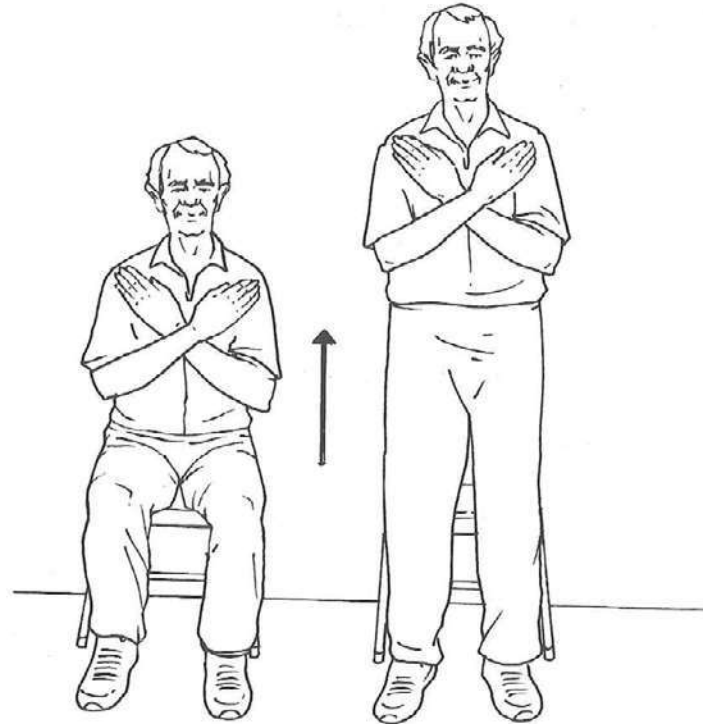


STATION 1

CHAIR STAND TEST



PURPOSE:

To measure lower-body strength

EQUIPMENT:

Straight-back chair (17 in. or 43.18 cm seat height); stopwatch

PROCEDURE:

- Have the participant sit in the middle of the chair, feet flat on the floor, arms across chest.
- On signal "go" have the participant rise to a full stand, then return to a fully seated position.
- After a warm-up trial to check for correct form, administer one test trial.
- The score is the number of stands completed in 30 seconds.

Chair Stand Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	21	19	19	19	18	17	16
90	20	18	18	17	17	15	15
85	19	17	17	16	16	14	13
80	18	16	16	16	15	14	12
75	17	16	15	15	14	13	11
70	17	15	15	14	13	12	11
65	16	15	14	14	13	12	10
60	16	14	14	13	12	11	9
55	15	14	13	13	12	11	9
50	15	14	13	12	11	10	8
45	14	13	12	12	11	10	7
40	14	13	12	12	10	9	7
35	13	12	11	11	10	9	6
30	12	12	11	11	9	8	5
25	12	11	10	10	9	8	4
20	11	11	10	9	8	7	4
15	10	10	9	9	7	6	3
10	9	9	8	8	6	5	1
5	8	8	7	6	4	4	0

Adapted from Rikli & Jones 1999.

Chair Stand Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	23	23	21	21	19	19	16
90	22	21	20	20	17	17	15
85	21	20	19	18	16	16	14
80	20	19	18	18	16	15	13
75	19	18	17	17	15	14	12
70	19	18	17	16	14	13	12
65	18	17	16	16	14	13	11
60	17	16	16	15	13	12	11
55	17	16	15	15	13	12	10
50	16	15	14	14	12	11	10
45	16	15	14	13	12	11	9
40	15	14	13	13	11	10	9
35	15	13	13	12	11	9	8
30	14	13	12	12	10	9	8
25	14	12	12	11	10	8	7
20	13	11	11	10	9	7	7
15	12	11	10	10	8	6	6
10	11	9	9	8	7	5	5
5	9	8	8	7	6	4	3

Adapted from Rikli & Jones 1999.

STATION 2

ARM CURL TEST



PURPOSE:

To measure upper-body strength

EQUIPMENT:

Straight-back or folding chair without arms, stopwatch, 5-lb and 8-lb dumbbells

PROCEDURE:

- Have the participant sit in the chair (slightly to the dominant side), with feet flat on the floor.
- The participant should hold the weight down at the side, perpendicular to the floor, in a handshake grip.
- On the signal "go" have the participant curl the weight through a full range of motion as many times as possible in 30 seconds. The palm should rotate up during the curl-up phase, then should return to a handshake position at extension. The upper arm must remain still throughout the test.
- After one or two warm-up curls without the weight to check for correct form, administer one test trial.
- The score is the number of curls completed in 30 seconds.

Arm Curl Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	24	22	22	21	20	18	17
90	22	21	20	20	18	17	16
85	21	20	19	19	17	16	15
80	20	19	18	18	16	15	14
75	19	18	17	17	16	15	13
70	18	17	17	16	15	14	13
65	18	17	16	16	15	14	12
60	17	16	16	15	14	13	12
55	17	16	15	15	14	13	11
50	16	15	14	14	13	12	11
45	16	15	14	13	12	12	10
40	15	14	13	13	12	11	10
35	14	14	13	12	11	11	9
30	14	13	12	12	11	10	9
25	13	12	12	11	10	10	8
20	12	12	11	10	10	9	8
15	11	11	10	9	9	8	7
10	10	10	9	8	8	7	6
5	9	8	8	7	6	6	5

Adapted from Rikli & Jones 1999.

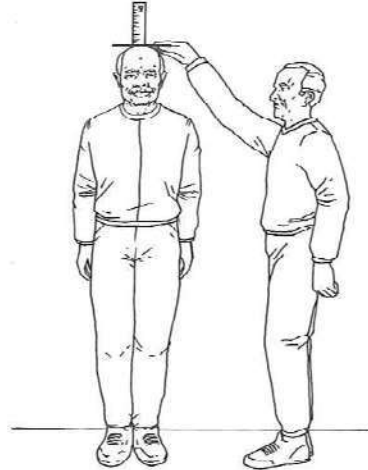
Arm Curl Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	27	27	26	24	23	21	18
90	25	25	24	22	22	19	16
85	24	24	23	21	20	18	16
80	23	23	22	20	20	17	15
75	22	21	21	19	19	17	14
70	21	21	20	19	18	16	14
65	21	20	19	18	18	15	13
60	20	20	19	17	17	15	13
55	20	19	18	17	17	14	12
50	19	18	17	16	16	14	12
45	18	18	17	16	15	13	12
40	18	17	16	15	15	13	11
35	17	16	15	14	14	12	11
30	17	16	15	14	14	11	10
25	16	15	14	13	13	11	10
20	15	14	13	12	12	10	9
15	14	13	12	11	12	9	8
10	13	12	11	10	10	8	8
5	11	10	9	9	9	7	6

Adapted from Rikli & Jones 1999.

STATION 3a

HEIGHT AND WEIGHT



PURPOSE:

To assess body mass index (BMI)

EQUIPMENT:

Scale, 60-in (152.4-cm) tape measure, masking tape, and ruler (or other flat object to mark top of head)

PROCEDURE: (weight)

- Have the participant remove any heavy coats or sweaters; shoes may be left on.
- Measure weight to the nearest pound, subtracting 1 to 2 lbs (1/2 to 1 kg) for shoes.

PROCEDURE: (height)

- Position the tape measure on the wall, 20 in. (50.8 cm) up from the floor.
- Have the participant stand against the wall with the back of the head lined up with the tape measure.
- Lay the ruler on top of the participant's head, extending it back to the tape measure.
- The score is the number of inches in height as indicated on the tape measure, plus 20 in. (50.8 cm) (the distance from the floor to the zero mark on the tape).
- If shoes were worn, subtract 1 to 2 in. (2 to 4 cm), using your best judgment.

STATION 3b

2-MINUTE STEP TEST



PURPOSE:

To assess aerobic endurance

EQUIPMENT:

Tally counter, stopwatch, tape measure or 30-in. (76.2-cm) piece of cord, masking tape

PROCEDURE:

- To establish stepping height, use masking tape to mark the midpoint between the participant's kneecap and iliac crest (front protruding hip bone), which you can determine by extending the cord between the middle of the patella and the hip bone, then doubling it over.
- Transfer the masking tape to a nearby wall or doorway to use as a guide for the correct stepping height.
- On the signal "go" the participant should begin stepping in place, raising each knee to the indicated height.
- The score is the number of full steps completed in 2 minutes (counted each time the right knee reaches the target height).

2-Minute Step Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	130	133	125	123	113	106	92
90	122	123	116	115	104	98	85
85	116	117	110	109	99	93	80
80	111	112	105	104	94	88	76
75	107	107	101	100	90	85	72
70	103	104	97	96	87	81	69
65	100	100	94	93	84	79	66
60	97	96	90	90	81	76	63
55	94	93	87	87	78	73	61
50	91	90	84	84	75	70	58
45	88	87	81	81	72	67	55
40	85	84	78	78	69	64	53
35	82	80	74	75	66	61	50
30	79	76	71	72	63	59	47
25	75	73	68	68	60	55	44
20	71	68	63	64	56	52	40
15	66	63	58	59	51	47	36
10	60	57	52	53	46	42	31
5	52	47	43	45	37	39	24

Adapted from Rikli & Jones 1999.

2-Minute Step Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	135	139	133	135	126	114	112
90	128	130	124	126	118	106	102
85	123	125	119	119	112	100	96
80	119	120	114	114	107	95	91
75	115	116	110	109	103	91	86
70	112	113	107	105	99	87	83
65	109	110	104	102	96	84	79
60	106	107	101	98	93	81	76
55	104	104	98	95	90	78	72
50	101	101	95	91	87	75	69
45	98	98	92	87	84	72	66
40	96	95	89	84	81	69	62
35	93	92	86	80	78	66	59
30	90	89	83	77	75	63	55
25	87	86	80	73	71	59	52
20	83	82	76	68	67	55	47
15	79	77	71	63	62	50	42
10	74	72	66	56	56	44	36
5	67	67	67	47	48	36	26

Adapted from Rikli & Jones 1999.

STATION 4

CHAIR SIT-AND-REACH TEST



PURPOSE:

To assess lower-body (primarily hamstring) flexibility

EQUIPMENT:

Folding chair with a seat height of 17 in. (43.18 cm) that will not tip forward, 18-in. (45.72-cm) ruler (half a yardstick).

PROCEDURE:

- Have the participant sit on the edge of the chair, with the crease at the top of the leg even with the chair.
- The preferred leg should be extended straight out in front of the hip, with the heel on the floor and the ankle flexed at 90°; the other leg is bent and off to the side, with the foot flat on the floor. (The preferred leg is the one resulting in the better score.)
- With hands overlapping and the middle fingers even, have the participant reach toward the toes as far as possible.
- After two practice trials, administer two test trials and record scores to the nearest half inch. Record a minus (-) score if the reach is short of the toes and a plus (+) score if the reach goes beyond the toes.
- The knee of the extended leg *must* remain straight.

Chair Sit-and-Reach Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	8.7	7.9	7.5	7.4	6.6	6.0	4.9
90	7.2	6.6	6.1	6.1	5.2	4.6	3.4
85	6.3	5.7	5.2	5.2	4.3	3.7	2.5
80	5.5	5.0	4.5	4.4	3.6	3.0	1.7
75	4.8	4.4	3.9	3.7	3.0	2.4	1.0
70	4.2	3.9	3.3	3.2	2.4	1.8	0.4
65	3.7	3.4	2.8	2.7	1.9	1.3	-0.1
60	3.1	2.9	2.3	2.1	1.4	0.8	-0.7
55	2.6	2.5	1.9	1.7	1.0	0.4	-1.2
50	2.1	2.0	1.4	1.2	0.5	-0.1	-1.7
45	1.6	1.5	0.9	0.7	0.0	-0.6	-2.2
40	1.1	1.1	0.5	0.2	-0.4	-1.0	-2.7
35	0.5	0.6	0.0	-0.3	-0.9	-1.5	-3.3
30	0.0	0.1	-0.5	-0.8	-1.4	-2.0	-3.8
25	-0.6	-0.4	-1.1	-1.3	-2.0	-2.6	-4.4
20	-1.3	-1.0	-1.7	-2.0	-2.6	-3.2	-5.1
15	-2.1	-1.7	-2.4	-2.8	-3.3	-3.9	-5.9
10	-3.0	-2.6	-3.3	-3.7	-4.2	-4.8	-6.8
5	-4.0	-3.9	-4.7	-5.0	-5.0	-6.3	-7.9

Adapted from Rikli & Jones 1999.

Chair Sit-and-Reach Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	8.5	7.5	7.5	6.6	6.2	4.5	3.5
90	6.7	5.9	5.8	4.9	4.4	3.0	1.9
85	5.6	4.8	4.7	3.8	3.2	2.0	0.9
80	4.6	3.9	3.8	2.8	2.2	1.1	0.0
75	3.8	3.1	3.0	2.0	1.4	0.4	-0.7
70	3.1	2.4	2.4	1.3	0.6	-0.2	-1.4
65	2.5	1.8	1.8	0.7	0.0	-0.8	-1.9
60	1.8	1.1	1.1	0.1	-0.8	-1.3	-2.5
55	1.2	0.6	0.6	-0.5	-1.4	-1.9	-3.0
50	0.6	0.0	0.0	-1.1	-2.0	-2.4	-3.6
45	0.0	-0.6	-0.6	-1.7	-2.6	-2.9	-4.2
40	-0.6	-1.1	-1.2	-2.3	-3.2	-3.5	-4.7
35	-1.3	-1.8	-1.8	-2.9	-4.0	-4.0	-5.3
30	-1.9	-2.4	-2.4	-3.5	-4.6	-4.6	-5.8
25	-2.6	-3.1	-3.1	-4.2	-5.3	-5.3	-6.5
20	-3.4	-3.9	-3.9	-5.0	-6.2	-5.9	-7.2
15	-4.4	-4.8	-4.8	-6.0	-7.2	-6.8	-8.1
10	-5.5	-5.9	-5.9	-7.1	-8.4	-7.8	-9.1
5	-7.3	-7.5	-7.6	-8.8	-10.2	-9.3	-10.7

Adapted from Rikli & Jones 1999.

STATION 5

BACK SCRATCH TEST



PURPOSE:

To measure upper-body flexibility

EQUIPMENT:

18-in. (45.72-cm) ruler (half a yardstick)

PROCEDURE:

- Have the participant reach one hand over the shoulder and down the back; the other around the back and up the middle.
- Have the participant practice to determine the preferred position (best hand over the top).
- After two warm-up practice trials, administer two test trials, measuring the distance between the middle fingers.
- Record scores to the nearest half inch (1 cm). Minus scores (–) represent the distance short of touching the middle fingers; plus scores (+) indicate the degree of overlap. Circle the better score.

Back Scratch Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	5.0	4.9	4.5	4.5	4.3	3.5	3.9
90	3.8	3.5	3.2	3.1	2.8	1.9	2.2
85	2.9	2.6	2.3	2.2	1.8	0.8	0.9
80	2.2	1.9	1.5	1.3	0.9	-0.1	-0.1
75	1.6	1.3	0.8	0.6	0.2	-0.9	-1.0
70	1.1	0.7	0.3	0.0	-0.4	-1.6	-1.8
65	0.7	0.2	-0.2	-0.5	-1.0	-2.1	-2.5
60	0.2	-0.3	-0.8	-1.1	-1.6	-2.8	-3.2
55	-0.2	-0.7	-1.2	-1.6	-2.1	-3.3	-3.8
50	-0.7	-1.2	-1.7	-2.1	-2.6	-3.9	-4.5
45	-1.2	-1.7	-2.2	-2.6	-3.1	-4.5	-5.2
40	-1.6	-2.1	-2.6	-3.1	-3.7	-5.0	-5.8
35	-2.1	-2.6	-3.2	-3.7	-4.2	-5.7	-6.5
30	-2.5	-3.1	-3.7	-4.2	-4.8	-6.2	-7.2
25	-3.0	-3.7	-4.2	-4.8	-5.4	-6.9	-8.0
20	-3.6	-4.3	-4.9	-5.5	-6.1	-7.7	-8.9
15	-4.3	-5.0	-5.7	-6.4	-7.0	-8.6	-9.9
10	-5.2	-5.9	-6.6	-7.3	-8.0	-9.7	-11.2
5	-6.4	-7.3	-7.9	-8.8	-9.5	-11.3	-13.0

Adapted from Rikli & Jones 1999.

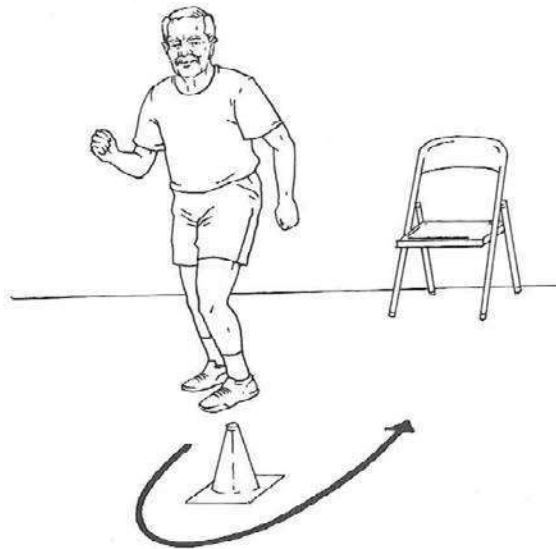
Back Scratch Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	4.5	3.9	3.5	2.8	3.2	1.7	0.7
90	2.7	2.2	1.8	0.9	1.2	-0.1	-1.1
85	1.6	1.0	0.6	-0.3	-0.1	-1.2	-2.2
80	0.6	0.0	-0.4	-1.3	-1.2	-2.2	-3.2
75	-0.2	-0.8	-1.2	-2.2	-2.1	-3.0	-4.0
70	-0.9	-1.6	-2.0	-2.9	-2.9	-3.7	-4.7
65	-1.5	-2.2	-2.6	-3.6	-3.6	-4.3	-5.3
60	-2.2	-2.9	-3.3	-4.3	-4.3	-5.0	-6.0
55	-2.8	-3.5	-3.9	-4.9	-5.0	-5.6	-6.6
50	-3.4	-4.1	-4.5	-5.6	-5.7	-6.2	-7.2
45	-4.0	-4.7	-5.1	-6.3	-6.4	-6.8	-7.8
40	-4.6	-5.3	-5.7	-6.9	-7.1	-7.4	-8.4
35	-5.3	-6.0	-6.4	-7.6	-7.8	-8.1	-9.1
30	-5.9	-6.6	-7.0	-8.3	-8.5	-8.7	-9.7
25	-6.6	-7.4	-7.8	-9.0	-9.3	-9.4	-10.4
20	-7.4	-8.2	-8.6	-9.9	-10.2	-10.2	-11.2
15	-8.4	-9.2	-9.6	-10.9	-11.3	-11.2	-12.2
10	-9.5	-10.4	-10.8	-12.1	-12.6	-12.3	-13.3
5	-11.3	-12.1	-12.5	-14.0	-14.6	-14.1	-15.1

Adapted from Rikli & Jones 1999.

STATION 6

8-FOOT UP- AND-GO TEST



PURPOSE:

To assess agility and dynamic balance

EQUIPMENT:

Folding chair with 17-in. (43.18-cm) seat height, stopwatch, tape measure, and cone (or similar marker)

PROCEDURE:

- Have the participant sit in the middle of the chair, hands on thighs, one foot slightly ahead of the other, body leaning slightly forward.
- On the signal "go" have the participant get up from the chair, walk as quickly as possible around a cone placed 8 feet away, and return to the chair.
- The timer must start the stopwatch exactly on the "go" signal and stop it at the exact time the participant sits in the chair.
- After one practice trial, administer two test trials. The score is the best of two trials, recorded to the nearest tenth of a second.

8-Foot Up-and-Go Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	3.2	3.6	3.8	4.0	4.0	4.5	5.0
90	3.7	4.1	4.0	4.3	4.4	4.7	5.3
85	4.0	4.4	4.3	4.6	4.9	5.3	6.1
80	4.2	4.6	4.7	5.0	5.4	5.8	6.7
75	4.4	4.8	4.9	5.2	5.7	6.2	7.3
70	4.6	5.0	5.2	5.5	6.1	6.6	7.7
65	4.7	5.1	5.4	5.7	6.3	6.9	8.2
60	4.9	5.3	5.6	5.9	6.7	7.3	8.6
55	5.0	5.4	5.8	6.1	6.9	7.6	9.0
50	5.2	5.6	6.0	6.3	7.2	7.9	9.4
45	5.4	5.8	6.2	6.5	7.5	8.2	9.8
40	5.5	5.9	6.4	6.7	7.8	8.5	10.2
35	5.7	6.1	6.6	6.9	8.1	8.9	10.6
30	5.8	6.2	6.8	7.1	8.3	9.2	11.1
25	6.0	6.4	7.1	7.4	8.7	9.6	11.5
20	6.2	6.6	7.3	7.6	9.0	10.0	12.1
15	6.4	6.8	7.7	8.0	9.5	10.5	12.7
10	6.7	7.1	8.0	8.3	10.0	11.1	13.5
5	7.2	7.6	8.6	8.9	10.8	12.0	14.6

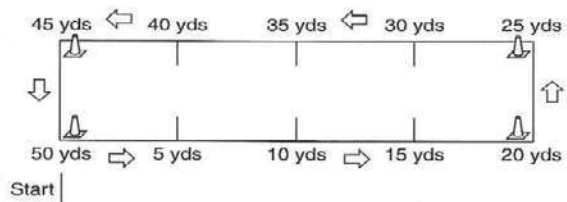
Adapted from Rikli & Jones 1999.

8-Foot Up-and-Go Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	3.0	3.1	3.2	3.3	4.0	4.0	4.3
90	3.0	3.6	3.6	3.5	4.1	4.3	4.5
85	3.3	3.9	3.9	3.9	4.5	4.5	5.1
80	3.6	4.1	4.2	4.3	4.9	5.0	5.7
75	3.8	4.3	4.4	4.6	5.2	5.5	6.2
70	4.0	4.5	4.6	4.9	5.5	5.8	6.6
65	4.2	4.6	4.8	5.2	5.7	6.2	7.0
60	4.4	4.8	5.0	5.4	6.0	6.5	7.4
55	4.5	4.9	5.1	5.7	6.2	6.9	7.7
50	4.7	5.1	5.3	5.9	6.4	7.2	8.1
45	4.9	5.3	5.5	6.1	6.6	7.5	8.5
40	5.0	5.4	5.6	6.4	6.9	7.9	8.8
35	5.2	5.6	5.8	6.6	7.1	8.2	9.2
30	5.4	5.7	6.0	6.9	7.3	8.6	9.6
25	5.6	5.9	6.2	7.2	7.6	8.9	10.0
20	5.8	6.1	6.4	7.5	7.9	9.4	10.5
15	6.1	6.3	6.7	7.9	8.3	9.9	11.1
10	6.4	6.6	7.0	8.3	8.7	10.5	11.8
5	6.8	7.1	7.4	9.0	9.4	11.5	12.9

Adapted from Rikli & Jones 1999.

6-MINUTE WALK TEST



PURPOSE:

To assess aerobic endurance

EQUIPMENT:

Long measuring tape, two stopwatches, four cones, masking tape, popsicle sticks or index cards and pencils (to count laps walked), chairs for waiting participants, name tags

SETUP:

Mark off 50-yard course (20 yards by 5 yards) into 5-yard segments. In metric units, the course is 45.7 meters marked off by 4.57-meter segments.

PROCEDURE:

- Partner-up all participants, using name tags to indicate partner number.
- One partner in each group lines up at the start line for testing. Waiting partners count laps, either by handing the walker a popsicle stick each time a lap is completed or by marking laps on a card.
- Starting (and stopping) times are staggered 10 seconds apart. On signal "go" walkers start one at a time, then walk as fast as they can (within their comfort zone) trying to cover as many yards (laps) as possible in 6 minutes.
- At the end of 6 minutes, stop walkers (one at a time) and have them move to the side. The score is the number of laps walked multiplied by 50 yards (or 45.7 meters), plus the number of extra yards or meters (indicated by the closest 5-yard or 4.57-meter marker).

6-Minute Walk Test (Women)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	741	734	709	696	654	638	564
90	711	697	673	655	612	591	518
85	690	673	650	628	584	560	488
80	674	653	630	605	560	534	463
75	659	636	614	585	540	512	441
70	647	621	599	568	523	493	423
65	636	607	586	553	508	476	406
60	624	593	572	538	491	458	388
55	614	581	561	524	477	443	373
50	603	568	548	509	462	426	357
45	592	555	535	494	447	409	341
40	582	543	524	480	433	394	326
35	570	529	510	465	416	376	308
30	559	515	497	450	401	359	291
25	547	500	482	433	384	340	273
20	532	483	466	413	364	318	251
15	516	463	446	390	340	292	226
10	495	439	423	363	312	261	196
5	465	402	387	322	270	214	150

Adapted from Rikli & Jones 1999.

6-Minute Walk Test (Men)

Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	825	800	779	762	721	710	646
90	792	763	743	716	678	659	592
85	770	738	718	686	649	625	557
80	751	718	698	661	625	596	527
75	736	700	680	639	604	572	502
70	722	685	665	621	586	551	480
65	710	671	652	604	571	532	461
60	697	657	638	586	554	512	440
55	686	644	625	571	540	495	422
50	674	631	612	555	524	477	403
45	662	618	599	539	508	459	384
40	651	605	586	524	494	442	366
35	638	591	572	506	477	422	345
30	626	577	559	489	462	403	326
25	612	562	544	471	444	382	304
20	597	544	526	449	423	358	279
15	578	524	506	424	399	329	249
10	556	499	481	394	370	295	214
5	523	462	445	348	327	244	160

Adapted from Rikli & Jones 1999.