

# Starting Strength

## Starting Strength and Barbell Training in the Military

by

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Let me begin with a little about me, so that you, the reader, will understand the background from which this article is generated. I am a 46-year-old guy of average genetics – maybe a little below average, I don't know for certain. I have been in the Marine Corps for more than 24 years. I enlisted in 1990, I was commissioned in 1996, I fly helicopters, and I currently serve as the Executive Officer of a helicopter squadron on the east coast. During my time in the military I have participated in all sorts of activities and military physical training. I have been a recreational runner, swimmer, softball player, golfer, and biker. I trained with the Marine Corps Air Station Yuma Cross Country team for a short period of time. I have been in and out of the gym since 1991, on Marine Corps bases and civilian gyms. I have participated in the various classes available at the base gyms, and I was on a relay team that took second place in a race from El Centro, California to Julian, California. I do not remember the exact mileage, but I am sure it was over 100. I did CrossFit exclusively from November 2007 to March 2010 – I *crushed* Fran at 6:47. I once had my vertical leap measured at Wichita Falls Athletic Club in Wichita Falls, Texas, after squatting. I logged an astounding 18 inches, if I recall correctly. I own my own gym, train four days a week, go to work at the base, and own a bulldog – all in a day's work, my friends.

At the time I started the “Novice Progression,” as outlined in *Starting Strength: Basic Barbell Training* by Mark Rippetoe, I had a lifetime Personal Record of a 275lb squat, 335lb Deadlift, 205lb bench press, 135lb press. I could kip 40+ pull ups, run three miles in less than 19 minutes, and weighed 170lbs at 6'3" – dressed in gym clothing. I started the Novice Progression with a 205lb squat, 275lb deadlift, 175lb bench, and 115lb press, all for five. Today I can squat 450lbs, Deadlift 555lbs, Bench 350lbs, and press 230lbs, with lifetime PRs that are slightly higher. I can do 20 strict pull ups and chin with 50lbs for a set of five. I weigh 235 pounds and have a three-mile run of about 26 minutes. I run no more than 8 miles a year, and I may be guessing on the high side.

### The Nature of War

Physical Fitness in the military is paramount. This is the axiomatic equivalent to the requirement of oxygen in the sustenance of animals. War is the ultimate competition: winner takes all, loss often

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results in peril to the conquered. To that end, physical superiority is a necessity when violence is decided upon. Technology, weaponry, tactics, and other elements certainly play a role. However, when a young man turns a corner and comes face to face with another human being whose sole purpose is to survive the next few seconds, strength may well be the most important factor in survival.

When we consider the modern day battlefield, we must consider the conditions thereon. Our fighting forces are often asked to walk long distances, wearing 50+ pounds of gear, ammunition, uniforms, water, and weaponry. Engagements can come without notice and typically last relatively short periods of time. Strength is required to compete in this arena. Moving around on the battlefield alone can be a challenge in and of itself.

I have served in combat zones on multiple occasions. I recently returned from a ten-month deployment in Afghanistan. I have been on deployments during which I lived in the back of a helicopter, on others where I lived in tents, and others with better conditions, where I lived in metal structures with air conditioning. I have served in locations where there was no gym equipment, and in locations where the equipment available was better than that at your local YMCA.

Because I am in the 99th percentile for size in the Marine Corps (my wild-ass guess), I am often approached and asked for advice by Marines that want to gain size and strength. As it turns out, young men typically want to be big, strong young men. This desire helps perpetuate the massive supplement industry, making it millions of dollars annually. This is done by selling hope to these poorly-informed kids, using glossy pictures of large, tanned bodybuilders with bulging abdominal muscles, biceps, and pectorals (both major and minor). This is borderline criminal activity, and beyond the scope or interest of this article.

Over the past four years I've trained more than 1000 people in a gym environment, and spoken to many others regarding my thoughts on strength, training, and the military application of both. Many of these participants have been active-duty military. The training I do is outside the norm, and considered dangerous and unnecessary by many. However, I have never had a senior, peer, or junior inform me that I was too big to be a Marine, or too big to be useful in combat – quite the opposite has been the case. The Sergeant Major of the Marine Corps, Sergeant Major Berry, after shaking my hand in Afghanistan jokingly asked me if I was the security detail when the Marines went to chow. Throughout this time I have had numerous conversations about, and given much thought to, physical preparedness, strength, and their application to combat. The United States Marine Corps is in the business of winning wars, and war is by definition combat.

## **The Harsh Reality**

The Department of Defense is run on orders. These are not optional: they are orders. Physical Fitness in the Department of Defense is no different. Department of Defense Instruction 1308.3, dated November 5, 2002, sets the policy for DoD Physical Fitness and Body Fat Programs Procedures with the following, *“Service members shall maintain physical readiness through appropriate nutrition, health, and fitness habits. Aerobic capacity, muscular strength, muscular endurance, and desirable body fat composition, form the basis for the DoD Physical Fitness and Body Fat Programs.”*

It further states in paragraph 6.1.3.3., *“Military Services shall implement the existing requirement to formally test and evaluate personnel in all areas cited in the DoD Directive 1308.1 and this Instruction: aerobic capacity, muscular strength and muscular endurance...”*

DoD directive 1308.1, Enclosure 1. defines Aerobic Capacity, Muscular Strength, Muscular Endurance, as the following:

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*Aerobic Capacity: “The functional capacity of the heart, lungs, and blood vessels to deliver oxygen to the working muscles, and its utilization by the muscles to oxidize energy sources (carbohydrates and fats) to generate energy over sustained periods of time. Essentially, it is the body’s capability to receive and use oxygen, carbohydrates, and fats to produce energy.”*

*Muscular Endurance: “The ability of a skeletal muscle or group of muscles to perform repeated contractions for an extended period of time. It is measured as the number of submaximal contractions performed or submaximal sustained contraction time. Most of the practical “strength” tests (e.g., push-ups and sit-ups) are measures of muscular endurance.”*

*Muscular Strength: “The maximal force that can be exerted in a single voluntary contraction of a skeletal muscle or skeletal muscle group. The simplest measure of strength involves various one-repetition maximum weight-lifting test (the heaviest weight that can be lifted only once). Although tests such as push-ups, pull-ups, and sit-ups measure primarily muscular endurance, there is a physiological continuum where individuals who can perform only a few repetitions of a test are completing a strength test. Thus, the pull-up, for which many individuals can complete only a few repetitions, is closer to a true strength test than push-ups.”*

It further defines Physical Fitness, Physical Readiness, and Training Effect with the following:

*Physical Fitness: “The capacity to perform physical exercise, consisting of the components of aerobic capacity, muscular strength, and muscular endurance in conjunction with body fat content within an optimal range.”*

*Physical Readiness: “The overall capacity to perform the physical duties of military Service and combat, consisting of the components of physical fitness, health, and motivation.”*

*Training Effect: “The physiological response to exercise (physical training) when conducted with sufficient regularity, intensity, and duration. The response may include improved efficiency of the cardio-respiratory system and/or increased muscular strength/endurance. An aerobic training effect typically requires exercise training conducted a minimum of three times weekly (preferably on alternate days) for 20 to 30 minutes that raises the Service member’s heart rate to a level representing 60 to 90 percent of the medically accepted maximum heart rate for his or her age. A training effect for muscular strength and endurance typically requires repeated bouts of high intensity exercise training of relatively short duration.”*

So, there you have it. Military Services **shall implement** the existing requirement to formally test and evaluate personnel in all areas cited in the DoD Instruction 1308.3 and the areas in the DoD directive, specifically: aerobic capacity, muscular strength, and muscular endurance.

The purpose of the Marine Corps Physical Fitness Test (PFT) as stated in Marine Corps Order (MCO) 6100.13, *“The PFT was specifically designed to test the strength and stamina of the upper body, midsection, and lower body, as well as efficiency of the cardiovascular and respiratory systems.”* The same order defines the Marine Corps Fitness test as Pull Ups (20 for a maximum score for males) or Flexed Arm Hang (70 seconds for a maximum score for females), Abdominal Crunches (100 in 2 minutes for a maximum score), and a 3 mile run (18 minutes for a maximum score). For those curious, the abdominal crunch is described the following way: *“Marines will lie flat on their back with shoulder blades touching the deck, knees bent, and both feet flat on the deck. Arms will be folded across the chest or rib cage with no gap between the arms and chest/rib cage. Both arms must remain in constant contact with chest/rib cage throughout the exercise. A single repetition consists of raising the upper body from the starting position until both forearms or elbows simultaneously touch the thighs, and then return to the starting position with the shoulder blades touching the deck. The buttocks will remain in constant contact with the deck throughout the event. No arching of the lower back or lifting of the buttocks is permitted.”* These three events comprise the Marine Corps PFT, required to be passed annually by all members of the Marine Corps.

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These are the instructions, directives, and orders that determine the requirement, execution, and reporting of the physical fitness program. That being said, the Marine Corps fitness program also includes a Combat Fitness Test (CFT), the Marine Corps Martial Arts Program (MCMAP), and commanders are charged to ensure preparation for deployment and combat. The PFT is a DoD requirement. Passing the PFT is mandatory regardless of age or sex. For Marines, *any physical training performed must consider the requirement to do pull ups, crunches, and a 3-mile run*. Careers rest on this requirement, and the Marine Corps will not tolerate a PFT failure for anything other than a documented medical reason.

So how does strength play a role in the Marine Corps and the military at large? **The PFT is not designed to measure combat effectiveness, nor is it designed to measure combat readiness.** It is but one very small part of the entire physical fitness regimen required of our Marines. Combat readiness in a unit is much like preparation for a competition by an athlete. Not every unit in the Marine Corps is 100% combat ready 100% of the time. Units rotate through deployments, return home, train again, prepare for combat, and then redeploy. However, the PFT is required of all (unless deployed to a combat zone), all the time. That being said, units will cycle training as an athlete would, peaking prior to deployment (competition) and then return for an off-season cycle and then redeploy (compete again).

## **Strength and Combat**

Strength is an enduring trait, persistent far beyond cardiovascular and cardiorespiratory endurance. An increase in strength is accompanied by architectural changes in muscles that are semi-permanent. It provides a foundation on which all other endeavors are performed. These architectural changes are very slight in the beginning; small changes to muscle and the loss of excessive bodyfat result in a form that is more functional, versatile, and more capable of handling the loads required when performing the tasks demanded of a Marine or soldier in combat.

There is a school of thought that holds “bigger is slower” or “more cumbersome” or “less versatile.” I agree that a 20-year-old kid with 30% bodyfat is probably all of those things when compared to a 20-year-old kid with a healthy bodyfat level. But bodyfat percentage is not what I am referring to when considering “body mass.” I propose that a 6-foot tall Marine who weighs 170 pounds (right in the middle of the height/weight chart) with 14% bodyfat is not nearly as useful on the battlefield as a 6-foot Marine at 203 pounds and 18% bodyfat (the maximum allowable weight for 6' Marine without a bodyfat measurement).

Let's do some simple math. The 170lb Marine with 14% bodyfat and visible abdominals has 23.8 or 24 pounds of bodyfat. The 203lb Marine with 18% bodyfat has 36.5 or 37 pounds of bodyfat. If we are considering the same Marine, the result is a 20-pound increase in “lean body mass”. Some of that will be connective tissue, bone, and water weight, but even if that same Marine has 10 more pounds of muscle (guessing on the low side), wouldn't he be more useful on the battlefield carrying around 75+ pounds of gear? YES! Who doesn't want 10 pounds of muscle? None of the kids that I see in the gym flailing away with 115 pounds on the decline bench would turn it down, I can promise you.

## **Making Strength Happen**

Enter the barbell and training with a purpose, specifically Starting Strength. On my last deployment I trained 15 Marines and Sailors in the proper use of barbells, and I did it with a simple Starting Strength

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protocol. For approximately 7 months, these folks performed the squat, bench, deadlift, press, and clean 3 days a week. We incorporated the prowler to keep conditioning high, we incorporated weighted chins, and dips for some. Three dropped out, twelve persisted. Five were women, ages varied from 24 to 38. At the end of the deployment three ran PFTs for the purpose of promotion in rank. All three bested their previous PFT score.

Read that again: **All three bested their previous PFT score.** They did not run, they did not perform daily crunches, they did not do sets of 20 chins. Most of them participated in MCMAP, several earned their black belts and all advanced. The men all achieved a 315-pound squat for three sets of five. The women all squatted in the high hundreds, many broke 200 pounds for a single. Every woman that trained with me could perform 8 chins and all could do weighted chins for reps. Here is the best part: *all training was done without injury, without a loss to combat readiness, and around daily duties.* This all happened in the same unit that had a number of injuries that occurred while doing other “constant variation” exercise protocols.

The only complaint I had was that a few of the men needed to buy bigger shirts. Sorry for your loss, bro.

So what’s the point? Is it to make gigantic powerlifters out of all the Marines, soldiers, sailors, and airmen, recklessly ignoring the mission of the Department of Defense? No, it is not. But its simplicity often causes those with little understanding of training to dismiss it out of hand. It is not random, it is not founded on “muscle confusion” or any other such nonsense. It is based on systematic, slow sustainable growth that provides strength without injury to those willing to put in the work. Those familiar with Starting Strength will recognize the regimen. Initially a M/W/F routine consisting of Squat/Bench/Deadlift or Squat/Press/Deadlift alternated every other gym day. Training was performed at 5:30 AM in the summer, 1630 in the winter months. A few moved beyond the novice’s ability to recover between each workout and trained four days a week using a different split. I opted not do Texas Method because I felt the Monday training of 5x5 would be difficult to recover from given the food and conditions, and combat readiness was the paramount consideration.

The biggest hurdle I had was preventing the Marines from doing more. Many initially refused to believe that 4 hours a week in the gym was enough. In time, all eventually listened and did as they were instructed. In many cases I explained to them that 4 hours a week of busting your ass was enough, while four hours a week of “slimming your way through” was not. Because aerobic capacity is required while in combat and for the PFT, they pushed the prowler 1 to 2 times a week. They never loaded the prowler more than 90 pounds, and they never felt the need to do so. Prowler work was limited to 15 minutes per week.

How much did these Marines and Sailors add to their strength? For sets of five, one male increased his squat from 185 to 325, his deadlift from 255 to 375 (405 for a double), and his bench from 175 to 235. He put on about 10 lbs of body mass. Last I saw him he was looking at himself in awe in the mirror. One female started her squat at 65 pounds and finished at 170 pounds, her bench went from 50 to 85, her deadlift improved from 85 to 205, and finally her chins improved from zero to eight. **Both scored a higher PFT than either had previously scored.** These are typical gains, made during a combat deployment, eating normal amounts of food, executing the Starting Strength protocol.

Every unit in the military should be invested in the strength of its members. Every unit in the military should require every member in the unit to complete novice progression. Combat is serious business, and strength is the foundation for all other activities. Seriously.

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Does barbell training have a place in the military? Yes it does. Can Marines, sailors, soldiers, and airmen perform better on the PFT without training the specific modalities of the PFT? Yes they can. Can Marines, sailors, soldiers, and airmen perform this training and be combat effective? Yes they can. How strong should a Marine, sailor, soldier, and airmen be? I do not know, but I do know that all should train through the Novice stage. Is that strong enough? Combat will be the ultimate referee. For my money, stronger is better.

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