DYNAMIC STRENGTH

*1 Minute 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. These norms are based on >1000 female U.S. Army soldiers who were tested in the 1990's by the U.S. Army.

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

Norms are based on Cooper Clinic patients.

CARDIORESPIRATORY FITNESS TESTS

Females

%	AGE 20-29 Balke Treadmill (time)	AGE 20-29 Max $\dot{V}O_2$ (ml/kg/min.)	AGE 20-29 12 min. Run Distance (miles)	AGE 20-29 1.5 Mile Run (time)	AGE 30-39 Balke Treadmill (time)	AGE 30-39 Max $\dot{V}O_2$ (ml/kg/min.)	AGE 30-39 12 min. Run Distance (miles)	AGE 30-39 1.5 Mile Run (time)	
99	27:19	54.4	1.83	9:29	26:00	52.5	1.77	9:51	
95	24:00	49.7	1.69	10:28	22:27	47.4	1.63	11:00	S
90	22:00	46.8	1.61	11:10	21:00	45.3	1.57	11:33	
85	21:00	45.3	1.57	11:33	20:00	43.9	1.53	11:58	
80	20:01	43.9	1.53	11:58	19:00	42.4	1.49	12:25	E
75	19:00	42.4	1.49	12:25	18:00	41.0	1.45	12:53	
70	18:01	41.0	1.45	12:53	17:01	39.6	1.41	13:23	
65	18:00	41.0	1.45	12:53	16:19	38.6	1.39	13:47	
60	17:00	39.5	1.41	13:24	15:49	37.8	1.37	14:04	G
55	16:15	38.5	1.38	13:49	15:18	37.1	1.34	14:23	
50	15:45	37.7	1.36	14:07	15:00	36.7	1.33	14:34	
45	15:01	36.7	1.33	14:34	14:00	35.2	1.29	15:14	
40	14:36	36.0	1.32	14:50	13:26	34.4	1.27	15:38	F
35	14:00	35.2	1.29	15:14	13:00	33.8	1.25	15:58	
30	13:08	34.0	1.26	15:52	12:09	32.5	1.22	16:38	
25	12:24	32.9	1.23	16:26	12:00	32.3	1.21	16:46	
20	12:00	32.3	1.21	16:46	11:00	30.9	1.17	17:38	P
15	11:00	30.9	1.17	17:49	10:01	29.5	1.13	18:37	
10	10:01	29.5	1.13	18:37	9:01	28.0	1.09	19:43	
5	8:21	27.1	1.07	20:31	7:35	25.9	1.30	21:31	
1	6:00	23.7	0.97	23:58	5:27	22.9	0.95	24:57	VP
	n=1,397				n=4,642				

Updated: 2013

Important note: Previous versions of our norms included all Cooper Clinic patient visits. These updated cardiorespiratory fitness norms include the results of the first visit only. We feel the norms are more valid with this current approach.

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	1.73	10:09	21:30	46.0	1.59	11:22	
95	21:01	45.3	1.57	11:32	18:03	41.1	1.46	12:52	S
90	20:00	43.9	1.53	11:58	17:00	39.5	1.46	13:24	
85	18:04	41.1	1.46	12:51	15:29	37.4	1.35	14:16	
80	17:05	39.7	1.42	13:22	15:00	36.7	1.33	14:34	E
75	16:45	39.2	1.40	13:32	14:04	35.3	1.30	15:11	
70	16:00	38.1	1.37	13:58	13:30	34.5	1.27	15:35	
65	15:03	36.7	1.33	14:32	12:59	33.7	1.25	15:58	
60	14:45	36.3	1.32	14:44	12:30	33.0	1.23	16:21	G
55	14:01	35.2	1.29	15:13	12:00	32.3	1.21	16:46	
50	13:46	34.9	1.28	15:24	11:29	31.6	1.19	17:13	
45	13:01	33.8	1.25	15:57	11:01	30.9	1.17	17:38	
40	12:30	33.0	1.23	16:21	10:30	30.2	1.15	18:07	F
35	12:00	32.3	1.21	16:46	10:01	29.5	1.13	18:37	
30	11:18	31.3	1.18	17:22	9:40	29.0	1.12	18:59	
25	10:40	30.4	1.16	17:58	9:00	28.0	1.09	19:44	
20	10:00	29.4	1.13	18:38	8:20	27.0	1.07	20:32	P
15	9:10	28.2	1.10	19:32	7:35	25.9	1.03	21:31	
10	8:08	26.7	1.06	20:47	6:46	24.8	1.00	22:43	
5	7:00	25.1	1.01	22:22	5:35	23.1	0.95	24:42	
1	5:00	22.2	0.93	25:49	3:43	20.4	0.88	28:39	VP
	n=6,709				n=4,539				

Updated: 2013

Norms are based on Cooper Clinic patients.