<https://my.clevelandclinic.org/health/articles/9464-body-mass-index-bmi>:

BMI should be used for people over the age of 20

* **Underweight**: Less than 18.5
* **Optimum range**: 18.5 to 24.9
* [**Overweight**](https://my.clevelandclinic.org/health/diseases/overweight): 25 to 29.9
* **Class I obesity**: 30 to 34.9
* **Class II obesity**: 35 to 39.9
* [**Class III obesity**](https://my.clevelandclinic.org/health/diseases/21989-class-iii-obesity-formerly-known-as-morbid-obesity): More than 40

Low BMI means higher risk of:

* Malnutrition
* Anemia
* Weakened immune system
* Osteoporosis
* Infertility

Higher bmi means higher risk of:

* Heart disease
* High blood pressure
* Type. Diabetes
* Gallstones
* Osteoarthritis
* Sleep apnea
* Certain cancers (colon, breast, endometrial, and gallbladder)
* Depression and other mental health conditions

Limitations of bmi:

* No differentiation between lean mass and fat mass
  + This means people who are very muscular may be interpreted as having a high BMI
* Bmi doesn’t track location or distribution of body fat
  + This is important since fat in the abdomen and more dangerous than say fat in the thighs

‘However, BMI isn’t always an accurate measurement of body fatness and isn’t the sole determiner of your general health.’

**Low BMI:**

https://www.medicalnewstoday.com/articles/321612

Low bmi can lead to:

* Osteoporosis
* More sick frequently
* Fatigue
* Anemia
* Irregular preiods and premature births in women
* Slow or impaired growth

Causes:

* Family history
* High metabolism
* Frequent physical activity (frequent runner, athlete, etc.)
* Potential physical illness or chronic diseases
* Mental illness
* Eating disorder
  + Very important to see a doctor if you think you have this

Treatment:

* High protein and whole-grain snacks (carbs)
  + Peanut butter crackers, protein bars, trail mix, pita chip w/ hummus, handful of almonds
* Eat several small meals a day as opposed to a set number of big meals
* Add toppings or additional food to already-existing meals
  + Ex. add nuts to yogurt, seeds to salad or soup, nut butter on whole-grain toast

**High BMI:**

https://www.nhlbi.nih.gov/health/overweight-and-obesity/causes:

What raises risks of getting a high bmi:

* Lack of physical activity
  + Adults need 150 min of aerobic activity a week
  + Muscle-strengthening activities (like lifting weights) is recommended for major muscles groups 2 or more days each week
  + Children should get around 60 minutes of aerobic activity each day
* Calorie excess (intaking too many calories)
  + 2000 calories is recommended per day
* Too much saturated fat
  + For a 2000 calorie day, no more than about 22g of saturated fats
* Foods high in added sugar
* Bad-quality sleep
  + Consistently getting less than 7 hours of sleep
* High stress
* Specific medical conditions (please see a doctor to determine this)
* Genetics
* Medicines

Things you can do to help lower BMI:

https://www.heart.org/en/healthy-living/healthy-eating/losing-weight/extreme-obesity-and-what-you-can-do:

* Physical activity
  + Get into a sport
  + start walking every once in while (10 minutes is better than nothing)
  + find long-form content you can watch/listen to while exercising or walking
  + find a workout buddy
  + start going to the gym (or start going more consistently/more frequently)
* start tracking calories using online applications (mobile applications are best)
* eat healthier (more fruits and vegetables, heart healthy meals)
* medication
* surgery (last solution to consider. Need to see a doctor)

**Blood Pressure:**

<https://www.mayoclinic.org/diseases-conditions/low-blood-pressure/symptoms-causes/syc-20355465>

https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/symptoms-causes/syc-20373410

**Low BP:**

Symptoms of low bp:

* Blurred or fading vision.
* Dizzy or lightheaded feelings.
* Fainting.
* Fatigue.
* Trouble concentrating.
* Upset stomach.

Sudden drops are dangerous and can result in dizziness and fainting

A healthy BP is 120/80

Causes of low bp:

* Pregnancy
* Heart and heart valve conditions
* Hormone-related issues
* Dehydration (super common)
* Blood loss
* Severe infection
* Severe allergic reaction (aka, anaphylaxis)
* Lack of nutrients in the diet
* Lots of medicines cause low blood pressure

Use of alcohol and illegal drugs skyrockets your chances of low blood pressure

**High BP:**

Hypertension is a bp of 130/80 or higher

* **Low –** lower than 90/60
* **Normal blood pressure.** Blood pressure is lower than 120/80 mm Hg.
* **Elevated blood pressure.** The top number ranges from 120 to 129 mm Hg and the bottom number is below, not above, 80 mm Hg.
* **Stage 1 hypertension.** The top number ranges from 130 to 139 mm Hg or the bottom number is between 80 and 89 mm Hg.
* **Stage 2 hypertension.** The top number is 140 mm Hg or higher or the bottom number is 90 mm Hg or higher.

Common symptoms:

* Headaches
* Shortness of breath
* Nosebleeds

Main causes of high bp:

* Primary hypertension: no identifiable cause. A general increase over the years due to gradual buildup of plaque in the arteries. Expected with age
* Secondary hypertension: there is some sort of underlying condition
  + Adrenal gland tumors
  + Blood vessel problems present at birth (ex. congenital heart defects)
  + Cough and cold medicines, pain relievers, birth control pills, or other prescription drugs
  + Illegal drugs (ex. amphetamines)
  + Kidney disease
  + Obstructive sleep apnea
  + Thyroid problems
* White coat hypertension: high BP in clinical settings. Usually caused by the stress of getting your BP stressed.

Things that increase your risk of high bp:

* Age
* Sex – more common in men
* Family history
* Race: most common in black people and develops earlier in black americans than white americans
* Obesity or being overweight
* Lack of exercise
* Tobacco use or vaping
* Too much salt
* Low potassium
* Too much alcohol
* Stress
* Pregnancy

If left untreated, high bp can lead to:

* Heart problems
* Aneurysm
* Kidney problems
* Metabolic syndrome
* Dementia
* Changes in memory or understanding

\*\*\* Stage II requires medicine while Stage I can still be managed with lifestyle changes

**Blood Glucose**

Low – < 70

Normal – 70 – 99

Pre-diabetic is 100 to 15

* Means you have a 50% chance of developing type II diabetes in the nxt 5-10 yrs

Diabetic – > 126

Causes:

* Diabetes
* Issues with adrenal glands
* Pancreas problems
* Hyperthyroidism
* Significant stress (trauma or surgery)
* Certain medications, especially corticosteroids

Low blood sugar

* Common in people with Type I diabetes

Low blood glucose can be a sign of:

* [Liver disease](https://my.clevelandclinic.org/health/diseases/17179-liver-disease)
* [Kidney disease](https://my.clevelandclinic.org/health/diseases/15096-chronic-kidney-disease)
* [Hypothyroidism](https://my.clevelandclinic.org/health/diseases/12120-hypothyroidism)
* [Addison disease](https://my.clevelandclinic.org/health/diseases/15095-addisons-disease) (adrenal insufficiency)
* [Alcohol use disorder (AUD)](https://my.clevelandclinic.org/health/diseases/3909-alcoholism)
* [Insulinoma](https://my.clevelandclinic.org/health/diseases/22217-insulinoma) (a rare tumor)

**Waist to Height Ratio:**

https://www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/measuring-your-waist

This measurement is important bc it can tell you how much excess fat sits around your abdomen.

Correct way to measure:

1. Place the tape measure directly on your skin. You should not wear more than one layer of light clothing.
2. The correct place to measure your waist is halfway between your lowest rib and the top of your hipbone. This is roughly in line with your belly button.
3. Breathe out normally and measure.
4. Make sure the tape is snug, without squeezing your skin.

ratio is either cm/cm or in/in (make sure units are the same)

highest risk is > 0.60

increased risk is 0.5 - 0.59

healthy range is 0.4 – 0.49