

24 January 2019

SUBJECT: Air Force Responses to the Defense Advisory Committee on Women in the Services December 2018 Quarterly Business Meeting Follow-Up Questions, Request for Information #8

SITUATION: The Defense Advisory Committee on Women in the Services (DACOWITS) has submitted follow-up questions from their quarterly business meeting held 11-12 December 2018 in Alexandria, Virginia.

BACKGROUND: In June 2017, the Committee studied physiological gender differences and remains interested in the different approaches each of the Military Services are utilizing to manage physical fitness testing. The Committee recognizes that some of the Military Services are in the process of making substantial changes to their physical fitness testing programs. The Committee is concerned that some of these changes may disproportionately impact servicewomen.

ASSESSMENT: The Committee submitted a follow-up request for information (RFI) from the Military Services on physical fitness tests (RFI #8), concerning: 1) iron or other supplements; 2) failure rates for servicewomen (after postpartum exemption expiration); and 3) fitness programs for reintegrating medically waived Service members (including postpartum servicewomen). Below are the Air Force (AF) responses to the Committee's follow-up questions, prepared by the original AF briefer, Dr. Neal Baumgartner.

i. **Military Services:** Current policies for iron or other supplements provided to female recruits.

Research data show:*

- *Premenopausal females are at risk for iron depletion (low ferritin), iron deficiency nonanemia, and iron deficient anemia due to suboptimal iron consumption and menstrual bleeding which lead to negative iron balance*
- *Furthermore, regular physical activity may also negatively affect iron stores*
- *Decrements in iron status do occur over the course of basic military training (BMT); female basic trainees may experience impaired aerobic adaptation and endurance fitness*
- *Maintaining optimal iron status and the oxygen-carrying capacity of the blood in female military trainees is important to physical and cognitive performance*
- *Iron supplementation attenuates the training induced decrement in iron status and can improve mood and aerobic running performance*
- *Note: iron absorption is inhibited by calcium, coffee, tea, carbonated beverages and non-steroidal anti-inflammatories*

Due to the research findings on iron status in BMT, the AF:

- *Provides a multivitamin with iron supplement to all female trainees at AF BMT*
- *Checks for high risk trainees (female, low aerobic fitness, low body mass, stress fractures)*
- *Stresses high iron food consumption in nutrition lectures and in dining hall lines*

*References

- McClung, JP, *et al.* Randomized, double-blind, placebo-controlled trial of iron supplementation in female soldiers during military training: effects on iron status, physical performance, and mood. *Am J Clin Nutr* 2009;90:124-31.
- Brownlie IV, T., *et al.* Tissue iron deficiency without anemia impairs adaptation in endurance capacity after aerobic training in previously untrained women. *Am J Clin Nutr* 2004;79:437-43.
- McClung, JP, *et al.* Longitudinal decrements in iron status during military training in female soldiers. *British Journal of Nutrition* 2009;102:605-609.
- Brownlie IV, T., *et al.* Marginal iron deficiency without anemia impairs aerobic adaptation among previously untrained women. *Am J Clin Nutr* 2002;75:734-42.

ii. **Military Services:** The percentage of servicewomen who failed their official fitness test after the expiration of their postpartum exemption, over the last five years, *e.g.*, 1 Jan 13 - 31 Dec 17

Despite efforts by the AF Exercise Science Unit (AFPC/DSYX) and HQ AF Directorate of Force Management Policy (AF/AIP) we at this time are unable to provide a specific data based answer to this question:

- *This is due to ongoing limitations of the AF Fitness Management System II (AFFMS) database*
- *Efforts are underway to upgrade the AFFMS system*
- *The AF Exercise Science Unit (ESU) will, in coordination with AF/AIP (Force Management Policy), continue to pursue a data based answer. Additionally, ESU will attempt to analyze the data while accounting for the several confounders that can affect a postpartum female Airman's fitness score, e.g., fitness score(s) prior to pregnancy, number of pregnancies, age, years in service, fitness history*

iv. **Air Force, Navy, and Marine Corps:** Information on fitness programs for reintegrating medically waived Service members, to include postpartum servicewomen.

The AF offers fitness programs available to all Airmen to improve and maintain optimal physical fitness, promote fat loss, maintain optimal body composition, and enable a healthy lifestyle:

- *Better Body Better Life Program (facilitated classroom discussions and hands-on activities) Fitness Improvement Program, Healthy Weight Program, and Military OneSource Health Coach*
- *Additional programs to increase healthy behaviors, decrease injuries and improve mental health include Health Promotion's Health and Readiness Optimization, Base Operational Support Team, and Task Force True North*

1. *Several AF bases (AFBs) offer postpartum physical training programs, e.g., Shaw AFB recently implemented a Prenatal/Postpartum fitness course that Air Combat Command (ACC) intends, as of 11 Jan 19, to use the SHAW AFB program as a model for all ACC bases. Additionally, staff at Dyess AFB, part of the AF Global Strike Command (AFGSC), developed a gestational/post-natal fitness program.*

The AF ESU is initiating an initial research and development effort:

- *Conduct a scientific literature review on postpartum health and physical exercise*

- *Compile post-partum physical training best practices; this is critical as the state-of-the-art may be lacking (see article #11* in DACOWITS Articles of Interest 4 Jan 19)*
- *Per the above findings, modify as necessary the proven AF Exercise Science Unit **Exercise Principles and Methods Course-Postpartum Version** to offer AF Servicewomen a science-based, standardized course with both academic rationale and physical practical sessions*

*Reference

The complications of getting back in shape after a pregnancy (16 Dec) *The Washington Post*, by Amanda Loudin

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