

Commonwealth of Pennsylvania
Municipal Police Officers' Education & Training Commission

Physical Fitness Test Battery Protocols and Guidelines



Major Troy S. Lokhaiser
Executive Director

Isaac W. Suydam
Director of Training

Edited by
Timothy R. Ebersole M.S.

Jan 2018



Municipal Police Officers' Education and Training Commission (MPOETC)

Physical Fitness Test Battery Protocols and Guidelines

- 1) Police officers in the Commonwealth of Pennsylvania need to be concerned about physical fitness and health. Physical fitness and health effects:
 - A. Ability of police officers to perform essential functions of the job.
 - B. The risk of an officer using excessive force in certain situations.
 - C. The risks to an officer's health associated with a career in law enforcement.
 - D. Legal considerations related to litigation and court challenges.

- 2) The Fitness Test Batteries required of applicants and cadets measure the following areas of physical conditioning that effect police officers.

A. Sit-ups	Muscular Endurance (abdominal)
B. 300 Meter Run	Anaerobic Power (sprinting ability)
C. One (1) RM Bench Press	Muscular Strength (upper body)
D. Push-ups	Muscular Endurance (upper body)
E. 1.5 Mile Run	Aerobic Capacity (cardiorespiratory)

- 3) MPOETC uses the Cooper Health-Based norms and Cooper Health-Based protocols for assessing and testing cadets' physical fitness levels. Two different tests are given, one to applicants prior to enrollment and one to cadets prior to graduation from the academy. Both are designed to measure the cumulative effect on the cadet and therefore each complete test battery must be given at one time, on a single day, exactly as outlined below within established protocols.

- 4) Due to the cumulative nature of the test battery, each event must be successfully completed with at least the minimum score before the next event can be attempted. If an individual does not successfully meet the required minimum standard in any event of a fitness battery, the test is immediately terminated and no other events can be attempted at that time.

- 5) By regulation, an applicant must successfully complete the Entrance Fitness Test Battery for enrollment in the police academy.**

- 6) Based on Title 37 § 203.11 Qualifications, MPOETC requires each applicant to achieve a 30th percentile (Cooper standards) in each listed event of the Fitness Test Battery, in the order indicated, prior to being enrolled in a police academy:
 - A. 300 Meter Run
 - B. One (1) RM Bench Press
 - C. One (1) Minute Sit-Up
 - D. 1.5 Mile Run

If a police academy elects to include the One Minute Push-Up physical fitness test, this test must be done after the completion of the physical fitness test for entrance into the academy, according to Title 37 § 203.11 Qualifications.



- 7) **By regulation, MPOETC establishes the curriculum requirements of the basic police training program. Cadets must complete the required hours of physical training as part of the basic academy and must pass the Final Physical Fitness Test to graduate from the academy.**

- 8) MPOETC requires each cadet to achieve a 50th percentile (Cooper standards) in each listed event of the Final Physical Fitness Test, in the order indicated, prior to graduating from a police academy:
 - A. One Minute Sit-Up test, followed by at least five (5) minutes to recover.
 - B. 300-Meter Run, followed by at least five (5) minutes to recover.
 - C. One Minute Push-up test, followed by at least five (5) minutes to recover.
 - D. 1.5 Mile Run test, followed by at least five (5) minutes to recover.
 - E. All four events must be completed within a two-hour time limit.

- 9) **A cadet who is unsuccessful on their first attempt at the Final Physical Fitness Test will be allowed a second attempt no less than 72 hours and no more than 30 days after their first attempt. A cadet who is unsuccessful on their second attempt will be afforded a third and final attempt no less than 72 hours and no more than 30 days after their second attempt. Three unsuccessful attempts constitute a failure of the Final Physical Fitness Test. By regulation, if a cadet fails the Final Physical Fitness Test they must repeat the entire block of instruction and successfully complete the Final Physical Fitness Test to be eligible for graduation.**

- 10) MPOETC uses generally accepted national standards for safe exercise testing. These guidelines include:
 - A. Employing trained and certified personnel
 - B. Medical screening of all applicants and cadets
 - C. Avoid testing in extreme weather environments (heat, cold, etc.)
 - D. Using proper testing equipment
 - E. Having safety equipment on site and readily available
 - F. Following established, standardized testing protocols

- 11) **All Physical Fitness training and testing sessions must occur under the direct leadership and supervision of a certified Municipal Police Instructor (MPI) with a current Physical Fitness Instructor rating. Other individuals who assist with training or testing sessions must be certified MPI instructors but are not required to obtain a Physical Fitness Instructor rating. This includes all starters, timers, counters, spotters, and holders.**

- 12) All certified instructors participating in Physical Fitness training or testing sessions must have current certifications in Basic First Aid, CPR, and the use of an Automatic External Defibrillator (AED).



- 13) The lead Physical Fitness Instructor is responsible for ensuring that a fully stocked Basic First Aid Kit and properly functioning AED are present at all physical fitness training and testing sessions. Water and restroom facilities need to be available at the testing location.
- 15) The lead Physical Fitness Instructor is responsible for ensuring a line of communication (telephone or cellular phone) is readily available at all training and testing sessions to summon emergency medical services if required.
- 16) The lead Physical Fitness Instructor must adhere to safety standards regarding conducting physical training and testing in extreme weather conditions.
- 17) Prior to testing, the instructors shall ask all cadets if they are feeling well and are ready to take the Final Physical Fitness Test.
 - A. If a cadet has an injury which precludes him/her from taking the Final Physical Fitness Test that day, the cadet must obtain a doctor's note documenting the injury. The cadet will need a doctor's statement clearing him/her to participate in the Final Physical Fitness Test before he/she will be allowed to test.**
 - B. If a cadet is sick on the day of the Final Physical Fitness Test, the cadet must inform the physical fitness instructor that he/she is not feeling well, and may choose not to take the Final Physical Fitness Test on that date. Any cadet exercising this option will have seven (7) calendar days to take the Final Physical Fitness Test.**
- 18) When an injury precludes a cadet from taking or continuing the Final Physical Fitness Test, the Academy Director or designee shall ensure the cadet is directed to obtain medical treatment and a written diagnosis of the injury for inclusion with the injury report.
 - A. The cadet must provide the police academy with written medical clearance from their doctor within 90 days of the injury stating the cadet is allowed to participate in physical fitness training and/or testing. The cadet will have seven (7) days from the date they are cleared to attempt the Final Physical Fitness Test. Failure to obtain and present medical clearance within 90 days constitutes a failure of the test and the cadet will be required to re-take the block of instruction before testing.
- 19) The Executive Director of MPOETC can, in consultation with the effected Academy Director, authorize a deviation from these protocols when deemed appropriate based on unique or unusual circumstances. Documentation of any such deviation must be retained by the Academy.



MPOETC Physical Fitness Test Battery Protocols for Entrance into the Police Academy

Entrance Exam (30% Cooper)	Male Standards by Age					Female Standards by Age				
	18-29	30-39	40-49	50-59	60+	18-29	30-39	40-49	50-59	60+
300 Meter Run (Time)	62.1	63	77	87	87	75	82	106.7	106.7	106.7
Bench Press (% body weight)	0.93	0.83	0.76	0.68	0.63	0.56	0.51	0.47	0.42	0.4
Sit Ups (1 Min Reps)	35	32	27	21	17	30	22	17	12	4
1.5 Mile Run (Time)	13:15	13:44	14:34	15:50	15:50	15:46	16:42	17:29	19:10	19:10

Testing Order:

1. 300 Meter Run
2. Bench Press
3. Sit Ups
4. 1.5 Mile Run

This is a cumulative test and all events must be completed within two (2) hours.

Applicants are required to pass the Entrance Fitness Test with a score at the 30th percentile in each event.

If an applicant is unsuccessful in any event testing is immediately ended and no other events can be attempted at that time.



300 Meter Run

- This is a test of anaerobic power.
- Equipment: Two (2) stopwatches and a flat measured surface.
- Using a standard 440-yard oval track, establish a starting line. The finish line will be set at the 300-meter mark or 328 yards away from the starting line on the inside lane.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Participants should be given three (3) to five (5) minutes to warm-up.
- The starter will then line the participants up on the starting line. The timer will take a position at the finish line. The timer will keep and operate an official stopwatch and a back-up stopwatch. The event is measured in seconds.
- Upon the command “Go” by the starter, the participants will begin running at maximum effort. The timer will also begin recording the event time on the command “Go” until the participants crosses the finish line.
- To successfully complete this event, the applicant or cadet must finish the course at or under the required time for their age and gender.
- Comments:
 - 300 Meters = 328 Yards = 984 Feet.
 - Yards X 0.9144 = Meters.
 - Meters X 1.0933 = Yards.



Bench Press # 1 (DVR Machine)

- This is a test of absolute upper body strength.
- Equipment: Universal DVR Bench Press Machine and a scale.
- Weigh Participants. The measurement is in pounds. Multiply their body weight by their appropriate age and gender adjusted percentile ratio. Please refer to the attached bench press conversion charts for DVR and free weights. This is the participant's standard weight. If no corresponding plate can be found on the right side of the DVR Machine's weight stack, you must round the standard weight down to the next lower plate.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Instruct the participant to take a position on the bench with the DVR machine's handles at the mid-line of the chest.
- Estimate the weight for a warm-up attempt at approximately one-half of the standard weight.
- The participants should take a grip on the handles slightly wider than their shoulders. The handles should be set at a level, so the participant's elbows are at 90 degrees. They should maintain a natural arch of the back with their feet flat on the floor. Instruct the participant to breathe out on the exertion and press the weight up to a "soft lock" of the elbows one time. They should then gently lower the weight to avoid breaking a plate.
- Progressively increase the resistance until the participant has successfully pressed the standard weight. Participants have up to six (6) attempts, including all warm-ups to successfully press the standard weight. Participants may elect to try the standard weight on their first attempt. After being advised of the potential risk of injury without a proper warm-up, they should be allowed to proceed.
- During the lift, participants may not arch their buttocks off the bench or move their feet. If they do, the attempt does not count.
- Comments:
 - When using the Universal DVR Bench Press Machine, record the event with the numbers on the right side of the weight stack.



Bench Press # 2 (Free Weights)

- This is a test of absolute upper body strength.
- Equipment: Free weight bar, flat bench, plates, scale, and two (2) spotters.
- Weigh Participants. The measurement is in pounds. Multiply their body weight by their age and gender adjusted percentile ratio and then apply the appropriate gender specific, free weight conversion formula. Please refer to the attached bench press conversion charts for DVR and free weights. This is the standard weight. If the exact standard weight can be placed on the bar, it is permissible to round down to a weight that is closest to the standard weight the cadet must press (lift). Since the smallest free weight plate is 2.5 lbs., weight should not be rounded down by more than four (4) pounds.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Instruct the participants to take a position on the bench with their eyes aligned under the bar.
- Estimate the weight for a warm-up attempt at approximately one-half of the standard weight.
- The participants should take a grip on the bar slightly wider than their shoulders. They should maintain a natural arch of the back with their feet flat on the floor.
- The two (2) spotters should be positioned, one at each end of the bar. The spotters should then lower the bar until participant's elbows reach 90 degrees. The bar should be positioned to the mid-line of the participant's chest, but not resting on the chest. (Participants may not be used as spotters.)
- Instruct the participant to breathe out on the exertion and press the weight up to a "soft lock" of the elbows one (1) time. During the pressing phase, the spotters may not physically assist the participant in lifting the weight. After an attempt, the spotters should rack the bar.
- Progressively increase the resistance until participants have successfully pressed the standard weight. Participants have up to six (6) attempts including all warm-ups to successfully press the standard weight. Participants may elect to try the standard weight on their first attempt. After being advised of the potential risk of injury without a proper warm-up, they should be allowed to proceed.
- During the lift, the participants may not arch their buttocks off the bench or move their feet. If they do, the attempt does not count.



Sit-Up Protocol

- This is a test of abdominal muscular endurance.
- Equipment: Two (2) stopwatches and floor mats.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Participants start by lying flat on their back on a floor mat. Their knees should be bent at approximately a 90° angle with the soles of their feet flat on the ground. An instructor will hold the cadet's feet down firmly.
- Their hands shall be placed behind their head with the fingers interlocked. The hands may not be on the top of the head or on the neck. To avoid pulling on the neck, the head should remain in a neutral position.
- Participants' feet will be firmly held down by a trained spotter. Upon the command "Begin" by the event timer, participants will have one (1) minute to complete the required number of correct repetitions. For a repetition to count, participants must curl their upper body until their elbows contact their knees, and then return down until their shoulder blades contact the floor mat. Breathing should remain normal throughout the exercise.
- The event timer will verbally announce the "30 seconds" mark, the "45 seconds" mark, and then count down the final five (5) seconds of the event.
- The event can be ended by the repetition counter with the completion of the required number of correct repetitions, by the event timer with the elapsing of one (1) minute, or the participant's inability to complete the required number of correct repetitions.
- Participants' buttocks shall remain flat on the ground to avoid "kipping" of the hips and the fingers must remain interlocked. All resting must be done in the "up" position, otherwise the test is terminated.
- Comments:
 - An instructor will count repetitions and time the event with another person holding the participant's feet. Applicants are permitted to hold each other's feet during testing, however an applicant can request to have an instructor hold their feet.



1.5 Mile Run

- This is a test of aerobic capacity or $\dot{V}O_2\text{max}$.
- Equipment: Two (2) stopwatches and a flat measured surface.
- Using a standard 440-yard oval track, establish a start/finish line. Six (6) laps on the inside lane equals 1.5 miles.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Participants should not eat a heavy meal or smoke for at least two (2) to three (3) hours prior to the test.
- The participants should be given three (3) to five (5) minutes to warm-up.
- If possible, each participant should have experienced running the 1.5-mile event prior to the day of the test. Often participants will attempt to run too fast early in the run and become fatigued prematurely.
- The starter/timer will then line the participant up on the starting line. They will keep and operate the official stopwatch and a back-up stopwatch. The event is measured in minutes and seconds.
- If requested by the participant, a trained pacer must be provided. Participants shall not be used as pacers.
- Upon the command "Go" by the starter/timer, the participant will begin running. The starter/timer will call out each lap split time as the participant passes the start/finish line.
- To successfully complete this event, participants must finish the course at or under the required time for their age and gender.
- During the event, participants may not be physically assisted by another runner or leave the running surface. The runner may not wear headsets or earphones.
- Comments:
 - 5,280 Feet = 1,760 Yards = 1,609.3 Meters = 1.0 Mile.
 - 7,920 Feet = 2,640 Yards = 2,414.0 Meters = 1.5 Miles.



One Minute Full Body Push – Up Test (Supplemental Only)

NOTE: This test can only be used to determine if the applicant can do a push-up. It cannot be utilized as part of the 30th percentile entrance test.

- This test measures muscular endurance of the upper body. (anterior deltoid, pectoralis major, and triceps)
- Equipment: Stopwatch
- The proctor reads the protocols to Participant and demonstrates the event, pointing out common errors.
- Participants start the event in the up position.
- Participants shall place their hands slightly wider than shoulder width apart, with fingers pointing forward, palms of the hand touching the ground/floor/mat. (Knuckle or fingertip push-ups are not permitted for this test.)
- One (1) of the proctors will place a fist on the floor below the participant's chest. The following procedure shall be used if a male is testing a female, or a female is testing a male. Prior to administering the test a three-inch sponge should be placed on the floor or ground where the sternum would touch.
- Starting from the up position (elbows extended), the participant must keep the back straight at all times and lower the body to the floor until the chest touches the administrator's fist, or when the participant's elbows reach a 90-degree angle. The participant then returns to the up position. This completes one repetition. (The Cooper Institute does **NOT** recommend using the Modified Push-up Test.)
- One (1) proctor counts the repetitions and ensures the test is being performed according to the protocol. The other proctor monitors the time.
- The total number of correct push-ups in one (1) minute is recorded as the score.
- Resting must only be done in the up position. Both hands and feet (toes) must remain in contact with the floor at all times. Participants must not arch their back during the test.



MPOETC Physical Fitness Test Battery Protocols for Graduation from the Police Academy

Graduation Exam (50% Cooper)	Male Standards by Age					Female Standards by Age				
	18-29	30-39	40-49	50-59	60+	18-29	30-39	40-49	50-59	60+
Sit-up (1 Min Reps)	40	36	31	26	20	35	27	22	17	8
300 Meter Run (Time)	56	57	67.6	80	80	64	74	86	86	86
Push-up (1 Min Reps)	33	27	21	15	15	18	14	11	11	11
1.5 Mile Run (Time)	11:58	12:24	13:12	14:23	14:23	14:04	14:34	15:34	17:19	17:19

Testing Order:

1. 1 Minute Sit-up
2. 300 Meter Run
3. 1 Minute Push-up
4. 1.5 Mile Run

This is a cumulative test and all events must be completed within two (2) hours.

Cadets are required to pass the Final Physical Fitness Test with a score at the 50th percentile in each event.

If a cadet is unsuccessful in any event testing is immediately ended and no other events can be attempted at that time.



Sit-Up Protocol

- This is a test of abdominal muscular endurance.
- Equipment: Two (2) stopwatches and floor mats.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Participants start by lying flat on their back on a floor mat. Their knees should be bent at approximately a 90° angle with the soles of their feet flat on the ground. An instructor will hold the cadet's feet down firmly.
- Their hands shall be placed behind their head with the fingers interlocked. The hands may not be on the top of the head or on the neck. To avoid pulling on the neck, the head should remain in a neutral position.
- The participant's feet will be firmly held down by a trained spotter. Upon the command "Begin" by the event timer, participants will have one (1) minute to complete the required number of correct repetitions. For a repetition to count, the participant must curl their upper body until their elbows contact their knees, and then return down until their shoulder blades contact the floor mat. Breathing should remain normal throughout the exercise.
- The event timer will verbally announce the "30 seconds" mark, the "45 seconds" mark, and then count down the final five (5) seconds of the event.
- The event can be ended by the repetition counter with the completion of the required number of correct repetitions, by the event timer with the elapsing of one (1) minute, or participants' inability to complete the required number of correct repetitions.
- Participants' buttocks shall remain flat on the ground to avoid "kipping" of the hips and the fingers must remain interlocked. All resting must be done in the "up" position, otherwise the test is terminated.
- Comments:
 - An instructor will count repetitions and time the event with another person holding the participant's feet. Cadets are permitted to hold each other's feet during the first iteration of the Final PT Test but an instructor must hold their feet during a second or third attempt.



300 Meter Run

- This is a test of anaerobic power.
- Equipment: Two (2) stopwatches and a flat measured surface.
- Using a standard 440-yard oval track, establish a starting line. The finish line will be set at the 300-meter mark or 328 yards away from the starting line on the inside lane.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Participants should be given three (3) to five (5) minutes to warm-up.
- The starter will then line the participants up on the starting line. The timer will take a position at the finish line. The timer will keep and operate an official stopwatch and a back-up stopwatch. The event is measured in seconds.
- Upon the command “Go” by the starter, participants will begin running at maximum effort. The timer will also begin recording the event time on the command “Go” until participants cross the finish line.
- To successfully complete this event, participants must finish the course at or under the required time for their age and gender.
- Comments:
 - 300 Meters = 328 Yards = 984 Feet.
 - Yards X 0.9144 = Meters.
 - Meters X 1.0933 = Yards.



One Minute Full Body Push-Up Test

- This test measures muscular endurance of the upper body (anterior deltoid, pectoralis major, and triceps)
- Equipment: stopwatch
- The proctor reads the protocols to the participant and demonstrates the event, pointing out common errors.
- Participants start the event in the up position.
- Participants shall place their hands slightly wider than shoulder width apart, with fingers pointing forward, palms of the hand touching the ground/floor/mat. (Knuckle or fingertip push-ups are not permitted for this test.)
- One (1) of the proctors will place a fist on the floor below the participant's chest. The following procedure shall be used if a male is testing a female, or a female is testing a male. Prior to administering the test, a three-inch sponge should be placed on the floor or ground where the sternum would touch.
- Starting from the up position (elbows extended), the participant must keep the back straight at all times and lower the body to the floor until the chest touches the administrator's fist, or when the participant's elbows reach a 90-degree angle. The participant then returns to the up position. This completes one repetition. (The Cooper Institute does **NOT** recommend using the Modified Push-up Test.)
- One proctor counts the repetitions and ensures the test is being performed according to the protocol. The other proctor monitors the time.
- The total number of correct push-ups in one minute is recorded as the score.
- Resting must only be done in the up position. Both hands and feet (toes) must remain in contact with the floor at all times. Participants must not arch their back during the test.



1.5 Mile Run

- This is a test of aerobic capacity or $\dot{V}O_2\text{max}$.
- Equipment: Two (2) stopwatches and a flat measured surface.
- Using a standard 440-yard oval track, establish a start/finish line. Six (6) laps on the inside lane equals 1.5 miles.
- Read the protocols to the participants and demonstrate the event, pointing out common errors.
- Participants should not eat a heavy meal or smoke for at least two (2) to three (3) hours prior to the test.
- The participant should be given three (3) to five (5) minutes to warm-up.
- If possible, each participant should have experienced running the 1.5-mile event prior to the day of the test. Often applicants and cadets will attempt to run too fast early in the run and become fatigued prematurely.
- The starter/timer will then line the participants up on the starting line. They will keep and operate the official stopwatch and a back-up stopwatch. The event is measured in minutes and seconds.
- Upon the command “Go” by the starter/timer, participants will begin running. The starter/timer will call out each lap split time as participants pass the start/finish line.
- To successfully complete this event, participants must finish the course at or under the required time for their age and gender.
- During the event, participants may not be physically assisted by another runner or leave the running surface. Participants may not wear headsets or earphones.
- Comments:
 - 5,280 Feet = 1,760 Yards = 1,609.3 Meters = 1.0 Mile.
 - 7,920 Feet = 2,640 Yards = 2,414.0 Meters = 1.5 Miles.