

Article

Muskuloskeletal Fitness in Canada 2007 to 2009



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Musculoskeletal fitness in Canada 2007 to 2009

While males are stronger than females on average for all ages, females tend to be more flexible and retain their flexibility much later in life.

About musculoskeletal fitness

The Canadian Health Measures Survey measured musculoskeletal fitness of Canadians aged 6 to 79 with three physical measures tests:

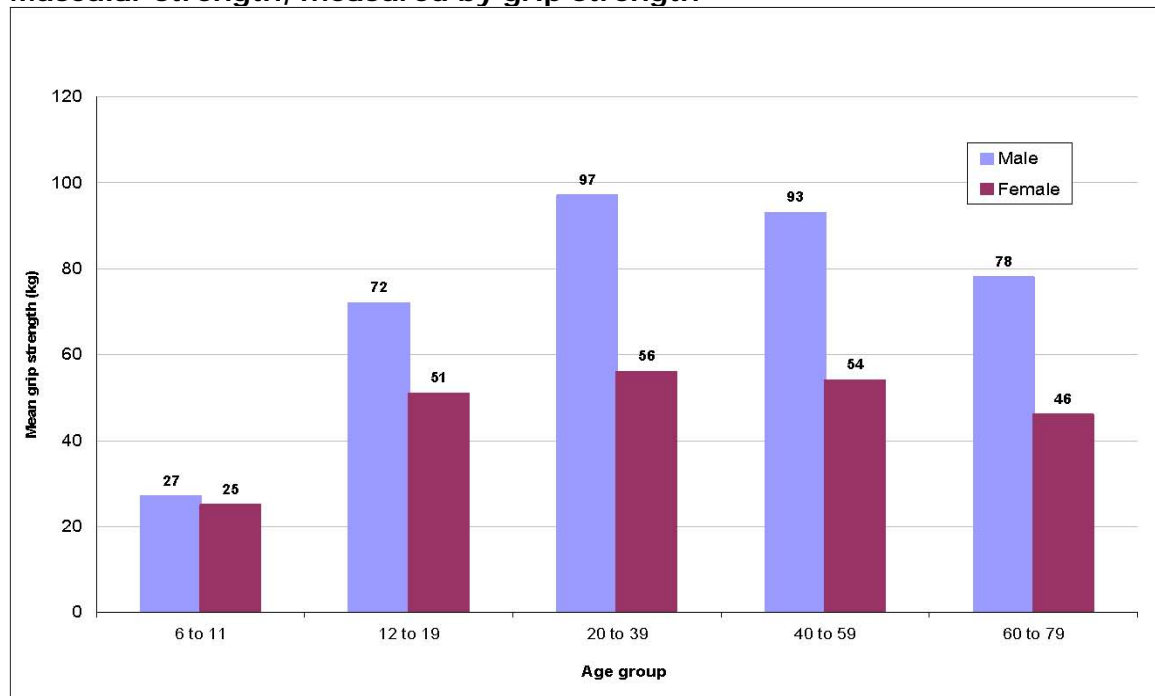
- **muscular strength**, which is demonstrated by measures of grip strength
- **flexibility**, demonstrated by the distance achieved in the sit and reach test
- **muscular endurance**, demonstrated by the number of completed partial curl-ups in one minute.

Musculoskeletal fitness has been associated with many health benefits including increased mobility and functionality, decreased risk of osteoporosis, improved resting blood pressure, improved insulin response and glucose uptake, decreased risk factors associated with cardiovascular disease, and decreased mortality.

Muscular Strength

Muscular strength generally increases from early childhood to early adulthood and then declines in middle and late adulthood. Among those aged 20 to 39, mean muscular strength is 97 kg for males and 56 kg for females. The average muscular strength for males aged 6 to 79 is 84 kg, and for females, it is 51 kg.

Chart 1
Muscular strength, measured by grip strength



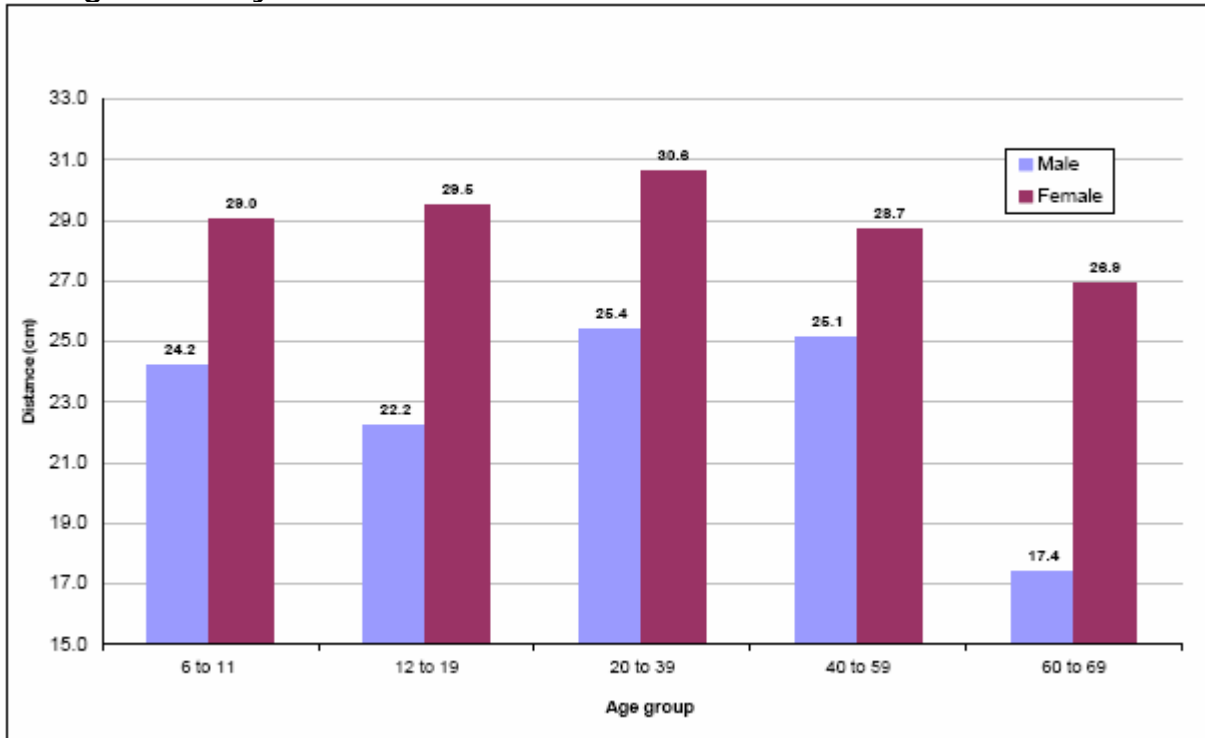
Source: Canadian Health Measures Survey, 2007 to 2009



Flexibility

In all age groups, females consistently demonstrate greater flexibility than males and this difference is more pronounced in late adulthood.

Chart 2
Average flexibility on sit and reach test



Source: Canadian Health Measures Survey, 2007 to 2009

The average distance achieved on the sit and reach test for females is 29.3 cm and for males 23.9 cm. Flexibility remains relatively constant for females until middle age, and then gently declines among older age groups. For males, flexibility dips among those aged 12 to 19, and the largest decline in average flexibility is seen among males aged 60 to 69.

Muscular endurance

Over one-third of women aged 20 to 39 and the majority of those aged 40 or older were unable to complete even one partial curl-up. Less than a third (31%) of women aged 20 to 39 completed the full 25 curl-ups, and at ages 60 to 69, the percentage was 4%.

More men completed the full 25 curl-ups: 55% of men aged 20 to 39 and 11% of men aged 60 to 69.

This muscular endurance information and additional detailed analyses on the fitness of the nation, including changes over time, are available in the studies "Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey" and "Fitness of Canadian children and youth: Results from the 2007-2009 Canadian Health Measures Survey," available in Health Reports Vol. 21, no. 1 (82-003-XWE, free).



Canadian Health Measures Survey

Additional physical health measures information from the Canadian Health Measures Survey 2007 to 2009 is available at www.statcan.gc.ca/chms.

