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SUBJECT: Physical Suitability of Women for Assignment to Combat and Heavy Work
Military Occupational Specialties

1. Purpose. To enumerate the results of 30 years of research on the physical capacity of women for heavy work military occupational assignments.
2. Results. Numerous studies have found that few if any women possess the physical capacity to perform in combat or heavy military occupational specialties and none will outperform well-trained men. Training women with men to the same physical occupational standards dramatically increases the skeletal-muscular injury rate among women.
3. Key Research Findings:
 - a. 1982, *Women in the Army Policy Review* reported only 8 per cent of women were capable of performing heavy work category jobs and recommended establishing a Military Enlistment Physical Strength Capacity Test (MEPSCAT). Army never implemented test because it would reduce the women eligible for those occupational specialties.
 - b. 1992, James A. Vogel in an article, "Obesity and Its Relationship to Physical Fitness," reported Natick Laboratory research results noting that aerobic capacity is a function of body fat percentage and strength is a function of lean muscle mass. A lean muscle mass of 50 kilograms is required if an individual is to perform heavy work jobs. Because woman are smaller in stature and have a high body fat percentage, few women will have the physical stature to train to the physical requirements of heavy work jobs.
 - c. 1992, *Presidential Commission on the Assignment of Women in the Armed Forces* unanimously recommended Services adopt gender-neutral muscular strength/endurance and cardiovascular standards for relevant specialties. Never adopted.
 - d. 1997, U.S. Army Research Institute of Environmental Medicine study, *Effects of a Specially Designed Physical Conditioning Program on the Load Carriage and Lifting Performance of Female Soldiers*, reports that in 24 weeks the women in the study increased their lifting capacity to 82 percent of that of average males but gained less than a pound of muscle mass limiting the potential for additional improvement.
 - e. 1998, because the British Army had found women in heavy work occupational specialties were physically incapable of performing the assigned job, the British Army instituted a standard set of physical test scores in relation to career specialties. The British Army expected that the number of women qualifying for heavy work jobs would decline but discovered that during training the injury rate among women soared.

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- f. 1998, Dr. William J. Gregor testifies to the Congressional Commission on Military Basic Training and Gender Related Issues that because of the physiological differences, men training with women do not increase their aerobic capacity. British Army study in 2009 observed the same results.
 - g. 2006, Daniel W. Trone, MA, in a study of the first term outcomes of female Marine Corps recruits observed that 44 percent of female recruits suffer lower extremity injuries and that those who experienced those injuries were less likely to complete their first term enlistment.
 - h. 2010, LTC Philip J. Belmont Jr. and others report findings of a study of disease and non-battle injuries sustained by an Army BCT during Operation Iraqi Freedom. The non-battle injury rate for women is 167 percent higher than men, and the skeletal-muscular injury is almost equal to that of men from all causes.
 - i. 2011, Laurel Wentz, et.al., report in Military Medicine a systematic review of medical studies of U.S. and foreign militaries and athletic teams that females have a greater incidence of stress fractures. The greater incidence of stress fractures results from anatomical differences regardless of general fitness and training.
 - j. 2011, Dr. William J. Gregor reports the results of a study of cadet physical performance of all Army ROTC cadets from 1992 to 2011. The report observes that over that period only 72 women bested the lowest 16 percent of men in aerobic capacity and that the 72 women stood four standard deviations above the female mean. Such women are exceptional and their performance cannot be replicated through training the general population of women. Additionally, male aerobic capacity exceeds female capacity regardless of the weight to height ratio, BMI.
4. Discussion. There is no study that indicates that training can overcome the large physical differences between men and women. Additionally, training women to perform heavy work jobs increases dramatically the skeletal-muscular injury rate among women which is already far greater than men. Attempting to train women with men will require either training men less well or accepting a high attrition rate among the very few women who will meet the nominal qualifications for heavy work jobs. In units, it can be expected that commanders will shift tasks from women to men to avoid attrition from non-battle injury. It is a matter of speculation whether such task shifting is tolerable in actual combat. Given the non-battle injury rate of Army women in Operation Iraqi Freedom, increasing the presence of women below the brigade level may result in even greater losses.

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