



# WHY SHOULD I KNOW THIS...

## BODY MASS INDEX (BMI)

---

### 01 WHAT IS BMI?

BMI is a person's weight in kilogrammes divided by their squared height in meters. Therefore, the person's weight in relation to their height. BMI is normally used to screen weight categories such as underweight, healthy weight, overweight and obesity. Thus, it is considered an indicator of health risk. It is important to note that BMI is not the measurement of body fat directly, but rather associated with a more indirect measure of body fat. This means that as the BMI score increases, so does the person's body fat. It is also associated with multiple metabolic and adverse disease outcomes.

There are some limitations to determining health using BMI alone, for example:

1. Athletes usually have muscular builds. Muscle weighs more than fat, therefore, BMI may overestimate body fat for them.
2. Older adults may have lost muscle and their BMI may underestimate body fat.

### 02 HOW IS BMI CALCULATED?

BMI is calculated using a mathematical formula.

The formula is:  $BMI = (\text{weight in kilogrammes}) \div (\text{height in meters squared})$ .

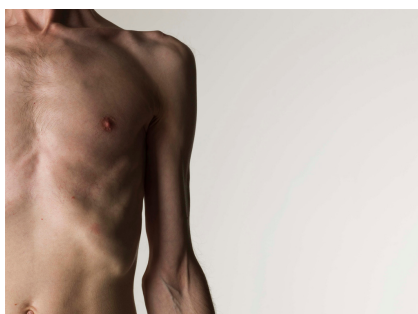
A healthy BMI for an adult is between 18.5 and 24.9. A person with a BMI of between 25 and 29.9 is considered overweight and obese when their BMI is 30 or higher. A person with a BMI below 18.5, is considered underweight.



The norm is for the body to store energy and fat. However, too much or too little body fat increases the risk of illnesses and disease. These risks depend on where the body stores the energy and fat.

## UNDERWEIGHT

There tend to be a lot more focus on the health effects of being overweight and not so much on being underweight. However, certain health risks are associated with being underweight or having poor nutrition (nutrition that could have detrimental effects on a person's health). An underweight person's body may not be getting the nutrients it needs to build healthy bones, skin and hair.



These risks include:

- Malnutrition, vitamin deficiencies or anaemia;
- Osteoporosis from too little vitamin D and calcium;
- Decreased immune function;
- Increased risk for complications from surgery;
- Fertility issues caused by irregular menstrual cycles;
- Growth and development issues, especially in children and teenagers.

Some people may be underweight due to their genetic background or a medical illness that prevents them from gaining weight. In these cases, doctors can recommend interventions to aid them in gaining weight.

## OVERWEIGHT

Compared to people who are at a normal or healthy weight, people who are overweight are at a higher risk of many serious diseases and health conditions and decreased quality of life.

Including the following:

- All causes of death (mortality);
- High blood pressure (hypertension);
- High LDL cholesterol, low HDL cholesterol or high levels of triglycerides (dyslipidemia);
- Type 2 diabetes;
- Coronary heart disease;
- Stroke;
- Gallbladder disease;
- Osteoarthritis (a breakdown of cartilage and bone within a joint);
- Sleep apnea and breathing problems;
- Many types of cancer;
- Low quality of life;
- Mental illness such as clinical depression, anxiety and other mental disorders;
- Body pain and difficulty with physical functioning.
- Medications for mental health conditions also predispose people to gaining weight and this places them at risk for cardiovascular-related adverse events.



## 04 WHAT IS OBESITY?

Obesity is defined as having an excessive amount of body fat. It is more than just a cosmetic concern. It increases the risk of diseases and health problems. Persons classified as obese based on BMI tend to have excess body fat.

Obesity is likely to aggravate diseases such as diabetes, high blood pressure and heart disease as well as complicate the treatment of these conditions. Because extra weight puts more stress on joints – especially the knees, hips, and back – accidents and injuries are more common in obese individuals and recovery may be prolonged. There is also a higher risk of obese individuals developing osteoarthritis.



## 05 IS THERE A DIFFERENCE BETWEEN MALE AND FEMALE BMI?

Although men and women are equally involved in health issues, both genders are not the same physically. When considering health issues, it is important to distinguish between the different groups.

Men usually have higher BMI figures than women. This being said, the method of calculating BMI is the same for both genders. A man and a woman may be the same height, but it does not necessarily mean that they will weigh the same.

It is not only the gender that is considered, within each gender, but age is also considered for the best possible comparison. Multiple factors go into weight differences, including:

- ...Proportions: Some people may have longer arms and shorter legs and vice versa, which changes the placement of muscle and body fat.
- ...Muscularity: Some people have a more lean body structure. More specifically, women naturally have more body fat, whereas men have more muscle compared to women.
- ...Body shape: A pear-shaped body is more likely to be seen of a woman, while men usually have a rectangular body shape or have broader shoulders. This influences how the different genders carry the weight on the body.
- ...Age: Older people compared to younger people store more fat and tend to have less muscle.
- ...Fat storage: Different people store fat in different sections of the body. For example, some people store fat on their thighs, while others store fat on their belly.



## CLAIMS

A high or low BMI is not a claim condition in itself but it may be a symptom/consequence or sign of disease, e.g., cancer or HIV.

In the Functional Disability Product (FDP) under the gastrointestinal section, low BMI for a certain period in the presence of gastrointestinal disease may constitute a claim. Please refer to Appendix F of the PPS Provider™ Policy.

## UNDERWRITING

BMI is considered on all products. PPS asks for weight and height on all our application forms and our short- and limited-health reports. The BMI loadings differ according to age bands and product types. PPS considers being underweight as a risk factor for adverse health and may sometimes request more information to understand the health of the applicant. Products will often carry a loading for abnormal BMIs.

Each product also has a minimum and maximum BMI beyond which we cannot offer cover.

If members have additional co-morbid conditions such as diabetes mellitus or cardiac disease, these policies may also attract loadings or exclusions given the higher risk associated with the combination of high BMI and a comorbidity. Occasionally, the BMI may be under the maximum, but in combination with other illnesses or factors, the risk may be too high and the resultant outcome may be a decline.

## REFERENCES

- [https://www.cdc.gov/healthyweight/assessing/bmi/adult\\_bmi/index.html](https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html)
- [https://www.news-medical.net/health/What-is-Body-Mass-Index-\(BMI\).aspx](https://www.news-medical.net/health/What-is-Body-Mass-Index-(BMI).aspx)
- <https://www.healthline.com/health/underweight-health-risks>
- <https://www.medicalnewstoday.com/articles/321612#causes>
- <https://www.cdc.gov/healthyweight/effects/index.html>
- <https://www.omnicalculator.com/health/bmi-women>
- <https://gasparinutrition.com/blogs/fitness-facts/are-bmi-charts-different-for-men-women#:~:text=Overall%2C%20male%20and%20female%20body,to%20have%20slightly%20more%20fat.&text=Anyone%2C%20regardless%20of%20their%20gender,as%20someone%20who%20is%20overweight>

