TEST

BMI calculator

A BMI calculator compares your weight with your height to estimate weight-related health risk.

WHAT IT MEASURES
Weight in relation to height

SAMPLE
None

FASTING NEEDED?
No

HOW LONG IT TAKES
About 1 to 2 minutes

RESULTS IN
Immediate; no laboratory processing

USED FOR
Screening and monitoring weight-related health risk

MAIN LIMITATION
Does not directly measure body fat or overall health

Overview

Body mass index, or BMI, is a screening measurement based on your height and weight. It is calculated by dividing weight in kilograms by height in metres squared.

A BMI calculator does not measure body fat directly. It also cannot diagnose obesity-related conditions, poor nutrition, or fitness. Instead, it helps place your weight into a broad category that may be considered alongside your waist measurement, medical history, blood pressure, test results, and other health information.

BMI is interpreted differently in children and teenagers because their bodies are still growing. It is also less informative during pregnancy and in people whose muscle mass, fluid levels, or body shape make weight an unreliable guide to body fat.

Why the test is ordered

BMI may be calculated during a routine health assessment or when weight could affect your

health or care. It can help start a discussion about nutrition, physical activity, mobility, sleep, medicines, or conditions associated with weight.

Repeated measurements can show changes over time. A single result is usually less useful than the overall pattern, especially when weight changes because of fluid, pregnancy, illness, or changes in muscle.

BMI may also be used when planning surgery, reviewing medicine doses, or assessing cardiovascular and diabetes risk. It should not be the only measurement used for these decisions.

Who should have the test

Adults may have BMI calculated as part of general health screening or when a clinician is assessing weight-related risk. How often it is useful depends on your health, previous measurements, and reason for checking it.

For children and teenagers, BMI should be plotted on an age- and sex-specific growth chart. Adult BMI categories should not be applied to them.

Standard BMI interpretation may not be suitable during pregnancy. It also needs care in athletes, people with high or low muscle mass, older adults, people with amputations, and anyone with swelling or fluid build-up.

Being weighed can be upsetting for some people, including those with an eating disorder or a history of weight stigma. You can ask why the measurement is needed, request not to hear the number, or discuss another approach.

How to prepare

You do not need to fast. Food, coffee, and most daily activities do not meaningfully change the calculation, although meals, drinks, and bladder contents can cause small short-term changes in weight.

For a consistent measurement:

Tell the person measuring you if standing safely is difficult or if an amputation or physical condition affects the measurement.

- Wear light clothing and remove shoes
- Empty heavy items from your pockets

- Use a firm, level floor for the scales
- Measure height without shoes, standing upright
- Use the same scales and similar conditions when tracking changes

What happens during the test

Your weight is measured on scales, and your height is measured with a wall-mounted or portable measuring device. The figures are entered into a calculator.

For metric measurements, BMI is weight in kilograms divided by height in metres squared. Online calculators may also accept pounds, feet, and inches.

The result appears immediately. No blood sample, imaging, or physical procedure is needed. A clinician may also measure your waist because abdominal fat can add useful information about health risk.

Understanding your results

For most non-pregnant adults, commonly used BMI categories are:

These labels describe statistical categories, not your appearance, behaviour, or worth. A result within one category does not prove that you are healthy or unwell.

Some guidance uses lower thresholds when assessing people from South Asian, Chinese, other Asian, Middle Eastern, Black African, or African-Caribbean family backgrounds. This reflects evidence that weight-related conditions may develop at a lower BMI in these groups.

Children's results are expressed as a percentile, which compares BMI with children of the same age and sex. Their result must be read from an appropriate growth chart rather than the adult categories.

Unlike a blood test, BMI has no laboratory reference range. Interpretation varies with age, sex, pregnancy status, ethnic background, medicines, body composition, and clinical context.

- Below 18.5: underweight
- 18.5 to 24.9: healthy weight
- 25.0 to 29.9: overweight
- 30.0 or above: obesity

What affects the results

Incorrect height or weight is a common source of misleading results. Shoes, heavy clothing, uneven flooring, poorly positioned height equipment, or entering the wrong units can change the number. Because height is squared in the formula, even a modest height error may matter.

Your measured weight can change temporarily because of:

Pregnancy changes weight for reasons that BMI cannot separate. An amputation can also make a standard calculation misleading unless an appropriate adjustment is used.

Some medicines can cause weight gain, weight loss, or fluid retention over time. They do not interfere with the calculator itself, but they can affect what the result means.

BMI may overestimate body fat in muscular people. It may underestimate risk in someone with low muscle mass or more fat around the abdomen, even when the BMI category appears healthy.

- Meals, drinks, or a full bladder
- Dehydration or heavy sweating
- Menstrual-cycle-related fluid changes
- Swelling caused by fluid build-up
- Recent changes in muscle from training or inactivity

Accuracy and limitations

The mathematical calculation is accurate when height and weight are accurate. The main limitation is whether the result correctly represents body fat and health risk.

BMI can suggest excess body fat when the additional weight is mainly muscle. This is a "yes" result when the concern may not be present. It can also place someone in a healthy-weight category despite high abdominal fat, low muscle mass, or a condition related to weight. This is a "no" result when further assessment may still be useful.

BMI does not show where fat is stored or distinguish fat from muscle, bone, pregnancy tissue, or excess fluid. It also does not measure blood pressure, blood sugar, cholesterol, fitness, nutrition, or mental wellbeing.

Waist circumference or waist-to-height ratio may better reflect abdominal fat. In selected situations, body-composition tests such as dual-energy X-ray absorptiometry may provide more detail, but they are not usually needed for routine screening.

Risks and complications

Calculating BMI has no direct physical risk. There are no needles, radiation, or medicines involved.

Weight measurements and category labels can cause distress or reinforce stigma. You can ask for a private, respectful measurement and an explanation of how the result will be used.

What happens next

A BMI result is usually reviewed alongside other information rather than acted on alone. This may include your waist measurement, weight pattern, eating habits, activity, blood pressure, medicines, family history, and relevant blood tests.

Routine follow-up may be appropriate if your weight has changed unexpectedly, your result falls outside the expected range, or you want help with nutrition or activity. Changes should focus on your circumstances and health goals rather than the BMI number alone.

A BMI result by itself is not an emergency. Seek urgent medical advice if rapid weight gain occurs with marked swelling or shortness of breath, as this may reflect fluid build-up rather than body fat. Call emergency services for severe breathing difficulty, chest pain, collapse, or other emergency symptoms.

Common questions

Can I drink coffee before a BMI measurement?

Yes. Fasting is not needed. A large drink may briefly add a small amount to your measured weight, but it does not usually affect routine interpretation.

Does the time of day matter?

Not for a one-off screening result. If you are tracking small changes, measure under similar conditions each time because food, fluids, clothing, and bladder contents vary through the day.

Can I exercise beforehand?

Yes. Exercise does not directly alter BMI, although sweating and fluid loss can temporarily lower your weight. Avoid comparing measurements taken under very different hydration conditions.

Is an online BMI calculator accurate?

It should give the correct calculation if you enter accurate height and weight in the correct units. Its interpretation may still be limited by muscle mass, pregnancy, age, ethnicity, fluid retention, and body shape.

Can I use adult BMI categories for my child?

No. Children and teenagers need an age- and sex-specific BMI percentile from an appropriate growth chart.

Should I use BMI during pregnancy?

BMI recorded before pregnancy or early in pregnancy may help with care planning. Standard adult categories are not designed to track weight changes throughout pregnancy.

Sources

- Centers for Disease Control and Prevention: Adult BMI Categories
- Centers for Disease Control and Prevention: Child and Teen BMI Calculator
- National Institute for Health and Care Excellence: Overweight and obesity management, NG246
- World Health Organization Regional Office for Europe: Body mass index
- Nuttall FQ. Body Mass Index: Obesity, BMI, and Health-A Critical Review. Nutrition Today. 2015;50(3):117-128