

U.S. Air Force

Integrity - Service - Excellence

Fitness for the Expeditionary Warfighter



Presented by: Lt Col Patricia Petnicki, USAF, BSC

Uniform Services Nutrition Symposium

2 Oct 04



CHIEF's Sight Picture

- *We're a much different Air Force today
...living in tent cities
...working on flight lines in extreme heat
...called upon to defend the base*
- *Our physical fitness needs improvement*
- *Put responsibility for PT in the chain of command*



AIR FORCE
Air & Space Power



Overview of New Fitness Program

- **Commander-driven physical training**
- **Combines Fitness and Weight Management Programs into health-based assessment**



Commander-Driven Physical Fitness Training

- **Foundation for AF Fitness Program**
- **Duty-time physical fitness training program**
 - **Fitness required as part of the job**
 - **Minimum 3 days / week with 30 min aerobic training and a strength training component**
- **Unit commander implements program tailored to mission needs**
- **Unit PT leaders trained by the Health and Wellness Center**



Fitness-Focused Environment

Environmental Assessment Tool for Fitness / Nutrition

- **Structural Environment**
- **Work Environment**
- **Fitness and Nutrition Programming**
- **Primary Health Care Services**





Combined Fitness and Weight / Body Fat Program

- Merged parallel programs to achieve optimal health
- Four fitness test components in composite score:
 - Aerobic assessment: 1.5 mile run (50%)
 - Body composition: abdominal circumference (30%)
 - Pushups (10%)
 - Crunches (10%)
- Composite score based on evidence-based health risk
 - 0-100 point scale
 - Provides fitness continuum; not a pass / fail
 - Gender and age-specific tables equate points to single scale for comparison of fitness levels



Aerobic Fitness: 1.5 Mile Run

- Commonly used run distance to assess aerobic fitness
- Correlated to bike test score (VO_2 max)
- Provides test option that is familiar to members
- For members classified as low cardiovascular risk or cleared by provider to run



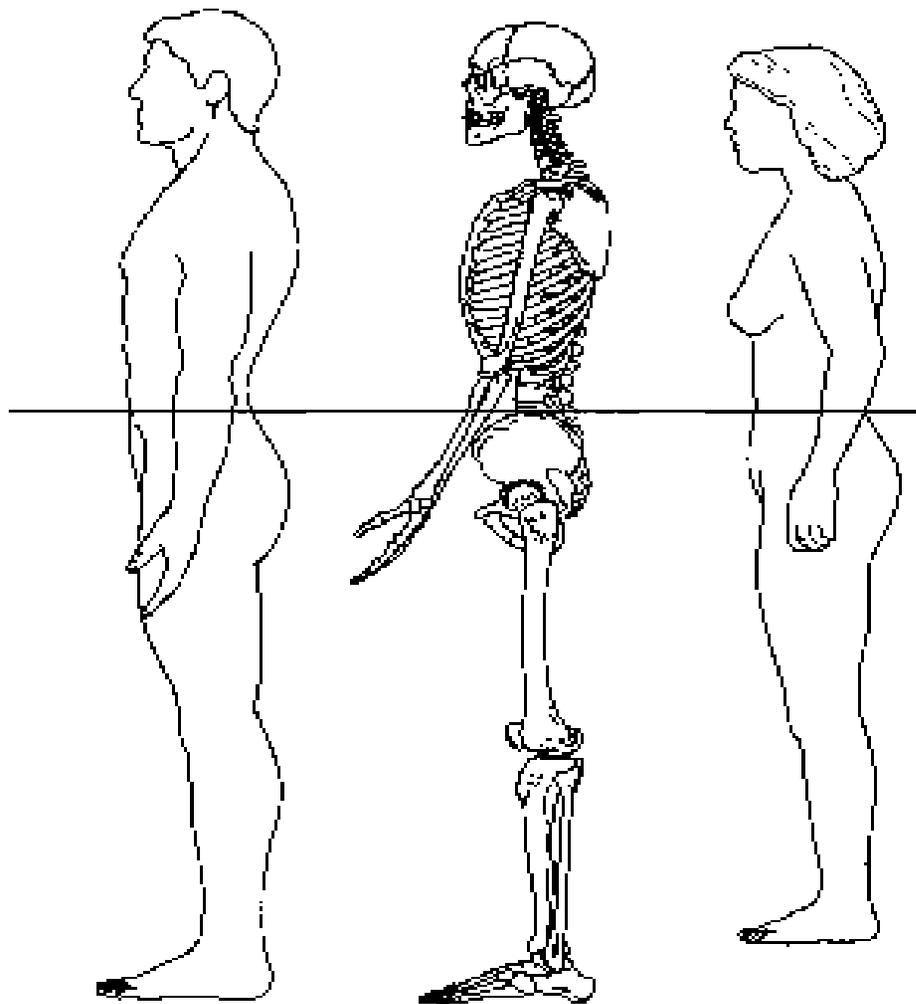
Abdominal Circumference

- Replaces max allowable weight & 2-3 site body fat taping procedures with single abdominal circ. measurement
 - Independent predictor of health risk; greater correlation to health risk than body fat
 - Easy to administer...less chance for error
 - Members can easily track their progress
 - Age- and height-independent
- Eliminates subjective professional appearance
- Requested waiver from DoD body fat measurement



Abdominal Circumference Measurement

To measure waist circumference, locate the upper hip bone and the top of the right iliac crest. Place a measuring tape in a horizontal plane around the abdomen at the level of the iliac crest. Before reading the tape measure, ensure that the tape is snug, but does not compress the skin, and is parallel to the floor. The measurement is made at the end of a normal expiration.





Abdominal Circumference Data

Males (n=5254)

Abdominal Circumference	Body Mass Index (BMI)	
	≤ 27.5 "	> 27.5
< 40 "	3747 <input checked="" type="checkbox"/>	1181 ^b
> 40 "	30 ^a	295 <input checked="" type="checkbox"/>

a None with BMI < 25 or body fat $< 18\%$

b Twelve had a body fat $> 26\%$; those 12 had abdominal circumference 35.5-40"



Body Composition: DoDI vs AFI

	DoDI	AFI
Screening	Body Mass Index: Services set threshold between 25 and 27.5 (6.2.2.2)	None; body composition assessment on all members
Definitive Measure	Body Fat Percentage: 2-3 site circumference measure (6.2.2.3/6.2.3.2)	Abdominal Circumference: single site circumference measure
Threshold	Services set threshold for remedial training at a body fat percentage between: 18-26% - Males 26-36% - Females (6.2.2.4)	AF set threshold for remedial training according to NIH clinical guidelines: > 40" - Males > 35" - Females



Muscular Fitness Testing

- Uses 1 minute push-up and 1 minute crunch test
- Data supports muscular training to reduce risk for disease / injury
- Health-based standards do not exist for muscular fitness
 - Only 20% of composite score
 - Component points based on normative data from the Cooper Institute for Aerobic Research





Fitness Assessment

Males 50-54

Aerobic Fitness		
1.5-Mile Run Time (min.)	Bike Test (VO ₂)	Component Points
<11:06	>47	50.00
11:07-11:24	46	47.50
11:25-11:36	45	45.00
11:37-12:12	43-44	43.50
12:55-13:36	39-40	40.50
13:37-14:24	37-38	39.00
14:25-15:18	35-36	37.50
15:19-15:48	34	36.00
15:49-16:54	32-33	34.00

Body Composition	
Abdominal Circumference (inches)	Component Points
<32.5	30.00
32.50	28.75
33.00	27.50
33.50	26.25
34.00	25.00
34.50	23.75
35.00	22.50
36.00	22.20
36.50	22.05

Muscle Fitness			
1 minute Push-up (# Reps)	Component Points	1 minute Crunch (# Reps)	Component Points
>39	10.00	>43	10.00
37-38	9.75	41-42	9.50
35-36	9.50	39-40	9.00
32-34	9.25	37-38	8.75
30-31	9.00		
		32-34	8.25
25-26	8.50	30-31	8.00
22-24	8.25	28-29	7.75
20-21	8.00	26-27	7.50
17-19	7.75	24-25	7.40

42.00

+

22.35

+

8.75

+

8.50

=

**Composite Score:
81.6 points**



Composite Scoring

Score	Fitness Level	Actions
90 – 100	Excellent	➤ Retest in 12 months
75 – 89.9	Good	➤ Retest in 12 months
70 – 74.9	Marginal	➤ Retest in 6 months ➤ Lifestyle Education
0 – 69.9	Poor	➤ Retest in 3 months ➤ Monitored PT ➤ Lifestyle Education ➤ Targeted Intervention



Lifestyle Education

■ Healthy Living Workshop

- Attended by all members scoring <75
- 2-hour workshop
- Behavior Change/Readiness, Nutrition, Fitness

■ Fitness Improvement Program

- All members <70 enrolled
- Personal fitness prescription
- Monthly follow-up

■ Body Composition Improvement Program

- All members <70 with high abdominal circumference
- 2 core sessions with monthly follow-up



Personnel Actions for Poor Fit Members

- **Increased commander flexibility**
 - **Tech training / Professional military education**
 - **Reenlistment / Promotion**

- **Commander may consider adverse administrative action if member:**
 - **Fails to participate in intervention**
 - **Remains in “poor fit” category for >6 months without improvement**

- **Administrative separation – last resort**
 - **Consider if member remains “poor fit” for 12 months**
 - **Consider if member receives 4 “poor fit” assessments in 2-year period**



On the Horizon

- Fitness Program Review
 - Functional Review
 - External Scientific Panel
 - Leadership Survey
- Inspector General Special Interest Item



More Information

- Air Force Instruction (AFI) 10-248, Fitness Program
- Web Site:
 - <https://kx.afms.mil>
 - Functional View
 - Ancillary
 - Nutritional Medicine
 - Outpatient Nutrition and Health Promotion
 - AF Fitness Program



Questions?

Integrity - Service - Excellence