

## Physical Ability Test

Whereas many training routines can be used to improve performance in the Physical Ability Test (PAT), participants should keep in mind that physical training is specific. That is, one improves in activities practiced.

If one wishes to optimize push-up performance, push-ups should be included in the training program. Many other exercises can also be included to strengthen the chest, shoulders, and arms, but push-ups should be included in the routine. Ideally, muscles and the cardiovascular system should be gradually and progressively trained over several weeks or months to achieve desired fitness gains. Physical adaptations occur gradually in response to regular, consistent overloads, i.e. doing more than your body is accustomed to doing. It is important to bear in mind that every individual adapts at a different rate- a stimulus resulting in an appropriate, moderate overload to one person may be too much or too little for another person. A participant who has been inactive for a significant period of time should plan to take six to twelve weeks to train for the PAT.

The training routine should include exercises to train upper body strength and muscular endurance, abdominal muscular endurance, leg power, cardio-respiratory endurance and anaerobic power. Strength and cardio-respiratory endurance activities should be performed about every other day, or three days per week, to allow adequate recovery and positive adaptations to occur. Anaerobic (high intensity) training should be done once per week, and can be performed instead of a cardio-respiratory training session. For flexibility enhancement, good back health, and injury prevention, stretching exercises should be performed before and especially after training sessions, as well as on days off.

Law enforcement officers have unique job functions, some of which can be physically demanding and dangerous. An officer's capability to perform those functions can affect personal and public safety. Training for the required skills is often more vigorous and demanding than the day-to-day job functions that the officer faces. Physical fitness underlies an officer's ability to perform many of the frequent and critical job tasks as well as the demanded training of skills. The minimum fitness standards identified below are the requisite levels for an officer to effectively learn the frequent and critical job motor skills. Higher levels of fitness are associated with better performance of physical job tasks.

The PAT is comprised of four tests:

- 300-Meter Run
- Maximum Push-Ups (no time limit)
- Sit-Ups (One Minute)
- 1.5-Mile Run / Walk

Tests may be administered in the above order. While not required, the test battery process should be sequenced as follows:

1. Warm-up (5-10 minutes) may be self-directed or led by test personnel.
  - General warm-up - 2-3 minutes of easy jogging, jumping jacks, etc.
  - Stretching - 5-7 minutes, include stretches for shoulders, back, upper and lower legs.
2. PAT
  - 300-Meter Run (15 minutes rest)
  - Sit-Ups (1 Minute) (5 minutes rest)
  - Maximum Push-Ups (10 minutes rest)
3. 1.5-Mile Run / Walk
  - Cool-down (5 minutes)
  - Walking - keep walking to avoid blood pooling in legs.
  - Easy stretching.

## 300-METER RUN

### ***Purpose***

This test measures anaerobic capacity used in high intensity baton and defensive tactics training, and is important for performing short intense bursts of effort such as foot pursuits, rescues and use of force situations.

Score in seconds: 56 – 71     Mean: 62.5.

### ***Equipment***

- Standard track or marked level course (300 meters = 328 yds. or 984 ft.)
- Stopwatch (printing stopwatch is preferred)
- Numbered vests or other participant identifiers such as the card system explained in class.
- Video camera is strongly recommended for recording of performance and to discourage cheating.

### ***Procedures***

- Read the instructions to the participants.
- Allow participants to warm up. (see above procedures)
- Instruct participants to cover the distance as fast as possible.
- Have participants line up at the starting line. Give the verbal command "Ready, Set, Go" (adding a visual command is effective) and begin timing as you finish the word "go".
- The score is the time to the nearest half-second for completion of the run.

### ***Sample Script***

*The 300-meter run measures your anaerobic power. You must complete the run without any help. At the start, you will line up behind the starting line. When I say "Go" (or describe a visual command, such as dropping a flag or clipboard) the clock will start. Your goal is to run the distance as quickly as possible. You will run (describe the course, including a clear description of the finish line) to and through the finish area and receive a numbered card (your time will be recorded only when you cross the finish line). Do not bend, fold, or otherwise mutilate this card. Do not trade or lose track of this card, as this is your finish time. Are there any questions?*

### ***Tips for the Test Administrator***

Participants may finish very close to each other in this event, therefore have assistance in recording times, or run participants in heats. It is best to pair different level individuals together for each flight or sprint to avoid simultaneous finishes.

## PUSH-UP TEST

### *Purpose*

This test measures the muscular strength/endurance of the upper body muscles in the shoulders, chest, and back of the upper arms (the triceps) used in high intensity self defense and arrest simulation training. This is important for use of force involving pushing motion breaking one's fall to the ground, use of the baton, etc.

Score in repetitions: 21 – 35 Mean: 28.

### *Equipment*

- Standard 4 inch foam cube.

### *Procedures*

- Read the instructions to the participants.
- Demonstrate the test, pointing out common errors and proper positioning.
- Have the participant get down on the floor in the front leaning rest position and perform one test push-up to properly locate the foam cube at the costal arch and above the zyphoid.
- Have the participant lower their body until they slightly compress the foam cube and arms are at least parallel to the floor then pushes up again. The back must be kept straight, and in each extension up, the elbows should lock. Resting in the up position (only) is allowed.
- The score is the maximum number of push-ups completed with no time limit.

### *Sample Script*

*The push-up measures the muscular strength and endurance of the upper body (chest, shoulders, and triceps). Place your hands on the ground so they are in a vertical line with your shoulders (approximately 1 – 1.5 shoulder width apart). Your feet may be together, or up to 12 inches apart. Your body should be in a straight line from the shoulders to the ankles, and must remain that way throughout the exercise. When I say "Go," lower your body, by bending your elbows, until your upper arms are parallel to the ground and you compress the foam block. Your examiner will tell you when you have gone low enough. Then return to the starting position by completely straightening your arms. You may rest only in the up position. If you fail to keep your body in a straight line, touch your chest to the block, or to lock your elbows in the "up" position, you will receive a warning. After one warning, incorrect repetitions will not count. There is no time limit. Do as many correct push-ups as possible. Your score is the number of correct repetitions. Watch this demonstration. Are there any questions?*

### *Tips for the Test Administrator*

Ensure that a non-slip surface is available. Ensure that participants maintain a slightly flexed or straight line from their shoulders to their ankles. Be alert for "head bobbers", that is, participants who move their heads up and down without lowering or raising their bodies. As well as sway back and push-ups from the waist up. The examiner should position him/herself at a 45-degree angle to the participant's head and shoulders. This allows the examiner to hold the block without interfering with the participants' head while at the same time he checks for correct body alignment. Participants' glasses should be removed. Remove or tuck-in baggy shirts so they do not obscure sight of the block.

## ONE-MINUTE SIT-UP TEST

### *Purpose*

This test measures the muscular strength/endurance of the abdominal muscles, which are used in self-defense and high intensity arrest-simulation training. Further these muscles are important for performing tasks that involve the use of force, and it helps maintain good posture and minimize lower back problems.

Score in repetitions: 30 – 38 Mean: 34.

### *Equipment*

- Mat
- Stopwatch
- Partner

### *Procedures*

- Read the instructions to the participants.
- Demonstrate the event, pointing out common errors.
- Have the participant lie on his or her back, knees bent, heels flat on the floor. Hands should be held behind the head, with elbows out to the sides. A partner holds down the feet.
- Have the participant perform as many correct sit-ups as possible in one minute. In the up position, the individual must touch the elbows to the knees and then return to the lying position (fingers must touch the examiner's hand) before starting the next sit-up.
- The score is the number of correct sit-ups.

### *Sample Script*

*The sit-up measures the muscular strength/endurance of the abdominal muscles. Lie on your back, with your knees bent at 90 degrees or tighter, and your heels on the edge of the mat. Your feet may be together or apart, but the heels must stay in contact with the floor. Your partner will sit on your feet and wrap their arms around your calf muscle area. It is your responsibility to inform your partner of any adjustments that need to be made in order to assure your comfort. Your fingers must stay interlocked behind your head throughout the event. If your little fingers are not touching that is considered "apart" and such performance will not be counted.*

*When I say "Go," lift your upper body by bending at the waist. Touch your elbows to your knees, and return to the starting position. When returning to the starting position, your fingers must touch the examiner's hand. You may rest but only in the "up" position. Do not arch your back or lift your buttocks from the mat. If you fail to keep your fingers interlocked, touch your elbows to your knees or your fingers to the examiner's hand, or if you lift your buttocks off the mat, you will receive one warning. After one warning, incorrect repetitions will not count. You will have one minute to do as many sit-ups as possible. I will give you signals at 30, 15 and 5 seconds remaining. Your score is the number of correct sit-ups. Watch this demonstration. Are there any questions?*

### *Tips for the Test Administrator*

Make sure that the hands remain interlocked behind the head. Little fingers touching are considered interlocked. The knees must remain at a 90-degree angle throughout the exercise. The buttocks must remain in contact with the floor at all times. Any resting must be done in the "up" position.

## 1.5-MILE RUN / WALK TEST

### *Purpose*

This test is a measure of cardio-respiratory endurance (or aerobic capacity) used in extended control and defensive tactics training. This is important for performing tasks involving stamina and endurance (pursuits, searches, prolonged use of force situations, etc.) and for minimizing the risk of cardiovascular health problems.

Score: 13:35 – 14:31      Mean: 14:02.

### *Equipment*

- 440-yard/400 meter track or marked level course
- Stopwatch (printing stopwatch is preferred)
- Numbered vests or other participant identifiers such as the card system explained in class.
- Video camera is strongly recommended for recording of performance and to discourage cheating.

### *Procedures*

- Read the instructions to the participants.
- Allow participants to warm up and stretch before the run.
- Instruct participants to cover the distance as fast as possible, but to begin at a pace they think they can easily sustain for 10-15 minutes.
- Instruct participants to hold up fingers (to the video camera) indicating the number of laps completed and state their name.
- Instruct participants to line up at the starting line. Give the command "Go" and begin timing. If several participants run at once, have one administrator call out times at the finish line while an assistant records the names and respective times.
- Instruct participants to cool down after running the course by walking for an additional five minutes or so. This prevents venous pooling, a condition in which the blood pools in the legs. Walking enhances the return of blood to the heart and aids recovery.
- The score is the time it takes to finish the course to the nearest second.

### *Sample Script*

*The 1.5-mile run measures your cardio-respiratory endurance and the endurance of your leg muscles. You must complete the course without any help. At the start, you will line up behind the starting line. When I say, "Go", the clock will start. You will begin running at your own pace. To complete the 1.5 miles, you will (tell the runners how many laps they must run, or describe the course, including the finish line, if not run on a track). Your goal is to finish the 1.5 miles in as fast a time as you can. Try not to start too fast but at a pace you can sustain for about 10 to 15 minutes. You may walk but walking will make it difficult to meet the standard. You may run alongside another runner for help with the pace, but you may not physically assist or be assisted by another runner. I will call off your time at the end of each lap (if run on a track), and will record your finishing time. At the end of the run, continue walking for 3-5 minutes to cool down. Are there any questions?*

### *Tips for the Test Administrator*

- If running on a track, instruct the participants to move out of the inside lane if they decide to walk.
- Using an assistant test administrator will give you flexibility in case someone needs help during the event. The assistant can either take over timing duties or provide help to the participant. The assistant can also be used to assist with recording times if there are many runners.

- The timer should call off the times in minutes and seconds as the runners cross the finish line.
- Be aware of environmental conditions. Extreme heat, humidity, elevation, or poor footing will affect performance times and could increase risk of injury. Choose your testing site and schedule with these factors in mind.

If not running on a measured track, measure your course carefully. **Automobile odometers may not be accurate** therefore, a measuring wheel is strongly recommended.

## **SCORING THE PHYSICAL ABILITY TEST BATTERY**

The Physical Ability Test score for each test item is recorded and added on the individual participant's sheet. The passing score is 160, with the range of scores for each test between 30 and 50.

Example: The below measures are merely for illustration and are only approximate values.

- Sit-Ups 34 = 40 Points.
- Push-Ups 38 = 50 Points (Note that 34 and above receives the same maximum points)
- 1.5-Mile Run 14:31 = 30 Points.
- 300 Meter Dash 60 sec. = 45 Points.
- Total Test battery score is 200 points.

The participant who scores below the 30-point level has failed the test but will be allowed to continue on the other test items with the option of re-test on any of the following: sit-ups and push-ups. The participant who scores above the 50-point level on a given test item will not be awarded more than that 50 points to apply towards the other test items.

## Physical Ability Test Scoring Matrix

You will need a cumulative score of 160.

300 METER RUN			
SECONDS	POINTS	SECONDS	POINTS
56	50	63.5	40
56.5	49.3	64	39.33
57	48.67	64.5	38.66
57.5	48	65	38
58	47.34	65.5	37.33
58.5	46.67	66	36.66
59	46	66.5	36
59.5	45.33	67	35.33
60	44.67	67.5	34.66
60.5	44	68	34
61	43.33	68.5	33.33
61.5	42.67	69	32.66
62	42	69.5	32
62.5	41.33	70	31.33
63	40.67	70.5	30.66
		71	30

SITUPS			
REPS	POINTS	REPS	POINTS
38	50	34	40.5
37	47.625	33	38.125
36	45.25	32	35.75
35	42.875	31	33.375
		30	30

PUSHUPS			
REPS	POINTS	REPS	POINTS
35	50	28	40.04
34	48.62	27	38.61
33	47.19	26	37.18
32	45.76	25	35.75
31	44.33	24	34.32
30	42.9	23	32.89
29	41.47	22	31.46
		21	30

1.5 MILE RUN			
MIN/SEC	POINTS	MIN/SEC	POINTS
13:35	50	14:03	39.996
13:36	49.635	14:04	39.639
13:37	49.278	14:05	39.282
13:38	48.921	14:06	38.925
13:39	48.564	14:07	38.568
13:40	48.207	14:08	38.211
13:41	47.85	14:09	37.854
13:42	47.493	14:10	37.497
13:43	47.136	14:11	37.14
13:44	46.779	14:12	36.783
13:45	46.422	14:13	36.426
13:46	46.065	14:14	36.069
13:47	45.708	14:15	35.712
13:48	45.351	14:16	35.355
13:49	44.994	14:17	34.998
13:50	44.637	14:18	34.641
13:51	44.28	14:19	34.284
13:52	43.923	14:20	33.927
13:53	43.566	14:21	33.57
13:54	43.209	14:22	33.213
13:55	42.852	14:23	32.856
13:56	42.495	14:24	32.499
13:57	42.138	14:25	32.142
13:58	41.781	14:26	31.785
13:59	41.424	14:27	31.428
14:00	41.067	14:28	31.071
14:01	40.71	14:29	30.714
14:02	40.353	14:30	30.357
		14:31	30