

U.S. Public Health Service **Commissioned Corps** Annual Physical Fitness Test Training Guide











Table of Contents

Acknowledgements	
Welcome Message	4
Introduction	5 - 6
Adult Physical Activity Recommendations	7
Determining Heart Rate Zones and Intensities	
The Borg Scale and Talk Test	8
Best Practices and Physical Training Guidance	9
Program Design and Training Schedules	10 - 11
Progression and Assessment of Progress	11 - 12
Preparing for the Run	13
Guidelines for Training Progression	14
Dynamic Warm-Up Exercises	14 - 19
Physical Training Sessions	20 - 24
Recovery, Cool Down and Stretching	25 - 28
APFT Monthly Tracking Log.	29
<u>References</u> .	30 - 32
<u>Appendix</u>	33 - 34

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Co-Leads and Authors:

CAPT Charles Rainey, PT, DSc, DPT, MS, OCS, SCS, CSCS, FAAOMPT CDR Clara Stevens, PT, DPT, MPH, MA, OCS

Version 2.0 Contributing Authors:

LCDR Charles Cole, PT, DPT, OCS, ATC, FAAOMPT LCDR Maria Doran, OTR/L
LT Keagan Carpenter, OTR/L

Version 1.0 Contributing Authors:

LCDR Shantel Barnes, PT, DPT, DHA, CLT
LCDR Daniel Bordt, PT, DPT, OCS
LCDR Michael DuBois, PT, DPT, OCS
LCDR Sarah Lyrata, PT, DPT, MPH, NCS
LCDR Kerry Quinn, PT, DPT, OCS
LCDR Lee Ryder, PT, DPT, MPH, NCS

Welcome Message

Physical fitness is a cornerstone of readiness, resilience, and effectiveness for officers of the U.S. Public Health Service (USPHS) Commissioned Corps. As uniformed service members dedicated to protecting and advancing the nation's public health, it is imperative that we maintain the physical capabilities required to respond to emergencies, deploy in times of crisis, and serve as role models for the communities we support.

The Annual Physical Fitness Test (APFT) Training Guide, Version 2.0, builds upon the foundation laid by its predecessor, incorporating the latest research in exercise science, injury prevention, and performance optimization. This updated guide is designed to help Public Health Service officers not only meet the APFT requirements but also cultivate a sustainable approach to fitness that enhances overall well-being. Through structured training regimens, evidence-based recommendations, and practical guidance, this resource serves as a roadmap for developing strength, endurance, flexibility, and resilience.

Maintaining physical fitness is not just a personal commitment--it is a professional responsibility. By integrating these training principles into our daily routines, we strengthen our ability to serve, protect, and lead. I encourage every Public Health Service officer to embrace this guide as a tool for achieving peak physical readiness and upholding the high standards of the USPHS Commissioned Corps.

In Officio Salutis,

Denise M. Hinton

RADM Denise M. Hinton, MS, RN, FAAN

Deputy Surgeon General

U.S. Public Health Service Commissioned Corps

Introduction

Welcome to the Annual Physical Fitness Test (APFT) Training Guide 2.0! As officers in the U.S. Public Health Service (USPHS) Commissioned Corps, you have the responsibility of maintaining specific levels of physical fitness and height-weight standards. Despite the known importance of physical activity, only about 20% of Americans are getting the recommended amounts of physical activity.¹ Insufficient physical activity has been linked as a primary contributor to the development of chronic diseases²-7 and is a major risk factor for musculoskeletal injury.8-10 Research suggests first responders and military personnel who are not able to successfully perform certain functional activities are at increased risk of injury while on the job.9,10,15-18 As leaders in public health, it is your duty as a uniformed officer to be physically fit, so that you can serve your nation and community in times of crisis. This training guide includes evidence-based physical activity recommendations for adults and provides exercises for different levels of fitness.

The APFT is an assessment of cardiorespiratory endurance, upper body endurance, core endurance, and flexibility. The purpose of this guide is to help prepare you to pass the APFT. You should prepare sufficiently to take and pass the APFT, as well as to be in good physical condition for USPHS Commissioned Corps deployments, training exercises and other response activities.

Preparation for the APFT is important! You should try to practice the APFT at least a couple of times a month and track your progress. If you are not currently achieving a satisfactory score, establish goals to work towards meeting the requirements of becoming basic ready, and practice regularly by yourself or with others.

This APFT Training Guide Version 2.0, contains the latest evidence-based guidance and peer-reviewed research and resources such as the U.S. Department of Health and Human Services (HHS), Centers for Disease Control and Prevention, American College of Sports Medicine, American Heart Association, and Navy Physical Readiness Program. This guide serves as an evidence-based resource available for Public Health Service officers to successfully train and prepare for the APFT.

APFT Preparation Tip!

As you prepare for your APFT, it's crucial to prioritize safety and listen to your body, especially when beginning a new exercise program. Start slowly and gradually increase the intensity and duration of your workouts to avoid injury. If you are not sure if an exercise is right for you, consult your licensed health provider.



To ensure you have a thorough understanding of the APFT and its requirements, please refer to the USPHS Personnel Operations Memorandum POM 821.65 (effective 21 April 2024), which outlines the test's specifics and passing criteria. For your convenience, the APFT exercises are also included in the Appendix of this guide. As a Public Health Service officer, you also have access to a vast array of federal resources and tools designed to support your overall health and wellness. We invite you to explore the Commissioned Corps Management Information Site (CCMIS) Readiness and Deployment Branch APFT Resources page and Wellness Support Resources page, which offers a wealth of information and guidance on:

- APFT Keys for Success
- APFT Frequently Asked Questions (FAQs) and APFT Form (PHS-7044)
- Tricare resources and other resources available through Military Treatment Facilities
- Nutrition and healthy eating habits to fuel your body
- Regular physical activity to boost your energy and endurance
- Mental and behavioral health programs including Employee Assistance Programs and Corps Care
- Sleep hygiene to improve restful sleep
- Proven stress reduction techniques to improve your mental well-being

By leveraging these available resources, you can maximize your APFT preparation and take your health and well-being to the next level. By incorporating healthy habits into your daily routine, you'll not only enhance your physical fitness, but also improve your overall quality of life.

Adult Physical Activity Recommendations

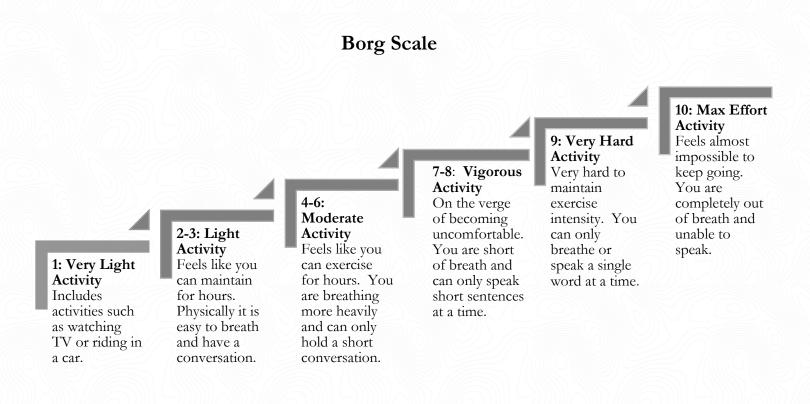
According to the HHS 2018 Physical Activity Guidelines, it is recommended that adults achieve 150 to 300 minutes of moderate-intensity physical activity per week. This is equivalent to about 30 to 60 minutes of exercise, five days a week. For adults that engage in vigorous-intensity physical activities, which is roughly twice the energy expenditure of moderate-intensity activities, it is recommended to engage in 75 to 150 minutes of physical activity per week to obtain optimal health benefits. It is also recommended at least 2 days per week should be devoted to strengthening exercises of the upper body, lower body and core muscles.

The American College of Sports Medicine (ACSM) defines moderate intensity exercise as 64-76% of an individual's maximum heart rate (MHR) and vigorous intensity as 77-95% of MHR.¹³ It is recommended by the ACSM to move away from the traditional 220 - age practice of determining MHR, and instead suggests a few other methods; one of which is the Gellish method: MHR = 207 - (0.7 x age).¹³ According to the American Heart Association, most individuals can gradually work up to exercising comfortably at 85% of their MHR after a few months of regular exercise.^{19,20} The chart below provides ranges of moderate and vigorous heart rate intensities using the Gellish method. Heart rate measures are provided in beats per minute.¹²

Age in Years	Maximum Heart Rate	Target Heart Rate for Moderate Intensity	Moderate Intensity 10 second HR count	Target Heart Rate for Vigourous Intensity	Vigourous Intensity 10 second HR count
11////// 31/11/		· ////		\	· ///////
20	193	124-147	21-25	149-183	25-31
25	190	122-144	20-24	146-181	24-30
30	186	119-141	20-24	143-177	24-30
35	183	117-139	20-23	141-174	24-29
40	179	115-136	19-23	138-167	23-28
45	176	113-134	19-22	136-167	23-28
50	172	110-131	18-22	132-163	22-27
55	169	108-128	18-21	130-161	22-27
60	165	106-125	18-21	127-157	21-26
65	162	104-123	17-21	125-154	21-26

The Borg Scale (Rate of Perceived Exertion) and Talk Test

The Borg Rate of Perceived Exertion (RPE) scale ranges from 1-10, with a score of "1" representing very light exertion and a score of "10" representing maximum effort. Individuals should be exercising between a RPE of 4-6 during low to moderate intensity training and 7-9 during vigorous and high intensity training sessions.⁸



The **Talk Test** is the easiest way to measure relative intensity. As a rule of thumb, if you're doing moderate-intensity activity you can talk, but not sing during the activity.¹³ If you're doing a vigorous-intensity activity, you will not be able to say more than a few words without pausing for a breath.¹³

Best Practices for Physical Activity

- ✓ Develop an individualized plan. There is no "one size fits all" when it comes to physical activity. Each Public Health officers should develop a fitness plan that works for your personal preferences, lifestyle, and any medical conditions. However you tailor your program, it should achieve the goals of meeting and maintaining USPHS Commissioned Corps fitness standards.
- ✓ If you are not currently achieving a satisfactory score on the APFT, set goals to work towards meeting the established requirements. Goals should be specific, measurable, attainable, relevant and time bound. It is recommended to track progress individually, utilizing tracking logs with weekly physical training and reviewing progress at least monthly.
- ✓ Promote additional calorie expenditure outside of physical training. Officers focusing on weight loss will require daily activity. Walking indoors or outdoors is a great way to increase moderate intensity exercise and is sustainable especially when access to exercise facilities is limited.

Physical Training Guidance

- ✓ Avoid fitness programs that over-train, increasing the risk of overuse injuries to muscles and joints. 12,13 Limit long runs and incorporate speed work to improve run performance. 13
- ✓ It is common to experience muscle soreness when beginning a new exercise routine. Allow for rest days that focus on light intensity walking and stretching to help facilitate recovery.
- ✓ Any exercise performed incorrectly or that incorporates extreme movements that cause a joint to move beyond its normal range of motion, such as excessive, rapid or repetitive twisting, may cause injury.¹² If you experience pain with any of the exercises, stop immediately. If the pain continues, seek the advice of a licensed medical provider.
- ✓ This APFT Training guide addresses exercise prescription based off the FITT (Frequency, Intensity, Time, and Type) principle.¹²-¹⁴ **Frequency** refers to how often an exercise is done. **Intensity,** as discussed earlier with the Borg Intensity and Heart Rate scales, refers to how hard you exercise. **Time** refers to the amount of time spent exercising and **Type** is the different ways in which you can exercise (cardio vs. strengthening as one example). Each of these variables can be manipulated to further help the progress of the officer in his or her training. All are important to consider when addressing injury prevention. Different activities will stress different muscles, and it is important not to do too much of the same activity. Vary your workouts in intensity, time, frequency, and type of exercise.



Activity Guidelines and Program Design

Physical training sessions consist of the four components: dynamic warm-up, physical training, cool-down, and stretching. These exercises should complement a mixture of endurance activities such as running, biking, stair stepping, and elliptical training.

Activity		Time (Minutes)
1.	Dynamic Warm-up	5 - 10
2.	Physical Training	20 - 40
	Session	
3.	Cool-down	5
4.	Stretching	5 - 10

Training Schedules (Three Day and Five Day)

A three-day training schedule is the ideal place to start for someone that is new to exercise.

	Monday	Tuesday	Wednesday	Thursday	Friday, Saturday, or Sunday
Dynamic Warm Up	5 - 10 min	Recovery*	10 min	Recovery*	10 min
Pre-Planned Activity	Cardio 20 min Strengthening 15 min (Moderate to Vigorous Intensity)	Walking 15 - 30 min (Very Light to Light Intensity)	Cardio 30 min (Moderate to Vigorous Intensity)	Walking 15 - 30 min (Very Light to Light Intensity)	Strengthening 20 min (Light to Moderate Intensity)
Cool Down	5 min		5 min		5 min
Stretch	5 min	5 - 10 min	5 min	5 - 10 min	5 - 10 min
Totals	50 - 55 min	20 - 40 min	50 min	20 - 40 min	40 - 45 min

^{*} Recommend on recovery days to participate in walking program and light stretching as needed to improve flexibility. Schedule above based off of ACSM FITT Principle guidelines.¹³ With a three day training program it is recommended to practice your APFT at least once every other week as your pre-planned activity. Limit vigorous intensity workouts to no more than 2 to 3 times per week.



A five-day training schedule is appropriate for someone who has been exercising consistently. Frequency, intensity, time, and type of exercises will vary for the individual level of fitness.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday & Sunday
Dynamic Warm Up	5 min	Recovery*	5 - 10 min	10 min	Recovery*	5 min
Pre-	Cardio	Walking	Cardio	Strengthening	Walking	Cardio
Planned	15 - 20 min	15 - 30 min	30 min	20 min	15 - 30 min	15 - 20 min
Activity	Strengthening 15 min (Moderate to Vigorous Intensity) or Mock APFT	(Very Light to Light Intensity)	(Moderate to Vigorous Intensity)	(Light to Moderate Intensity)	(Very Light to Light Intensity)	Strengthening 15 min (Moderate Intensity)
Cool Down	5 min		5 min	5 min		5 min
Stretch	5 min	5 - 10 min	5 - 10 min	5 - 10 min	5 - 10 min	5 min
Totals	45 - 50 min	20 - 40 min	45 - 55 min	40 - 45 min	20 - 40 min	45 - 50 min

^{*} Recommend on recovery days to participate in walking program and light stretching as needed to improve flexibility. Schedule above based off of ACSM FITT Principle guidelines.¹³ With a five day training program it is recommended to practice your APFT at least once every other week as your pre-planned activity. <u>Limit vigorous intensity workouts to no more than 2 to 3 times per week.</u>

Progression

The rule of progression is to gradually implement an exercise program. Avoid doing too much, too soon or too fast, to minimize setbacks and injuries. Here are a few things to keep in mind during your exercise program:

- Pay specific attention to time/duration and intensity when starting a workout program.
- ➤ Initial intensity and time should reflect your fitness level when you start your program. The average aerobic intensity should be that which can be maintained for 15 minutes. For some individuals, this may be walking, a walking/running combination, or an alternate cardio program.
- In order to make improvements in fitness, you must physically work at a level beyond what you are accustomed to and challenge your current state of fitness. Overloading using cardiovascular and/or strength training will cause some fatigue, but with proper recovery will yield physical improvements.



The three factors that are manipulated to induce exercise overload are intensity, time/duration, and frequency.

- More is not always better. After an excessive amount of exercise, fitness improvements are negligible and the potential for injury increases. Individuals exhibiting signs of injury, such as muscle or joint pain, or feeling fatigued on a regular basis, may be exercising too much and should seek medical advice.
- Due to differences in individual body type, physical condition, and environment, there is limited evidence that supports a universal exercise program that is ideal for everyone. There is limited evidence to support the 10% rule of progression recommended by many coaches, trainers, and clinicians will recommend the 10% rule for progression.^{21,22} Preliminary evidence suggests that increasing running mileage by 30% or more in a two-week period may increase the likelihood of injury while other factors, such as increased Body Mass Index (BMI), higher body fat percentage, improper form and prior injury, may predispose an individual to a higher risk of injury while running.²³⁻²⁵

Assessment of Progress: There are three phases of fitness progression.

Phase 1: Initial Stage

The goal of the Initial Stage is to adapt the body to exercise and focus on proper form. The Initial Stage typically consists of lower intensity activity for shorter duration (e.g., run/walk). Programs initiated too aggressively may result in injury.

Phase 2: Improvement Stage

The goal of the Improvement Stage is to increase overall exercise stimulus, following the FITT (Frequency, Intensity, Time, and Type) principles, to allow for significant improvements. Individuals may progress quickly during this phase with solid preparation in Phase 1.

Phase 3: Re-evaluation

Once goals are achieved, reevaluate fitness goals at this time. Diversification in training is important for long term success to prevent overuse injuries and maintain individuals' interest in activity.

Preparing for the Run

If you are preparing for your run, the chart below can be used as a training schedule to help you achieve the goal of running for 20 to 30 minutes without stopping. It is a weekly progression of walk/run sets. Performing four (4) walk/run sets will equate to a total of 20 minutes, while performing six (6) run/walk sets will equate to 30 minutes. Whether you run two times or three times a week, it is recommended to take a rest day off in between training days to allow your body adequate time to rest and heal in between training runs. Soreness lasting more than 2 to 3 days may be the onset of musculoskeletal injury and should not be ignored.

Week	Days per week	Walk/Run Ratio
1	3 - 5	20 - 30 minutes (min) walk only
2	2 - 3	4 - 6 sets of (4.5 min walk + 30 sec run)
3	2 - 3	4 - 6 sets of (4 min walk + 1 min run)
4	2 - 3	4 - 6 sets of (3.5 min walk + 1.5 min run)
5	2 - 3	4 - 6 sets of (3 min walk + 2 min run)
6	2 - 3	4 - 6 sets of (2.5 min walk + 2.5 min run)
7	2 - 3	4 - 6 sets of (2 min walk + 3 min run)
8	2 - 3	4 - 6 sets of (1.5 min walk + 3.5 min run)
9	2 - 3	4 - 6 sets of (1 min walk + 4 min run)
10	2 - 3	4 - 6 sets of (30 sec walk + 4.5 min run)
11	2 - 3	20 - 30 min run only

Guidelines for Training Progression

The chart below provides guidelines for progression for frequency, intensity and duration of physical training sessions.

Program Stage	Week	Exercise Frequency (days per week)	Exercise Intensity (% heart rate max)	Exercise Duration (minutes)
Initial Stage	1	3	45-55	15-20
	2	3-4	45-55	20-25
	3	3-4	50-60	20-25
	4	3-4	50-60	25-30
Improvement	5-7	3-4	60-70	25-30
_	8-10	3-4	60-70	30-35
	11-13	3-4	65-70	30-35
	14-16	3-5	65-75	30-35
	17-20	3-5	70-85	35-40
	21-24	3-5	70-85	35-40
Maintenance	24+	3-5	70-85	20-60

ACSM, Guidelines for Exercise Testing and Prescription, 12th Edition¹³ Pre-planned PT session does not include time for warm-up, cool down and stretching.

Dynamic Warm-Up

The purpose of the warm-up is to adequately prepare the body for physical activity. The activities performed in the warm-up routine should mimic the activities that will be performed during the exercise session. Warm-up period lasts between 5 to 10 minutes, starting with low intensity and gradually increasing in intensity as the warm-up progresses.

Activity	Time (Minutes)
Dynamic Warm-up	5 - 10
Physical Training Session	20 - 40
Cool-down	5
Stretching	5 - 10

Benefits include:

- Reducing the potential for muscle and connective tissue injuries. 12,13
- Increasing blood flow and oxygen delivery to exercising muscles. The more blood that reaches the muscles, the easier the delivery of nutrients required for energy production.
- Increasing blood flow to the heart which leads to reduced risk for negative exercise-induced cardiovascular events. 12,13



The following exercises can be performed as your dynamic warm up prior to your physical training session. It is recommended all participants begin their dynamic warm-up slowly and increase vigor over time and only after they have executed proper form. Progress according to your personal fitness level and abilities over the first few weeks of initiating a fitness training program.

1) **Jogging in Place**: Perform for 30 seconds to one minute

Slowly jog in place at an intensity that is comfortable for you. If you are unable to jog, you may perform heel raises to warm-up the calves.



2) Lunges: Perform for 30 seconds to one minute

Begin by standing with your feet shoulder-width apart. While maintaining upright posture, take a step forward. Slowly bend your front knee and do not allow it to collapse inward or pass over your toes. Perform in a range of motion that is comfortable and not painful. The knee of the forward leg should not go past the toes.

Start		Finish

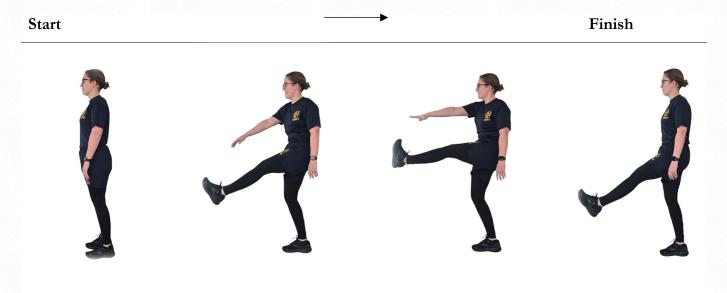
3) Butt Kickers: Perform for 30 seconds to one minute

Stand with feet shoulder-width apart. Bend one knee backwards as if you are trying to touch your heel to your butt. Repeat with the opposite side in an alternating fashion. Based on your ability, this activity can be performed slowly or more quickly like you are running in place.



4) Straight Leg Raise (Frankensteins): Perform for 30 seconds to one minute

Start by standing feet hip-width apart. Next, while keeping your knee as straight as you can, exhale and lift your left leg, rotating through your torso to reach towards it with your opposite arm (without rounding your back). Return to starting position. Try to keep your shoulders/ribs/pelvis in line as you do this.



Begin with feet together. Perform a side-lunge to the right and bend right knee keeping left knee straight. Be mindful not to let the right knee bend over the right foot. Return the feet back together and repeat to the left.

Start









6) Hip External Rotation (Opening the Gate): Perform for 30 seconds to one minute

Start standing with your feet under your hips and stand tall. Lift one leg up into a 90-degree angle at the hip and the knee. Next, rotate the leg outwards away from the body as if opening a gate. Then, bring the leg back to the center and lower it back down to the ground. Repeat on the opposite side.

Start Finish







7) Hip Internal Rotation (Closing the Gate): Perform for 30 seconds to one minute

Start standing with your feet spread apart and stand tall. Lift one leg up into a 90-degree angle at the hip and the knee. Next, rotate the leg inwards toward the body as if closing a gate. Then, bring the leg back to feet spread apart stance, lowering it back down to the ground. Repeat on the opposite side.



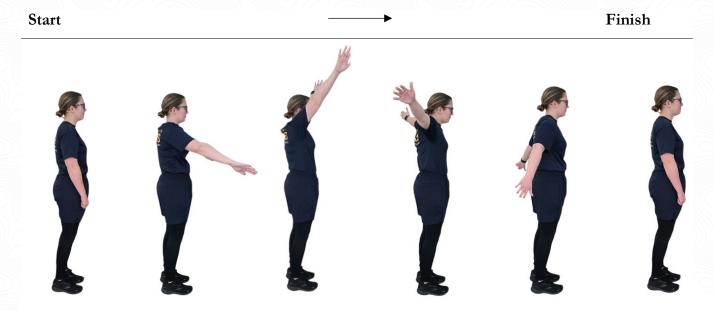
8) **Jumping Jacks**: Perform for 30 seconds to one minute

Start with your feet together and your arms at your sides. Hop your feet out while at the same time moving your arms out and overhead. Then, return to the starting positioning. This activity can be modified by side stepping if jumping is difficult.



9) Shoulder Girdle Arm Circles: Perform for 30 seconds to one minute

Raise both arms out to the side. Perform circles with your arms. Alternate going forward and backwards with sets of 10 repetitions.



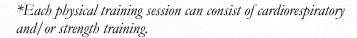
10) Thoracic Rotation (Threading the Needle): Perform for 30 seconds to one minute

Start by kneeling on all fours. Position body neutral with knees about at 90-degrees. Elbows are slightly bent. Reach across with one arm by rotating the trunk until the hand reaches through between the opposite arm and knee. Slide the back of the hand on the ground so the body reaches a diagonal angle. Reach as far as you can in a comfortable range of motion. On the way back up, rotate the opposite way by reaching hand and raising arm toward the sky.



Physical Training Sessions

Activity	Time (Minutes)
Dynamic Warm-up	5 - 10
Physical Training Session	20 - 40
Cool-down	5
Stretching	5 - 10





<u>Cardiorespiratory Training</u>: may be conducted for at least 30 minutes at a moderate intensity [brisk walk (3 mph or faster), bicycling, elliptical training, water aerobics], 5 days a week or 25 minutes at a high intensity (jogging/running, swimming laps, jumping rope, circuit training), 3 to 5 days per week.¹¹⁻¹³

Strength Training: should consist of 6 to 10 different exercises performed for 8 to 12 repetitions per set. Repeat if desired up to 2 to 3 sets. ^{13,14} Individuals should focus on major muscle groups of the upper and lower extremities and core muscles. Strength training can be conducted using body weight, machines, resistance bands, kettlebells or dumbbells.

- ✓ The following exercises can be done using individual body weight to help facilitate strength training. They are considered functional strengthening exercises as they mimic movement patterns that an officer should be able to perform. Exercises are progressed either with resistance (weight) or added exercise complexity.
- ✓ The exercises are separated into two (2) different levels. It is recommended all officers utilizing this training guide begin with level 1 for each exercise.
- ✓ As an exercise is mastered in performance, the officer can progress up to the next level.
- ✓ You might perform different exercises at different levels depending on your baseline muscle strength and overall fitness level.
- ✓ It is recommended to do muscular strengthening exercises at least a minimum of 2 times per week.

The following exercises below are functional strength training exercises and can be performed as part of your physical training session. They should be done after an adequate warm-up activity. It is recommended all officers start at Level 1 and progress only after they have executed proper form and ability.



1) **Squats**: Perform 10 - 20 repetitions

<u>Level 1</u>: Perform a full squat by bending the knees to a 90-degree angle. Do not let your knees move forward excessively past the toes or bend towards the centerline as you squat.

<u>Level 2</u>: Add a resistance/weight, such as holding one or two kettlebell(s) or dumbbell(s) during the squat for added difficulty.

Start Finish Level 2



2) **Push-Ups**: Perform 10 - 20 repetitions

<u>Modified Level 1</u>: Begin on hands and knees with arms slightly wider than shoulder-width. Keeping your back straight, lower your body towards the floor. Return to staring position.

Level 1: Perform a push-up on hands and feet, keeping both legs straight.

<u>Level 2</u>: Place feet on a chair during the push-up for added difficulty.

Start and Finish

Modified Start and Finish

Level 2

3) **Glute Bridges**: Perform 10 - 20 repetitions For all levels, begin by engaging your abdominals.

<u>Level 1</u>: Slowly lift your hips up off the ground squeezing the glutes and hold for 5 - 10 seconds.

<u>Level 2</u>: Extend one leg, lift your hips up off the ground squeezing the glutes and hold for 5 - 10 seconds.



4) Forward or Side Planks: Perform 30-second to 1-minute holds for up to 5 repetitions

<u>Forward Planks</u>: Start by lying on your stomach in push-up position with feet hip-width apart. Bend elbows and align below the shoulders so that the forearms are lying flat parallel to the body at about shoulder-width distance. Slowly lift the hips off the ground with feet flexed and the bottom of the toes on the ground. The head, back, buttocks and legs should be straight from head to heels.

<u>Side Planks</u>: Start by moving to a side-lying position, supported by the elbow, forearm, fist (or palm) and legs. The foot of the bottom leg (closest to the ground) is wrapped behind the ankle of the top leg so that the inner edge of the foot of the top leg is contacting the ground. Press into the ground with the supporting arm, slowly raise the trunk and pelvis upward until they form a straight line with the legs. The trunk should not rotate forward or backward or bend at the waist keeping the sole (bottom) of the supporting foot from touching the ground.

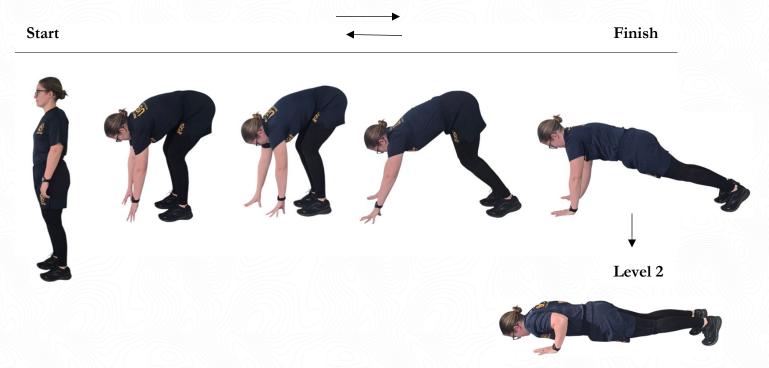
<u>Level 2</u>: Perform exercise for 1-minute holds for up to 10 repetitions for added difficulty.

	Start		Finish
Forward			
Planks			No.
			51
Side			S
Planks			

5) **Inch Worms**: Perform 10 - 20 repetitions

<u>Level 1</u>: Begin by bending at the hips and touching floor with a slight bend in the knees. With your hands, slowly walk forward to a full plank position. Keep your core engaged and do not arch your back. Then, walk back to return to the starting position.

Level 2: To increase exercise difficulty, perform 1 to 5 push-ups while in the downward plank position.



6) **Quadruped Diagonals (Bird Dogs)**: Perform 10 repetitions per side For all levels, begin in a quadruped (hands and knees) position.

<u>Level 1</u>: Slowly lift one arm and the opposite leg off the ground at the same time. Slowly return arm and leg back down to the ground and repeat with the opposite arm and leg.

<u>Level 2</u>: Add a resistance band during the exercise for added difficulty.

Start Finish Level 2



7) Lunges: Perform 10 repetitions per side

<u>Level 1</u>: Perform a bodyweight lunge by bending both knees to a 90-degree angle until back knee is about one inch from ground. Do not let front knee angle inwards or move forward past the toes.

<u>Level 2</u>: Add a resistance/weight, such as holding one or two kettlebell(s) or dumbbell(s) during the lunge for added difficulty.



8) Single Leg Deadlifts: Perform 10 repetitions per side *

<u>Level 1</u>: Begin with both feet on the ground, knees slightly bent. Transfer to standing on one leg, knee slightly bent. Lean forward at your hips, until you can touch the ground with your hand. Your moving leg should be straight. Return to the upright position.

<u>Level 2</u>: Add a resistance/weight, such as holding one or two kettlebell(s) or dumbbell(s) during the single leg Romanian deadlift for added difficulty.

* It is important to keep a neutral spine during this exercise. Keep your back straight and do not round your lower back as you bend forward. It is important to keep your stance knee slightly bent as this helps to keep your back straight as you lean forward.

Start	-	Finish	Level 2	

Recovery

Recovery is a time for the body to repair and adapt from your previous workouts. The recommended exercise frequency is 3 to 5 times per week with light activity days to rest and recover. Common recovery mistakes in fitness programs include:

- ✓ Participating in the same work out for an extended period of time. For example: exercising on the stationary bike or elliptical for 20 minutes, 3 times per week for 8 weeks or more. The body will adapt, and you may not see continued improvements. Vary workouts and continue to challenge the body with increased intensity to see improvements in fitness.
- ✓ Failing to prepare for the APFT. Participating in cardiovascular and strength training workouts at least 3 times per week is adequate to prepare most officers to pass the APFT. Only participating in running, crunches and sit ups may not yield fitness improvements. There are more effective ways to improve your APFT score without overusing the same muscle groups.
- ✓ It is suitable and encouraged to participate in a light walking program and stretching on recovery days.

Cool-down

The purpose of the cool-down period is to gradually lower the heart rate and respiratory rate to pre-activity levels. Eliminating the cool-down can cause blood to pool in the lower extremities, decreasing the ability to return blood to the heart and brain. This can cause an irregular heartbeat, dizziness, nausea and fainting. For a proper cool-down, use the workout's last 3 to 5 minutes to reduce the intensity and slowly lower the heart rate.

Recommended Stretches

Flexibility is an important but often overlooked component of an exercise program. It is recommended to include exercises geared toward improving flexibility into each physical training session. A static stretching exercise session—is best after the physical training session as muscles are warmer and more pliable following exercise.

Activity	Time (Minutes)
Dynamic Warm-up	5 - 10
Physical Training Session	20 - 40
Cool-down	5
Stretching	5 - 10





Posterior Shoulder Stretch

Raise one arm in front of your body with your thumb pointing up. Using your other arm, reach under your elbow and gently bring your top arm across your body until you feel a stretch along the back of the shoulder of the upper arm that is across your body.

Quadriceps Stretch

While standing, bring your heel to your bottom by bending your knee until a gentle stretch is felt in the front of your thigh. You may hold onto a stable surface for balance. Ensuring that your standing leg is not locked at the knee, remain standing upright keeping your bent knee under your hip so that your knee does not swing out to the side. You can also perform this stretch while lying on your side.





Hamstring and Calf Stretch

In a standing position, bring one leg out in front of you, keeping your knee straight and toes pointed upward with your heel digging into the ground. Bend your opposite knee and bring your hips back. Gradually reach with both arms toward your toes until you feel a stretch in the back of the straight leg in front of you. Keep your back straight as you stretch forward.

Low Back Stretch

Begin by lying on your back and slowly bring one knee toward your chest with your hands until you feel a stretch in your low back and buttocks. Keep your back flat on the ground. You can keep your other leg bent or flat on the ground to further stretch your hip flexors.





Outer Hip and Low Back Stretch

While sitting on the ground with your legs parallel in front of you, bend one knee toward your body. Place your foot flat on the ground over the straight leg. Rotate your upper body toward your bent knee, press your elbow against the knee while your other arm props you up. You should feel a stretch on the outside of your hip and in your back.

Hamstring and Hip Adductor Stretch

Start by sitting on the floor with your legs in a figure-4 position. Gently lean forward bending at your hips and reach your arms out in front of you until you feel a stretch in the back and inside of your legs.





Trunk Rotation Stretch

Begin by lying flat on your back with your arms out to your side in a "T" position with your legs straight. Bend one knee and bring it up toward your chest and then across your body, slowly bringing it to the ground on the side of your straight leg. Try to keep your arms and shoulders on the floor in the "T" so you can feel a stretch through your chest and low back.

Piriformis Stretch

Start by lying on your back with both legs bent. Lift one leg up placing that ankle on your opposite knee to make a figure-4 position. Place your hands behind the thigh of the leg that is supporting your ankle and gently bring your leg toward your chest maintaining the figure-4 position. Gradually bring your legs closer to your chest until you feel a stretch in your buttock.



Cat and Camel Stretch

While on your hands and knees, slowly raise up your back and arch it towards the ceiling. Next, slowly lower and then arch your back in the opposite direction. Hold each position for 10 - 15 seconds and repeat 5 times.







Calf Stretch (Gastrocnemius)

Standing next to a wall or fixed object, place one foot behind the other. With your back leg straight and heel on floor, lean into wall until a stretch is felt in calf. Be sure toes are pointed forward.





Calf Stretch (Soleus)

Standing next to a wall or fixed object, place one foot behind the other. Keep back leg slightly bent at the knee and keep heel flat on floor. Lean into the wall until stretch is felt in lower calf. Be sure toes are pointed forward.

APFT Monthly Tracking Log¹²

Week 1	Date:
Activity Performed (Strengthening/Cardio/Flexibility)	Min/Hours
MON	
TUE	
WED	
THU	
FRI	
SAT	
SUN	
Weekly Results: Weight: Push Ups: Core: Cardio:	•
Week 2	Date:
Activity Performed (Strengthening/Cardio/Flexibility)	Min/Hours
MON	
TUE	
WED	
THU	
FRI	
SAT	
SUN	
Weekly Results: Weight: Push Ups: Core: Cardio:	•
Week 3	Date:
Activity Performed (Strengthening/Cardio/Flexibility)	Min/Hours
MON	
TUE	
WED	
THU	
FRI	
SAT	
SUN	
Weekly Results: Weight: Push Ups: Core: Cardio:	•
Week 4	Date:
Activity Performed (Strengthening/Cardio/Flexibility)	Min/Hours
MON	
TUE	
WED	
THU	
FRI	
SAT	
SUN	
Weekly Results: Weight: Push Ups: Core: Cardio:	
*Monthly Body Composition Assessment (BCA): Weight: Neck:	Ab: Hips:
Monthly APFT Results: Push Ups: Core: Cardio:	-

^{*}See ACSM, Guidelines for Exercise Testing and Prescription, 12th Edition¹³ for BCA procedures or a qualified fitness professional for a BCA assessment.

References

- 1. Facts about Physical Activity. Centers for Disease Control and Prevention. https://www.cdc.gov/physicalactivity/data/facts.htm. May 23, 2014. Accessed June 17, 2018.
- 2. Booth FW, Roberts CK, Laye MJ. Lack of exercise is a major cause of chronic diseases. *Comprehensive Physiology*. 2012;2(2):1143-1211.
- 3. Lavie CJ, Ozemek C, Carbone S, Katzmarzyk PT, Blair SN. Sedentary Behavior, Exercise, and Cardiovascular Health. *Circ Res.* 2019;124(5):799-815. doi:10.1161/CIRCRESAHA.118.312669
- 4. Myers J. Exercise and cardiovascular health. Circulation. 2003;107:e2-e5.
- 5. Khoury SR, Evans NS, Ratchford EV. Exercise as medicine. *Vasc Med.* 2019;24(4):371-374. doi:10.1177/1358863X19850316
- 6. Durstine J, Gordon B, Wang Z, and Luo X. Chronic disease and the link to physical activity. *Journal of Sport and Health Science*, 2013;2(1):3-11.
- 7. Anderson E, Durstine JL. Physical activity, exercise, and chronic diseases: A brief review. *Sports Med Health Sci.* 2019;1(1):3-10. Published 2019 Sep 10. doi:10.1016/j.smhs.2019.08.006
- 8. Wardle S, Greeves J. Mitigating the risk of musculoskeletal injury: a systematic review of the most effective injury prevention strategies for military personnel. *J Sci Med Sport*. 2017;20:S3-S10.
- 9. Nindl BC, Williams TJ, Deuster PA, Butler NL. Jones BH. Strategies For optimizing military physical readiness and preventing musculoskeletal injuries in the 21st century. *US Army Med Dep J.* 2013:5-23.
- 10. Molloy JM, Pendergrass TL, Lee IE, Chervak MC, Hauret KG, Rhon DI. Musculoskeletal Injuries and United States Army Readiness Part I: Overview of Injuries and their Strategic Impact. *Mil Med.* 2020;185(9-10):e1461-e1471. doi:10.1093/milmed/usaa027
- 11. U.S. Department of Health and Human Services. Physical Activity Guidelines for Americans. 2nd edition. Washington, DC: 2018. Retrieved from https://health.gov/paguidelines/second-edition/pdf/Physical Activity Guidelines 2nd edition.pdf Accessed January 12, 2019.
- 12. Guide 13: Command Fitness Guide, Command/Unit Physical Training (PT) and Fitness Enhancement Program (FEP). Navy Physical Readiness Program. August 2019. Accessed September 25, 2024.
- 13. American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 12th ed. Philadelphia, PA: Wolters Kluwer; 2025.
- 14. Garber CE, Blissmer B, Deschenes MR, Franklin BA, Lamonte MJ, Lee IM, Nieman DC, Swain DP. American College of Sports Medicine position stand. The quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: guidance for prescribing exercise. *Med Sci Sports Exerc.* 2011;43(7):1334-59.
- 15. Butler RJ, Contreras M, Burton LC, Plisky PJ, Goode A, Kiesel K. Modifiable risk factors predict injuries in firefighters during training academies. *Work*. 2013;46.



- 16. Harbison S, Melton BF, Hunt N, Henderson N, Adams B, Westrick R. The Relationship Between Physical Mobility and Firefighter Occupational Task Performance. *Int J Exerc Sci.* 2023;16(3):1216-1227. Published 2023 Oct 1.
- 17. Lisman P, O'Connor FG, Deuster PA, Knapik JJ. Functional movement screen and aerobic fitness predict injuries in military training. *Med Sci Sports Exert*. 2013;45(4):636–43.
- 18. Molloy JM, Pendergrass TL, Lee IE, Hauret KG, Chervak MC, Rhon DI. Musculoskeletal Injuries and United States Army Readiness. Part II: Management Challenges and Risk Mitigation Initiatives. *Mil Med.* 2020;185(9-10):e1472-e1480. doi:10.1093/milmed/usaa028
- 19. American Heart Association. Know Your Target Heart Rates for Exercise, Losing Weight, and Health. https://healthyforgood.heart.org/move-more/articles/target-heart-rates. January 2015. Accessed July 8, 2018.
- 20. American Heart Association. Target Heart Rates Chart. https://www.heart.org/en/healthy-living/fitness-basics/target-heart-rates. August 2024. Accessed September 25,2024.
- 21. Jones BH, Hauschild VD. Physical training, fitness, and injuries: lessons learned from military studies. *Journal of Strength and Conditioning Research* 2015;29(11)57-64.
- 22. Jones BH, Hauschild VD, Canham-Chervak M. Musculoskeletal training injury prevention in the U.S. Army: Evolution of the science and the public health approach. *J Sci Med Sport.* 2018;21(11):1139-1146. doi:10.1016/j.jsams.2018.02.011
- 23. Nielsen RO, Parner ET, Nohr EA, Sorensen H, Lind M, Rasmussen S. Excessive progression in weekly running distance and risk of running-related injuries: an association which varies according to type of injury. *J Orthop Sports Phys Ther.* 2014;44(10):739-47.
- 24. Damsted C, Parner ET, Sørensen H, Malisoux L, Hulme A, Nielsen RØ. The Association Between Changes in Weekly Running Distance and Running-Related Injury: Preparing for a Half Marathon. *J Orthop Sports Phys Ther.* 2019;49(4):230-238. doi:10.2519/jospt.2019.8541
- 25. van Poppel D, van der Worp M, Slabbekoorn A, et al. Risk factors for overuse injuries in short- and long-distance running: A systematic review. *J Sport Health Sci.* 2021;10(1):14-28. doi:10.1016/j.jshs.2020.06.006
- 26. Ceyssens L, Vanelderen R, Barton C, Malliaras P, Dingenen B. Biomechanical Risk Factors Associated with Running-Related Injuries: A Systematic Review. *Sports Med.* 2019 Jul;49(7):1095-1115. doi: 10.1007/s40279-019-01110-z. PMID: 31028658.
- 27. Fredette A, Roy JS, Perreault K, Dupuis F, Napier C, Esculier JF. The Association Between Running Injuries and Training Parameters: A Systematic Review. *J Athl Train.* 2022 Jul 1;57(7):650-671. doi: 10.4085/1062-6050-0195.21. PMID: 34478518; PMCID: PMC9528699.
- 28. Myers J, Mcauley P, Lavie CJ, Despres J-P, Arena R, Kokkinos P. Physical activity and cardiorespiratory fitness as major markers of cardiovascular risk: their independent and interwoven importance to health status. *Progress in Cardiovascular Diseases.* 2015;57(4):306-314.
- 29. Kondamudi N, Mehta A, Thangada ND, Pandey A. Physical Activity and Cardiorespiratory Fitness: Vital Signs for Cardiovascular Risk Assessment. *Curr Cardiol Rep.* 2021;23(11):172. Published 2021 Oct 13. doi:10.1007/s11886-021-01596-y



- 30. León-Latre M, Moreno-Franco B, Andrés-Esteban EM, et al. Sedentary lifestyle and its relation to cardiovascular risk factors, insulin resistance and inflammatory profile. Revista Española de Cardiología (English Edition). 2014;67(6):449-455.
- 31. Wirth K, Klenk J, Brefka S, et al. Biomarkers associated with sedentary behaviour in older adults: A systematic review. *Ageing Res Rev.* 2017;35:87-111. doi:10.1016/j.arr.2016.12.002
- 32. Carter S, Hartman Y, Holder S, Thijssen DH, Hopkins ND. Sedentary Behavior and Cardiovascular Disease Risk: Mediating Mechanisms. *Exerc Sport Sci Rev.* 2017;45(2):80-86. doi:10.1249/JES.000000000000106
- 33. Wei X, Liu X, Rosenzweig A. What do we know about the cardiac benefits of exercise? *Trends in Cardiovascular Medicine*. 2015;25(6):529-536.
- 34. Gebel K., Ding D. (2013) Benefits of Exercise. In: Gellman M.D., Turner J.R. (eds). *Encyclopedia of Behavioral Medicine*. Springer, New York, NY.
- 35. Ruegsegger GN, Booth FW. Health Benefits of Exercise. *Cold Spring Harb Perspect Med.* 2018;8(7):a029694. Published 2018 Jul 2. doi:10.1101/cshperspect.a029694
- 36. Wilson MG, Ellison GM, Cable NT. Basic science behind the cardiovascular benefits of exercise. *British Journal of Sports Medicine*. 2016;50(2):93-99.
- 37. Zhang C, Rexrode KM, van Dam RM, Li TY, Hu FB. Abdominal obesity and the risk of all-cause, cardiovascular and cancer mortality: sixteen years of follow-up in US women. *Circulation*. 2008;117:1658–1667.
- 38. Jayedi A, Soltani S, Zargar MS, Khan TA, Shab-Bidar S. Central fatness and risk of all-cause mortality: systematic review and dose-response meta-analysis of 72 prospective cohort studies. *BMJ*. 2020;370:m3324. Published 2020 Sep 23. doi:10.1136/bmj.m3324
- 39. Hellec B, Campbell-Scherer D, Allan GM. The skinny on BMI and mortality. *Canadian Family Physician*. 2015;61(11):970.
- 40. Drenowatz C, Hand GA, Sagner M, Shook RP, Burgess S, Blair SN. The prospective association between different types of exercise and body composition. *Med Sci Sports Exerc.* 2015;47(12):2535–2541.
- 41. Hu R, Hui SS, Lee EK, Stoutenberg M, Wong SY, Yang YJ. Factors associated with physical activity promotion efforts in individuals with chronic diseases: A systematic review from the perspective of patients. *Patient Educ Couns.* 2023;109:107641. doi:10.1016/j.pec.2023.107641
- 42. Francis P, Whatman C, Sheerin K, Hume P, Johnson MI. The Proportion of Lower Limb Running Injuries by Gender, Anatomical Location and Specific Pathology: A Systematic Review. *J Sports Sci Med.* 2019;18(1):21-31. Published 2019 Feb 11.



APPENDIX: APFT Testing Exercises

Flexibility: Toe Touch

Start Finish

Push-Ups

Start Finish

Finish

Forward Plank

Start Finish

Side View











Side Plank

Start Finish

Side View





Front View





Sit-Ups

Start









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