

SECURITY PHYSICAL ABILITY REQUIREMENT EVALUATION (S.P.A.R.E.)

Cardiovascular Test

Male Benchmark

Female Benchmark

2.5 km (1.5 mile) run

10:45 min

12:00 min

Heart rate check – 65% to 85% of max

Strength Test

Push-up Test

Max amount of push-ups completed in proper form

Sit-up Test

Max amount of push-ups completed in one minute

Endurance Test

Step-up Test

Goal is 60 steps in 3 minutes

Total Test Time per Participant

Cardiovascular

12 minutes max

Strength

2 minutes

Endurance

3 minutes

Results Calculation

3 minutes

Total Time 20 minutes

CARDIO TEST

<u>Test</u>	<u>Male Benchmark</u>	<u>Female Benchmark</u>
2.5 km (1.5 mile) run	10:45	12:00
5.1 km (3.0 mile) run	22:00	24:00
Push-ups	22	10
Pull-ups	6	3
Bench Press	100% of body weight	75% of body weight

Those cadets failing to achieve these benchmarks will, at their request, be provided additional recommendations for improving upon their scores.

Superior Rating in Fitness

Many cadets are very fit upon entering cadet training. To motivate these cadets to reach greater levels of success, and to acknowledge their hard work and performance, a “superior” rating is given to cadets who can meet the following scores:

<u>Test</u>	<u>Superior Benchmark (Male)</u>	<u>Superior Benchmark (Female)</u>
2.5 km (1.5 mile) run	9:00	10:00
5.1 km (3.0 mile) run	19:00	21:00
Push-ups	70	35
Pull-ups	18	10
Bench Press	150% of body weight	100% of body weight
PARE	3:00	3:20

1.5 MILE RUN TEST

Test Description

This is an aerobic fitness test designed for young people and runners. The runner covers a distance of 1.5 miles in as short as time as possible without undue strain. Aerobic capacity is determined from total elapsed time.

Strengths

- No expensive equipment.
- Participation of several persons concurrently.
- Results correlate very closely with VO₂ max treadmill tests and are very accurate in assessing improvement in subsequent follow-up testing.

Precautions

This test is appropriate only for healthy people accustomed to running. The participants should be able to run continuously for 2-3 miles without undue strain before attempting this test.

Required Equipment

- Stop watch to time the run to the nearest second.
- An accurately measured, flat, 1.5 mile course or ¼ mile track (6 laps=1.5 miles).

Test Administration

1. The participants should be in good health and currently used to running (not beginners). Before testing, verify that the pre-test screening items have been completed, i.e. PAR-Q. The tester should have the participants warm-up and cool down after the run.
2. Participants should be dressed in clothes ready to exercise, preferably exercise shorts or pants and running shoes.
3. Instruct participants to:
 - Warm up by walking at a moderate pace for 2 – 5 minutes.
 - Do their best, covering the 1.5 miles quickly but without overexerting themselves.
 - Pace themselves.
 - Remember the test is not a race. If participants experience any pain or severe shortness of breath or other abnormal signs, they should immediately ease off. If symptoms persist they should walk, or stop and seek medical attention if necessary.

4. When running on a ¼ mile track, participants should pay attention to how many laps they have completed.
5. At the end of the 1.5-mile run, participants should note their finishing time to the closest second.
6. Participants should walk at an easy pace for a few minutes or for one or more laps to cool down properly.

1.5 Mile Run Norms for Men

Age (years)	15-19	20-29	30-39	40-49	50-59	60-69
Excellent	< 8:42	< 9:12	< 11:06	< 12:33	< 14:00	< 18:14
Desirable	8:42-9:01	9:12-10:50	11:06-11:38	12:33-13:36	14:00-15:19	18:14-19:42
Needs Impr.	9:02-11:55	10:51-13:13	11:39-13:59	13:37-15:49	15:20-17:33	19:43-21:27
Caution	> 11:55	>13:13	>13:59	>15:49	>17:33	>21:27

1.5 Mile Run Norms for Woman

Age (years)	15-19	20-29	30-39	40-49	50-59	60-69
Excellent	< 12:33	< 13:37	< 14:25	< 15:50	< 18:57	< 22:28
Desirable	12:33-13:36	13:37-14:24	14:25-16:22	15:50-17:33	18:57-20:32	22:28-24:45
Needs Impr.	13:37-15:19	14:25-16:56	16:23-18:56	17:34-23:33	20:33-25:59	24:46-29:16
Caution	> 15:19	> 16:56	> 18:56	>23:33	> 25:59	> 29:16

References

7. ACSM, Guidelines for Exercise Testing and Prescription, 4th Edition, Lea and Febiger, 1991.
8. Aerobic Research Centre, Manual for Certification Program.
9. Protocols from the Wellsource Fitness Assessment Manual.

Push-up Test

Test Description

This is an easily administered test for upper body strength and endurance. The subject attempts as many consecutive push-ups as he/she can do without stopping to rest. Men do push-ups from the toe, woman from the knee.

Required Equipment

Gym mat or suitable flooring

Test Administration

1. Test subject should be screened for shoulder or lower back impairment or pain. Persons suffering back pain or high, uncontrolled blood pressure, should not do this test.
2. Be sure participants are well instructed in the proper technique. Describe and, if needed, demonstrate the correct technique. Participants may want to practice once or twice before beginning the test. Instruct the subjects to:
 - Lie on their stomach on a mat, legs together.
 - Hands should be pointed forward, positioned under shoulders.
 - Do push-up, keeping back straight, pivoting from toes for men, from knees for woman.
 - Return to starting position, but only let chin touch the mat (chest and legs should not touch the mat). In the downward phase the chest should be a fist's distance from the mat.
 - Do as many push-ups as possible using this technique, without undue strain, and without stopping to rest.
 - There is no time limit. Stop the test when the person is either unable to maintain the proper technique over two consecutive push ups, has to rest even briefly, or shows signs of excessive straining.
3. Caution participants to not overstrain or hold their breath, but rather, to breath rhythmically, exhaling on the upward phase, inhaling on the downward phase.

Push-Up Norms for Men

Age (years)	15-19	20-29	30-39	40-49	50-59	60-69
Excellent	35+	34+	27+	21+	17+	16+
Desirable	27-<35	27-<34	21-<27	16-<21	11-<17	10-<16
Needs Impr.	18-<27	17-<27	12-<21	10-<16	7-<11	5-<10
Caution	<18	<17	<12	<10	<7	<5

Push-Up Norms for Woman

Age (years)	15-19	20-29	30-39	40-49	50-59	60-69
Excellent	31+	26+	24+	22+	17+	15+
Desirable	23-<31	20-<26	17-<24	14-<22	10-<17	2-<10
Needs Impr.	12-<23	10-<20	8-<17	5-<14	2-<10	2-<10
Caution	<12	<10	<8	<5	<2	<2

Push-up norms are based on the Canadian Standardized Test of Fitness (3). Values shown represent the minimum number of pushups to be in that category. For example, if a 30-year-old woman did eight push-ups, she would be rated as “Needs Improvement”. Generally, everyone should strive to be in the “Desirable” or “Excellent” categories.

References

1. ACSM, Guidelines for Exercise Testing and Prescription, 4th Edition, Lea and Febiger, 1991.
2. ACSM, Resource Manual for Guidelines for Exercise Testing and Prescription, Lea and Febiger, 1988.
3. Government of Canada, Fitness and Amateur Sport, Canadian Standardized Test of Fitness, 1986 Operation Manual.
4. Protocols from the Wellsource Fitness Assessment Manual.

Sit-Up Test

Test Description

This is an easily administered test for measuring abdominal strength/endurance. The subject does as many bent knee sit-ups as possible in one minute.

Required Equipment

- Gym Mat or suitable flooring.
- Stop watch or watch with a second hand.

Test Administration

1. Test subject should be secured for lower back impairment or pain. Persons suffering bank pain or high, uncontrolled blood pressure, should not do this test.
2. Be sure participants are well instructed in the proper technique. Describe and, if needed, demonstrate the correct technique. Participants may want to practice once or twice before beginning the test. Instruct the subjects to:
 - Lie on their back on a mat, knees bent at a 90° angle, feet shoulder width apart.
 - Cross arms in front, fingertips on shoulders, elbows pointed toward knees.
 - It is Ok to hold the participants feet if needed. If they cannot do a regular sit-up they should try the alternate test, the abdominal curl-ups.
 - Sit up by pressing the small of the back to the floor, then curl up, raising the shoulders from the ground. Touch elbows to knees, and then return to the lying position.
 - Do as many sit-ups as possible in one minute without undue strain.
 - Avoid jerky movements or hard straining.
3. Caution participants to not overstrain or hold their breath, but rather to breath rhythmically, exhaling while sitting up, inhaling on the downward phase.

Sit-Up Norms for Men

Age (years)	15-19	20-29	30-39	40-49	50-59	60-69
Excellent	46+	41+	34+	30+	25+	21+
Desirable	41-<46	36-<41	30-<34	25-<30	21-<25	15-<21
Needs Impr.	33-<41	29-<36	22-<30	17-<25	13-<21	7-<15
Caution	<33	<29	<22	<17	<13	<7

Sit-Up Norms for Woman

Age (Years)	15-19	20-29	30-39	40-49	50-59	60-69
Excellent	40+	34+	27+	23+	17+	15+
Desirable	35-<40	29-<34	23-<27	18-<23	11-<17	10-<15
Needs Impr.	27-<35	21-<29	15-<23	7-<18	3-<11	2-<10
Caution	<27	<21	<15	<7	<3	<2

Sit-up norms are based on the Canadian Standardized Test of Fitness (3). Values shown represent the minimum number of sit-ups that must be achieved to be in that category. For example, if a 30-year-old woman did 17 sit-ups, she would be rated “Needs Improvement”. She would have to do 5 more sit-ups a minute to move into the next category. Generally, everyone should strive to be in the “Desirable” or “Excellent” categories.

References

1. ACSM, Guidelines for Exercise Testing and Prescription, 4th Edition, Lea and Febiger, 1991.
2. ACSM, Resource Manual for Guidelines for Exercise Testing and Prescription, Lea and Febiger, 1988.
3. Government of Canada, Fitness and Amateur Sport, Canadian Standardized Test of Fitness, 1986 Operation Manual.
4. Protocols from the Wellsource Fitness Assessment Manual.

Step Up Test

With the use of a step, with 2 risers per side, each participant will complete a 3-minute step-up test.

Goal is 60 step-ups in 3 minutes.