

Grip Strength

What is it? What does it mean?

Grip strength is a measure of muscular strength or the maximum force/tension generated by one's forearm muscles. It can be used as a screening tool for measurement of upper body strength and overall strength. It is most useful when multiple measurements are taken over time to track performance.

Research indicates that grip strength in midlife can predict physical disability in senior years. Improving your strength now may prevent injury and disability later. Be aware that some medical conditions, such as carpal tunnel syndrome and arthritis, affect grip strength. Grip strength and overall strength can be improved by weight training—and also by changing some daily activities.



Male Handgrip Strength Reference Tables

Handgrip strength values are in pounds

Right

Age	Low	Average	High
10 to 11	<44.2	44.2-63.6	>63.6
12 to 13	<43.2	43.2-74.2	>74.2
14 to 15	<61.9	61.9-92.7	>92.7
16 to 17	<74.6	74.6-113.4	>113.4
18 to 19	<83.4	83.4-132.6	>132.6
20 to 24	<100.4	100.4-141.6	>141.6
25 to 29	<97.8	97.8-143.8	>143.8
30 to 34	<99.4	99.4-144.2	>144.2
35 to 39	<95.7	95.7-143.7	>143.7
40 to 44	<96.1	96.1-137.5	>137.5
45 to 49	<86.9	86.9-132.9	>132.9
50 to 54	<100.5	100.5-136.7	>136.7
55 to 59	<74.4	74.4-127.8	>127.8
60 to 64	<63.9	63.9-110.1	>110.1
65 to 69	<70.5	70.5-111.7	>111.7
70 to 74	<53.8	53.8-96.8	>96.8
75+	<44.7	44.7-86.7	>86.7

Left

Age	Low	Average	High
10 to 11	<37.6	37.6-59.2	>59.2
12 to 13	<38.5	38.5-72.3	>72.3
14 to 15	<49.5	49.5-79.3	>79.3
16 to 17	<59.4	59.4-97.6	>97.6
18 to 19	<65.2	65.2-120.8	>120.8
20 to 24	<82.7	82.7-126.3	>126.3
25 to 29	<94.3	94.3-126.7	>126.7
30 to 34	<88.7	88.7-132.1	>132.1
35 to 39	<91.2	91.2-134.6	>134.6
40 to 44	<94.1	94.1-131.5	>131.5
45 to 49	<78	78-123.6	>123.6
50 to 54	<84.9	84.9-118.9	>118.9
55 to 59	<59.8	59.8-106.6	>106.6
60 to 64	<56.5	56.5-97.1	>97.1
65 to 69	<57	57-96.6	>96.6
70 to 74	<46.7	46.7-82.9	>82.9
75+	<38	38-72	>72

Source: JAMAR Hydraulic Hand Dynamometer Owner's Manual

Instead of:

- Automatic car wash
- Electric garage door
- Riding lawn mower
- Drive up groceries
- Snowblower
- Blowing leaves
- Parking close

Try:

- Wash car by hand
- Manual garage door
- Push lawn mower
- Carry groceries to car
- Snow shovel
- Rake leaves
- Parking far
- Squeezing a "stress" ball or tennis

If you have additional questions or are concerned about the results of your grip strength test, talk to your doctor or an exercise physiologist.

Female Handgrip Strength Reference Tables

Handgrip strength values are in pounds

Right

Age	Low	Average	High
10 to 11	<41.7	41.7-57.8	>57.8
12 to 13	<46.2	46.2-67.4	>67.4
14 to 15	<45.8	45.8-70.4	>70.4
16 to 17	<50.8	50.8-83.8	>83.8
18 to 19	<59.3	59.3-83.9	>83.9
20 to 24	<55.9	55.9-84.9	>84.9
25 to 29	<60.6	60.6-88.4	>88.4
30 to 34	<59.5	59.5-97.9	>97.9
35 to 39	<63.3	63.3-84.9	>84.9
40 to 44	<51.9	51.9-88.9	>88.9
45 to 49	<47.1	47.1-77.3	>77.3
50 to 54	<54.2	54.2-77.4	>77.4
55 to 59	<44.8	44.8-69.8	>69.8
60 to 64	<45	45-65.2	>65.2
65 to 69	<39.9	39.9-59.3	>59.3
70 to 74	<37.9	37.9-61.3	>61.3
75+	<31.6	31.6-53.6	>53.6

Left

Age	Low	Average	High
10 to 11	<38.4	38.4-52	>52
12 to 13	<39	39-62.8	>62.8
14 to 15	<37.4	37.4-61.2	>61.2
16 to 17	<42.9	42.9-70.9	>70.9
18 to 19	<49.2	49.2-74.2	>74.2
20 to 24	<47.9	47.9-74.1	>74.1
25 to 29	<51.3	51.3-75.7	>75.7
30 to 34	<50.3	50.3-85.7	>85.7
35 to 39	<54.6	54.6-78	>78
40 to 44	<48.5	48.5-76.1	>76.1
45 to 49	<43.3	43.3-68.7	>68.7
50 to 54	<46.6	46.6-68	>68
55 to 59	<35.4	35.4-59.2	>59.2
60 to 64	<35.6	35.6-55.8	>55.8
65 to 69	<32.8	32.8-49.2	>49.2
70 to 74	<31.3	31.3-51.7	>51.7
75+	<28.7	28.7-46.5	>46.5

Source: JAMAR Hydraulic Hand Dynamometer Owner's Manual

Prepared by Ruth Litchfield, extension nutritionist.

IOWA STATE UNIVERSITY
 Extension and Outreach

... and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue SW, Washington, DC 20250-9410, or call 800-795-3272 (voice) or 202-720-6382 (TDD). USDA is an equal opportunity provider and employer.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Cathann A. Kress, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.