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Modernizing the Navy's Physical Readiness Test: Introducing the Navy General Fitness Test and Navy Operational Fitness Test

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Abstract

The lessons learned from recent combat operations in Iraq and Afghanistan have shown operational commanders that the military fitness tests currently used by the different services are inadequate in terms of assessing the physical fitness required for combat. Currently, only the U.S. Marine Corps employs a combat specific fitness test; although the U.S. Army and Air Force have recognized the need and rationale for one as well. Unfortunately, the U.S. Navy continues to lag behind the other services in terms of modernizing its physical fitness training and testing programs. The purpose of this article is four-fold: 1) justify the need for service-specific combat fitness tests, 2) discuss past and current examples service-specific combat fitness tests, 3) introduce a revised general fitness test intended to replace the current Navy Physical Readiness Test (PRT), and 4) propose an operational fitness test that could be adopted and employed by the U.S. Navy.

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Keywords: physical fitness; fitness tests; fitness assessments; combat readiness; operational readiness; Combat Fitness Test; Physical Readiness Test

Introduction

In May of 2004, an Army Headquarters and Headquarters Company (HHC) operating on a Forward Operating Base (FOB) in Northern Iraq was hit multiple times by enemy mortar fire. After the attack, the onsite Company Commander found one of his soldiers attempting to move another service member, bleeding and unresponsive. However, the soldier lacked the physical strength necessary to move the service member and was forced to wait until additional help arrived. Ironically, this soldier consistently passed the Army Physical Fitness Test (APFT) (2). This event revealed two harsh realities: 1) service members need to be better prepared for the physical demands of combat, and 2) the military cannot rely on the current physical training programs used to prepare service members for the semi-annual physical fitness tests to meet these demands (2).

In January 2013, the Secretary of Defense announced the decision to open combat roles to female service members. Stansberry (2009) reports that more female Marines have lost their lives or been wounded in Iraq and Afghanistan than ever before even prior to this historic decision. As a result, all service members, regardless of gender, must be able to do more than just pass their service-specific physical fitness test; they need to be able to perform basic battlefield tasks as well. Several researchers have defined these tasks as the ability to jump, crawl, roll, stop, start, bound, climb, push, pull, sprint, and carry heavy loads over long distances (6, 8, 21).

Today's service members are "tactical athletes," requiring high levels of strength, speed, power, and agility to be successful on the battlefield (8). Due to the conditions and demands of combat, the necessary level of physical fitness required for service members is significantly greater than that of the general public (21). Doyle and McDaniel (2006) believe that preparation for combat is similar to preparation for collegiate or professional athletics with, however, some notable differences. Tactical athletes generally don't know when, where, or for how long they will be engaged in combat activities. These differences make the preparation for combat even more challenging and critical than that required for regular athletic competition.

Several researchers now argue that the physical training programs employed by the different services should be more comprehensive in order to better prepare service members for the rigors of combat. Physical training programs should incorporate an educational component that teaches service members how to safely and efficiently perform the fundamental movement patterns required of them on the battlefield (6).

The purpose of this paper is four-fold: 1) justify the need and rationale for service-specific combat fitness tests, 2) discuss past and current examples service-specific combat fitness tests, 3) introduce a revised general fitness test intended to replace the current Navy Physical Readiness Test (PRT), and 4) propose an operational fitness test that could be adopted and employed by the Navy.

Types of Fitness

The U.S. Department of Health and Human Services classifies physical fitness into two categories: health-related and performance-related fitness. Health-related fitness is the amount of fitness required to reduce the risk of disease and represents the fitness categories assessed in the physical fitness tests used by the military services (15, 21). Health-related components of fitness include cardiovascular fitness, muscular endurance, muscular strength, flexibility, and body composition. Performance-related fitness, on the other hand, is the amount of fitness required to accomplish a specific task and is not currently assessed in any of the service's physical fitness tests (15, 21). Performance-related components of fitness include speed, agility, power, coordination, balance, and reaction time. The ideal military physical fitness test would assess both health-related and performance-related components of fitness. Vanderburgh et al. (2000) believes that physical fitness tests that incorporate both health-related and performance-related components of fitness would be both functionally and practically superior to the current physical fitness tests employed by the services.

Need for Operational Fitness Test

Several of the services now recognize that health-related fitness tests do not adequately prepare service members for the rigors of combat (2, 6, 7, 8, 16). With the formal implementation of the combat fitness test (CFT), the Marine Corps is the only service currently evaluating performance-related components of fitness. Prior to the development of the CFT, Marine Corps leadership reported that the current USMC training program over-emphasized aerobic training and under-emphasized strength training. Marines training specifically and singularly for the USMC Physical Fitness Test (PFT) will likely be unbalanced and ill-prepared for combat (6). Instead, leadership recommended that Marines "train as they fight" and incorporate training and testing practices that more closely mimic the movements and tasks expected of them in combat (2, 22). Similarly, Lieutenant General (LTG) Mark P. Hertling, while serving as the Deputy Commanding General for the U.S. Army Training and Doctrine Command (TRADOC), once said: "Today's PT test does not adequately measure components of strength, endurance, or mobility. The events have a low correlation to the performance of warrior tasks and battle drills and are not strong predictors of successful physical performance on the battlefield or in full spectrum operations" (15).

In recent years, the Air Force's role in combat operations has gradually evolved and become closer to that of the Marine Corps and Army (15, 28). However, *Worden* & White III (2012)determined that the current Air Force Physical Fitness Test (AFPFT) was a poor predictor of combat fitness (15). Additionally, Mitchell et al. (2014) believes it is unlikely that Air Force members will be able to get into combat ready shape in short notice using the current Air Force training program.

The ability to accurately assess the combat readiness of a service member is of utmost importance for the respective services and provides critical information to operational commanders (16). Specifically, it provides the following information: 1) advance knowledge of the physical capabilities/limitations of assigned personnel, 2) information for task force selection by identifying which personnel are capable of physically demanding tasks, 3) helps to structure physical training programs by identifying the components of fitness essential to battlefield performance, and 4) a means of evaluating the effectiveness of physical training programs (7). Knapik and East (2014) argue that even if the service members' operational demands change over time, the rationale for implementing military fitness tests will remain the same.

Operational Fitness Tests of the Other Services

U.S. Marine Corps. The Marine Corps first developed the CFT in 2008 in an effort to better assess a Marine's ability to perform specific battlefield tasks in preparation for combat. The CFT is a complement to the PFT and is intended to assess a Marine's physical capacity in a broad spectrum of combat related tasks (14). The CFT consists of following three events: 800-yd run in boots and utilities, 30-lb ammo can lift, and various maneuver under fire drills.

U.S. Army. Although the Army does not currently have a combat-specific assessment in place, the Army has developed and implemented several combat fitness tests over the years (11). Examples include the 1920 Individual Efficiency Test (IET) which consisted of a 100-yd run, running broad jump, wall climb, hand grenade throw, and an obstacle course; the 1946 Physical Efficiency Test Battery (PETB) which consisted of pull-ups, squat jumps, push-ups, sit-ups, shuttle run, and an obstacle course; and the 1961 Physical Combat Proficiency Test (PCPT) which consisted of a 40-yd low crawl, horizontal ladder, run/dodge/jump event, grenade throw, and a 1-mile run. All three tests were developed and implemented in an effort to tailor the Army physical fitness training programs to combat-related tasks (3, 11). The Army implemented the current APFT, which consists of push-ups, sit-ups, and a 2-mile run, in 1980 after the decommissioning of the Women's Army Corps (WAC). The rationale for implementing the new test was because Army leadership wanted a test that was gender neutral, easy to administer, and required minimal equipment (3).

Since 1998, the Army Physical Fitness School (APFS) has developed and presented Army leadership with two different combat relevant tests in attempt to replace the APFT. In 2003, the APFS proposed the Army Physical Readiness Test (APRT) consisting of a standing long jump, 1-minute power squat, 1-min heel hook, a shuttle run, 1-minute push-up, and a 1-mile run. However, the 2003 proposal was never implemented due to potential safety and administrative concerns with some of the test events (11). In 2010, the APFS developed a revised APRT as well as the Army Combat Readiness Test (ACRT). The revised APRT consisted of a 60-yd shuttle run, 1-minute rower exercise, standing long jump, 1-minute push-up, and 1.5-mile run. The ACRT consisted of a 400-m run, low hurdle, high crawl, under and over, casualty drag, balance beam ammo can carry, point-aim-move maneuver, and various sprint maneuvers. However, neither test was implemented as Army leadership had concerns with the effectiveness and feasibility of the tests (11).

In 2013, the Army began work on a massive three year study (Solder 2020) in an attempt to review the physical demands of various combat-related tasks. The ultimate goal of the study is to transition to a standards-based Army in an attempt to better match soldiers, regardless of gender, to specific jobs within the service that best aligns with their physical abilities.

U.S. Air Force. The current AFPFT was implemented in an attempt to establish a baseline assessment of an Airman's health-related fitness level as well as risk for metabolic disease and mortality (15). However, with the recent shift in the Air Forces' combat roles and responsibilities, several researchers are now advocating a change to the AFPFT. Worden and White III (2012) recommend a simple three-event fitness test: a timed ½ mile run, 2-minute 30-lb dumbbell lift, and 1 minute of push-ups. The revised test is easier to administer and correlates better to the CFT and APRT (2003 variant). Mitchell et al. (2014) propose an even simpler test: a 1.5-mile run and a 2-minute repetitive dumbbell lift (i.e., lifting a 30-lb dumbbell from chest height to overhead with arms extended). After performing a comprehensive statistical analysis, Mitchell et al. (2014) found that the 1.5-mile run and repetitive dumbbell lift were the two best predictors of CFT/APRT (2003 variant) performance with no other AFPFT events proving to be significant.

U.S. Navy. Unlike the Marine Corps that has the fundamental ethos of "every Marine is a rifleman", the Navy does not have a common ethos for its service members due to the vast array of Enlisted Ratings and Officer Designators within the service. There are nearly 50 different Enlisted Ratings, eight specialized staff Officer corps, as well as various regular line, limited duty, and warrant officer communities. This makes developing a Navy specific combat fitness test that is "one size fits all" extremely difficult. However, in 1985, the Navy Personnel Research and Development Center (NPRDC) conducted a study to identify a list of common occupational tasks for shipboard personnel. The study identified lifting, carrying, and pulling as the three most commonly performed movements – accounting for roughly 84% of all common shipboard tasks (20). If a combat fitness test was to be developed for the Navy, it should include, at a minimum, these three basic movements.

Navy General Fitness Test (NGFT)

Other than the addition of the 12-minute elliptical trainer and stationary bike tests in 2006 and 2007, respectively; the current Navy PRT has remained relatively unchanged since 1986 (9). The PRT only assesses health-related fitness components such as muscular endurance and cardiovascular fitness, and includes tests with proven poor validity (450-m swim/500-yd swim; 12-min elliptical trainer/stationary bike), objectivity (push-ups), as well as an increased risk for injury (curl-ups) (5, 18, 19, 27). In an attempt to address these concerns, a revised physical fitness test (NGFT) is recommended for the sole purpose of providing a general health assessment of Naval personnel. A brief description of and rationale for each of the proposed events is provided below.

Abdominal Circumference. The National Institute of Health (NIH) and Air Force currently use a single abdominal measurement, taken at the superior border of the iliac crest, to assess body composition and health risk. Research has shown that abdominal fat content is highly correlated to all-cause mortality risk and that abdominal circumference provides a good indicator of that risk (17). The NIH sets the abdominal circumference criteria for high risk at 40 in. and 35 in. for males and females, respectively. The Air Force sets the maximum allowed abdominal circumference measurements at 39 in. and 35.5 in. for males and females, respectively. Although both the NIH and Air Force use the iliac crest as the preferred measurement site, it is recommended that the abdominal measurement be taken at the umbilicus for several reasons: 1) the Navy already uses an umbilicus measurement as part of its current body composition program, 2) the accuracy of measurement is comparable to that of the iliac crest, 3) it is an easier landmark to identify in both males and females, and 4) it is less invasive to identify and measure (17). The criteria for high risk is recommended to be set at 40 in. and 36 in. for males and females, respectively.

Plank. Roy et al. (2010) advocates core strength is essential for load carriage capacity, reduced risk of injury, and proper body alignment and biomechanics. Therefore, core training should be the foundation of any physical fitness training program. Research has shown that repetitive spinal flexion exercises (e.g., sit-ups and curl-ups) lack operational relevance and can lead to or cause low back injuries (18). Several researchers now recommend that isometric trunk stabilization exercises (e.g., plank) be used instead of repetitive spinal flexion exercises for core endurance testing (18). The plank is an easy test to administer, operationally relevant, and may actually reduce the likelihood and occurrences of low back injuries if trained regularly.

1.5-mile Run. Panichkul et al. (2007) reports that distance runs are highly correlated to maximal oxygen usage (VO_2max) and biomechanical efficiency and therefore are an effective means of assessing a service member's cardiovascular fitness. The continued implementation of the 1.5-mile run is recommended as the primary means of assessing the cardiovascular fitness for Naval

personnel. However, the implementation of a 2-km rower test as an authorized alternative to the 1.5-mile run, in lieu of the current swim, elliptical trainer and stationary bike tests, is also recommended for those service members physically incapable of or medically disqualified from running. That said, Naval personnel who are physically capable should be required to participate in the 1.5-mile run for the cardiovascular portion of the PRT.

Navy Operational Fitness Test (NOFT)

As mentioned previously, current military physical fitness tests (excluding the Marine CFT) are inadequate for preparing service members for the rigors of combat. Experience has shown that the battlefield requires service members to be able to sprint, jump, and change directions quickly. The inability to effectively perform any of these tasks significantly increases the risk of injury and death (21). Cohen et al. (2010) reports that 34% of musculoskeletal injuries sustained by deployed service members are noncombat related. Additionally, 24% of the medical air evacuations are in support of noncombat-related musculoskeletal injuries as compared to 14% for combat-related injuries (4).

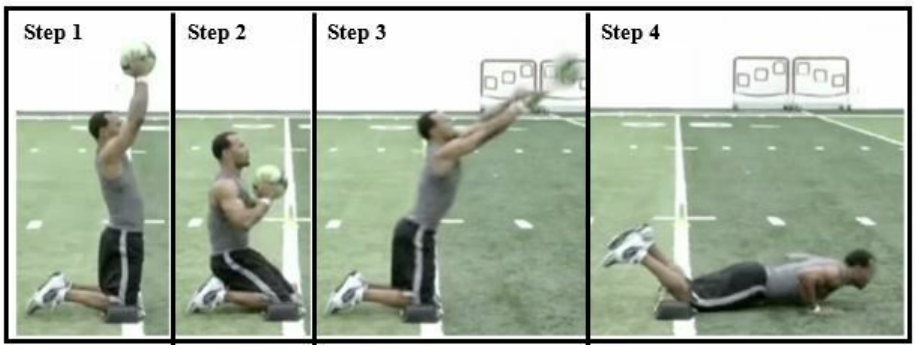
As with the Air Force, the Navy's role in combat operations is evolving thereby justifying the development of operationally relevant fitness assessment for Naval personnel. Due to the diversity of job specifications and requirements within the Navy, a more general test is recommended for assessing combat readiness than the CFT, APRT (2003 variant), or ACRT. Specifically, the Navy Operational Fitness Test (NOFT). The modalities selected for the NOFT were selected for the following reasons: 1) valid, feasible, and objective assessments of physical fitness, 2) require minimal equipment, 3) include both health-related and performance-related components of fitness, 4) mimic basic battlefield requirements tasks (i.e., are operationally relevant). A brief description of and rationale for each of the proposed events is provided below.

40-yd Dash. Recent combat experience has shown that short, fast-paced runs are more operationally relevant and applicable than long, endurance-type runs (6). Roy et al. (2010) reported that regular speed (sprint) training can increase performance in jump height, jump power, jump length, squat strength, sprint speed, and agility. The implementation of the 40-yd dash is recommended since regular sprint training would help to improve not only performance on several battlefield specific tasks but the 1.5-mile run as well.

Standing Long Jump. Harman et al. (2008) evaluated five easily administered field tests (push-ups, sit-ups, 3.2-km run, vertical jump, and horizontal jump) to determine which test(s) provided the best predictor of simulated battlefield performance. The jump tests were determined to be the best predictor. Harman et al. (2008) attests this finding to the fact that jumping requires lower body explosive power which correlates well with multiple high-intensity, short-duration tasks that can occur on the battlefield. Although none of the current military physical fitness tests include a jump test, these findings substantiate the validity of adding a jump test to military physical fitness tests. In doing so, Harman et al. (2008) believes this would improve a service member's ability to jump, which in turn, would translate to improvements in their ability to fight and survive on the battlefield. The implementation of the standing long jump is recommended as it incorporates a forward-driving component not found in the vertical jump, which is operationally relevant in terms of the ability to traverse obstacles.

Kneeling Powerball Toss. Research has shown that push-ups have a poor correlation (r = 0.556) to 1RM bench press and therefore are not a good predictor of muscular strength (10). In an attempt to assess upper body power, all three of the major service academies (i.e., U.S. Military Academy, U.S. Naval Academy, U.S. Air Force Academy) currently use the basketball throw as part of the candidate fitness assessment (CFA). Similarly, the U.S. Army Research Institute of Environmental Medicine (USRIEM) and TRADOC are considering the medicine ball put and overhead powerball throw as part of the "Soldier 2020" initiative. However, the kneeling powerball toss is recommended due to its ease of administration and broad application. The kneeling powerball toss is part of the Nike SPARQ (Speed, Power, Agility, Reaction and Quickness) rating, which was instituted in 2004 as a means of assessing the overall athleticism of high school athletes. The test uses a 3-kg and 2-kg powerball for males and females, respectively. A depiction of the kneeling powerball toss is provided in Figure 1.

Figure 1. Kneeling Powerball Toss



300-yd Shuttle. Aandstad et al. (2011) demonstrated that shuttle run tests correlate well to actual VO_2max scores as well as effectively demonstrate a service member's anaerobic capacity, lactate threshold, running economy, and the ability to tolerate high levels of fatigue. In terms of fitness testing, this is extremely advantageous as it reflects a service member's total performance capacity and not just their level of cardiovascular fitness (VO_2max). According to Harman et al. (2008), the average duration of most simulated battlefield tasks is between 43 and 84 seconds. As a result, shuttle runs might prove to be an even better military performance predictor since their duration more closely mimics that of most battlefield tasks. Roy et al. (2010) recommend that military physical training programs also include running tasks that require frequent changes in direction in addition to straight line running. Straight line running only improves straight line speed but not change-of-direction speed, which is arguably more operationally relevant. Therefore, services should include both straight line and change-of-direction run training into their physical fitness training programs (21).

50-yd Loaded Carry. In addition to showing a poor correlation between the ability to accomplish physically demanding and occupationally relevant tasks, research also shows that the events in most military physical fitness tests (i.e., sit-ups, push-ups, distance runs) impose a body mass bias against heavier service members (26). Vanderburgh et al. (2000) argue when service members are required to transport additional weight (e.g., 20- or 30-kg load), however, occupational relevance as well as fairness is established since body size is no longer a physiological disadvantage. As it turns out, this equates to roughly the amount of gear that a soldier is expected to carry during field exercises (26). In combat, however, service members are often tasked with carrying significantly heavier loads (7, 12, 13, 23, 28, 29). Swain et al. (2011) reported load requirements ranging from 29-58 kg and approximately 20-kg for Army airborne infantrymen and noncombat personnel (to include females), respectively serving in Afghanistan. The 50-yd loaded carry involves carrying two kettlebells, 32-kg and 24-kg for males and females, respectively, 25 yards down and back and uses the same course set-up as the 300-yd shuttle.

Rationale and Scoring

Ideally, the development and implementation of a new physical fitness test would involve a formal three phase process. Phase one (task analysis) involves identifying a comprehensive listing of all movements deemed critical to the respective service. Phase two (physiological requirements) involves determining the physical abilities and physiological demands required for each of the critical movements identified. Phase three (event selection and performance standards) involves developing field expedient predictor tests and determining cut-off scores for each predictor test. Both the Marine Corps and Army used this process in the development of the CFT, APRT (2003 variant), and ACRT. However, the Navy has yet to develop new or operationally relevant physical fitness tests. As a result, the recommendations regarding the NGFT and NOFT are based off an extensive review of the literature as well as the researcher's years of experience as a certified exercise physiologist and Command Fitness Leader (CFL).

Similar to the scoring systems used by the PFT, CFT, APFT (2003 variant) and AFPFT, the NGFT and NOFT would be scored using a point system. Performance on each event would correlate to a specific number of points with the overall score equating to the sum of all events. A comprehensive listing of the different NGFT and NOFT events are provided in Table 1. Proposed performance norms for the NGFT and NOFT are provided in Table 2 and Table 4, respectively. The proposed performance categories, which would serve both males and females, for the NGFT and NOFT are provided in Table 3 and Table 5, respectively.

Table 1. Navy General Fitness Test and Navy Operational Fitness Test Events

NGFT	NOFT
– Abdominal Circumference Measurement	– Kneeling Powerball Toss
– Plank	– Standing Long Jump
– 1.5-mile Run	– 40-yd Sprint
	– 50-yd Loaded Carry
– 2-Km Rower (Medical Waiver Only)	– 300-yd Shuttle

Table 2. Navy General Fitness Test Performance Standards

Male				Points	Female			
A/C (in.)	Plank	1.5-mile Run	2K Rower		A/C (in.)	Plank	1.5-mile Run	2K Rower
≤ 35	4:00	09:30	07:00	**100**	≤ 30	4:00	11:00	08:00
-	3:58	09:35	07:06	**99**	-	3:58	11:15	08:06
35.25	3:56	09:40	07:12	**98**	30.25	3:56	11:25	08:12
-	3:54	09:50	07:18	**97**	-	3:54	11:35	08:18
35.5	3:52	10:00	07:24	**96**	30.5	3:52	11:45	08:24
-	3:50	10:10	07:30	**95**	-	3:50	11:55	08:30
35.75	3:48	10:15	07:36	**94**	30.75	3:48	12:05	08:36
-	3:46	10:20	07:42	**93**	-	3:46	12:20	08:42
36	3:44	10:30	07:48	**92**	31	3:44	12:30	08:48
-	3:42	10:40	07:54	**91**	-	3:42	12:40	08:54
36.25	3:40	10:50	08:00	**90**	31.25	3:40	12:50	09:00
-	3:38	10:55	08:06	**89**	-	3:38	12:55	09:06
36.5	3:36	11:00	08:12	**88**	31.5	3:36	13:00	09:12
-	3:34	11:10	08:18	**87**	-	3:34	13:10	09:18
36.75	3:32	11:20	08:24	**86**	31.75	3:32	13:20	09:24
-	3:30	11:25	08:30	**85**	-	3:30	13:30	09:30
37	3:28	11:30	08:33	**84**	32	3:28	13:45	09:33
-	3:26	11:35	08:36	**83**	-	3:26	14:00	09:36
37.25	3:24	11:40	08:39	**82**	32.25	3:24	14:30	09:39
-	3:22	11:50	08:42	**81**	-	3:22	14:45	09:42
37.5	3:20	12:00	08:45	**80**	32.5	3:20	15:15	09:45
-	3:18	12:10	08:48	**79**	-	3:18	15:30	09:48
37.75	3:16	12:15	08:51	**78**	32.75	3:16	15:40	09:51
-	3:14	12:20	08:54	**77**	-	3:14	15:50	09:54
38	3:12	12:25	08:57	**76**	33	3:12	16:00	09:57
-	3:10	12:30	09:00	**75**	-	3:10	16:10	10:00
38.25	3:08	12:35	09:15	**74**	33.25	3:08	16:20	10:15
-	3:05	12:40	09:30	**73**	-	3:05	16:30	10:30
38.5	3:00	12:45	09:30	**72**	33.5	3:00	16:40	10:30
-	2:55	12:50	09:45	**71**	-	2:55	16:50	10:45
38.75	2:50	13:00	10:00	**70**	33.75	2:50	17:00	11:00
-	2:45	13:15	10:02	**69**	-	2:45	17:10	11:02
39	2:40	13:30	10:05	**68**	34	2:40	17:15	11:05
-	2:35	13:45	10:07	**67**	34.25	2:35	17:20	11:07
39.25	2:30	14:00	10:10	**66**	34.5	2:30	17:25	11:10
-	2:25	14:15	10:12	**65**	34.75	2:25	17:30	11:12
39.5	2:20	14:30	10:15	**64**	35	2:20	17:40	11:15
-	2:15	14:45	10:17	**63**	35.25	2:15	17:45	11:17
39.75	2:10	15:00	10:20	**62**	35.5	2:10	17:50	11:20
-	2:05	15:15	10:25	**61**	35.75	2:05	17:55	11:25
40	2:00	15:30	10:30	**60**	36	2:00	18:00	11:30

Table 3. Navy Operational Fitness Test Performance Standards

Male					Points	Female				
KPB Toss (ft)	SLJ (cm)	40-yd Sprint (sec)	Loaded Carry (sec)	300-yd Shuttle		KPB Toss (ft)	SLJ (cm)	40-yd Sprint (sec)	Loaded Carry (sec)	300-yd Shuttle
38	275	4.9	12	00:55	**100**	28	225	5.3	15	01:00
37.5	272	-	-	-	**99**	-	222	-	-	01:01
37	270	-	-	00:56	**98**	27.5	220	5.4	-	01:02
36.5	267	5.0	-	-	**97**	-	217	-	16	01:02
36	265	-	13	00:57	**96**	27	215	5.5	-	01:03
35.5	262	-	-	-	**95**	-	212	-	-	01:04
35	260	5.1	-	00:58	**94**	26.5	210	5.6	17	01:05
34.5	257	-	-	-	**93**	-	207	-	-	01:06
34	255	-	14	00:59	**92**	26	205	5.7	-	01:07
33.5	252	5.2	-	01:00	**91**	-	202	-	18	01:08
33	250	-	-	01:01	**90**	25.5	200	5.8	-	01:09
32.5	247	-	-	01:02	**89**	-	197	-	-	01:10
32	245	5.3	15	01:02	**88**	25	195	5.9	19	01:11
31.5	240	-	-	01:03	**87**	-	190	-	-	01:12
31	235	-	-	01:04	**86**	24.5	185	6.0	-	01:13
30.5	230	5.4	-	01:05	**85**	-	180	-	20	01:14
30	229	-	16	01:06	**84**	24	179	6.1	-	01:15
29.5	228	-	-	01:07	**83**	-	178	-	-	01:16
29	227	5.5	-	01:08	**82**	23.5	177	6.2	21	01:17
28.5	226	-	-	01:09	**81**	-	176	-	-	01:18
28	225	-	17	01:10	**80**	23	175	6.3	-	01:19
27.5	224	5.6	-	01:11	**79**	-	174	-	22	01:20
27	223	-	-	01:12	**78**	22.5	173	6.4	-	01:21
26.5	222	-	-	01:13	**77**	22	172	-	-	01:22
26	221	5.7	18	01:14	**76**	21.5	171	-	23	01:23
25.5	220	-	-	01:15	**75**	21	170	6.5	-	01:24
25	219	-	-	01:16	**74**	20.5	169	-	-	01:25
24.5	218	5.8	-	01:17	**73**	20	168	-	24	01:26
24	217	-	19	01:18	**72**	19.5	167	6.6	-	01:27
23.5	216	-	-	01:19	**71**	19	166	-	-	01:28
23	215	5.9	-	01:20	**70**	18.5	165	-	25	01:29
22.5	210	-	-	01:21	**69**	18	164	6.7	-	01:30
22	205	-	20	01:22	**68**	17.5	163	-	-	01:30
21.5	200	6.0	-	01:23	**67**	17	162	-	26	01:31
21	195	-	-	01:24	**66**	16.5	161	6.8	-	01:32
20.5	190	-	-	01:25	**65**	16	160	-	-	01:33
20	185	6.1	21	01:26	**64**	15.5	158	-	28	01:34
19.5	180	-	-	01:27	**63**	15	156	6.9	-	01:35
19	175	6.2	-	01:28	**62**	14.5	154	-	29	01:36
18.5	170	-	-	01:29	**61**	14	152	-	-	01:37
18	165	6.3	22	01:30	**60**	13.5	150	7.0	30	01:38

Table 4. Navy General Fitness Test Performance Categories (Male/Female)

	≤ 34 years	35-44 years	45-54 years	55+ years
Maximum	300	285	260	240
Outstanding	275	260	235	220
Excellent	250	235	215	200
Good	225	215	195	190
Satisfactory	180	180	180	180

Table 5. Navy Operational Fitness Test Performance Categories (Male/Female)

	≤ 34 years	35-44 years	45-54 years	55+ years
Maximum	500	475	430	400
Outstanding	455	430	390	365
Excellent	415	395	355	330
Good	375	355	320	310
Satisfactory	300	300	300	300

Discussion

Although current military physical fitness tests are adequate in terms of ensuring service minimums and maximums are met for physical fitness and body composition; research and past experience have shown them to be ineffective in terms of achieving the amount physical fitness required for combat. Doyle and McDaniel (2006) recommend the services implement physical fitness training and testing programs specifically designed to better prepare service members for combat. Although these programs would require funding to implement, the modest amount of equipment and resources needed to affect a positive change justifies the expense, especially in terms of injury prevention (6, 24). Research has shown that combat-focused training programs can reduce injury risk,

overtraining, as well as improve performance on general fitness tests (8, 21, 28). For example, Roy et al. (2010) cited that soldiers using a combat-focused physical training program reported 46-52% fewer injuries compared to soldiers using the traditional Army physical training program.

The implementation of the NGFT and NOFT would also require Naval personnel to incorporate both health-related and performance-related components of fitness into their personal conditioning programs. This means Sailors would have to train year round using a wide variety of different endurance and strength training exercises in order to perform well on both assessments, which is in stark contrast to the “3-mile per year” approach currently taken by some Sailors in preparation for the PRT.

Research and past experience supports that all service members, regardless of age and gender, not only need to able not to pass a general military fitness test but be able to perform basic battlefield tasks as well. MCO 6100.13 (2008) argues that unfit service members are a detriment to combat readiness. Therefore, the suitability of military service should be questioned for those service members who are either incapable of participating in or passing a combat fitness assessment like the CFT, APRT (2003 variant), ACRT, or NOFT.

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