

Fitness Appraisal Procedures and Standards

Push-Ups

Push-ups are a test of muscular endurance, which is defined as the ability of a muscle to perform repeated contractions over a period of time.

Procedure:

It is imperative that the participant is well instructed in the correct performance of the push-ups.

Males:

- The participant lies on his stomach, legs together. His hands, pointing forward, are positioned under the shoulders. The participant pushes up from the mat by fully straightening the elbows and using the toes as the pivotal point.
- The upper body must be kept in a straight line. The participant returns to the starting position, chin to the mat. Neither the stomach nor thighs should touch the mat.

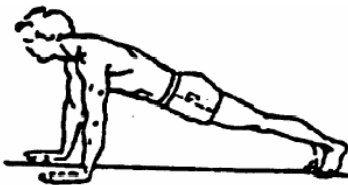
Females:

- The participant lies on her stomach, legs together. Her hands, pointing forward, are positioned under the shoulders. The participant pushes up from the mat by fully straightening the elbows and using the knees as a pivotal point.
- The upper body must be kept in a straight line. The participant returns to the starting position, chin to the mat. The stomach should not touch the floor. The lower legs remain in contact with the mat, ankles plantar flexed.

The push-ups are to be performed consecutively and without a time limit.

See Table 1 and 2 for RESULTS and SCORES

Male Push Ups



Female Push Ups



Table 1: Male Push-Ups

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60+
20	49+	37+	31+	29+	28+
19	48	36	30	28	25-27
18	36-47	30-35	22-29	21-27	18-24
17	32-35	25-29	20-21	15-20	13-17
16	29-31	22-24	17-19	13-14	12
15	27-28	21	16	12	11
14	25-26	20	15	11	10
12	24	19	13-14	10	9
10	21-23	16-18	12	9	7-8
8	18-20	14-15	10-11	7-8	6
6	16-17	11-13	8-9	5-6	4-5
4	11-15	8-10	5-7	4	2-3
2	10	7	4	3	1

Table 2: Female Push-Ups

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60+
20	38+	37+	33+	31+	31+
19	37	36	32	30	30
18	30-36	27-35	24-31	21-29	17-29
17	24-29	22-26	20-23	15-20	13-16
16	21-23	20-21	15-19	12-14	12
15	20	17-19	14	11	10-11
14	18-19	16	13	10	9
12	16-17	14-15	12	9	6-8
10	14-15	12-13	10-11	5-8	4-5
8	11-13	10-11	7-9	3-4	2-3
6	9-10	7-9	4-6	1-2	1
4	5-8	4-6	2-3	-	-
2	4	3	1	-	-

Trunk Forward Flexion

The trunk forward flexion test measures the flexibility of the hamstring and lower back muscles. Flexibility depends upon the elasticity of the muscles, tendons and ligaments and is the ability to bend without injury (Whitney et al., 1990).

Procedure:

Have the participant warm-up for this test by performing slow stretching movements (modified hurdle stretch held for 20 seconds repeated twice with each leg before taking the actual measurements).

The participants, barefoot, sits with legs fully extended with the soles of the feet placed flat against the two horizontal cross boards of the flexometer. The flexometer should be adjusted to a height at which the balls of the feet rest against the upper cross board. The inner edges of the soles are placed two centimeters from the edge of the scale. Keeping knees fully extended, arms evenly stretched, palms down, the participant bends and reaches forward (without jerking), pushing the sliding marker along the scale with the fingertips as far as possible. The position of maximum flexion must be held for approximately two seconds. Advise the participant that lowering the head will maximize the distance reached.

Table 3 and 4 for RESULTS and SCORES

Trunk Forward Flexion



Table 3: Male Trunk Forward Flexion

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60+
10	45+	44+	41+	42+	45+
9.5	44	43	40	41	44
9	40-43	38-42	35-39	35-40	33-43
8.5	37-39	35-37	32-34	30-34	28-32
8	34-36	33-34	29-31	28-29	25-27
7.5	33	32	28	27	24
7	32	31	26-27	26	23
6	31	29-30	25	25	22
5	29-30	27-28	23-24	22-24	18-21
4	26-28	24-26	20-22	18-21	16-17
3	23-25	21-23	16-19	15-17	14-15
2	18-22	17-20	12-15	12-14	11-13
1	17	16	11	11	10

Table 4: Female Trunk Forward Flexion

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60+
10	46+	46+	44+	44+	41+
9.5	45	45	43	43	40
9	41-44	41-44	38-42	39-42	35-39
8.5	39-40	38-40	36-37	36-38	33-34
8	37-38	36-37	34-35	33-35	31-32
7.5	36	35	33	32	30
7	35	34	32	31	29
6	34	33	31	30	28
5	32-33	31-32	29-30	29	26-27
4	29-31	28-30	26-28	26-28	24-25
3	26-28	25-27	24-25	23-25	23
2	22-25	21-24	19-23	19-22	18-22
1	21	20	18	18	17

Curl Ups

Endurance is the ability to sustain an effort for an extended period of time (Whitney et al., 1990). The curl-up tests the muscular endurance of the hip flexor and abdominal muscles. The test is terminated if the participant is unable to maintain correct rhythm, falls behind two repetitions, or displays poor technique (a maximum of three corrections is allowed by the appraiser).

Starting Position:

The participant lies in a supine position with head resting on the mat, arms straight at sides and parallel to the trunk, palms of hand in contact with the mat and fingertips at the zero mark. Bend knees at an angle of 90 degrees using a square.

Procedure:

The metronome is set to 50 beats-per-minute. The initial phase of the curl-up must involve a "flattening-out" of the lower back region (i.e. pelvic tilt) followed by a slow "curling-up" of the upper spine, sliding the palms of the hands along the graduated tape strip until the fingertips of both hands touch/feel the string/Velcro at the 12 cm mark (use the 8 cm mark for participants 40 years of age or older). Return to the starting position (fingertips touch/feel the string/Velcro at the 0 cm mark, head resting on the mat). The cadence is 25 curl-ups-per-minute. The movement is continuous and well controlled. The time to perform the raising and lowering phases is the same. Participants perform at a steady rate, without pausing between curl-ups, to a maximum of 75.

See Table 5 and 6 for RESULTS and SCORES

The following are some things to ensure during curl-up test:

DO's:

- ~ Keep the knees bent at an angle of 90°
- ~ keep the heels in contact with the tape strip on the mat at all times
- ~ make sure the shoulders are relaxed neither depressed or elevated
- ~ return to the starting position
- ~ keeps arms straight

DON'T's

- ~ slide the seat from it's starting position
- ~ lift or slide the heels from the tape strip on the mat
- ~ bend the elbows to lose contact between the palms of hand and the graduated strip
- ~ slide the fingertips past the 12 cm mark (or 8 cm if 40 years of age or older) mark on the strip.
- ~ pause during the movement at either the top or bottom position.
- ~ go ahead of or fall behind the correct cadence.



Table 5: Male Curl Ups

Distance	12 cm	12 cm	8 cm	8 cm	8 cm
SCORE	AGE	AGE	AGE	AGE	AGE
	20-29	30-39	40-49	50-59	60+
20	67-75	72-75	75	67-74	42-53
19	54-66	66-71	74	58-66	33-41
18	45-53	52-65	70-73	49-57	28-32
17	38-44	43-51	62-69	42-48	24-27
16	32-37	37-42	52-61	36-41	20-23
15	31	35-36	48-51	33-35	19
14	28-30	32-34	40-47	28-32	17-18
12	25-27	27-31	32-39	24-27	10-16
10	21-24	20-26	27-31	20-23	7-9
8	14-20	14-19	22-26	14-19	4-6
6	5-13	3-13	14-21	3-13	3
4	4	2	13	2	2
2	3	1	12	1	1

Table 6: Female Curl Ups

Distance	12 cm	12 cm	8 cm	8 cm	8 cm
SCORE	AGE	AGE	AGE	AGE	AGE
	20-29	30-39	40-49	50-59	60+
20	56-70	49-55	46-50	38-48	39-50
19	44-55	42-48	41-45	30-37	30-38
18	40-43	37-41	36-40	25-29	26-29
17	36-39	33-36	32-35	21-24	23-25
16	33-35	29-32	29-31	17-20	20-22
15	31-32	27-28	28	15-16	18-19
14	28-30	22-26	26-27	10-14	14-17
12	22-27	17-21	21-25	6-9	10-13
10	18-21	13-16	15-20	5	5-9
8	13-17	4-12	6-14	4	4
6	6-12	3	3-5	3	3
4	5	2	2	2	2
2	4	1	1	1	1

Shuttle Run

The shuttle run is a test of aerobic fitness or cardiovascular endurance. The shuttle run, therefore, tests the combined efficiency of the lungs, heart, bloodstream, and local muscles in getting oxygen to the muscles and putting it to work.

Procedure:

The participant will run back and forth between 2 marked lines over a 20-metre course in time with taped audio signals.

See Table 7 and 8 for RESULTS and SCORES

Table 7: Shuttle Run - Male

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50+
	Stage Completed	Stage Completed	Stage Completed	Stage Completed
50	≥ 11.5	≥ 10	≥ 9	≥ 7.5
47.5	11	9 or 9.5	8 or 8.5	7
45	10 or 10.5	7.5, 8 or 8.5	7 or 7.5	6.5
42.5	9 or 9.5	7	6.5	5.5 or 6
40	8 or 8.5	6.5	5.5 or 6	4.5 or 5
37.5	7.5	6	5	4
35	7	5.5	4.5	3 or 3.5
30	6.5	5	4	2.5
25	6	4.5	3.5	2
20	5.5	4	3	1.5
15	5	3.5	2.5	1
10	4.5	3	2	0.5
5	4	2.5	1.5	---

Table 8: Shuttle Run - Female

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50+
	Stage Completed	Stage Completed	Stage Completed	Stage Completed
50	≥ 9	≥ 8.5	≥ 8	≥ 7
47.5	8 or 8.5	7.5 or 8	7 or 7.5	6 or 6.5
45	7 or 7.5	6.5 or 7	6 or 6.5	5 or 5.5
42.5	6 or 6.5	5.5 or 6	5 or 5.5	4.5
40	5.5	5	4.5	3.5 or 4
37.5	5	4.5	4	3
35	4.5	4	3.5	2 or 2.5
30	3.5 or 4	3.5	2.5 or 3	1.5
25	3	3	2	1
20	2.5	2.5	1.5	0.5
15	2	2	1	---
10	1.5	1.5	0.5	---
5	1	1	---	---

** For the purpose of self-testing, compare the 1.5-mile run times (refer to Table 9 and/or 10) to the stage completed for shuttle run (Table 7 and/or 8). THIS IS ONLY A GUIDE.

NOTE: An aggregate score of 75% or higher is required on these four tests.

1.5-Mile Run

The 1.5-mile run is a test of aerobic fitness or cardiovascular endurance. The 1.5-mile run, therefore, tests the combined efficiency of the lungs, heart, bloodstream, and local muscles in getting oxygen to the muscles and putting it to work.

Procedure:

The participant is required to cover an accurately measured 1.5-mile distance in as short a time as possible.

See Table 9 and 10 for RESULTS and SCORES.

Table 9: 1.5 Mile Run - Male

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50+
50	≤ 9:00	≤ 9:54	≤ 10:56	≤ 12:00
47.5	9:01 - 9:17	9:55 - 10:40	10:57 - 11:45	12:01 - 12:31
45	9:18 - 9:54	10:41 - 12:00	11:46 - 12:31	12:32 - 13:05
42.5	9:55 - 10:40	12:01 - 12:31	12:32 - 13:05	13:06 - 14:24
40	10:41 - 11:30	12:32 - 13:05	13:06 - 13:40	14:25 - 15:35
37.5	11:31 - 12:00	13:06 - 13:40	13:41 - 14:24	15:36 - 16:27
35	12:01 - 12:31	13:41 - 14:24	14:25 - 15:10	16:28 - 17:27
30	12:32 - 13:05	14:25 - 14:43	15:11 - 16:00	17:28 - 18:30
25	13:06 - 13:23	14:44 - 15:10	16:01 - 16:54	18:31 - 19:06
20	13:24 - 13:40	15:11 - 15:36	16:55 - 17:27	19:07 - 20:12
15	13:41 - 14:24	15:37 - 16:00	17:28 - 18:00	-----
10	14:25 - 14:48	16:01 - 16:28	18:01 - 18:33	-----
5	14:49 - 15:10	16:29 - 16:54	-----	-----

Table 10: 1.5 Mile Run - Female

SCORE	AGE 20-29	AGE 30-39	AGE 40-49	AGE 50+
50	≤ 10:52	≤ 11:04	≤ 11:45	≤ 12:31
47.5	10:53 - 11:45	11:05 - 12:15	11:46 - 12:31	12:32 - 13:40
45	11:46 - 12:31	12:16 - 13:05	12:32 - 13:40	13:41 - 14:46
42.5	12:32 - 13:05	13:06 - 14:02	13:41 - 14:24	14:47 - 15:35
40	13:06 - 14:02	14:03 - 14:47	14:25 - 15:10	15:36 - 16:27
37.5	14:03 - 14:47	14:48 - 15:10	15:11 - 16:00	16:28 - 17:27
35	14:48 - 15:35	15:11 - 16:00	16:01 - 16:54	17:28 - 19:06
30	15:36 - 16:27	16:01 - 16:54	16:55 - 18:00	19:07 - 21:18
25	16:28 - 17:27	16:55 - 18:00	18:01 - 19:06	21:19 - 23:30
20	17:28 - 18:00	18:01 - 18:33	19:07 - 20:12	23:31 - 24:36
15	18:01 - 18:33	18:34 - 19:06	20:13 - 21:18	-----
10	18:34 - 19:06	19:07 - 20:12	21:19 - 22:24	-----
5	19:07 - 20:12	20:13 - 21:18	-----	-----