

Virtual Flight Surgeons® Inc.

“Our Physicians...Your Solution”

Quarterly Aeromedical Newsletter

14707 E. 2nd Ave., Suite 210
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4th Quarter 2006

Volume 5, Issue 4



1-866-AEROMED



Happy New Year!

In This Issue:

FAA
Aeromedical
Policy Update 1

Medication
Update 1

President's
Corner 2

Pilot and
Controller
Health 3

VFS News 4

ATCS Sector 5

Staff Spotlight 6

FAA Aeromedical Certification Policy Update



Heart Transplant - Very rarely, a pilot will be diagnosed with a heart condition that is not waivable by the FAA. Until recently, one such condition was a heart transplant, or as stated in Part 67 of the FARs, "cardiac replacement." In the past, a few pilots were waived for this condition, but complications led to a more conservative FAA position. In the

Winter of 2006, the FAA revisited this policy and appear willing to consider waivers after a 12-month observation for third class only.

FAA Staff Changes – The Aeromedical Certification Division of the FAA lost two of its physician reviewers recently. Dr. Dennis Deakins will hang his shingle in private practice and Dr. Larry Wilson has been selected as the new Regional Flight Surgeon for the Central Region, replacing Dr. Joel Dickman. The Great Lakes Region also welcomed Drs. Matthew Dumstorf and Marvin Jackson to assist the Regional Flight Surgeon, Dr. Nestor Kowalsky.

Additionally, there are a couple of new faces in the Federal Air Surgeon's office. Dr. Mike Berry, a long time Senior AME and well-known Aeromedical specialist, will take over the Medical Specialties Division. He will be joined by Dr. James "Jim" DeVoll who takes over the Medical Appeals Branch. VFS looks forward to continue working with all of them.

Medication Update

Enablex (darfenacin) is a welcomed new medication for the treatment of overactive bladder, especially with the rise of reinforced cockpit doors and procedures. The FAA will allow this, as well as detrol in it's short acting form. Note that Ditropan or oxybutynin chloride is still not allowed by controllers or airmen.



Chantix (varenicline) is a new medication recently approved by the FDA in May 2006. The FAA generally does not authorize new medications for use by ATCSs or pilots for at least one year after FDA approval. We recently confirmed that this is the case with Chantix. The FAA will not consider this medication for approval until at least the summer of 2007. Please see related information in the ATCS Sector section of this newsletter.

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President's Corner

Quay C. Snyder, MD, MSPH



Critical Performance Numbers for Airmen Part One - Cholesterol

All pilots know the performance numbers/speeds for their aircraft. V_{REF} , V_{NE} , V_R , V_1 , V_2 , V_{SO} are just some of the many critical numbers that are familiar and used on every flight for safe operations. Yet how many are familiar with their own personal critical numbers essential for the health and longevity of the pilot, the most important element of safe operations?

The National Institutes of Health and many health educational organizations publish guidelines for the public to help understand these key numbers. This article is the first in a series that addresses some of the most common diseases seen in the pilot and controller population. Heart disease is the number one killer of both men and women in the United States. One important risk factor is cholesterol and related lipid levels in the blood. Most importantly, it is a modifiable risk factor. You can control this risk, just as flight departments do in a sound safety management system.

Explaining the Terms

Cholesterol and triglycerides are types of fat in the blood. Some types deposit on the lining of the arteries narrowing the available diameter for blood to flow. Like a clogged fuel line affecting engine performance, clogged arteries adversely affect pilot performance.

The body's total cholesterol (TC) is calculated from the sum of the Low Density Lipoprotein (LDL) cholesterol, High Density Lipoprotein (HDL) and a portion of the Triglycerides (TG). Triglycerides are measured as a proxy for Very Low Density Lipoproteins (VLDL) and other subtypes of cholesterol in the blood. The formula is:

$$TC = LDL + HDL + (TG/5)$$

For example, and HDL of 50, and LDL of 120 and TG of 150 would result in a TC of 200. ($50 + 120 + 150/5 = 200$)

Cholesterol Levels and Heart Disease Risk

Initially, TC was considered the primary area of concern as a risk factor for heart disease. Levels below 200 are considered favorable, while levels above 240 are considered at increased risk. These numbers are still valid, yet the focus has turned to reducing the "bad" cholesterol and increasing the "good" cholesterol.

LDL is known as the "Bad Cholesterol." It causes accelerated fat deposits in the arteries. For people with no other risk factors for heart disease, levels less than 160 are acceptable. Those with some increased risk factors should

maintain levels less than 130. People with significant risk factors or known heart disease should strive for LDL cholesterol levels under 100. Many physicians feel LDL levels less than 70 may actually reverse the fat deposits in the arteries.

HDL is known as the "Good Cholesterol." It reduces the fatty deposits in the arteries, analogous to a detergent fuel cleaner. Levels less than 40 are considered risky, while higher levels are considered protective.

A ratio of the TC to the HDL is also used to assess risk of heart disease. The greater the proportion of cholesterol that is the "good" HDL cholesterol, the lower the risk of heart disease. A ratio of less than 4.5 is considered favorable, while a ratio of greater than 6.0 shows increased risk. TG levels less than 150 are considered acceptable. Levels between 150-199 are borderline and a level above 200 is a risk factor for heart disease.

Improving Your Numbers

Four simple steps can improve your cholesterol levels.

- Exercise – raises HDL and lowers TC and LDL
- Lose Weight – lowers LDL and TG
- Eat Smart – reduce saturated and trans fats, reduce cholesterol
- Don't Smoke – HDL drops with smoking

If these steps do not improve your numbers, consult with your physician about possible use of medications. Very effective treatments exist. All medications used to lower cholesterol are authorized for pilots' and controllers' use by the FAA. For questions about use of medications and reporting that use on FAA medical applications, contact VFS.

The Virtual Flight Surgeons web site has specific information for pilots and controllers on cholesterol and FAA policies at www.AviationMedicine.com. Type "Cholesterol" in the search box for a link. For additional information, the National Heart, Lung and Blood Institute has published educational material as part of the National Cholesterol Education Program. Please see their web site at <http://www.nhlbi.nih.gov/guidelines/cholesterol/index.htm>. Download an excellent educational handout at <http://www.nhlbi.nih.gov/health/public/heart/chol/wyntk.pdf>.

Just as pilots can improve the performance of their aircraft by knowing critical numbers, they can improve their personal health by knowing their own body's critical numbers.

Signed CP



Pilot and Controller Health



Carbon Monoxide Poisoning: Are You Still at Risk? by Phil Parker, MD, MPH

Ahhh...the joys of winter flying, especially for those of us flying at higher latitudes. While the cooler weather does signal lower density altitudes and better performance, it may also harbor the silent killer, Carbon Monoxide, at home and in the air. Carbon Monoxide or CO is an odorless, tasteless, colorless gas byproduct of combustion. Because it is typically associated with other gases that do have an odor, aviators often think they can detect the presence of CO before it's too late. And often as the FAA brochure "[Carbon Monoxide: A Deadly Menace](#)" shows, these aviators are dead wrong.

While much of the general population have realized the importance of smoke detectors in the home, it has taken a bit longer to realize the importance of CO detectors as well. The tighter the construction, the more likely a downdraft can develop pulling exhaust products back into a house. The classic example is when a burning fireplace pulls air out of the home, but its exhaust products are literally sucked back into the home through other openings, such as the hot water heater vent. Now one might have both the CO from the fireplace and the hot water heater rising insidiously. Other sources include any fuel burning heating units that may have developed ventilation leaks, automobiles, or use of combustion engines indoors, such as generators during power failures. According to the Center for Disease Control, CO poisoning accounts for at least 500 deaths each year, and over 15,000 are accidentally exposed to the poisonous gas.

The same risk is true in the confined space in an aircraft, especially when heating systems heat air by passing over or near exhaust systems. A hidden crack or leaks in firewalls, doors, windows, or gear wells can easily go undetected. Recently, AvWeb pointed out the FAA safety reminder to mechanics to focus on exhaust, defrost and heater systems, especially on light aircraft this time of year. For both home and aircraft protection, detection is the key. Pictures of some of the more commonly available detector types for in-flight use are printed with this article.



One of the reasons CO is so deadly is that it has 240 times the affinity of oxygen for binding the hemoglobin in your the blood stream. For pilots, already exposed potentially to slightly hypoxic conditions because of altitude, this can be a deadly combination. Although a topic for another article in itself, tobacco smokers can already have significant amounts of CO in their bodies further increasing their susceptibility.

When exposed to CO, people commonly experience malaise such as "flu-like" symptoms. However, there can be relatively little indication before the aviator is incapacitated. While symptoms are highly variable, the table at right from the FAA brochure referenced above does reflect the increased severity with increasing exposure.

Percent CO in Blood	Typical Symptoms
<10	None
10-20	Slight headache
21-30	Headache, slight increase in respirations, drowsiness
31-40	Headache, impaired judgment, shortness of breath, increasing drowsiness, blurring of vision
41-50	Pounding headache, confusion, marked shortness of breath, marked drowsiness, increasing blurred vision
>51	Unconsciousness, eventual death if victim is not removed from source of CO

Should you suspect CO poisoning, the key is terminating exposure. Whether in the sky or in the home, it is important to maximize fresh air. In the airplane, turn off cabin heat and open windows and vents. If you have oxygen available, use it. Descend and land as soon as practical and seek appropriate medical attention. Finally, make sure the aircraft is fully inspected by a certified mechanic. Should you seek a clinical evaluation, you should be able to return to flying on your current certificate once your treating provider has released you to unrestricted activity and you feel you would be able to safely perform all crew duties, including emergency procedures. And, remember to report the visit to healthcare providers at the time of your next medical.

Remember: Inspection + Detection = Protection

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N B A A A n n u a l Convention, October 2006 - The NBAA Town Hall Safety meeting during the annual convention in Orlando featured hypoxia risks in

aviation. After a presentation of recent accidents by NTSB Member Kathryn O'Leary Higgins, Dr. Snyder (pictured above) gave a presentation on the risks and benefits of various types of hypoxia training for pilots. Links to pod casts of the presentation may be found on the NBAA web site at <http://web.nbaa.org/public/cs/amc/2006/articles/safety.php>.

Depression and Aviation. A recent article in the December 2006 issue of Business & Commercial Aviation featured the dilemma of depression in pilots and FAA medical certification policies. Titled "The Darkest Place of the Soul," author George Larson based his article on extensive interviews with Dr. Quay Snyder. A reprint of the article will be available on the VFS web site in January 2007.

Annual American Bonanza Society (ABS) meeting - Dr. Parker participated as a subject matter expert during the recent Aeromedical Forum held during the ABS annual meeting. This annual forum examines relevant issues in Medical Certification and human factors in general for aviators. Because of his past experience in running hypobaric and hyperbaric chambers for the USAF, Dr. Parker also participated in a panel on hypoxia.

Commercial Aviation Medicine - Dr. Snyder will participate in a teaching seminar on commercial aviation medicine at the USAF School of Aerospace Medicine at Brooks Air Force Base, TX in January 2007. The seminar will include a 4-hour group panel discussion and individual presentation by representatives of the NTSB, FAA Office of Aerospace Medicine, airline medical departments, the Aerospace Medicine Association and the ICAO Medical Director. The discussions are very lively and frank with diverse perspectives on critical issues in aviation safety and pilot health.

Upcoming Seminars - Dr. Snyder will next provide presentations at the NBAA International Operators Conference, the NBAA Leadership Conference and the Morning Star Aviation Human Factors in Aviation – Academics and Applications conference in the next quarter. Please contact the NBAA or Morning Star Aviation for details on dates and locations.

Humanitarian Assistance - Dr. Parker was recently out of the office for a week during travel to El Salvador with the Air National Guard, as the medical planner for a future medical mission to remote areas of the country. Dr. Parker remains the Chief of Aerospace Medicine for the Colorado ANG.

Aviation Mentorship - In a recent ceremony at the United States Air Force Academy hosted by Superintendent Lt. Gen. John F. Regni, the 306th Flying Training Group announced its first group of honorary squadron commanders and mentors. Individual leaders from the aviation community, elected officials, media personalities and retired senior military officers were selected to mentor the cadets, officers and airmen of the five squadrons within the group. Dr. Snyder was designated as the mentor to the 98th Flying Training Squadron. The 98th is charged with operating the world's largest initial freefall parachuting program, as well as maintaining the Academy's national champion parachuting competition and demonstration team, the Wings of Blue.



Congratulations to Dr. Parker - Dr. Parker recently received his private pilot certificate on 25 Nov 06 at Centennial Airport in Colorado. Despite over a thousand flying hours as a military flight

surgeon in F-15s and over 35 other military aircraft, the thrill of being PIC (pilot in command) was still very much present.

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Ask the Doc

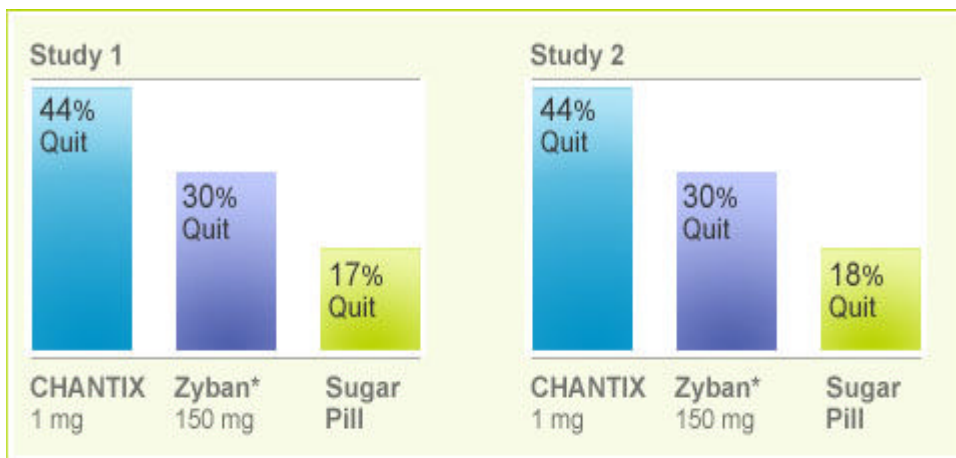
Question: I've got to stop smoking! I heard that I might not be allowed to control while taking Zyban, but what about the new medication Chantix?

Answer: First, let me congratulate you for thinking about quitting. There really are few ways to make a more dramatic improvement in your personal health. If you have not already done so, you may want to review our related article by searching for "Smoking Cessation" on our web site at www.AviationMedicine.com. It has information on current FAA policy and resources to assist you in stopping smoking.

To answer your specific questions, Chantix (varenicline) is a new medication recently approved by the FDA in May 2006. The FAA generally does not authorize new medications for use by ATCSs or pilots for at least one year after FDA approval. We recently confirmed that this is the case with Chantix. The FAA will not consider this medication for approval until at least the summer of 2007. At that point, the Federal Air Surgeon's Pharmacy and Therapeutics committee will review the data after one year of public use.

The following is an excerpt from www.Chantix.com showing this medication's dramatic effectiveness:

CHANTIX has been proven to be more effective in helping smokers quit than Zyban[®], the only other non-nicotine prescription medicine for smoking cessation. In 2 independent studies, more smokers quit with CHANTIX at the end of 12 weeks.*



Results are from 2 identically designed clinical trials in which patients received either CHANTIX 1 mg twice a day, Zyban 150 mg twice a day, or sugar pills twice a day for 12 weeks. Patients were given a booklet on quitting smoking. They also received counseling at each visit.

From weeks 9 through 12 in the study, the smoking status of each patient was checked. This information was compared among the 3 groups. Patients were considered quit if they did not smoke a cigarette or use other nicotine products for the final 4 weeks of treatment.

In the interim, oral medications for smoking cessation, such as Zyban (bupropion) are restricted by the FAA. Zyban is actually a reformulated version of Wellbutrin, which is an antidepressant. If you were to use either medication, you would be medically disqualified for the time you are using them, plus a period after discontinuation to allow the medication to clear your system. This period is determined by the Regional Flight Surgeon (RFS), but is usually 1-2 weeks. You may use nicotine containing chewing gum or patches and maintain your medical qualification.

Should you have failed to quit using other methods, VFS recommends calling the RFS to develop a team approach. If one of these disqualifying medications is clinically indicated, the RFS will be able to tell you how long you would have to wait before returning to work after completion of therapy. Your heart and lungs will thank you!

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*Wishing all our clients, friends and family
a Happy Holiday season and best wishes
for a safe, prosperous New Year!*

Your VFS Newsletter



Our services are provided to you as a benefit from your company flight department or a membership benefit from your union or aviation association. VFS stands ready as the only board certified Aerospace medicine physician group available to provide you the assistance you need.

Our physicians are always a telephone call or email click away. We can respond to your medical questions and provide advice on any potential impact on your FAA Airman's Medical Certificate for medical conditions you might develop. All client discussions with our staff members are completely confidential and risk free. VFS is proud to be your one source for Aeromedical advice and FAA medical certification waiver assistance!

We welcome your comments and suggestions! Our goal is to make this newsletter useful and informative for all our clients. If you have an idea for a topic you would like covered or have a comment, please contact our Director of Operations, Catherine Cazorla via e-mail at ccazorla@aviationmedicine.com.

VFS Welcomes Our Newest Corporate Clients:

- | | |
|----------------------------------|--------------------------|
| Motorola Aviation | IMS Health |
| Bechtel Corporation | Friedkin Aviation |
| Sinclair Services Company | |

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