

NORMS FOR ADULT GRIP STRENGTH

A recent study by Dr. Virgil Mathiowetz indicates that "... individuals using the Baseline® dynamometer are justified in using the normative data that was collected with the Jamar® dynamometer ...".

For each test of grip strength, the subject was seated with shoulder adducted and neutrally rotated, elbow flexed at 90°, forearm in neutral position, and wrist between 0° and 30° dorsiflexion and between 0° and 15° ulnar deviation.

The standard test protocol used the mean of three strength tests as the resultant score. A score was taken with both the dominant (right) and non-dominant (left) hands.

The test results show a relationship between:

- hand strength vs. age
- hand strength of men vs. hand strength of women
- dominant hand strength vs. non-dominant hand strength

AVERAGE PERFORMANCE OF ALL SUBJECTS ON GRIP STRENGTH (POUNDS) - TEST RESULTS											
MEN					Age	Hand	WOMEN				
Mean	SD	SE	Low	High			Mean	SD	SE	Low	High
121.0	20.6	3.8	91	167	20-24	R	70.4	14.5	2.8	46	95
104.5	21.8	4.0	71	150		L	61.0	13.1	2.6	33	88
120.8	23.0	4.4	78	158	25-29	R	74.5	13.9	2.7	48	97
110.5	16.2	4.4	77	139		L	63.5	12.2	2.4	48	97
121.8	22.4	4.3	70	170	30-34	R	78.7	19.2	3.8	46	137
110.4	21.7	4.2	64	145		L	68.0	17.7	3.5	36	115
119.7	24.0	4.8	76	176	35-39	R	74.1	10.8	2.2	50	99
112.9	21.7	4.2	73	157		L	66.3	11.7	2.3	49	91
116.8	20.7	4.1	84	165	40-44	R	70.4	13.5	2.4	38	103
112.8	18.7	3.7	73	157		L	62.3	13.8	2.5	35	94
109.9	23.0	4.3	65	155	45-49	R	62.2	15.1	3.0	39	100
100.8	22.8	4.3	58	160		L	56.0	12.7	2.5	37	83
113.6	18.1	3.6	79	151	50-54	R	65.8	11.6	2.3	38	87
101.9	17.0	3.4	70	143		L	57.3	10.7	2.1	35	76
101.1	26.7	5.8	59	154	55-59	R	57.3	12.5	2.5	33	86
83.2	23.4	5.1	43	128		L	47.3	11.9	2.4	31	76
89.7	20.4	4.2	51	137	60-64	R	55.1	10.1	2.0	37	77
76.8	20.3	4.1	27	116		L	45.7	10.1	2.0	29	66
91.1	20.6	4.0	56	131	65-69	R	49.6	9.7	1.8	35	74
76.8	19.8	3.8	43	117		L	41.0	8.2	1.5	29	63
75.3	21.5	4.2	32	108	70-74	R	49.6	11.7	2.2	33	78
64.8	18.1	3.7	32	93		L	41.5	10.2	1.9	23	67
65.7	21.0	4.2	40	135	75 +	R	42.6	11.0	2.2	25	65
55.0	17.0	3.4	31	119		L	37.6	8.9	1.7	24	61
104.3	28.3	1.6	32	176	All	R	62.8	17.0	0.96	25	137
93.1	27.6	1.6	27	160	Subjects	L	53.9	15.7	0.88	23	115

REFERENCES:

1. Gill D., Reddon J., Renney C., Stefanyk W.: Hand Dynamometer: Effects of Trials and Sessions. *Perpetual and Motor Skills* 61: 195-8, 1985.
2. Everett P., Sills F.: The Relationship of Grip Strength to Stature, Somatotype Components, and Anthropometric Measurements of the Hand. *The Research Quarterly* 23: 161-6, 1952.
3. Mathiowetz V., Federman S., Wiermer D.: Grip and Pinch Strength: Norms for 6 to 19 Year Olds. *The American Journal of Occupational Therapy* 40: 705-11, 1986.
4. Mathiowetz V., Donahoe L., Renells C.: Effect of Elbow Position on Grip and Key Pinch Strength. *The Journal of Hand Surgery* 10A: 694-7, 1985.
5. Mathiowetz V., Kashman N., Volland G., Weber K., Dove M., Rogers S.: Grip and Pinch Strength: Normative Data for Adults. *Archives of Physical Medicine and Rehabilitation* 66: 69-74, 1985.