

COOPER INSTITUTE
AGE AND GENDER NORMS*

3-Mile Walking Test (No Running)

Time (Minutes)

<i>Fitness Category</i>		<i>20-29</i>	<i>30-39</i>	<i>40-49</i>	<i>50-59</i>
I. Very Poor	(men)	> 46:00*	>49:00	>52:00	>55:00
	(women)	>48:00	>51:00	>54:00	>57:00
II. Poor	(men)	42:01-46:00	44:31-49:00	47:01-52:00	50:01-55:00
	(women)	44:01-48:00	46:31-51:00	49:01-54:00	52:01-57:00
III. Fair	(men)	38:31-42:00	40:01-44:30	42:01-47:00	45:01-50:00
	(women)	40:31-44:00	42:01-46:30	44:01-49:00	47:01-52:00
IV. Good	(men)	34:00-38:30	35:00-40:00	36:30-42:00	39:00-45:00
	(women)	36:30-40:30	37:30-42:00	39:00-44:00	42:00-47:00
V. Excellent	(men)	<34:00	<35:00	<36:30	<39:00
	(women)	<36:00	<37:30	<39:00	<42:00

* < means “less than,” > means “more than”

The walking test covering 3 miles in the fastest time possible *without* running can be done on a track or over any accurately measured distance. As with running, take the test after you have been training for at least 6 weeks, when you feel rested. Dress to be comfortable.

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CARDIORESPIRATORY FITNESS TESTS

Males

%	Age 20-29				Age 30-39				
	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	
99	32:00	61.2	2.02	8:22	30:00	58.3	1.94	8:49	
95	28:31	56.2	1.88	9:10	27:11	54.3	1.82	9:31	S
90	27:00	54.0	1.81	9:34	26:00	52.5	1.77	9:52	
85	26:00	52.5	1.77	9:52	24:45	50.7	1.72	10:14	
80	25:00	51.1	1.73	10:08	23:30	48.9	1.67	10:38	E
75	23:40	49.2	1.68	10:34	22:30	47.5	1.63	10:59	
70	23:00	48.2	1.65	10:49	22:00	46.8	1.61	11:09	
65	22:00	46.8	1.61	11:09	21:00	45.3	1.57	11:34	
60	21:15	45.7	1.58	11:27	20:20	44.4	1.55	11:49	G
55	21:00	45.3	1.57	11:34	20:00	43.9	1.53	11:58	
50	20:00	43.9	1.53	11:58	19:00	42.4	1.49	12:25	
45	19:26	43.1	1.51	12:11	18:15	41.4	1.46	12:44	
40	18:50	42.2	1.49	12:29	18:00	41.0	1.45	12:53	F
35	18:00	41.0	1.45	12:53	17:00	39.5	1.41	13:25	
30	17:30	40.3	1.43	13:08	16:15	38.5	1.38	13:48	
25	17:00	39.5	1.41	13:25	15:40	37.6	1.36	14:10	
20	16:00	38.1	1.37	13:58	15:00	36.7	1.33	14:33	P
15	15:00	36.7	1.33	14:33	14:00	35.2	1.29	15:14	
10	14:00	35.2	1.29	15:14	13:00	33.8	1.25	15:56	
5	12:00	32.3	1.21	16:46	11:10	31.1	1.18	17:30	
1	8:00	26.6	1.05	20:55	8:00	26.6	1.05	20:55	VP

n = 2,606

n = 13,158

Total n = 15,764

Balke treadmill, max $\dot{V}O_2$, and 12 min. run are included for informational purposes only and are **NOT** part of the DCIS PRT protocol.

CARDIORESPIRATORY FITNESS TESTS

Males

%	Age 40-49				Age 50-59				
	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	
99	29:06	57.0	1.90	9:02	27:15	54.3	1.82	9:31	
95	26:16	52.9	1.79	9:47	24:00	49.7	1.69	10:27	S
90	25:00	51.1	1.73	10:09	22:00	46.8	1.61	11:09	
85	23:14	48.5	1.66	10:44	20:31	44.6	1.55	11:45	
80	22:00	46.8	1.61	11:09	19:35	43.3	1.52	12:08	E
75	21:02	45.4	1.58	11:32	18:32	41.8	1.47	12:37	
70	20:15	44.2	1.54	11:52	18:00	41.0	1.45	12:53	
65	20:00	43.9	1.53	11:58	17:00	39.5	1.41	13:25	
60	19:00	42.4	1.49	12:25	16:10	38.3	1.38	13:53	G
55	18:02	41.0	1.45	12:53	16:00	38.1	1.37	13:58	
50	17:34	40.4	1.44	13:05	15:02	36.7	1.33	14:33	
45	17:00	39.5	1.41	13:25	14:56	36.6	1.33	14:35	
40	16:12	38.4	1.38	13:50	14:00	35.2	1.29	15:14	F
35	15:38	37.6	1.36	14:10	13:05	33.9	1.26	15:53	
30	15:00	36.7	1.33	14:33	12:38	33.2	1.24	16:16	
25	14:20	35.7	1.31	15:00	12:00	32.3	1.21	16:46	
20	13:35	34.6	1.28	15:32	11:10	31.1	1.18	17:30	P
15	12:45	33.4	1.24	16:09	10:15	29.8	1.14	18:22	
10	11:40	31.8	1.20	17:04	9:15	28.4	1.10	19:24	
5	10:00	29.4	1.13	18:39	7:30	25.8	1.03	21:40	
1	7:00	25.1	1.01	22:22	4:20	21.3	0.90	27:08	VP

n = 16,534

n = 9,102

Total n = 25,636

*Balke treadmill, max $\dot{V}O_2$, and 12 min. run are included for informational purposes only and are **NOT** part of the DCIS PRT protocol.*

CARDIORESPIRATORY FITNESS TESTS

Males

	Age 60-69				Age 70-79				
	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	
%									
99	25:02	51.1	1.74	10:09	24:00	49.7	1.69	10:27	
95	21:33	46.1	1.60	11:20	19:00	42.4	1.49	12:25	S
90	19:30	43.2	1.51	12:10	17:00	39.5	1.41	13:25	
85	18:00	41.0	1.45	12:53	16:00	38.1	1.37	13:57	
80	17:00	39.5	1.41	13:25	14:34	36.0	1.32	14:52	E
75	16:00	38.1	1.37	13:58	13:25	34.4	1.27	15:38	
70	15:00	36.7	1.33	14:33	12:27	33.0	1.23	16:22	
65	14:30	35.9	1.31	14:55	12:00	32.3	1.21	16:46	
60	13:51	35.0	1.29	15:20	11:00	30.9	1.17	17:37	G
55	13:04	33.9	1.26	15:53	10:30	30.2	1.15	18:05	
50	12:30	33.1	1.23	16:19	10:00	29.4	1.13	18:39	
45	12:00	32.3	1.21	16:46	9:20	28.5	1.11	19:19	
40	11:21	31.4	1.19	17:19	9:00	28.0	1.09	19:43	F
35	10:49	30.6	1.17	17:49	8:21	27.1	1.07	20:28	
30	10:00	29.4	1.13	18:39	7:38	26.0	1.04	21:28	
25	9:29	28.7	1.11	19:10	7:00	25.1	1.01	22:22	
20	8:37	27.4	1.08	20:13	6:00	23.7	0.97	23:55	P
15	7:33	25.9	1.03	21:34	5:00	22.2	0.93	25:49	
10	6:20	24.1	0.99	23:27	4:00	20.8	0.89	27:55	
5	4:55	22.1	0.93	25:58	3:00	19.3	0.85	30:34	
1	2:29	18.6	0.83	31:59	2:00	17.9	0.81	33:30	VP

n = 2,682

n = 467

Total n = 3,149

*Balke treadmill, max $\dot{V}O_2$, and 12 min. run are included for informational purposes only and are **NOT** part of the DCIS PRT protocol.*

CARDIORESPIRATORY FITNESS TESTS

Females

%	Age 20-29				Age 30-39				
	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	
99	27:43	55.0	1.84	9:23	26:00	52.5	1.77	9:52	
95	24:24	50.2	1.71	10:20	22:06	46.9	1.62	11:08	S
90	22:30	47.5	1.63	10:59	20:34	44.7	1.56	11:43	
85	21:00	45.3	1.57	11:34	19:03	42.5	1.50	12:23	
80	20:04	44.0	1.54	11:56	18:00	41.0	1.45	12:53	E
75	19:42	43.4	1.52	12:07	17:30	40.3	1.43	13:08	
70	18:06	41.1	1.46	12:51	16:30	38.8	1.39	13:41	
65	17:45	40.6	1.44	13:01	16:00	38.1	1.37	13:58	
60	17:00	39.5	1.41	13:25	15:02	36.7	1.33	14:33	G
55	16:00	38.1	1.37	13:58	15:00	36.7	1.33	14:33	
50	15:30	37.4	1.35	14:15	14:00	35.2	1.29	15:14	
45	15:00	36.7	1.33	14:33	13:30	34.5	1.27	15:35	
40	14:11	35.5	1.30	15:05	13:00	33.8	1.25	15:56	F
35	13:36	34.6	1.27	15:32	12:03	32.4	1.21	16:43	
30	13:00	33.8	1.25	15:56	12:00	32.3	1.21	16:46	
25	12:04	32.4	1.22	16:43	11:00	30.9	1.17	17:38	
20	11:30	31.6	1.19	17:11	10:20	29.9	1.15	18:18	P
15	10:42	30.5	1.16	17:53	9:39	28.9	1.12	19:01	
10	10:00	29.4	1.13	18:39	8:36	27.4	1.08	20:13	
5	7:54	26.4	1.05	21:05	7:16	25.5	1.02	21:57	
1	5:14	22.6	0.94	25:17	5:20	22.7	0.94	25:10	VP

n = 1,350

n = 4,394

Total n = 5,744

Balke treadmill, max $\dot{V}O_2$, and 12 min. run are included for informational purposes only and are **NOT** part of the DCIS PRT protocol.

CARDIORESPIRATORY FITNESS TESTS

Females

%	Age 40-49				Age 50-59				
	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	
99	25:00	51.1	1.74	10:09	21:00	45.3	1.57	11:34	
95	20:56	45.2	1.57	11:35	17:16	39.9	1.42	13:16	S
90	19:00	42.4	1.49	12:25	16:00	38.1	1.37	13:58	
85	17:20	40.0	1.43	13:14	15:00	36.7	1.33	14:33	
80	16:34	38.9	1.40	13:38	14:00	35.2	1.29	15:14	E
75	16:00	38.1	1.37	13:58	13:15	34.1	1.26	15:47	
70	15:00	36.7	1.33	14:33	12:23	32.9	1.23	16:26	
65	14:14	35.6	1.30	15:03	12:00	32.3	1.21	16:46	
60	13:56	35.1	1.29	15:17	11:23	31.4	1.19	17:19	G
55	13:02	33.8	1.25	15:56	11:00	30.9	1.17	17:38	
50	12:39	33.3	1.24	16:13	10:30	30.2	1.15	18:05	
45	12:00	32.3	1.21	16:46	10:00	29.4	1.13	18:39	
40	11:30	31.6	1.19	17:11	9:30	28.7	1.11	19:10	F
35	11:00	30.9	1.17	17:38	9:00	28.0	1.09	19:43	
30	10:10	29.7	1.14	18:26	8:30	27.3	1.07	20:17	
25	10:00	29.4	1.13	18:39	8:00	26.6	1.05	20:55	
20	9:00	28.0	1.09	19:43	7:15	25.5	1.02	21:57	P
15	8:07	26.7	1.06	20:49	6:40	24.6	1.00	22:53	
10	7:21	25.6	1.03	21:52	6:00	23.7	0.97	23:55	
5	6:17	24.1	0.98	23:27	4:48	21.9	0.92	26:15	
1	4:00	20.8	0.89	27:55	3:00	19.3	0.85	30:34	VP

n = 4,834

n = 3,103

Total n = 7,937

Balke treadmill, max $\dot{V}O_2$, and 12 min. run are included for informational purposes only and are **NOT** part of the DCIS PRT protocol.

CARDIORESPIRATORY FITNESS TESTS

Females

%	Age 60-69				Age 70-79				
	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	Balke Treadmill (time)	Max $\dot{V}O_2$ (ml/kg/min.)	12 min. Run Distance (miles)	1.5 Mile Run (time)	
99	19:00	42.4	1.49	12:25	19:00	42.4	1.49	12:25	
95	15:09	36.9	1.34	14:28	15:00	36.7	1.33	14:33	S
90	13:33	34.6	1.27	15:32	12:50	33.5	1.25	16:06	
85	12:28	33.0	1.23	16:22	11:46	32.0	1.20	16:57	
80	12:00	32.3	1.21	16:46	10:30	30.2	1.15	18:05	E
75	11:04	31.0	1.18	17:34	10:00	29.4	1.13	18:39	
70	10:30	30.2	1.15	18:05	9:15	28.4	1.10	19:24	
65	10:00	29.4	1.13	18:39	8:43	27.6	1.08	20:02	
60	9:44	29.1	1.12	18:52	8:00	26.6	1.05	20:54	G
55	9:11	28.3	1.10	19:29	7:37	26.0	1.04	21:45	
50	8:40	27.5	1.08	20:08	7:00	25.1	1.01	22:22	
45	8:15	26.9	1.06	20:38	6:39	24.6	1.00	22:54	
40	8:00	26.6	1.05	20:55	6:05	23.8	0.98	23:47	F
35	7:14	25.4	1.02	22:03	5:28	22.9	0.95	24:54	
30	6:52	24.9	1.01	22:34	5:00	22.2	0.93	25:49	
25	6:21	24.2	0.99	23:20	4:45	21.9	0.92	26:15	
20	6:00	23.7	0.97	23:55	4:16	21.2	0.90	27:17	P
15	5:25	22.8	0.95	25:02	4:00	20.8	0.89	27:55	
10	4:40	21.7	0.92	26:32	3:00	19.3	0.85	30:34	
5	3:30	20.1	0.87	29:06	2:00	17.9	0.81	33:32	
1	2:10	18.1	0.82	33:05	1:00	16.4	0.77	37:26	VP

n = 1,088

n = 209

Total n = 1,297

Balke treadmill, max $\dot{V}O_2$, and 12 min. run are included for informational purposes only and are **NOT** part of the DCIS PRT protocol.

FLEXIBILITY
Sit and Reach

Males

AGE

%	<20	20-29	30-39	40-49	50-59	60+	
99	> 23.4	>23.0	>22.0	>21.3	>20.5	>20.0	
95	23.4	23.0	22.0	21.3	20.5	20.0	S
90	22.6	21.8	21.0	20.0	19.0	19.0	
85	22.4	21.0	20.0	19.3	18.3	18.0	
80	21.7	20.5	19.5	18.5	17.5	17.3	E
75	21.4	20.0	19.0	18.0	17.0	16.5	
70	20.7	19.5	18.5	17.5	16.5	15.5	
65	19.8	19.0	18.0	17.0	16.0	15.0	
60	19.0	18.5	17.5	16.3	15.5	14.5	G
55	18.7	18.0	17.0	16.0	15.0	14.0	
50	18.0	17.5	16.5	15.3	14.5	13.5	
45	17.3	17.0	16.0	15.0	14.0	13.0	
40	16.5	16.5	15.5	14.3	13.3	12.5	F
35	16.0	16.0	15.0	14.0	12.5	12.0	
30	15.5	15.5	14.5	13.3	12.0	11.3	
25	14.1	15.0	13.8	12.5	11.2	10.5	
20	13.2	14.4	13.0	12.0	10.5	10.0	P
15	11.9	13.5	12.0	11.0	9.7	9.0	
10	10.5	12.3	11.0	10.0	8.5	8.0	
5	9.4	10.5	9.3	8.3	7.0	5.8	
1	<9.4	<10.5	<9.3	<8.3	<7.0	<5.8	VP
n	56	422	1,906	2,090	1,278	344	

Total n = 6,096

FLEXIBILITY - SIT AND REACH

Females

AGE

%	<20	20-29	30-39	40-49	50-59	60+	
99	>24.3	>24.5	>24.0	>22.8	>23.0	>23.0	
95	24.3	24.5	24.0	22.8	23.0	23.0	S
90	24.3	23.8	22.5	21.5	21.5	21.8	
85	22.5	23.0	22.0	21.3	21.0	19.5	
80	22.5	22.5	21.5	20.5	20.3	19.0	E
75	22.3	22.0	21.0	20.0	20.0	18.0	
70	22.0	21.5	20.5	19.8	19.3	17.5	
65	21.8	21.0	20.3	19.1	19.0	17.5	
60	21.5	20.5	20.0	19.0	18.5	17.0	G
55	21.3	20.3	19.5	18.5	18.0	17.0	
50	21.0	20.0	19.0	18.0	17.9	16.4	
45	20.5	19.5	18.5	18.0	17.0	16.1	
40	20.5	19.3	18.3	17.3	16.8	15.5	F
35	20.0	19.0	17.8	17.0	16.0	15.2	
30	19.5	18.3	17.3	16.5	15.5	14.4	
25	19.0	17.8	16.8	16.0	15.3	13.6	
20	18.5	17.0	16.5	15.0	14.8	13.0	P
15	17.8	16.4	15.5	14.0	14.0	11.5	
10	14.5	15.4	14.4	13.0	13.0	11.5	
5	14.5	14.1	12.0	10.5	12.3	9.2	
1	<14.5	<14.1	<12.0	<10.5	<12.3	<9.2	VP
n	19	183	376	332	192	44	

Total n = 1,146

DYNAMIC STRENGTH
1 Minute Sit Up

Males

AGE

%	<20	20-29	30-39	40-49	50-59	60+	
99	>62.0	>55.0	>51.0	>47.0	>43.0	>39.0	
95	62.0	55.0	51.0	47.0	43.0	39.0	S
90	55.0	52.0	48.0	43.0	39.0	35.0	
85	53.0	49.0	45.0	40.0	36.0	31.0	
80	51.0	47.0	43.0	39.0	35.0	30.0	E
75	50.0	46.0	42.0	37.0	33.0	28.0	
70	48.0	45.0	41.0	36.0	31.0	26.0	
65	48.0	44.0	40.0	35.0	30.0	24.0	
60	47.0	42.0	39.0	34.0	28.0	22.0	G
55	46.0	41.0	37.0	32.0	27.0	21.0	
50	45.0	40.0	36.0	31.0	26.0	20.0	
45	42.0	39.0	36.0	30.0	25.0	19.0	
40	41.0	38.0	35.0	29.0	24.0	19.0	F
35	39.0	37.0	33.0	28.0	22.0	18.0	
30	38.0	35.0	32.0	27.0	21.0	17.0	
25	37.0	35.0	31.0	26.0	20.0	16.0	
20	36.0	33.0	30.0	24.0	19.0	15.0	P
15	34.0	32.0	28.0	22.0	17.0	13.0	
10	33.0	30.0	26.0	22.0	15.0	10.0	
5	27.0	27.0	23.0	17.0	12.0	7.0	
1	<27.0	<27.0	<23.0	<17.0	<12.0	<7.0	VP
n	46	312	1,431	1,558	919	205	

Total n = 4,471

DYNAMIC STRENGTH
1 Minute Sit Up

Females

AGE

%	<20	20-29	30-39	40-49	50-59	60+	
99	>55.0	>51.0	>42.0	>38.0	>30.0	>28.0	
95	55.0	51.0	42.0	38.0	30.0	28.0	S
90	54.0	49.0	40.0	34.0	29.0	26.0	
85	49.0	45.0	38.0	32.0	25.0	20.0	
80	46.0	44.0	35.0	29.0	24.0	17.0	E
75	40.0	42.0	33.0	28.0	22.0	15.0	
70	38.0	41.0	32.0	27.0	22.0	12.0	
65	37.0	39.0	30.0	25.0	21.0	12.0	
60	36.0	38.0	29.0	24.0	20.0	11.0	G
55	35.0	37.0	28.0	23.0	19.0	10.0	
50	34.0	35.0	27.0	22.0	17.0	8.0	
45	34.0	34.0	26.0	21.0	16.0	8.0	
40	32.0	32.0	25.0	20.0	14.0	6.0	F
35	30.0	31.0	24.0	19.0	12.0	5.0	
30	29.0	30.0	22.0	17.0	12.0	4.0	
25	29.0	28.0	21.0	16.0	11.0	4.0	
20	28.0	24.0	20.0	14.0	10.0	3.0	P
15	27.0	23.0	18.0	13.0	7.0	2.0	
10	25.0	21.0	15.0	10.0	6.0	1.0	
5	25.0	18.0	11.0	7.0	5.0	0.0	
1	<25.0	<18.0	<11.0	<7.0	<5.0	0.0	VP
n	15	144	289	249	137	26	

Total n = 860

DYNAMIC STRENGTH
Push Up

Males

AGE

%	20-29	30-39	40-49	50-59	60+	
99	100	86	64	51	39	
95	62	52	40	39	28	S
90	57	46	36	30	26	
85	51	41	34	28	24	
80	47	39	30	25	23	E
75	44	36	29	24	22	
70	41	34	26	21	21	
65	39	31	25	20	20	
60	37	30	24	19	18	G
55	35	29	22	17	16	
50	33	27	21	15	15	
45	31	25	19	14	12	
40	29	24	18	13	10	F
35	27	21	16	11	9	
30	26	20	15	10	8	
25	24	19	13	9.5	7	
20	22	17	11	9	6	P
15	19	15	10	7	5	
10	18	13	9	6	4	
5	13	9	5	3	2	VP
n	1,045	790	364	172	26	

Total n = 2,397

DYNAMIC STRENGTH
Full Body Push Up*

Females

AGE

%	20-29	30-39	40-49	
99	53.0	48.0	23.0	
95	42.0	39.5	20.0	S
90	37.0	33.0	18.0	
85	33.0	26.0	17.0	
80	28.0	23.0	15.0	E
75	27.0	19.0	15.0	
70	24.0	18.0	14.0	
65	23.0	16.0	13.0	
60	21.0	15.0	13.0	G
55	19.0	14.0	11.0	
50	18.0	14.0	11.0	
45	17.0	13.0	10.0	
40	15.0	11.0	9.0	F
35	14.0	10.0	8.0	
30	13.0	9.0	7.0	
25	11.0	9.0	7.0	
20	10.0	8.0	6.0	P
15	9.0	6.5	5.0	
10	8.0	6.0	4.0	
5	6.0	4.0	1.0	
1	3.0	1.0	0.0	VP

* Full body push ups are generally used by law enforcement and public safety organizations.