

Starting Strength

A Strength-Based Approach to the Army Physical Fitness Test

by

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There has been much grumbling on this site and others by Soldiers who believe they know a better way to conduct Army physical training (PT). I have attempted to contribute to the discussion ([*Combat Worst-Case Scenario, Is it Training or Exercise?*](#)). Much has been written about the APFT being a poor measure of the readiness of Soldiers for the tasks associated with modern combat. There has been talk and testing of a new APFT for a few years now. While a better test is certainly needed, the current APFT is significantly important as an assessment tool and measure for career progression that it cannot be ignored completely while preparing Soldiers for combat. The bottom line of much of the recent writing on military strength and conditioning is that most Soldiers are just plain WEAK! A stronger Soldier would be much better prepared not only for the Army Physical Fitness test (APFT), but for the rigors of combat.

Soldiers will frequently complain about the policies that “they” put into place throughout the Army. “They” are unknown, high ranking folks who could change everything if “they” wanted to. I realize that as a Lieutenant Colonel, I am usually seen as part of “they”, part of the problem and rarely part of the solution. As a staff officer for the past several years, I was fortunate enough, by virtue of my rank and duty position, to be able to do what I’ve wanted to for PT. The unfortunate part was that I had little ability to influence the PT programs of others.

When I received word that I had been selected to lead the Army Reserve Officers Training Corps (ROTC) program at the University of Rhode Island (URI), I knew I would finally have my chance to make an impact. I could finally put my money where my mouth is, and train future Army officers using the strength-based approach of which I had been a proponent. I knew I would need to prepare them not only for APFT, but also for the demands of being an Army officer upon graduation.

Looking through Cadets’ records, it was clear to me that the PT program needed help. Far too many failures, or borderline passes. In my initial meeting with my Brigade Commander, she also addressed the issue with me. I assured her that I had a plan to fix it. Due to the unconventional nature of my plan, I kept the details to myself.

Previous PT Program

The previous PT program had emphasized body weight exercises specific to the APFT. It consisted of lots of pushups, and sit-ups, and long, slow, distance running. Cadets with lower scores

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did PT five times a week, because to the uninformed, more is always better. The rest of the Cadets were subjected to this waste of time only three days per week. The previous Commander did not attend PT regularly, and the emphasis was clearly on “passing” the test with the minimum 60 points in each event.

The APFT consists of three events. Maximum repetitions of pushups in 2 minutes, followed by maximum repetitions of sit-ups in 2 minutes, and lastly a 2 mile run for time. Points are awarded for reps in the pushup/situp tests and for faster times in the run, on a sliding scale that varies with sex and age. Soldiers get 10 minutes of rest between events and the standards for the performance of each exercise are clearly spelled out in FM 7-22 and read to the Soldiers before the test. For a Cadet to pass the test, he must score a minimum of 60 points in each event, which equates to the following for Cadets in the 17-21 age group:

	MALE	FEMALE
Pushups	42	19
Situps	53	53
2 mile run	15:54	18:54

For each additional repetition, or six second increment on the run, the Cadet receives additional points, up to a maximum of 100 in each event. Below are the maximum scores for the 17-21 age group:

	MALE	FEMALE
Pushups	71	42
Situps	78	78
2 mile run	13:00	15:36

The APFT was done monthly, the idea being that giving Cadets more chances to pass, would result in fewer overall failures. Again, *more is better*, right? Significant emphasis was also placed on allowing Cadets to prepare for and run the Army Ten-Miler in Washington DC. Adding this additional distance running was counterproductive to the both to the demands of the APFT and to the demands of combat. The poor APFT scores were a reflection of this misguided approach.

The New Sheriff

My first official act as the new Commander was to kill the emphasis on the Army Ten-Miler. I informed both the staff and the Cadets that the ROTC program would not fund, or provide transportation or Cadre supervision for, the event. Cadets were encouraged to sell their bibs if they had already entered. I explained to them why training for the Ten-Miler was detrimental to the “new PT program”, and participation was strongly discouraged.

Next I began to explain to the instructors what our PT program would look like. To say they were skeptical is an understatement. The group averages close to 20 years of service, and had all been told the same thing for their entire careers. Bodyweight exercises and long, slow, distance running was the key to success. I explained basic concepts like Selye’s General Adaptation Syndrome and very simple periodization models, but I mainly had to take the “do it because I know it will work” approach. I gained the cooperation of the URI’s Head Strength and Conditioning Coach Rich Johnson, and we

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were allowed to use the varsity weight room for a few mornings. I took three sessions to instruct my Cadre on proper technique for the basic lifts.

Knowing the ROTC program would never have priority over any of the university's 16 Varsity sports, I began to make plans to build our own gym. Using \$8,000 of ROTC Alumni donations and fundraiser money, I ordered the equipment for a very simple gym. Below is what we ordered to outfit our new facility:

- 4 Power Racks
- 4 Flat Benches
- 8 Barbells
- 45/25/10 lbs Bumper Plates
- 5 lb. iron plates
- ¾" Rubber flooring

Our Brigade Headquarters also bought us some equipment which is unnecessary, but nice to have for conditioning.

- 4 each kettlebells (15, 25, 35, 45 lbs)
- 3 plyo boxes
- Jump ropes
- Medicine balls

There was already a plan in place to purchase these items for all of the schools within the Brigade when I arrived. The fact that Brigade bought conditioning equipment, and no barbells indicates that "they" still have it wrong, but that will be another article.

Cadets were tested on the APFT upon arrival back to school and the results were as poor as I expected. 11 of 25 cadets scored under a 240 on the 300 point scale, with three failing the test outright. The average score was 253. Among the "under 240", situps were particularly troublesome. The average number of repetitions 60, a score of only 71 points out of 100. The plus side was that five Cadets scored 290 or higher.

The Program

The program I designed for Cadets was very simple. They would train for strength on Monday and Wednesday, and condition on Friday. The strength days would usually end with a "finisher" of some anaerobic conditioning for approximately five minutes. We used 300-yard shuttles, kettlebell swings, Prowler pushes, and tire flips for some of these workouts.

The strength days were set up as follows: Monday was SQUAT/PRESS/DEADLIFT for three sets of five. Wednesday was SQUAT/BENCH/DEADLIFT for three sets of five. Cadets were instructed first in the proper technique, then found a good starting point for their linear progression, and added five to ten pounds on squats and deadlifts, and five pounds on press and bench press with every workout.

The "finishers" on strength days were a compromise on my part. Cadets, not unlike active duty Soldiers, have a really hard time walking out of the gym without feeling "crushed". A five-minute

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finisher was usually enough to break a good sweat, and make them leave feeling like they had done some work, but not enough to interfere with the adaptation from the real work they had already done – the barbell work.

Friday's conditioning workouts were based on anaerobic work, reducing the rest/work ratio, and increasing the distance throughout the semester. We started with 300-yard shuttles, moved out to the track for 400s, then 800s. We ran mile repeats once, and ran a full two miles only one time. By the end of the cycle, rest/work ratios were low, usually about 1:1.

One Friday training session was dedicated to a running mechanics class taught by URI assistant strength coach Jay Azulay. In addition to the technique work, Jay and I tried to explain that two miles is not a long distance to run, and that good mechanics could be maintained throughout.

As you see in the program below, two Fridays were dedicated to footmarching with a 35 pound rucksack. This is "sport specific" conditioning in our business and could not be put off until Spring simply because Cadets need to break-in their boots, and their feet and minds need toughening.

SEPTEMBER

Monday	Wednesday	Friday
Squat/Press Instruction	Bench/Deadlift Instruction	Squat/Press/DL (determine starting point for sets of 5)
Squat/Press/Deadlift x 5 x 3	Squat/Bench/Deadlift x 5 x 3	Pullups/300 yd shuttles (4)
Squat/Press/Deadlift x 5 x 3	Squat/Bench/Deadlift x 5 x 3	400m intervals (4)

OCTOBER

Monday	Wednesday	Friday
Squat/Press/Deadlift x 5 x 3	Squat/Bench/Deadlift x 5 x 3	800m intervals (2)
Squat/Press/Deadlift x 5 x 3	Squat/Bench/Deadlift x 5 x 3	Footmarch 4 miles
Squat/Press/Deadlift x 5 x 3	Squat/Bench/Deadlift x 5 x 3	2 mile run
Squat/Press/Deadlift x 5 x 3	Bench x 5 x 3, Pushup/ Sit-up 30 second intervals (4)	DIAGNOSTIC APFT

The Non-Believers

Throughout the semester I heard the grumbling of the non-believers. Either directly from Cadets or through "the grapevine" of other instructors, I heard such questions or statements as:

"Am I going to get fat doing this?"

"When are we going to run long distances?"

"He wants to make us all powerlifters"

"I HAVE to run a lot or I get fat"

Thankfully, no one told me that squatting was bad for their knees, or I might have lost my mind. For the most part, the Cadets did the program as I'd drawn it up. It was certainly a paradigm

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shift for them to have a Lieutenant Colonel coaching and correcting their every move at PT. Despite their non-believing, most of them worked moderately hard, harder than they ever had before, at least.

After seven weeks of this PT methodology, we conducted a Diagnostic APFT. Something very strange happened. It worked. The average score increased to 261, six Cadets saw improvements of over 25 points, and 11 of the 25 increased by 10 or more points. Remember that five had previously scored over 290 and had little room for improvement of their score.

The naysayers were particularly perplexed by the fact that almost every Cadet's sit-up performance improved. How can you improve sit-ups without doing sit-ups? Most run times actually improved, with only three Cadets actually slowing down by 30 to 40 seconds. As I pointed out to them, with was just the strength phase, we hadn't actually TRAINED for the APFT. A handful of Cadets saw a slight decrease in pushups or sit-ups. When I talked about it with the Cadre, we determined that without exception the decrease was due to improper technique. Pushups and sit-ups which had been counted in the past no longer counted now that they were forced to do them correctly.

Sport-Specific

Thirty days still remained before the Fall Semester APFT. For our Junior class, this APFT score would count toward their overall national ranking, which determines if they receive an Active Duty Commission, or a Reserve Duty Commission. It also affects whether or not they get their preferred Branch within the Army. It's important enough that we trained for the test.

The program for those four weeks is outlined below. We cut out deadlifts and presses, squatted a heavy set of five only twice, and increased the repetitions on bench press all the way up to sets of 20. There were six running sessions, and only nine sessions overall spent training for the test. We worked around Holidays and field training, and focused on improving on the APFT events.

NOVEMBER

Monday	Wednesday	Friday
Squat 1 x 5 Bench 3 x 10 Pullups 3 x max	Pushups 4 x 30 secs Sit-ups 4 x 30 secs Run 4 x 400m (2 mins rest)	Footmarch 5 miles
Bench 3 x 15 Planks 4 x 30 secs Run 3 x 800m (4 mins rest)	Pushups 3 x 60 secs Sit-ups 3 x 60 secs Run 4 x 400 (1 min rest)	Run 2 x 1 mile (6 min rest)
Squat 1 x 5 Bench 3 x 20 Run 3 x 800m (3 mins rest)	Run 2 x 1 mile (3 mins rest) Pushups 3 x 42 (males) or 19 (females)	REST
Stretch Pushups 3 x 30 secs Sit-ups 3 x 30 secs	REST	RECORD APFT

The scores on the Record APFT, only 30 days after the diagnostic APFT showed another significant improvement for most Cadets. The overall average rose to 273, 60% of the Cadets now scored a 275 or higher. While three Cadets still scored below 240, two of them had improvements of 45 and 19 points. We were down to only one APFT failure, and she had improved her run time by

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a full minute. The three biggest improvements throughout the semester were a +59, +48, and +45. Those numbers demonstrate very significant improvement in only 11 weeks.

Analysis

It seems that there will never be a shortage of doubters. I understand that this was not a well-controlled scientific experiment. There were many variables which were not controlled at all. I emphasized physical fitness and whatever the Commander wants always becomes important. The point is that a strength training approach to physical fitness improved performance on the APFT.

Stronger Cadets perform better on the APFT. Their program of strength training and anaerobic conditioning gave them the necessary strength in their chest/shoulders for pushups, and abdominals/hip flexors for sit-ups. Stronger legs, better running mechanics, and increased VO_2max from anaerobic conditioning, along with some mental toughness produced better run results for most. This approach to training required only \$8,000 of equipment and one individual knowledgeable in strength and conditioning. The best news is that the gym we built will last many years, and the URI ROTC program will be producing Lieutenants who understand some basic concepts of strength and conditioning. This will help in changing the Army's culture of physical training toward a strength-focused approach, which will benefit Soldiers for the APFT and in combat.

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