

Headquarters U.S. Air Force

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Request For Information (RFI) #6 Physical Fitness Programs



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**AF Exercise Science Unit
Exercise Physiology Consultant HQ AF
AFPC/DSYX
Joint Base San Antonio Randolph, TX
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AF Physical Fitness Training: Goal // Intent, Program?

- **Overall goal** - not necessarily to prepare for the test, rather maintain consistent physical training behavior to:
 - Reap health benefits / maintain activity-based health and fitness (T1)
 - Meet occupationally-specific, operationally-relevant requirements (T2)

- **Commanders Intent** (AF Instruction 36-2905, *Fitness Program*, 21 October 2013)
 - “It is every Airman’s responsibility to maintain the standards set forth in this AF Instruction 365 days a year”
 - “Being physically fit allows you to properly support the AF mission
 - “The goal of the Fitness Program (FP) is to motivate all members to participate in a year-round physical conditioning program that emphasizes total fitness, to include proper aerobic conditioning, muscular fitness training, and healthy eating”
 - An active lifestyle will increase productivity, optimize health, and decrease absenteeism while maintaining a higher level of readiness

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Commanders Intent (AFI 36-2905)

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(Cont'd)

- **Commanders and supervisors must incorporate fitness into the AF culture establishing an environment for members to maintain physical fitness (PF) and health to meet expeditionary mission requirements**
- **PF Test provides commanders with a tool to assist in the determination of overall fitness of their military personnel**
- **Commander driven PF training is the backbone of the AF Fitness Program and an integral part of mission requirements.**
- **Program promotes aerobic and muscular fitness, flexibility, and optimal body composition of each member in the unit”**
- **Unit Physical Training (PT) programs will encourage Airmen to participate in PF training for up to 90 minutes, 3-5 times per week. Consistent with mission requirements, commanders are encouraged to schedule or authorize Airmen time to participate in PF training during the duty day**
- ***Debate: Individual Member Responsibility vs Unit / Commander / Service Responsibility // Encouraged vs Mandatory***



RFI #6a – AF PF Resources

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a. What is your PF training program to prepare Service members for physical fitness tests?

■ **Required: If fail PF Test (Unsat), mandatory AF PF program**

■ **Airman and Commander select one of these to meet needs:**

■ **“Fitness Improvement Program” on-line (formerly “Be Well”)**

■ **Educates members on fitness, nutrition and dietary supplement safety**

■ **Surgeon General developed 2012, computer based training / high use, minimal effect**

■ **“Military OneSource Health Coaching”**

■ **Weight management, fitness and nutrition, living well with a health condition, stress management, and life transitions (lifestyle change)**

■ **Coaching sessions via telephone or online / low use, unknown effect**

■ **Resources (that have a physical aspect):**

■ **“Better Body Better Life” - available at a few bases**

■ **Focus on weight loss and healthy lifestyle, classroom sessions on nutrition, behavioral change, physical activity**

■ **Developed 2012, taught by former Health and Wellness Center (HAWC); however HAWCs disbanded, not AF-wide/limited locations, unknown effect**

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RFI #6a – Other AF Resources

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■ **Resources (cont'd):**

■ **“Health Promotion’s Health and Readiness Optimization”**

- **Uses Preventive Health Assessment data; targets negative health behaviors**
- **Education campaigns on physical activity, sleep, nutrition, tobacco-free**
- **2018 start at ten sites; new AF-wide health promotion, unknown effect**

■ **“Base Operational Support Team” - at one base**

- **Improve member and squadron performance, focus on illness and injury**
- **2018; local med service team of physical therapist, psychologist, dietitian, exercise physiologist rotate through and in base units, proactive vs reactive**

■ **Unit PF Resources: led by unit personnel (varied backgrounds)**

- **Disparate, highly variable**
- **Vulnerable to exercise fads, commander or unit PT Leader personal favorites**
- **Inconsistent**



- b. Does your physical fitness training program incorporate the science on physiological gender differences?**
 - **Addressed in following slides**
- c. How is your physical fitness training program administered and communicated to Service members?**
 - **Addressed in preceding slides**
- d. Is the physical fitness training program mandatory? If so, how are commands implementing and tracking effectiveness?**
 - **Yes, but only for Unsat / No for all other Airmen**
- e. Do you have a special rate/designation for fitness trainers? If so, what are their responsibilities?**
 - **No**



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AF Way Ahead

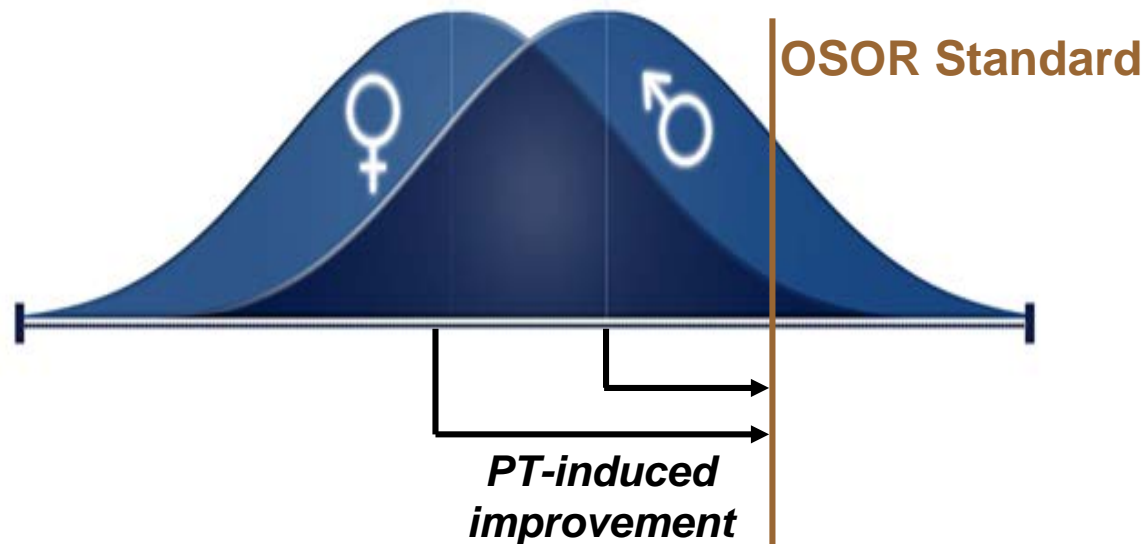
- **Education: not a panacea, but a necessary element along with...**
- **Science-based principles and procedures/methods - *focus on PF***
- **Some level of “guard-rails” - commonality and standardization across military timeline**
- **Leadership engagement**
 - **Accountability (Results > Currency)**
 - **Policy - achieve culture without tools and mandate?**
- **Education, Marketing, Communication (EMC) - all important “EMC”**
- **Account for sex differences in training**
- **Exercise Science Unit actions and plans:**
 - **Tier 1 and Tier 2 testing Research and Development to include Tier 1D**
 - **Force Generation-Force Sustainment Human Weapon System Life Cycle**
 - **Exercise Principles and Methods Train-the-Trainer Course**

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Sex Specific Differences PT Methods / Techniques



- Females may require a more focused, consistent, periodized training program than males to reach the same occupationally specific and operationally relevant (OSOR) physical standard, for cardiorespiratory endurance (CRE), body composition (BC), muscular fitness (MF)
 - Example, females generally need to achieve greater improvements in CRE, MF to reach the same absolute load carriage capability



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Sex Specific Differences PT Methods / Techniques

- **Females < VO₂ max, < fat-free mass, < muscular strength, < peak bone mass, < heat tolerance, > relative fat mass, > use fat stores, > protein catabolism, > Quadriceps femoral angle and posterior chain weakness**

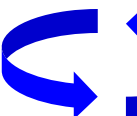
- **Sex-specific technique differences**
 - **Stability exercises core/pelvic girdle, e.g., plank, single leg squat**
 - **Strengthen posterior chain, e.g, deadlift variations, hamstring curls, single leg hip thrusts, squats with glute involvement, lunges**
 - **Landing techniques, e.g., depth jump, box jumps**
 - **Plyometric and agility drills - after achieving MF gains**
 - **Mobility assessments - address potential weaknesses / injury risk**
 - **Nutritional education / consults**
 - **Heat acclimation / fluid replacement**

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Right Focus - PF Components

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- Programs above: not PF focused, failed “weight loss” approach
- Component *hierarchy*
 - Aerobic fitness primary component for Tier 1 and Tier 2:
 - Tier 1 Health - compelling research data show aerobic fitness:
 - Provides risk protection not by reducing body mass *per se*, but by reducing visceral adipose tissue (VAT), subcutaneous adipose tissue (SAT), and total abdominal fat - “Aerobic Protection”
 - Mitigates elevated health risk associated with increases in VAT
 - Tier 2 Performance - occupations, operations, deployment
 - Abdominal fat next most important for health (T1)
 - MF (esp. core) next most important for performance (T2)
- Component *linkage*
 - Aerobic fitness and BC are inextricably linked; feedback loop 
 - For long term health benefits we should focus on improving fitness by increasing physical activity rather than relying solely on diet for fat (“weight”) control

Fit and Lean > Fit and Fat > Unfit and Thin > Unfit and Fat

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AF PF Program

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- **Employ *AF Exercise Principles and Methods Course (EPM)***
 - **Proactive program - science-based exercise training course (since '07)**
 - **Includes sex-specific training methods/techniques**
 - **50/50 mix of academic and practical**
 - **Graduation requirement: develop real time physical training plan**
 - **Train-the-Trainer concept; replace current computer training platform**
- ***EPM-Basic/Tier 1* general application across all career fields**
 - **All AF units, and Basic Military Training/Officer Training School, Reserve Officer Training Corps, United States Air Force Academy, Technical Training, Professional Military Education, Senior Leadership Courses**

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AF PF Program - EPM Course (Cont'd)

- *EPM-Basic/Tier 2* OSOR focus on specific career field
 - Tactical Air Control Party, Explosive Ordnance Disposal, Security Forces, Fire Emergency Services, others
- *EPM-Advanced* for human performance physiologists, coaches, instructors; reduce disparity across personnel and units