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What's New from APFRI

Inside this edition: COL Thomas Williams Retires, National Men's Health Week, 3 Common Fitness Myths, Recipes, Word Search and More...

June/July 2010

Army Physical Fitness Research Institute - June/July Newsletter 2010

APFRI Director Retires

After eight years at the helm of APFRI and thirty years of service to the United States Army, COL Thomas J. Williams will retire at the end of June. His retirement ceremony will be held at Bliss Hall, Friday, June 25 at 1500.

COL Williams truly made a remarkable difference to the health and fitness of the U.S. Army through his work to expand the APFRI program to encompass the Command and General Staff College at Fort Leavenworth, Kansas, and the United States Army Sergeants Major Academy at Fort Bliss, Texas. Recent expansion includes providing services to both the Marine Corps War College and Air War College. During his time at APFRI, COL Williams received an IMPAC Legion of Merit, an award given only seven times in the history of TRADOC.

COL Williams was ultimately responsible for the safe and effective assessment and education of over 7000 research subjects, a more than 1200% increase in enrollment under his tenure as the director relative to the years since inception of the APFRI program in 1982. In addition, he provided the direction and leadership for over 3000 health promotion assessments for those students and spouses not eligible to participate in the research protocol.

In 2007, General George Casey, Chief of Staff of the Army, directed the U.S. Army War College to expand the mission of APFRI with the development of APFRI Annexes as part of a comprehensive Education and Wellness program linked with Professional Military Education to enhance leader readiness and sustainment. COL Williams skillfully developed the APFRI program to respond to General Casey's directive while intimately recognizing individual leaders' need to manage their personal readiness with a goal to enhance their ability to influence the complex interaction of leadership, health and fitness for those they lead and sustain readiness in the face of operational fatigue. No other Army program at that time assessed the operational fatigue, health, and fitness status of mid-career and senior leaders attending the U.S. Army War College, CGSC, USASMA, or the other proposed APFRI Annex sites.

With COL Williams' leadership and dedication to excellence, the APFRI program has been one of the most highly rated programs at the U.S. Army War College and has already been credited by participants as saving lives of mid-career and senior leaders. Each year, approximately 98% percent of the U.S Army War College resident students volunteered for APFRI's health assessments.

COL Williams' influence extends well beyond APFRI and U.S Army War College. While crafting and spearheading a concept to expand the organization, he simultaneously gave unparalleled support to the Special Forces Command and the Department of Defense within his specialty of operational psychology.

He arrived to the U.S. Army War College from his previous assignment at 902d Military Intelligence Group at Fort Meade, MD, where he had been stationed since 1998. As the command psychologist for the Group, COL Williams developed an operational psychology support program that remains in use by the Nation's strategic military intelligence unit and that has served as the model for several other special mission units since then. COL Williams was presented with the prestigious Knowlton Award for his excellence in military intelligence, the only individual outside military intelligence to have received this recognition.

COL Williams deployed in 2002 - 2003, and then again in 2004 and 2008, to provide classified operational psychology support as Command Psychologist for Joint Special Operations Task Force-North in support of Operation Iraqi Freedom, and in support of Joint Special Operations Task Force-Arabian Peninsula.

His continued commitment to the professional community as an operational psychologist is also apparent though his literary work, conference attendances, and consultations. He serves as a reviewer for the peer-reviewed journal, *Military Medicine*, and he was a past Associate Editor for *Military Psychology*. He is also the co-editor of an upcoming book on the ethical practice of operational psychology and the co-author of three chapters in this book.

COL Williams lives in Carlisle, PA and with wife Vera and they have four sons; Thomas, Theron, Joseph and Tyler.

Does it Matter if the HDL Cholesterol is Low when LDL is also Low?

Yes it does! A study involving more than 4,000 Veterans revealed that every 10-mg/dL decrease in HDL cholesterol corresponded to a 10% increase in hospitalization due to heart attacks. Several studies have found that people with low HDL cholesterol levels have higher risk for heart disease, even when LDL cholesterol is low. For example, those with very low LDL (less than 60 mg/dl) and the lowest HDL (28 mg/dl) were 59% more likely to have a heart attack and end up in the hospital than those who had healthy HDL cholesterol level ($\geq$60 mg/dl),
according to a recent John Hopkins Health Alert.

HDL has the important role of removing cholesterol from the artery walls. HDL also appears to have an important anti-inflammatory and anti-oxidant effect. Science is now pointing towards a link between many of the common health problems of today and markers of inflammation in the blood. If we can boost the factors having an effect on reducing inflammation, we may both reduce the risk for heart disease as well as other diseases such as osteo-arthritis, diabetes, cancer, and even Alzheimer's disease.

It is still good to have realistic goals when trying to raise the HDL level. Family genetics and the female sex hormone estrogen will affect your potential to boost HDL, so some people, particularly men, are prone to have lower HDL levels. But don't throw in the towel just yet! Research has clearly demonstrated that the combination of nicotine free lifestyle, exercise, and weight loss will have positive effect on HDL and other markers of inflammation. For some, a moderate consumption of alcohol (one drink per day for women and two per day for men) may also be helpful to improve HDL.

Yet one additional key to reducing inflammation and boosting HDL is eating a diet rich in "anti-inflammatory" components. Numerous studies over the years have been able to demonstrate that certain foods have anti-inflammatory properties while others clearly add to the inflammation
furnace. The following table gives examples of food that have known anti-inflammatory components. Consuming these foods in portions normally consumed, but on a regular basis such as several times weekly, or some of them every day, can be helpful in boosting HDL. Consistently limiting or avoiding components of foods or foods that are pro-inflammatory is also likely to reduce your risk for heart
disease and other inflammation related conditions.

As always, APFRI recommends tobacco cessation along with a healthy balance of exercise and nutritious food. Striving for a healthy weight through daily exercise and a diet abundant in whole grains, fruits, vegetables, lean meats, low-fat or fat-free dairy, and plant sources of protein and fats such as nuts and olives, are likely to pay off long term.

Anti-Inflammatory Foods	
Legumes	Beans and tofu
Fish	Cod, halibut, herring, oysters, salmon, and tuna
Fruits	Apples, berries, cherries, citrus fruits, pineapple, and tomatoes
Vegetables	Bell peppers, broccoli, cabbage, garlic, greens, onions, and sweet potatoes
Herbs and spices	Basil, cinnamon, turmeric, ginger, mint, oregano, and thyme
Nuts	Almonds, hazelnuts, walnuts, and pistachios
Oils	Canola and extra virgin olive oil
Snacks	Dark chocolate (but limit the portion size to 1.5 oz per day)
Beverages	Green tea and red wine
Pro-Inflammatory Foods	
Processed meats	Hot dogs, luncheon meats, sausage
Highly processed carbohydrates	Doughnuts and potato chips
Refined sugars	Candies, pastries, and sugar-sweetened beverages
Oils	Hydrogenated and partially hydrogenated oil
Trans fatty acids	Margarine and shortening
Saturated fats	Butter, lard, cream, cheese, palm kernel

Grilled Chicken with Salsa Recipe

Chicken:
4 boneless, skinless chicken breast halves (about 4 ounces
uncooked each)
2 teaspoons salt-free steak seasoning blend
1/8 teaspoon salt
1 medium lemon

Salsa:
1 teaspoon canola, olive, or corn oil
2 slices fresh pineapple, each ½ inch thick, patted dry
1 cup diced mango or strawberries
¼ cup finely chopped red onion
1-2 teaspoons sugar
1/8 teaspoon crushed red pepper flakes
1 tablespoon bottled tomato salsa (optional)
1 teaspoon lemon zest

Directions:
Preheat grill on medium high. Brush a grill pan or rack with the oil. Heat the pan or rack for 2 minutes or until hot. Grill the pineapple for 2 minutes on each side. Transfer to cutting board and dice. In a medium bowl, stir together the salsa ingredients and set aside.
Sprinkle both sides of the chicken with the seasoning blend and salt. Grill for 5 minutes on each side, or until no longer pink in the center. Transfer to plate. Squeeze lemon over the chicken. Serve with the salsa.

Nutrition Information Per Serving:

Calories	191	Cholesterol	66mg
Total Fat	3.0 gm	Sodium	151mg
Saturated Fat	.5 gm	Carbohydrate	14 gm
Trans Fat	0 gm	Protein	27gm
Polyunsaturated Fat	.5 gm		
Monounsaturated Fat	1.0 gm		

Marinated Vegetable Toss Recipe

1 14-ounce can quartered artichoke hearts, rinsed, well-drained
¼ medium red bell pepper, thinly sliced
¼ cup thinly sliced red onion
1 1/2 cups packed fresh baby spinach leaves
9 small black olives, halved (reduced sodium)
2 teaspoons cider vinegar
1 ½ teaspoons sugar
1 teaspoon olive oil
1 medium garlic clove, minced

Directions:
Stir together all ingredients. Let stand for 10 minutes. For best flavor, serve immediately after the stand time. Makes six ½ cup servings

Nutrition Information Per Serving:

Total Fat	1.8 g		
Saturated Fat	0 g	Cholesterol	0 mg
Trans Fat	0 g	Sodium	163 mg
Polyunsaturated Fat	0 g	Carbohydrate	6 g
Monounsaturated Fat	1.0 g	Protein	2 g

Prostate cancer: To screen or not to screen

There are conflicting opinions as to whether or not to screen for prostate cancer. According to the National Cancer Institute Surveillance Data (2006), prostate cancer is the most common form of cancer in men. On a daily basis, 640 men are diagnosed with prostate cancer. Yearly, 203,415 men are diagnosed and 28,372 men die from prostate cancer. The lifetime risk of dying from prostate cancer is one in 30. Almost 12 million men have prostate cancer cells present in their system (Chodak, 2006). Prostate screening increases an individual's chance to find a cancer that is potentially curable and offers peace of mind. However, a one-time prostate test does not provide enough information to make a good health care decision. Prostate screening must be monitored over time and discussed with the health care provider.

The prostate gland is an important organ in men. As part of the male reproductive system, the prostate gland's primary function is to secrete a slightly alkaline fluid that forms part of the seminal fluid, a fluid that carries sperm. During male climax (orgasm), the muscular glands of the prostate help to propel the prostate fluid, in addition to sperm that was produced in the testicles, into the urethra. (The Ohio State University Medical Center, n.d). The prostate produces a specific protein or biological marker called the prostate specific antigen (PSA). This biological marker is tracked over time with PSA blood tests.

A PSA blood test measures the protein level and quantifies the amount of protein produced by the prostate gland (National Cancer Institute, n.d.). When the level of a biological marker is high, there is a greater concern that cancer cells are present in the prostate gland. The PSA biological marker level increases more rapidly in men with prostate cancer. A normal PSA is less than 2ng/mL for men between the ages of 50-70 years. As long as the PSA results in less than 2ng/mL, screening once every two years is reasonable. However, annual screening is recommended if the PSA is over 2ng/mL. If the PSA is above 2ng/mL, monitor the velocity (its rate of change over time) over a one to two year period. The change in velocity appears to occur 10-15 years prior to a prostate cancer diagnosis (Carter et al., 2006). According to experts at the Johns Hopkins Institute, an early predictor of prostate cancer for men is a PSA velocity change of 0.35ng/mL a year for a PSA between 2-4 ng/mL and 0.75 ng/mL for a PSA above 4 ng/mL. However, prostate cancer can still occur even when an individual has a normal PSA. There is no safe number that guarantees an individual will or will not develop prostate cancer. Regular follow-up with a health care provider is imperative to ensure that an individual completes a comprehensive exam in addition to a PSA test.

Screening for cancer and identifying a cancer at an early stage improves the chances for a cure. Prostate screening is a personal choice that needs to be discussed with your health care provider. Your decision also needs to include an assessment of several risk factors.

Prostate Screening Risk Factors:

Family history: The risk is greater if you have a first-degree relative (father, son, or brother) diagnosed with prostate cancer younger than age 65 years.

Age: Begin screening by age 45 years. However, if an individual has several first degree relatives with prostate cancer, screening should begin by age 40 years.

Race: African Americans have a higher rate of prostate cancer as compared to other ethnicities.

Presence of warning signs: difficulty or pain with urination; frequent urination, especially at night; blood in the urine; and, pain in the low back, pelvis, or upper thighs.

APFRI Addresses 3 Common Fitness Myths

People who often exercise follow recommendations from websites or magazines which may not always be factual. Numerous research studies have been investigated to provide valuable information about which exercise training techniques work and which ones do not. The following three common fitness myths will be addressed to set the record straight.

Myth #1: Endurance athletes shouldn't perform strength training.

Endurance athletes tend to shy away from strength training programs for fear of increasing muscle mass which can slow them down. The nature of endurance sports involves repeated, low to moderate force, muscular contractions over a long distance and/or time. These endurance sports cause a fatiguing effect on an athlete's body which can lead to a deterioration of their body posture or form as the event progresses. To help avoid this deterioration, endurance athletes need to have a sound foundation of strength. Incorporating a strength training program into an existing endurance-based training plan can improve aerobic endurance performance by improving work economy (1). An improved work economy results in a decreased energy cost at sub-maximal efforts which enables an athlete to move faster over a specified distance. An appropriate strength training program should be sport specific and varied over time to enable an athlete to systematically change their training to maximize performance while minimizing the chances of overtraining. Many endurance athletes, who currently perform strength training, commonly use low sets, high repetitions, and a low intensity (weight) approach. However, results from a recent study published in the International Journal of Sports Medicine suggest that low volume-high intensity strength training can improve running economy (2). Based on current research, it is recommended that endurance athletes should consistently engage in a wide range of strength training that includes variable intensity and is specific to their sport or activity.

Myth #2: Large amounts of protein are needed to build muscle.

If you pick up a fitness magazine that is geared toward men, you'll notice numerous advertisements for protein supplements as well as recommendations for how much protein intake is needed to increase muscle mass. Individuals who strength training, with a goal of increasing muscle mass, may need to consume an increased amount of protein, but not the large amounts that you may see listed in a magazine, on the internet, or on the back of a protein supplement container. The current Recommended Daily Allowance (RDA) of protein for a healthy active person is 0.8 g/kg of body weight (3).

Athletes performing a consistent strength training program may need additional protein to supply the extra energy and amino acids that are necessary for muscle synthesis. This is particularly true for individuals just beginning a strength training program, since the most significant increase of muscle size occurs during the early stages of strength training. The recommended protein intake for strength trained athletes range from 1.2 to 1.7 g/kg of bodyweight per day (5). Studies have suggested that endurance trained athletes can also benefit from a protein intake above the RDA. Additional protein may have a beneficial effect on recovery from high intensity endurance training (4). A protein intake ranging from 1.2-1.4 g/kg of bodyweight per day may be necessary for endurance athletes to maintain a proper nitrogen balance (5). The bottom line is that most individuals will receive an adequate intake of protein from a well-balanced diet. However, individuals who regularly engage in a vigorous strength or endurance training program may need to take in protein amounts above the RDA.

Myth #3: Exercising at a lower intensity will burn more fat.

A common misconception, often seen among people trying to lose weight, is that using lower exercise intensity will allow the body to burn more fat compared to higher intensities. This myth is further re-enforced by fitness equipment manufacturers that incorporate a "fat burning program" option into treadmills, ellipticals and other pieces of cardiovascular equipment. Manufacturers even go a step further by using a series of displays or charts on the console, corresponding to an age-based heart rate range, to let the exerciser know if they are in the "fat burning" zone. This leads people to believe that if their heart rate goes above the "fat burning" zone, they are no longer using fat as an energy source to fuel exercise. This is simply not the case. The body is constantly using a wide range of fats and carbohydrates for fuel, but the percentage of each can shift based on exercise intensity. The concept of burning more fat at a lower intensity has been taken out of context. It is true that at a lower training intensity, the body will preferentially use a higher percentage of fat as the main source of energy to fuel exercise. At higher exercise intensities, the percentage of fat burned decreases because the body prefers using extra carbohydrates to fuel the additional energy requirements. However, as the intensity increases, the absolute amount of fat used increases (6). Exercising at higher intensity levels (60-80% of maximum heart rate) improves cardiovascular fitness and burns more fat than exercising at lower intensity levels (7). Higher exercise intensities allow for a greater caloric expenditure per minute vs. lower intensity exercise. Individuals that are concerned with burning fat to lose weight should focus more on the total calories burned as well as exercising for cardiovascular benefits.

As you can see, there is a lot of misinformation floating around in the fitness community. Trying to keep up with new exercise science and research literature can, at times, be overwhelming and frustrating. If you have questions or need further clarification about a specific fitness topic, seek the guidance of a reputable source, such as an APFRI fitness professional, that can help steer you in the right direction.

CGSC Annex Bids Farewell to Mr. William North

Mr. William North
APFRI Health Fitness Instructor

We will miss you!

Find us on Facebook

Will comes to APFRI as a spouse of an active duty ILE student. He has over 15 years experience as an exercise physiologist working in a variety of health promotion, human performance and rehabilitation settings. He has a dual master's degree in Exercise Physiology and Fitness Management from the United States Sports Academy in Daphne Alabama. His bachelor's degree is in Sports Medicine from Phillips University. He has been certified as an American College of Sports Medicine Health Fitness Instructor since 1996. He is a Certified Strength and Conditioning Specialist from the National Strength and Conditioning Association. He is also a certified Wellness Coach from Wellcoaches USA.

Will was a competitive swimmer, cyclist and triathlete in high school and college. He has competed in 7 US National Championships for the sport of Triathlon and has been named an All-American twice. September 6, 1993, he set 3 Ultra-marathon Cycling Association national records, of which one still stands 17 years later. He rode the 236 miles from Texas to Kansas on Oklahoma State highway 81 in 10 hours and 51 minutes. Will and his family are pcs'ing to Washington DC in June 2010. He is studying for the Registered Clinical Exercise Specialist Certification with the American College of Sports Medicine.

CGSC WEB SITE http://usacac.army.mil/cac2/cgsc/Events/APFRI/

Become a fan on Facebook and check out updates on classes and APFRI events

Word Search Puzzle

Find and circle all words that are found in the newsletter articles.

L	G	L	C	L	Y	Q	Z	W	W	R	T	H	S	S
C	O	L	W	I	L	L	I	A	M	S	G	Z	H	I
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Word Search Puzzle: Brain Fitness

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