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Human body weight

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The term **human body weight** is used colloquially and in the biological and medical sciences to refer to a person's [mass](#) or [weight](#). Body weight is measured in [kilograms](#), a measure of mass, throughout the world, although in some countries such as the United States it is measured in [pounds](#), or as in the United Kingdom, [stones](#) and pounds. Most hospitals, even in the United States, now use kilograms for calculations, but use kilograms and pounds together for other purposes.

Strictly speaking, body weight is the measurement of weight without items located on the person. Practically though, body weight may be measured with clothes on, but without shoes or heavy accessories such as mobile phones and wallets and using manual or digital weighing scales. Excess or reduced body weight is regarded as an indicator of determining a person's health, with body volume measurement providing an extra dimension by calculating the distribution of body weight.

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Average weight around the world [edit]

By region [edit]

| Region ↕ | Adult population ↕ (millions) | Average weight ↕ | Overweight population / total population ↕ | Source ↕ |
|------------------------|--|-------------------------------|---|-----------------------|
| Africa | 535 | 60.7 kg (133.8 lb) | 28.9% | [1] |
| Asia | 2,815 | 57.7 kg | 24.2% | [1] |

| | | | | |
|---------------------------------|-------|-----------------------|-------|-----|
| | | (127.2 lb) | | |
| Europe | 606 | 70.8 kg (156.1 lb) | 55.6% | [1] |
| Latin America and the Caribbean | 386 | 67.9 kg (149.7 lb) | 57.9% | [1] |
| North America | 263 | 80.7 kg (177.9 lb) | 73.9% | [1] |
| Oceania | 24 | 74.1 kg (163.4 lb) | 63.3% | [1] |
| World | 4,630 | 62.0 kg (136.7 lb) | 34.7% | [1] |

By country [edit]

| Country ↕ | Average male weight ↕ | Average female weight ↕ | Sample population / age range ↕ | Methodology ↕ | Year ↕ | Source ↕ |
|-------------------------------|------------------------------------|--------------------------------------|--|----------------------------|---------------------|--------------------------------|
| Brazil | 72.7 kg (160.3 lb) | 62.5 kg (137.8 lb) | 20–74 | Measured | 2008–2009 | [2] |
| Canada | 80.3 kg (177 lb) | | | Measured | | [citation needed] |
| Chile | 77.3 kg (170.4 lb) | 67.5 kg (148.8 lb) | 15+ | Measured | 2009–2010 | [3] |
| Finland | 82.1 kg (181 lb) | | | Measured | | [citation needed] |
| Germany | 82.4 kg (181.7 lb) | 67.5 kg (148.8 lb) | 18+ | Measured | 2005 | [4] |
| South Korea | 68.6 kg (151.2 lb) | 56.5 kg (124.6 lb) | 18+ | Measured | 2007 | [5] |
| Sweden | 81.9 kg (180.6 lb) | 66.7 kg (147.0 lb) | 16–84 | Measured | 2003-2004 | [6] |
| UK – Wales | 84.0 kg (185.2 lb) | 69.0 kg (152.1 lb) | 16+ | Measured | 2009 | [7] |
| United States | 88.3 kg (194.7 lb) | 74.7 kg (164.7 lb) | 20+ | Measured | 2003-2006 | [8] |

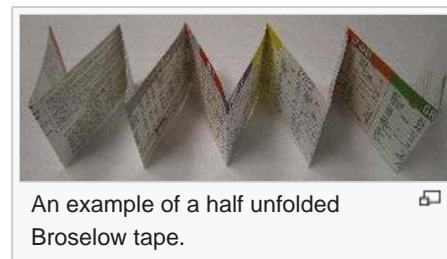
Global statistics [edit]

Researchers at the [London School of Hygiene & Tropical Medicine](#) published a study of average weights of adult humans in the journal *BMC Public Health* and at the United Nations conference [Rio+20](#).^[9]

| | | | | |
|--|-------------------------------|---------------------------------|------------------------------|-------------------------------------|
| Rank [show] ↕ | Country ↕ | Kilograms ↕ | Pounds ↕ | Relative size ↕ |
|--|-------------------------------|---------------------------------|------------------------------|-------------------------------------|

Estimation in children [edit]

There are a number of methods to estimate weight in children for circumstances (such as emergencies) when actual weight cannot be measured. Most involve a [parent](#) or health care provider guessing the child's weight through weight-estimation formulas. These formulas base their findings on the child's age and tape-based systems of weight estimation. Of the many formulas that have been used for estimating body weight, some include the [APLS](#) formula, the Leffler formula, and Theron formula.^[10] There are also several types of tape-based systems for estimating children's weight, with the most well-known being the [Broselow tape](#).^[11] The Broselow tape is based on length with weight read from the appropriate color area. Newer systems, such as the PAWPER tape, make use of a simple two-step process to estimate weight: the length-based weight estimation is modified according to the child's body habitus to increase the accuracy of the final weight prediction.^[12]



The Leffler formula is used for children 0–10 years of age.^[10] In those less than a year old it is

$$m = \frac{1}{2}a_m + 4$$

and for those 1–10 years old it is

$$m = 2a_y + 10$$

where *m* is the number of kilograms the child weighs and *a_m* and *a_y* respectively are the number of months or years old the child is.^[10]

The Theron formula is

$$m = e^{0.175571a_y + 2.197099}$$

where *m* and *a_y* are as above.^[10]

Ideal body weight [\[edit\]](#)

Ideal body weight (IBW) was initially introduced by Devine in 1974 to allow estimation of drug clearances in obese patients;^[13] researchers have since shown that the metabolism of certain drugs relates more to IBW than total body weight.^[14] The term was based on the use of insurance data that demonstrated the relative mortality for males and females according to different height–weight combinations.

The most common estimation of IBW is by the Devine formula; other models exist and have been noted to give similar results.^[14] Other methods used in estimating the ideal body weight are [body mass index](#) and the Hamwi method.

Devine Formula [\[edit\]](#)

The Devine Formula for calculating ideal body weight in adults is as follows:^[14]

- Male Ideal Body Weight = 50 kg + 2.3 kg * (Height(in) - 60)
- Female Ideal Body Weight = 45.5 kg + 2.3 kg *(Height(in) - 60)

Hamwi method [\[edit\]](#)

The Hamwi method is used to calculate the ideal body weight of the general adult. For men, the Hamwi method ideal body weight is 106 pounds (48 kg) plus 6 pounds (2.7 kg) for every inch (2.54 cm) over 5 feet (1.5 m). For women, it is 100 pounds (45 kg) plus 5 pounds (2.3 kg) for every inch over 5 feet.^[15]

Usage [edit]

Sports [edit]

Participants in sports such as [boxing](#), [mixed martial arts](#), [wrestling](#), [rowing](#), [judo](#), [Olympic weightlifting](#), and [powerlifting](#) are classified according to their body weight, measured in units of mass such as pounds or kilograms. See, e.g., [wrestling weight classes](#), [boxing weight classes](#), [judo at the 2004 Summer Olympics](#), [boxing at the 2004 Summer Olympics](#).

Medicine [edit]

Ideal Body Weight, specifically the Devine Formula, is used clinically for multiple reasons, most commonly in estimating renal function in drug dosing, and predicting pharmacokinetics in morbidly obese patients.^{[16][17]}

See also [edit]

- [Anthropometry](#)
- [Bergmann's Rule](#)
- [Birth weight](#)
- [Body Mass Index \(BMI\)](#)
- [Body volume index](#)
- [Hesse's Rule](#)
- [Human height](#)
- [List of the heaviest people](#)
- [Obesity](#)
- [Overweight](#)
- [Underweight](#)
- [Weight loss and weight gain](#)
- [Weight phobia](#)

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