resumed.

Williams found that the key to staying trim is to remain active year-round, year after year, and to avoid seasonal and irregular exercise patterns. While dieting may produce more weight loss than exercise, caloric intake and body weight may be self-regulating in active individuals.

So avoid start-stop exercise patterns and, most important of all, don’t quit exercising. An ounce of prevention is truly worth a pound of cure!


More info: Paul Williams, ptwilliams@lbl.gov

Coming Soon: Self-Guided, Computer-Based Depression Treatment

by Brad Thomas

HOUSTON – (Sept. 24, 2008) – Self-guided treatment for depression could soon be only a mouse click away. Scientists with the National Space Biomedical Research Institute (NSBRI) are developing an interactive, multi-media program that will assist astronauts in recognizing and effectively managing depression and other psychosocial problems, which can pose a substantial threat to crew safety and mission operations during long-duration spaceflights. Even though the depression treatment is under development for NASA, project leader Dr. James Cartreine said it could be spun off for use on Earth.

“This project has great potential as a self-guided treatment for many people,” said Cartreine, a member of NSBRI’s Neurobehavioral and Psychosocial Factors Team. “Depression treatment is the number one cause of disability days in the United States, but it’s not only about days lost. Depression also results in presenteeism - showing up for work but not really working.”

The depression treatment is part of the Virtual Space Station, a multi-media program that addresses multiple types of potential psychosocial problems and can be used for training before, and for assistance during, missions. Other problems being addressed via the Virtual Space Station include interpersonal conflict, and stress and anxiety.

Cartreine, a Harvard Medical School research psychologist based in the Division of Clinical Informatics at Beth Israel Deaconess Medical Center in Boston, said the Virtual Space Station will make effective therapeutic depression treatment more easily accessible to astronauts aboard the International Space Station and proposed missions to the moon and Mars. Currently, astronauts have audio and video access to psychologists only when communication links are available.

Project co-investigator, former astronaut and ASMA member, Dr. Jay Buckey, said long-duration spaceflight can be tough on astronauts. “While astronauts are not particularly prone to psychological problems, the environment is very demanding,” Buckey said. “On a mission, they face a lot of challenges that could lead to depression.”

Buckey, a professor and physician at Dartmouth Medical School, said the depression module and other aspects of the Virtual Space Station are based upon proven methods.

“These are unique NSBRI products that did not exist before,” Buckey said. “The Virtual Space Station is based on proven treatment programs and is a very helpful way to work on problems in general.”

The system’s multi-media approach for depression includes graphics and video featuring a psychologist who leads the user through a straightforward process called Problem-Solving Treatment. The system provides feedback based upon the information provided when answering a series of questions.

The first step of the process is to make a problem list and select a problem on which to work. The second and third steps are setting goals and brainstorming ways to reach them. The final two steps are assessing the pros and cons of possible solutions and making an action plan to implement them. The program also helps users plan and schedule enjoyable activities, which people who have depression often stop doing. Additionally, the program provides preventative and educational information on depression.

Cartreine and Buckey, who received input from 29 current and former astronauts while designing the Virtual Space Station, said some of the system’s other benefits include its portability and privacy. “It can be delivered to the International Space Station on a flash drive and run directly from that drive, so that the astronaut has complete control over his or her data,” Cartreine said. “The system is private and secure. The user is the only one who can share the information with others.”

Eventually, the researchers want to adapt the system for use in many different settings, giving people access to treatment they may not have now. For instance, people with depression often seek treatment by going to their primary care physician, so the researchers hope to adapt it for use at the doctor’s office or in a person’s home.

The system could also be beneficial in rural areas where clinical help is in short supply or nonexistent. Other possible locations for use include schools, social service offices, places of worship, military bases, prisons, commercial ships, oil rigs and underwater research stations.

The self-guided treatment project is part of the NSBRI Neurobehavioral and Psychosocial Factors Team portfolio, which includes studies on and development of countermeasures for stress, anxiety, interpersonal conflict and fatigue.

NSBRI, funded by NASA, is a consortium of institutions studying the health risks related to long-duration spaceflight. The Institute’s science, technology and education projects take place at more than 60 institutions across the United States.

Info: Brad Thomas, Senior Communications Specialist, NSBRI; rthomas@bcm.edu
This Month in Aerospace Medicine History—November 2008
By Walter Daltisch III, M.D., M.P.H.

Two Hundred Twenty-Five Years Ago
Physician and army involved in first manned flight. A tethered, manned balloon flight was made on November 21, 1783 by French physician Jean-François Pilâtre de Rozier and French army officer Marquis d’Arlândes. The flight reached an altitude of 3,000 feet, lasted 25 minutes and flew approximately 7 miles on the outskirts of Paris. The balloon was designed by Jacques and Joseph Montgolfier of Annonay, France, who had previously flown a tethered manned balloon flight in October, preceded by an untethered balloon in September “manned” by a sheep, a duck, and a rooster (3, 4).

“Oxygen Absorbing Power would seem to be of practical importance in the examination, study and selection of aviators, athletes, divers and perhaps other special groups of people” (5).

Fifty Years Ago
Effects of space travel on humans (Soviet Air Force Scientific Research Experimental Institute of Aviation Medicine, Moscow): “Scientific research work investigating the effect of space flight upon living organisms was started on in the Soviet Union since 1949. Penetration of the upper air layers by animals is achieved with the help of rockets.

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(703)739-2240, x 107; skildall@asma.org

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Perhaps it is because most of the CO2 emitted with motor vehicles all over the world?...
The Future is not what it used to be.....in the Aerospace Nursing Society!

Indeed, the Aerospace Nursing Society (ANS) has come a long way...We have moved away from the long time perception of a military association only. While giving its deserved credit to flight nursing being born from military operations, the ANS was composed predominantly of United States Air Force members, a few U.S. Navy members and a few international military "guests". In the recent years, we have seen many more civilians and military alike getting involved with the ANS, making it a dynamic group to belong to.

I was assigned to an exchange duty at Scott AFB when I attended my first AsMA meeting in 1992. I loved it! We spoke the same language: the love for the work we did, the missions we flew, and the experiences we lived. During my presentation in San Antonio, I could see the heads of the attendees nodding in agreement to what I was saying ... and I felt an immediate kinship to the ANS attendees of that year. Later on, while employed as an instructor at the Canadian Flight School, I learned about our differences in loading patients on CC-130s, and brought back home some valuable information and tips that I gleaned from various AsMA presentations that year. I have gained so much in sharing our Canadian experience at the annual meetings. Like many, I have learned why some AE systems worked the way they did and why those differences existed. When I coached colleagues from Australia and the UK to present at AsMA meetings, they shared their experiences in lively presentations. I can honestly say these meetings have translated into a valuable networking experience for many of us... It has shaped my military career and continues to influence my civilian life today.

Over the last decade, the world of military operations has deeply changed. Multinational Cooperation as become the norm as countries can no longer meet their operational objectives alone. Simultaneously, the international participation at annual AsMA meetings has increased as more participants have sought to come and share their lessons learned and gain from the wealth of experience found at AsMA.

New countries have also joined in the international arena of operations. Some of these countries have grown since their first attendance to AsMA. Some are still learning and developing. Naturally, this has also brought a greater civilian participation to AsMA, for many civilians are working hand in hand with their national services. However, in spite of the increased international participation to yearly AsMA meetings, the ANS is not seeing its equal share of international participants, thus my appeal to you today...

The ANS is preparing for the 80th Annual Scientific meeting of AsMA next year. We are seeking more international military and civilian participation at our meetings. With the increase of civilian relief and multinational operations that the world is witnessing, there is much to learn from each other. While emphasis should remain on the scientific process and the exchange of operational information, thought-provoking presentations sharing the ever-important lessons-learned (and universally compiled in each and every country) is equally important to the ANS. As many may have read in previous AsMA journals, your ANS has a new team, comprised of military and civilians, national and international members. We need your support to rally more participants to attend our annual meeting. We need your support in facilitating the attendance of those who are at the fore-front of their operations and those who have much to share with us.

You will see...the future is not what used to be.....in the Aerospace Nursing Society. By promoting a broader attendance, will we shape a better future for us all.

Christine Cloutier
RN, BScN, Lcdr(Ret) Cdn Forces
Aerospace Nursing Society Secretary

Should you wish to obtain more information about the Aerospace Nursing Society, please contact us at: ANS2008@gmail.com

Rules:
1. The nominee must be a current member of the Association, with the sole exception that the Sidney D. Leverett, Jr., Environmental Science Awards is open to nonmembers.
2. Employees of a company sponsoring an award are eligible to receive the award.
2a. Self-nomination is not allowed.
2b. Deceased members may be nominated.
3. Nominations for the Tuttle and Environmental Science Awards must cite a specific paper printed in Aviation, Space and Environmental Medicine. The award will be given to the first author only.
4. An individual can only receive one award in any one year.
5. The form is available on the AsMA website. You may either submit the nomination directly from the website or you may download the nomination form into your computer for e-mailing as a Word document attachment. Nomination forms sent via e-mail should be addressed to the Awards Committee Chair, Dwight Holland at Dwightholl@aol.com; and to Ms Gisselle Vargas at AsMA Headquarters (gvargas@asma.org). If e-mail is not available, you can send a hard copy of the form via normal mail to:
   Dwight Holland
   4874 Glenbrooke Dr.
   Roanoke, VA 24081
   Phone: (540)761-1576
   AsMA FAX: (703)739-9652.
   Any auxiliary biographical material in electronic or hard copy attachments must be limited to 3 typed pages and will be retained in Association files.
6. Nominations received by Dec. 15 will be considered for awards to be presented at the next annual meeting. Unsuccessful nominations will be retained in the active file through three award cycles.

Nominations Sought for 2009 AsMA Awards
Russell B. Rayman, M.D., AsMA’s Executive Director, was the invited keynote speaker at the 6th Asia Pacific Congress of Aerospace Medicine held in Xian, China August 25 – 28, 2008. At the conclusion of the Congress, he was awarded a special citation in recognition of significant contributions to international aerospace medicine.

Cdr Edwin Y. Park, MC, USN, had recently transferred from Washington, DC, where he was a resident in the National Capital Consortium Neurology Residency Program (a combined Army & Navy program based out of the National Naval Medical Center and Walter Reed Army Medical Center), to the Naval Hospital Pensacola, FL, to be the staff Neurologist for the hospital. He will also be working closely with the Naval Aerospace Medical Institute (NAMI) here in Pensacola. He is board certified in Aerospace Medicine (Navy RAM class of 1999) and was the Command Surgeon for Naval Air Systems Command (NAVAIR) prior to entering the Neurology Residency. Additionally, he is the Vice President/President-Elect of the International Association of Military Flight Surgeon Pilots (IAMFSP). He has been selected for promotion to the rank of captain.

In Memoriam
Randall M. Falk

Colonel Randall M. Falk, ANG, MC, died September 10, 2008, at the age of 54. Col. Falk was the Air Surgeon, Air National Guard Medical Services in Washington, DC, for 6 years until September 2006. He served as the Director, Medical Services on the staff of the Director of the Air National Guard. His responsibilities included coordinating medical policy, plans and programs for the Air National Guard. He was instrumental in forging an alliance between the Air National Guard and the Aerospace Medical Association, whereby the Guard held their meeting in conjunction with AsMA’s meeting for several years. It was always a pleasure to see Randy at the meetings.

Colonel Falk was commissioned in the Air National Guard in 1983 during his urology residency at Vanderbilt University. He received his M.D. degree from the University of Tennessee and his M.S. from Vanderbilt University. His active and traditional Guard and Air Force assignments have been focused on aerospace medicine, occupational medicine, and public health. In 1996, he became the first physician to complete the National Security Fellowship at John F. Kennedy School of Government, Harvard University. Most recently, he completed the U.S. Air Force’s Residency in Aerospace Medicine (RAM) and began examining the role of the ANG Medical Service in the Air Expeditionary Force (AEF), Homeland Security, and international health/humanitarian deployments. Colonel Falk was an Aviation Medical Examiner (AME) and a Chief Flight Surgeon with more than 500 hours in fighter, trainer, airlift and refueling aircraft. He began operation Top Knife to benefit Flight Surgeons. (Taken from The Tennessean, September 13, 2008.)

New Members
Avers, Katrina B., Ph.D., Yukon, OK
Gaebler, Teresa S., BSN, Colorado Springs, CO
Gonzalez, Herbert F., M.D., M.S., Tyler, TX
Martin, Sidney N., COL, MC, ANG, Fenton, MI
Pruett, Casey J., B.S., M.S., Cologne, Germany
Ronghi, Iman F., O.D., Tehran, Iran
Samsey, Kathleen, CPT, MC, USA, El Paso, TX
Sax, Jordan M., 2LT, MC, ANG, Burlington, VT
Wood, Jennifer, BSE, M.D., Honolulu, HI
Yan, Wang, Beijing, China

Erratum
In the August issue, we incorrectly printed Dr. Barry Shender’s e-mail address. Dr. Shender is chair of the Science and Technology Committee. He may be reached at barry.shender@navy.mil.

IAMFSP Scholarship
The International Association of Military Flight Surgeon Pilots, IAMFSP, is pleased to announce it is offering a $500.00 (US) scholarship available to a student in the medical sciences for the purpose of attending the May 2009 AsMA Scientific Meeting in Los Angeles. Students eligible include Masters, or Doctorate candidates in the medical sciences. The Scholarship is intended to defray the cost of attending the AsMA annual Scientific Meeting. Any interested candidates should send a letter describing their interest in the scholarship and why they would be the best candidate (250 words or less).

Please include school status, and interest in aerospace medicine / human flight performance / pilot-physician issues. The scholarship will be presented in person at the Tuesday Night 2009 business meeting of the IAMFSP in Los Angeles. Should the primary selectee not be able to attend the AsMA convention, the Scholarship will pass to an alternate that is attending. Send applications (postmark) no later than 31 January 2009 to:
IAMFSP Scholarship Fund
C/O Kris Belland
5910 Osceola Rd
Bethesda, MD 20816

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