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Defense Primer: Military Physical Fitness Testing and Body Composition Program

Under Article 1, Section 8 of the Constitution, Congress has broad authority over the Armed Forces and, as such, has a duty to maintain physically capable forces to conduct a range of military operations. Various statutes authorize the Department of Defense (DOD) to determine physical fitness and body composition standards for servicemembers and individuals entering military service. The services also use physical fitness and body composition standards when considering certain career assignments and advancement. These standards are intended to support good health, physical readiness, and professional military appearance.

The military is concerned with excess body fat due to its relationship with obesity and comorbid medical conditions such as heart disease, stroke, type 2 diabetes, and certain types of cancer. Excess weight can cause joint pain and reduce cardiovascular capability, and can be detrimental to people and equipment in space-limited situations (e.g., military aircraft and vehicles). A higher risk of comorbid conditions for servicemembers and veterans also has longer-term health care cost implications.

The standards have become a subject of debate in Congress and among other observers and military leaders. Some have expressed concern that current standards are outdated, unscientific, or unsuited to current military job requirements, and may not predict performance in combat conditions. They have also argued that there is potential for gender-bias in existing standards, or have concerns that these standards may incentivize harmful behaviors (e.g., eating disorders). Some military leaders have highlighted recruiting challenges, in part related to ineligibility of some civilian youth under existing height and weight standards. Proponents of the standards argue that reducing or waiving standards could weaken the military's combat capabilities.

Background and Authorities

Title 10, Section 113 of the *U.S. Code* delegates authority, direction, and control of the DOD to the Secretary of Defense (SECDEF). In addition, 10 U.S.C. §§505 and 532 provide for the enlistment or appointment of "able-bodied" and "physically qualified" recruits. Under these authorities, the SECDEF has established policies on minimum physical fitness and body composition standards. The services then set their own standards based on these parameters.

DOD Instruction 1308.03, *DOD Physical Fitness/Body Composition Program*, establishes allowable body mass index (BMI) and body fat (BF) percentages for servicemembers by gender. The policy requires each service to develop science-based physical fitness tests that measure individual cardiorespiratory endurance (typically a timed run) and muscular strength and endurance (e.g., sit-ups, pull-ups/push-ups) for all service occupations. DOD

policy also states that these standards may be adjusted for age and gender, or "gender-normed" (see **Table 1** for sample comparison). The services generally administer physical fitness testing and measure body composition on at least an annual basis, with some waivers for health or pregnancy-related conditions. Servicemembers who fail to meet the physical fitness and body composition standards may be placed in remedial programs, denied reenlistment, or subject to separation from the military.

Table 1. Comparison of Upper Body Strength Fitness Standards, by Service and Gender

Number needed to attain the minimum and maximum scores for ages 17-21

	Army	Air Force	Navy	Marine Corps
Event	Hand-release push-ups	Hand-release push-ups	Push-ups	Pull-ups
Male	min: 10 max: 57	min: 15 max: 40	min: 46 max: 92	min: 9 max: 20
Female	min: 10 max: 53	min: 6 max: 31	min: 20 max: 51	min: 1 max: 7

Source: 2022 fitness tests of record for each service.

Note: The Space Force has an alternate fitness assessment protocol.

Gender-Normed vs. Gender-Neutral Standards

Separate from the *gender-normed* fitness standards, DOD policy requires *gender-neutral* occupational-specific standards for physically demanding career fields in accordance with statutory requirements (10 U.S.C. §113 note). Congress first required these gender-neutral standards as part of the FY1994 National Defense Authorization Act (NDAA, P.L. 103-160 §543). Congress amended the law in the FY2014 and FY2015 NDAs (P.L. 113-291 §524 and P.L. 114-92 §525) to require that gender-neutral occupational standards (1) accurately predict performance of actual, regular, and recurring duties of a military occupation; (2) are applied equitably to measure individual capabilities; and (3) measure the combat readiness of combat units, including special operations forces. In general, while gender-neutral standards measure an individual's ability to successfully complete an occupational-specific task (e.g., infantry maneuver under fire), fitness standards assess overall health and fitness for general duty conditions.

Several studies have found that, on average, men have greater muscle mass, cardiovascular capacity, and load-bearing capabilities than women. The services account for these physiological differences through gender-normed

fitness standards. (These standards are also scaled for age.) Likewise, average body fat percentages vary by gender, with women having proportionally more fat mass and men having more muscle mass. According to the *American Journal of Clinical Nutrition*, for people aged 20 to 39, women should aim for 21%-32% of body fat and men should aim for 8%-19%. These are generally considered “healthy body fat percentages.” Some health experts have found that women and men store fat differently in their bodies; women tend to store fat in their thigh area, while men store fat in their abdominal areas. These differences are a factor in how the military measures body fat for men and women (sometimes referred to as “tape-testing”). For instance, body fat for a man is measured by comparing the circumferences of the neck and waist, while body fat for a woman is measured by comparing the circumferences of the neck, smallest point of the waist, and largest point of the hips. **Table 2** lists allowable DOD body fat limits.

Table 2. DOD Body Fat Limits by Gender

Gender	DOD-allowable limits
Men	18%-26%
Women	26%-36%

Source: DODI 1308.03.

Note: DOD policy restricts the services from establishing body fat percentage limits below or above the allowable parameters. These standards do not vary by age.

Considerations for Congress

Congress may consider legislation or oversight activities to address certain perceived issues with military fitness and body composition standards.

Reliability of Standards and Alternative Testing

Protocols. Some researchers have argued that current physical fitness and body composition standards and measurement protocols fail to take into account variations in body type by race and gender. The Senate Armed Services Committee report S.Rept. 117-39 accompanying the FY2022 NDAA (P.L. 117-81) noted that current body composition standards are “based on archaic, homogeneous data and standards that can be discriminatory,” and commends a study by the Army Research Institute of Environmental Medicine and the Marine Corps’ Human Performance Branch using modern technology (e.g., body scans) and assumptions to update military body composition standards.

In terms of measurement tools and protocols, some experts deem the tape-testing technique to be less accurate than other techniques such as the “BodPod,” which measures pressure changes within a closed chamber to determine muscle and body fat volume. While the Army and Air Force have this system available at several installations, there may be cost and access barriers to implementing advanced body fat measuring systems across the services.

Certain services have piloted or implemented alternative testing programs. For example, in 2019 the Army began implementing the Army Combat Fitness Test (ACFT) to better assess servicemembers’ physical preparedness for combat-related tasks (e.g., carrying ammunition cans). The Army intended to replace its legacy gender and age-neutral

fitness test and scoring with the ACFT. However, Congress halted implementation in the FY2021 NDAA (P.L. 116-283 §598) pending the results of an independent study. The resulting RAND study of the ACFT found disparate impacts in pass rates by gender, age, military occupational specialty, and component (with Reserve Component members having lower pass rates). The Army transitioned to age and gender-normed scoring in 2022.

The Space Force is reportedly piloting wearable fitness devices in an attempt to potentially remove a physical fitness test requirement entirely and better monitor servicemembers’ overall health, including sleep patterns. Some studies have found associations between physical fitness testing periods and negative behaviors among military personnel to quickly lose weight (e.g., self-induced vomiting, use of diuretics or laxatives). More frequent fitness monitoring through the use of wearables (vice annual testing) could incentivize healthier eating and exercise habits; however, privacy concerns and scalability of this approach may limit broader application.

Accommodations for Pregnant and Post-Partum Servicemembers

Adherence to body composition and fitness standards may be more challenging for pregnant, post-partum, and nursing servicemembers due to anatomical and physiological changes—some of which can be long-lasting beyond the post-partum period (e.g., hip-widening, diminished abdominal strength). Failure to meet military standards could have a disparate impact on promotion, assignments, and retention for post-partum servicemembers. The services have policies that provide exemptions from testing for a specified period of time. In the FY2022 NDAA (P.L. 117-81), Congress included a provision (§621) allowing those who give birth to be exempt from testing for 12 months following the birth. The law requires the services to implement this policy by December 27, 2022. Congress may continue to monitor implementation of this policy and any implications for individual career progression and military readiness.

Recruiting. One original function of body composition standards was to exclude underweight individuals from military service due to inability to handle weight-bearing and physically demanding activities. In recent decades, more applicants for military service have been disqualified for being overweight than underweight. According to July 19, 2022, testimony by the Army Vice Chief of Staff, only 23% of the service-eligible civilian adult population meets the physical and mental fitness and academic proficiency standards set by the military without a waiver. Some of the options to address these challenges may be to lower accession/retention standards—particularly for less-physically demanding military career paths, enhance entry-level training programs, or adopt broader national public health initiatives to improve youth fitness and nutrition. (For more background, see CRS In Focus IF11708, *Obesity in the United States and Effects on Military Recruiting*.)

Elena Spielmann contributed research and analysis to this report.

Kristy N. Kamarck, Specialist in Military Manpower

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